MOD 10

MAGNETIC TAPE TRANSPORT OPERATION & MAINTENANCE MANUAL

200237

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PREFACE

This manual has been prepared to permit separation of the first three sections, which then form an operator's manual. Material for these sections has been scaled to the requirements and training of computer and off-line system operators.

Sections IV and following are addressed to the engineer responsible for setting up and maintaining this equipment on site. Material covered includes:

- Installation of the tape system in system cabinets
- Checkout procedures and requirements
- Interconnection of the tape and data systems
- Principles of design and operation
- Module replacement and adjustment.

MOD 10

REVISION LEVEL

REV. LETTER	DESCRIPTION	DATE	APPROVAL
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В	To reflect basic product re-design	9/70	
С	Update all sections with particular emphasis on Section VI and Appendix B	10/71	
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E	Changed pages - Title Page, iV, IV-3, IV-9, VI-30, VI-31, VI-34, VI-39, VI-44, VI-47, VI-50, VI-58, VI-59, VI-60, VI-61, updated drawings to latest revision	6/72	
F	Changed pages - Title Page, vii, II-7, IV-2, A-3. Add pages - II-10, II-11, II-12, IV-6A. Updated Appendix B drawings to latest revisions.	10/72	
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REVISION LEVEL

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Н	Changed pages - Title page; v through xi Revised pages - I-1, I-3, II-1 through II-9, III-1 through III-4, IV-1 through IV-18, VI-40, VI-42 Appendix B: revised list of	6/73	
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I	Changed pgs: I-4, VI-61, Updated Appendixes A & B	12/73	
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SECTION I

GENERAL DESCRIPTION

This manual describes the operation and maintenance of the WANGCO Mod 10 digital magnetic tape transport system.

1. PURPOSE

The system provides the equipment necessary to:

- A. Move half-inch magnetic tape across a read-write head in response to commands from remote equipment or to signals generated from the operator's control panel located on the transport;
- B. Read or write data on magnetic tape and transfer this data between the transport and the controller.

2. DESCRIPTION

The Mod 10 is shown in Figure 1 of this section.

In a computer or other data processing system, the magnetic tape units are used to store very large amounts of data. Recovery of the data without errors depends on proper installation and maintenance of the tape units and the tape itself. The Mod 10 has been designed to permit easy operation and simple maintenance; it also has ample safeguards to protect the tape from damage during its use with the tape unit.

In its standard versions, the Mod 10 uses half-inch computer-grade tape, on reels up to 10-1/2 inches in diameter. The file or supply reel mounts on a hold-down knob that is the same size as the knobs on IBM units. Data on the tape is written so that it may be read

by IBM systems; tapes written with IBM equipment may also be read on the Mod 10. Seven or nine tracks of data are written on the tape at densities of 200, 556, 800, or 1600 characters per inch. In the Mod 10, two NRZI densities are provided in the following combinations of the three standard formats: 200 and 556, 556 and 800, 200 and 800 for the seven-track format, and 800 for the nine-track format. When data is written on tape at a density of 1600 characters per inch, it is phase encoded and only the single density is provided in the system.

Tape speeds that are standard to the Mod 10 are 10, 12.5, 18.75, 25, 37.5 and 45 inches per second. With all the combinations of tape speed and data densities considered, data may be transferred into or out of the tape system at rates from 2000 to 72,000 characters per second.

During normal operation of the tape unit with the data system, tape motion and the reading or writing of data are controlled by the system. When the tape system is not under computer control (i.e., when it is off line), tape motion can be controlled by the operator through pushbuttons on the front of the machine. Indicator lights are also provided to show the conditions under which the equipment is operating. Complete details about these functions and indications are provided in Section II.

When the system is operating, the speed and direction of the tape are determined by the capstan. As it turns, the capstan pulls the tape past the head assembly so that it may be either written or read. For the tape system to operate efficiently, the tape must be started and brought up to speed as quickly as possible. The weight of the tape on the reels prevents the reels from starting as rapidly as the capstan, so a small length of tape is held by buffer arms near the supply and takeup reels. When the capstan starts quickly, the buffer arms are either pulled in or released by the tape motion. Changes in the position of these arms result in the supply and takeup reels either feeding tape to the capstan or taking up the slack created by the capstan motion.

Reflective markers at either end of the tape prevent it from being pulled completely from either the supply or takeup reels, except when the operator wants to change the reel. A sensing post near the read/write head assembly illuminates the tape and issues a stop signal when the marker reflects the light into a photocell. Markers for the beginning and end of the tape are on opposite sides, providing to the computer or data system an indication of which end of the tape has been reached.

To provide the greatest assurance that data on the tape will be read correctly, the tape is cleaned just before it gets to the head assembly. The tape cleaner has small holes into which loose dirt or oxide is deposited as the tape is drawn across the cleaner. For best system operation, the dirt must be removed from the cleaner periodically, as described in Section III for the important operator maintenance functions of head assembly and tape guide cleaning.

3. <u>SPECIFICATIONS</u>

Transport specifications are listed in Table 1.

Table 1. Mod 10 Specifications

Data Density: 9-track--800 cpi, 1600 cpi

7-track--800/556, 556/200, 800/200 cpi

Tape Velocity: 10, 12.5, 18.75, 25, 37.5, 45 ips

Rewind Speed: 150 ips Nominal

Total Speed Variation: ±4% maximum

Start/Stop Distance: start distance = $.17 \pm .02$ in.

stop distance = $.19 \pm .02$ in..

Start/Stop Time: 37.5 ± 2.5 millisec at 10 ips

 30.0 ± 2.0 millisec at 12.5 ips 20.0 ± 1.3 millisec at 18.75 ips 15.0 ± 1.0 millisec at 25 ips 10.0 ± 0.7 millisec at 37.5 ips

8.3 + 0.6 millisec at 45 ips

Head: dual gap or single gap

Number of Tracks: 7 IBM-compatible

9 ANSI-compatible

Recording Mode: NRZI - IBM and ANSI-compatible

Table 1. Mod 10 Specifications, cont'd.

Static Skew, WRITE: electronic skew compensation

supplied on dual gap units

Static Skew, READ FORWARD: 100 micro-inches, maximum

Dynamic Skew: 75 micro-inches, maximum

Tape Specifications: computer grade, 0.5" wide, 1.5 mil

thick Mylar base

Reel Size: up to 10.5-inch diameter, IBM hub

compatible

Tape Tension: 8.0 + 0.5 oz.

Electronics: silicon solid state and 930 series

DTL logic

Tape Unit Interface: DTL logic (low true)

Weight: 100 lbs.

Height: 24"

Width: 19"

Depth: 11" (from mounting surface)

Power: 110-125 VAC + 10 %,

2.3 amps/220-250 VAC + 10%,

1.2 amps, 48-60 Hz

Operating Environment

Temperature: 60° to 90° F.

Relative Humidity: 20 - 80%, non-condensing

Non-Operating Environment

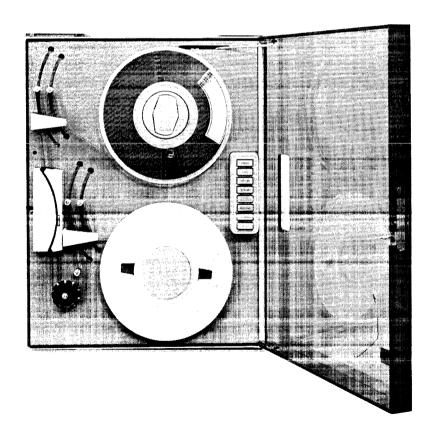
Temperature: -30° to 140° F.

Relative Humidity: 15 - 95%, non-condensing

Altitude: 0 - 20,000 feet



(A) Tape System for Speeds of 25 IPS or Less



(B) Tape System for Speeds of 37.5 and 45 IPS
Figure 1. Mod 10 Tape System - Front View

SECTION II

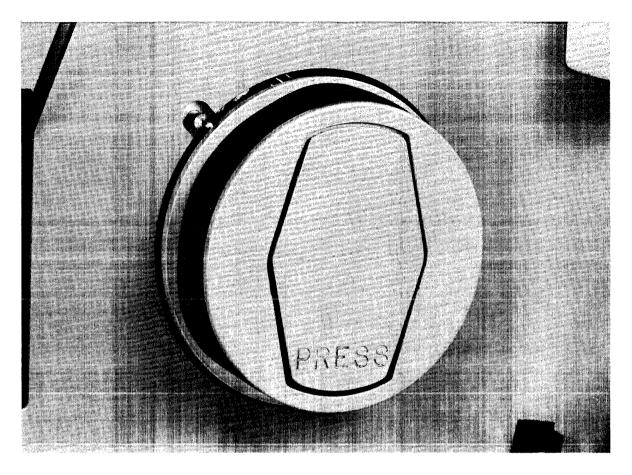
SYSTEM OPERATION

Operation of the Mod 10 tape system requires only a few simple procedures. These include tape loading and unloading, manual rewind, power failure recovery, and possible other special operations required by the data processing system using the tape equipment.

POWER ON the tape unit by setting the power switch located on the power supply chassis to the ON position. Depress the POWER pushbutton switch located on the operator's control panel. At this point, power will be available to all assemblies and the power indicator will illuminate.

TAPE LOADING is made particularly easy by the toggle-action holddown knob (Figure 2) designed for the Mod 10. Positive indication is provided by the knob for installation of the reel and for the locked condition. To prepare the knob for installation of the reel, depress the toggle at the end marked PRESS. It will remain in that position. Place the tape reel on the knob, with the write enable ring, or the slot provided for it, toward the tape unit. This will automatically position the end of the tape on the reel for proper threading. After pressing the reel firmly against the knob, using the fingertips against the REEL HUB ONLY, press the extended end of the toggle tab until it is flush with the face of the hold-down knob. The snap action of the knob will be distinctly felt, and the knob is then firmly locked. It is not necessary to hold the reel against the knob when the knob is being locked. Care should also be taken to avoid pressing the reel flanges against the tape pack when loading the tape or locking the knob. Pressure of the flange against the tape edges causes two types of damage: oxide is dislodged from the film, causing potential read errors: deformity of the edge of the tape results in misalignment of the tape as it passes the head, with an increased possibility of errors.

To thread tape on 10, 12.5, 18.75 or 25 ips Mod 10 systems (Figure 3), follow this procedure:



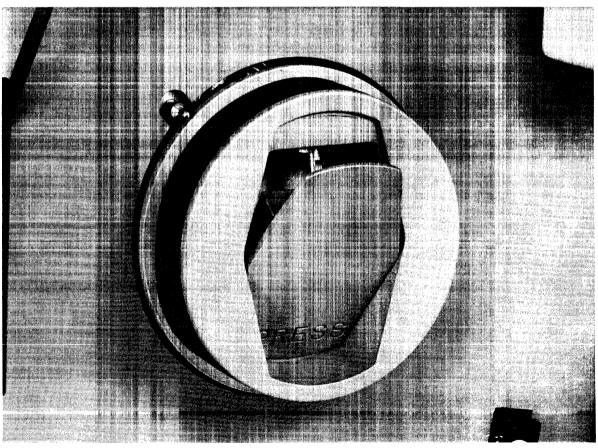
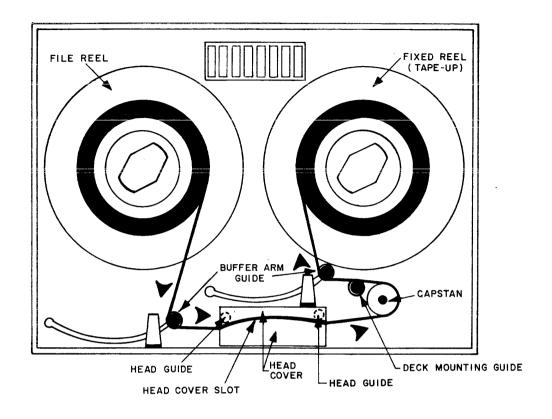


Figure 2. File Reel Mounting Hold-Down Knob in Locked (Top) and Unlocked (Bottom) Positions



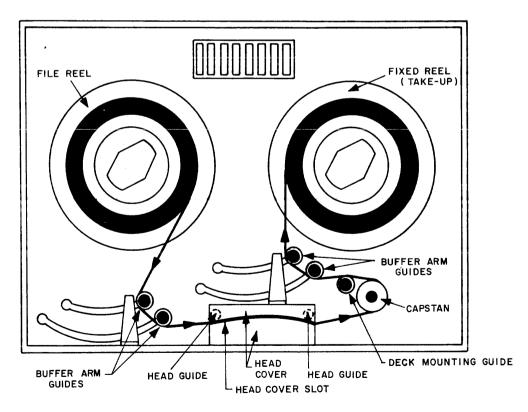


Figure 3. Tape Threading Path for 25 IPS or Less System (Top) and 37.5 and 45 IPS System (Bottom)

- 1. Lead the end of the tape over the buffer arm guide and down through the slot guide in the head assembly cover. The passage of the tape through the slot causes the small shield over the head assembly to move away from the head. The tape then tracks properly over the read/write heads and other elements in the head assembly.
- 2. At the capstan end of the head cover slot, lead the tape around the capstan and over the top of the other buffer quide.
- 3. Pass the tape over the top of the fixed takeup reel.
- 4. Press the end of the tape against the hub through one of the openings in the reel flange.
- 5. Holding the tape against the hub, turn the reel until the end of the tape is overlapped and secured by the next tape layer.
- 6. By hand, wind three full turns of tape onto the takeup reel.
- 7. To complete the loading operation, firmly press the LOAD pushbutton on the operator's control panel (Figure 4). Both buffer arms will move to their normal operating positions and the capstan will pull the tape forward until the beginning-of-tape (BOT) marker reaches the photosense assembly. Control of the tape system will then be turned over to the data system tape controller automatically, and the ON-LINE indicator and LOAD indicator will light up. No operator action is needed to put the tape system on line.
- 8. If the on-line mode is not desired, the tape unit may be taken off line, for control from the operator's control panel, by pressing the RESET pushbutton.

To thread tape on 37.5 ips or 45 ips Mod 10 systems (Figure 3), follow the previously described procedure for 25 ips units, except that the tape must be led across both rollers of each buffer arm guide assembly.

At the conclusion of a tape system operation with the computer, or at other times when it is necessary, the tape will be rewound onto the supply reel. Normally, the computer or data system will issue a rewind command without operator participation. Other conditions will sometimes require the operator to rewind the tape by pressing the REWIND pushbutton on the operator control panel. This will result in high-speed reverse operation. When the beginning-of-tape marker reaches the photosense unit, the rewind will be ended, and the tape unit will advance the tape until the reflective marker is at the photosense head.

TO UNLOAD THE TAPE, push the REWIND pushbutton again. The tape will be pulled through the tape path and returned to the supply reel. The tape reel may then be removed from the machine by pressing the knob toggle to the unlocked position. Again, care should be taken to avoid damage caused by pressing the reel flanges against the sides of the tape.

To POWER OFF the unit, depress the POWER switch on the operator's control panel.

In the event of power failure while the system is on line, the buffer arms will extend and tension on the tape will be relaxed, preventing any possible tape damage. When power has been restored, tape system operations may be resumed by first taking up the tape slack and then pressing the LOAD pushbutton. When the buffer arms have returned to their operating positions, press the RESET pushbutton to stop tape motion. Then press the REWIND or ON-LINE pushbutton, depending on the requirements of the system with which the Mod 10 is operating.

In the following list, the other operator control functions and indicators (Figure 4) are described, with a review of those already mentioned:

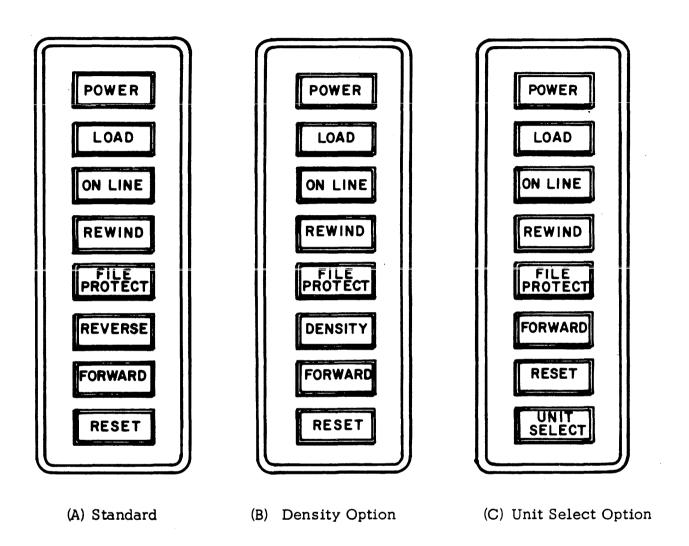


Figure 4. Operator's Control Panels

POWER

This is a combination pushbutton switch and indicator. The indicator is on when regulated power has been supplied to the Mod 10. For the convenience of the maintenance or customer engineer, a power switch is provided on the power supply chassis at the rear of the machine. It is accessible only when the tape unit is swung open for service.

LOAD

After threading the tape, press this combination pushbutton switch and indicator to complete the tape loading operation. Tape is automatically advanced to the load point, or beginning-of-tape marker, and then the tape system goes on line. LOAD and ON LINE will be lit when the action is completed. The LOAD light will go out when the tape is advanced from the load point or rewound. The LOAD light will be lit any time that the tape is positioned at the load point. After this sequence of operations is completed the switch becomes functionally disabled and can only be re-enabled by loss of tape tension.

ON LINE

This is a combination pushbutton switch and indicator. As previously mentioned, it is lit when the system is under control of the computer or data system. If the system is off line and if control is to be turned over to the computer, press the ON-LINE pushbutton. The system will be returned to the OFF-LINE mode if the system interlocks are lost, an OFF-LINE controller command is sensed, or the RESET pushbutton is depressed.

FILE PROTECT This is an indicator that is lit when a write enable ring is not installed on the file reel. When a supply reel is put on the machine with the write enable ring in place in the slot at the back of the reel, the FILE PROTECT light will be off. This indicates that data may be written on the tape. With the ring not in place, protective circuits in the tape system prevent data from being written on the tape.

REWIND

Pressing this pushbutton switch will result in rewind of the tape at high speed. The operator can stop this reverse motion by pressing the RESET pushbutton. If REWIND (cont'd.)

RESET is not pressed, the tape will go beyond the beginning-of-tape marker, stop, and then automatically return to the load point. If the REWIND pushbutton is then again pressed, the tape will be drawn out of the tape path and the unload sequence will be completed. If the tape system is under computer control, the REWIND pushbutton is disabled. This safety feature prevents accidental tape damage.

FORWARD

This is a combination pushbutton switch and indicator. The pushbutton will function only when the machine is off line. If the ON-LINE indicator is on, pressing the FORWARD pushbutton will have no effect. If the ON-LINE indicator is off and the FORWARD pushbutton is pressed, the indicator will light up and the tape unit will move tape in the forward direction at the normal tape speed. To stop the machine, when it is running in this mode, press the RESET pushbutton.

REVERSE

If the ON-LINE indicator is <u>on</u>, the REVERSE pushbutton is disabled. If the tape unit is off line, pressing this combination pushbutton switch and indicator will light the light and move the tape in reverse at the normal tape speed. To stop the machine when it is running in this mode, press the RESET pushbutton.

RESET

This switch is used only on NRZI units. All tape motion, except UNLOAD, will stop when the RESET pushbutton is pressed. Pressing RESET clears all read, write and control functions. It also removes the tape unit from on-line operation with the computer or data system and turns off the ON-LINE indicator.

UNIT SELECT

This switch is optional on NRZI units. When this switch is used, the REVERSE switch is not installed. This is a 4-position switch used to make the transport assignment in a daisy chain configuration. A particular drive in the

daisy chain is automatically selected if the switch identification number corresponds to the controller select line which has been conditioned TRUE. See Figure 4(C).

DENSITY SELECT

This alternate action switch is optional for NRZI units. When it is used, the REVERSE switch is not installed. When depressed to select High Density, it conditions the data electronics to operate at the high data transfer rate and also causes the indicator to light. When the switch is again depressed, the lower data rate capability is selected and the light is extinguished. See Figure 4(B).

Care and Handling of Digital Magnetic Tape. Satisfactory performance of any digital magnetic tape system depends very heavily on the use of good magnetic tape and upon proper handling of the tape by computer operators. Most data reliability problems begin with improper or careless handling of magnetic tape during the loading of the tape on the tape system or in removing the tape. Reliable performance of magnetic tape systems can be, to a great extent, assured by observing a few simple rules and adopting proper procedures in the handling of tape.

Whenever magnetic tape is handled it should be borne in mind that the Mylar or polyester base on which the magnetic coating is applied is only 1 or 1.5 thousandths of an inch thick. The magnetic coating is only a fraction of that thickness. Several things happen when tape is improperly handled. One of the most serious types of damage is that in which the tape is bent, stretched, or otherwise physically deformed so that part of the magnetic coating is dislodged. This results in two possibilities for data errors. first case, the area from which the magnetic coating has been removed will no longer accept data when it is written in the area, and of course data cannot be The second potential data recovered from that area. error results from the redepositing of the loose oxide at some other location where it can cause the tape to be lifted from the head as the tape passes over the This again results in improper writing or reading head. of the data.

Because of the fragility of the tape, it is important that it be handled as little as possible when putting the tape on the tape drive or removing it. At no time should the tape be handled in any area other than that ahead of the beginning-of-tape (BOT) marker. Should it be necessary, because of power failure or some other malfunction, to handle the tape at any other point in its length, extreme care should be exercised to be sure that the edges are not deformed in any way and that no dirt, lint, or other potential contaminants be deposited on the oxide surface or back of the tape. Particles of dust or other material create potential errors in the same way that oxide dislodged

from the surface does, by lifting the tape away from the read and write heads.

When handling the tape in any area, including the length used in threading or loading it on the tape drive, the tape should not be permitted to touch the floor or other surfaces where dust or dirt may be transferred to it. Only that length of tape actually required to thread the tape drive should be removed from the reel in the process of threading. Any extra length of tape that dangles or drops from the machine in the threading process will be likely to pick up dust or other contaminants. Care should be taken to prevent grease from the fingers from being transferred to the tape, and foods should not be brought into the area where computer tapes are used.

When handling the reel upon which the tape is wound, the flanges of the reel should never be pressed against This is one of the most the tape wound on the reel. common sources of damage to tape. When the reel flanges are pressed against the tape, the tape edges protruding from the tape pack will be bent, curled and deformed so that oxide is dislodged and proper guiding of the tape is prevented. To handle the reel properly, it should be grasped with both hands at the outer edges so that any pressure required to hold the reel is directed toward the center opening. When mounting the reel on the hold-down knob of the tape drive, proper seating of the reel can be accomplished by pressing with the fingertips against the area within half an inch of the reel opening. There is a solid ring at this point; no tape is wound in the area and no tape damage to the tape can result. It is extremely important that the reel not be pressed on the tape drive in any way other than that described. If the flexible part of the reel flange is pressed to seat the reel properly, damage to the tape will result.

In removing the tape from the tape handler, these same precautions should be observed. After unlocking the hold-down knob, the tape reel should again be grasped at the outer edges and extreme caution must be used to prevent the reel flange being brought forward to the edge of the tape pack. The tape handler does not

discriminate between damage to the front edge or rear edge of the tape. Damage to either edge of the tape results in the same eventual data unreliability. Cannisters used for storing the tape should always be handled carefully, with no abrupt motions or hard impacts. After the tape reel is removed from the cannister to load it on the tape drive, the tape cannister should immediately be closed and locked so that dust will not be introduced into the cannister while the tape is on the drive. Broken, chipped, or cracked cannisters should be discarded immediately. The cost of a cannister is small compared to the value of the data on a reel of magnetic tape.

When tape has been in use for a long time and data errors begin to occur frequently, it is possible to have the tape cleaned and recertified for additional use. If recertification does not restore the tape to a satisfactory level of reliability, it should be discarded. Most modern digital magnetic tape, if properly handled, will give long and reliable service. It will not last idefinitely, however, and a regular program of tape recertification will help to establish which tapes must be discarded to prevent costly errors and data processing system down-time.

When tape is not in use, it should be stored in cannisters under temperature and humidity conditions prescribed by the tape manufacturer. Tape should never be stored or placed near electric motors, transformers, or any other device that may be expected to generate heavy magnetic fields.

SECTION III

OPERATOR MAINTENANCE FUNCTIONS

Proper and regular maintenance of the Mod 10 tape handler will assure operation at the high levels of data and mechanical reliability that have been designed into the system. Particularly important are the operator maintenance functions that are intended to keep the system free of dirt and contaminants. At the high densities of data on tapes written or read with the Mod 10, extremely small particles of dust or oxide from the tape are capable of causing data errors. Careful attention to the cleaning procedures described in this section will assure the greatest possibility of trouble-free operation.

TRANSPORT AND HEAD CLEANING should be performed after every eight hours of system use. Following are the steps to be carried out:

- 1. Remove tape from the tape unit, as described in Section II.
- 2. Remove the head covers by pulling both pieces, one at a time, directly away from the front of the machine. The covers will come off with a gentle, steady pull.
- 3. Moisten a soft, lint-free cloth or Q-tip applicator with isopropyl alcohol. After the head surfaces, including the surface of the erase head, have been carefully swabbed, they should be dried with a separate clean and lint-free cloth. See Figure 5.

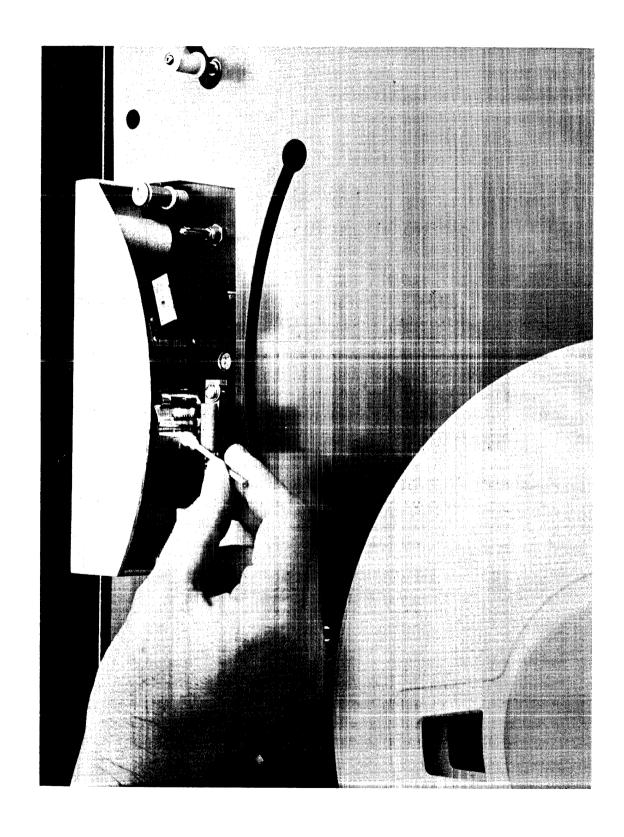


Figure 5. Cleaning the Read/Write Head Assembly

- 4. Clean the face of the tape cleaner, following the same procedure described in step 3.
- 5. Clean the head guides and head guide blocks, shown in Figure 5. The guide blocks are immediately in back of the guides. Dry all parts with a clean, lint-free cloth.
- 6. Clean the roller guides (Figure 6), rotating them to be sure all surfaces are cleaned. Dry with a clean, lint-free cloth.
- 7. If it has been removed, replace head cover by aligning the holes in the cover with the mounting pins on the transport and pressing firmly into place.

CAPSTAN CLEANING should be performed after <u>every eight hours</u> of use, following this procedure:

- 1. Moisten a cloth with water.
- 2. Rotate the capstan slowly with one hand, without touching the rubber surface.
- 3. At the same time, clean the surface of the capstan with the moistened cloth. Make a visual inspection of the capstan surface for abrasion or polish; if defects are observed, contact the maintenance engineer.
- 4. Dry the capstan with a separate clean and lint-free cloth.

Additional cleaning requirements are carried out at longer intervals.

Every four months the entire surface of the tape unit should be cleaned, making sure that accumulations of dust around the hold-down knobs and in the head area are removed. Head covers should be removed and cleaned on the inside and outside, making sure that all deposits of dust and other possible tape contaminants are removed.

Any periodic maintenance functions beyond those described here are suggested for performance by customer engineers. Details of these additional procedures are described in Section VI.

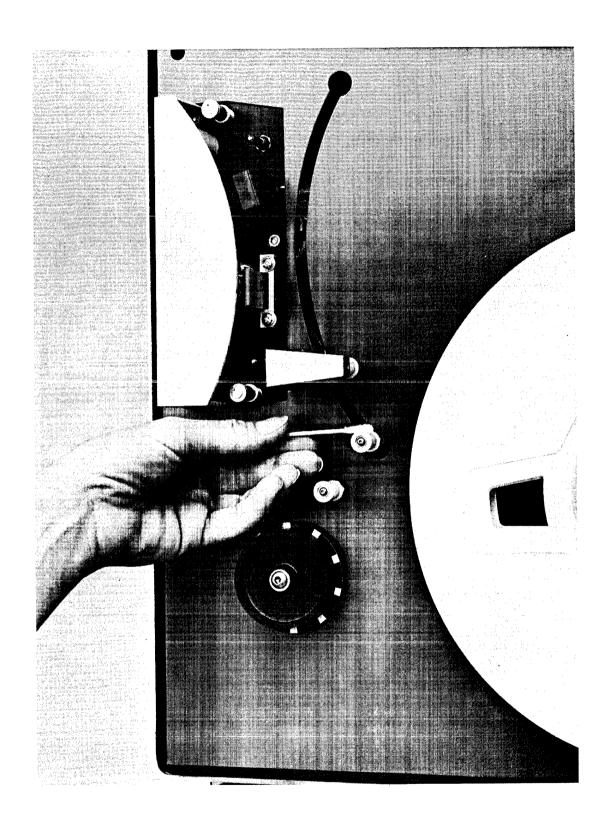


Figure 6. Cleaning the Roller Guides

SECTION IV

INSTALLATION AND INITIAL CHECKOUT

This section provides installation instructions for the Mod 10 magnetic tape system. Information on unpacking the system and on the procedure for electrically connecting and checking out the system is included.

1. UNPACKING AND INSPECTION

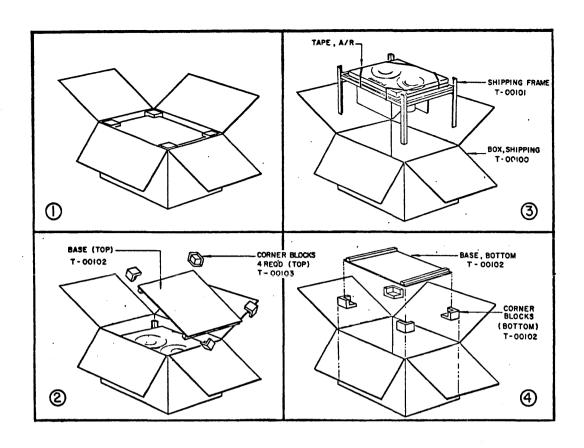
Inspect the shipping container for evidence of in-transit damage. Contact the carrier and manufacturer if damage is evident. Specify nature and extent of damage.

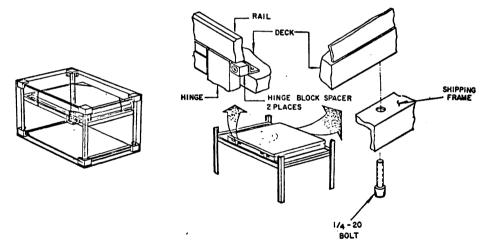
Open shipping container and remove contents. (See Figure 7, page IV-2.) Check items removed from shipping list to verify container contents. Contact a company representative in the event of a packing shortage.

Remove protective padding and covering from the tape system. Verify that the serial number of the unit corresponds to that shown on the shipping invoice.

Visually inspect the exterior of the enclosure for evidence of physical damage that may have occurred in transit.

Check major component assemblies to determine if any assemblies or screws have been loosened. Tighten any loose screws or mounting hardware. Inspect input/output connectors.





UNPACKING PROCEDURE:

SAVE ALL PARTS FOR FUTURE USE.

- 1. OPEN SHIPPING BOX & REMOVE 4 CORNER BLOCKS.
- 2. REMOVE TOP BASE FROM BOX.
- 3. REMOVE TAPE TRANSPORT FROM BOX.
- 4. REMOVE STRAPPING & PROTECTIVE PADDING FROM TAPE TRANSPORT.
- 5. REMOVE SHIPPING FRAME.

DO NOT REMOVE BOTTOM BASE OR CORNER BLOCKS FROM BOTTOM OF BOX.

REPACKING PROCEDURE:

- ASSEMBLY SHIPPING FRAME TO TAPE TRANSPORT USING SCREWS PREVIOUSLY REMOVED.
- 2. SECURE STRAPPING & PADDING AROUND TAPE TRANSPORT.
- 3. PLACE TAPE TRANSPORT IN SHIPPING BOX.
- 4. PLACE TOP BASE IN BOX.
- 5. PLACE 4 CORNER BLOCKS & RESEAL SHIPPING BOX.

Figure 7. Tape Transport Unpacking/Repacking Procedure

2. INITIAL CHECKOUT PROCEDURES

To check the proper operation of the transport before placing it in the system, follow the specified procedure.

- 1. For applications not employing 115 VAC line power, verify that the appropriate primary power transformer wiring is correct. This can be accomplished by swinging out the power supply chassis and checking the wiring against the voltage decal mounted on the deck of the transport. See Figure 43.
- 2. Turn the transport power on by setting the power switch located on the power supply chassis to the ON position and pressing the POWER pushbutton switch located on the operator's control panel. At this point the POWER indicator should light up.
- 3. Load tape on the transport as described in Section II.
- 4. Press the LOAD pushbutton to initiate the load sequence. The tape will move forward until it reaches the BOT tab. The ON-LINE indicator should light when the BOT reaches the photosensor. At this point, there will be no action when the LOAD pushbutton is pressed. To remove the system from the on-line mode, press the RESET pushbutton. The system is now in the off-line mode.
- 5. With the transport off line (ON LINE indicator not illuminated), press the FORWARD pushbutton. Run several feet of tape onto the takeup reel and press the RESET pushbutton to stop the tape. Be sure that when the transport is on line, the action of the FORWARD pushbutton is inoperative.
- 6. Press the REVERSE pushbutton. Tape will move backward until the BOT tab reaches the photosensor. Be sure that the action of the control is inoperative when the transport is on line.
- 7. Using the FORWARD pushbutton, run several feet of tape onto the takeup reel. Press the REWIND pushbutton to initiate the rewind mode. The tape will rewind past the BOT tab, return to the BOT tab, and stop with the LOAD indicator lit. If the REWIND pushbutton is now pressed, the tape will rewind until tape tension is lost. This action is used to unload tape. The reel can be removed as outlined in Section II.

3. RACK MOUNTING THE TRANSPORT

The transport may be mounted in a standard 19-inch RETMA or Universal rack with a minimum panel space of 24 inches. A depth of 11 inches minimum is required behind the rack mounting surface. The procedure for mounting (see Figures 8 & 9) is as follows:

- 1. Remove safety blocks from below hinges then lift transport off shipping frame.
- 2. Remove hinge-half off shipping frame and install same on rack in desired position.
- 3. Hang transport on rack and lock in the closed position by tightening catch screw in front of the deck.
- 4. Replace safety blocks.

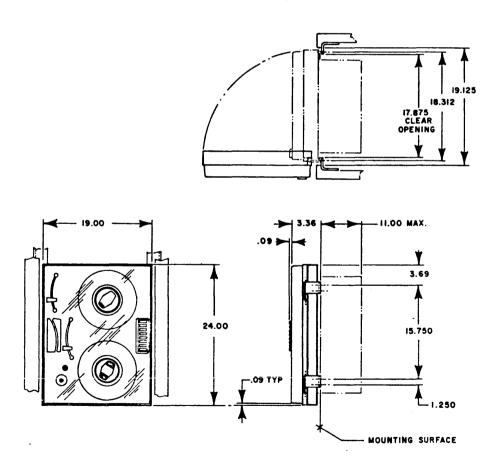


Figure 8. Tape System Rack Mounting

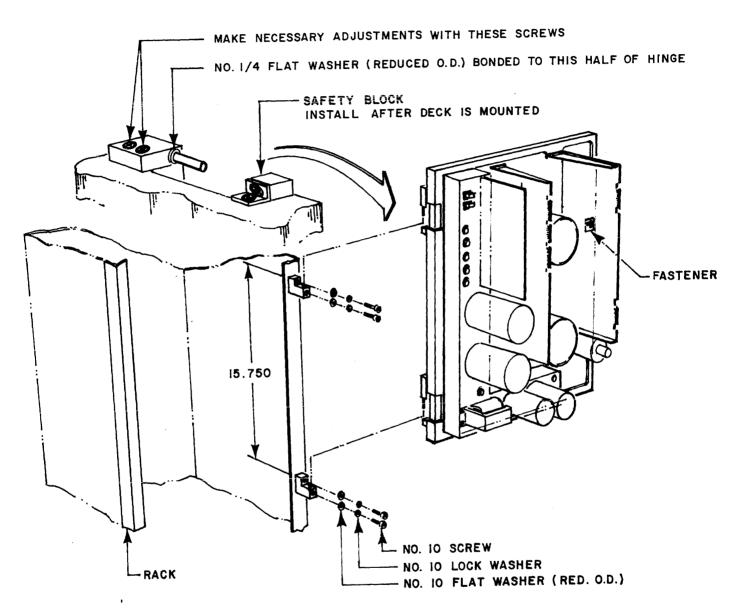


Figure 9. Tape Transport Installation

4. INTERFACE REQUIREMENTS

4.1 CABLING

The interface cables shall be twisted pairs with returns grounded. Wire shall be #24 or #26 AWG conductor with minimum insulation thickness. Cable twist shall be approximately 30 twists per foot. Maximum cable length shall be 20 feet. The ground side of each pair shall terminate within a few inches of the line receiver or transmitter ground. Connectors shall be Transitron 600-061-18-SL or equivalent. Cables should be wired and strain relieved as shown on Figure 10.

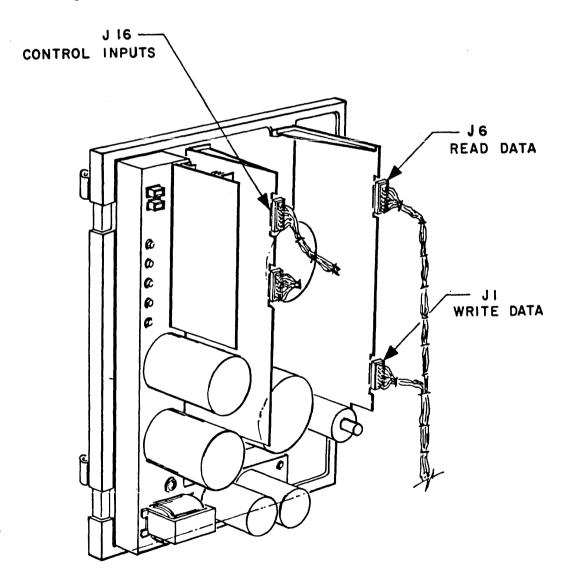


Figure 10. Interface Cable Installation

4.2 DAISY CHAINING (Units using 200632 Control Board and 201142 Data Board)

Up to four units can be daisy chained on the same buss without any modification to any of the tape units tied in the daisy chain configuration. When the Unit Select option is installed, it is feasible to add or delete tape units from the buss and re-assign new tape unit addresses.

The following features incorporated into the Mod 10 Transport allow daisy chaining to become a simple operation.

1. Parallel Connectors

Parallel Connectors are provided for all interface cables (Control, Write, and Read). The advantages of such a system are as follows:

- a) It allows all interface signals including the four select lines to enter and leave all the tape units in the daisy chain.
- b) It eliminates the requirement of using "T" cables. This facilitates daisy chaining since a drive may be added or removed by simply adding or removing a cable, thus eliminating the requirement of modifying a cable to add another "T." In addition, system reliability is optimized since only the necessary cabling is used.

2. Floating Line Terminators

The line terminating resistors, rather than being mounted on the individual tape units, are packaged on a special terminator board assembly. This assembly is pluggable on any unit thereby facilitating a change to a different drive when a unit is added or removed from the chain. Regardless of what unit the terminator board is mounted on, as long as any unit on the line is energized, power will be supplied to it.

4.2.1 Daisy Chaining Cable Configuration Without a Unit Select Switch

The following method is recommended when daisy chaining without the unit select option. (See Figure 11.) With this method, the select lines are rotated in the "tape unit to tape unit" cable. Pin J of the tape unit will always be the active select line of the tape unit. If a tape unit is physically removed from the daisy chain, and a 1 to 1 adapter (Wang P/N 200749) is placed in place of the tape unit, the address of the tape units will remain unchanged. (In all following discussions, 1 to 1 implies a pin for pin connection.) (See Figure 11A.) However, if the tape unit and cable are removed, then the address of the tape units following the removed tape unit will all be reduced by one. (See Figure 11B.) In any case, the address of the tape unit is fixed by its physical position if no adapter is used.

The Read cable and the Write cable do not require any signal rotation, and therefore are 1 to 1 cables.

4.2.2 Daisy Chaining With Unit Select Switch

When daisy chaining with the unit select option, all the cables (Control, Read, Write) are 1 to 1 cables. (See Figure 11C.) With the unit select switch installed, the operator has the freedom to give each of the four units in the daisy chain the logical address desired, regardless of its physical position on the buss. However the address for each drive must be unique. That is, each select line should select a different drive.

4.2.2.1 T Cables

The parallel connectors on the tape drive do not exclude the use of "T" cables. The connections would be identical to Figure 11, 11B when used without the unit select option. If the unit select option is used, the connection would be as shown in Figure 11C.

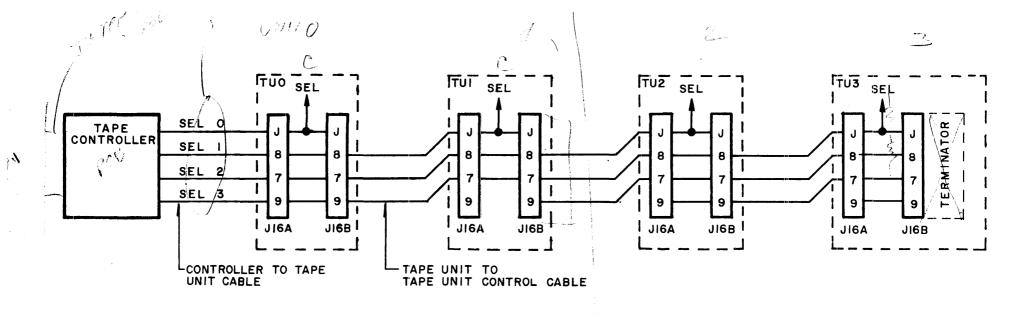


Figure 11. Daisy Chaining Without Unit Select Option

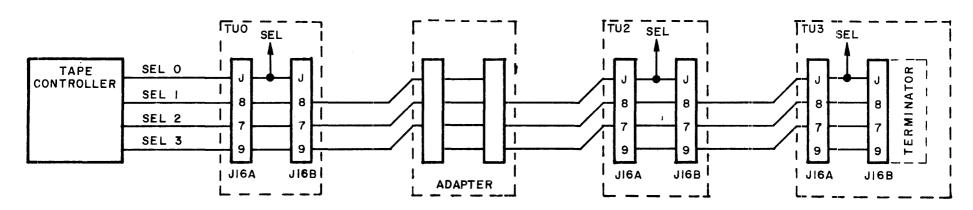


Figure 11A. Daisy Chaining With Adapter

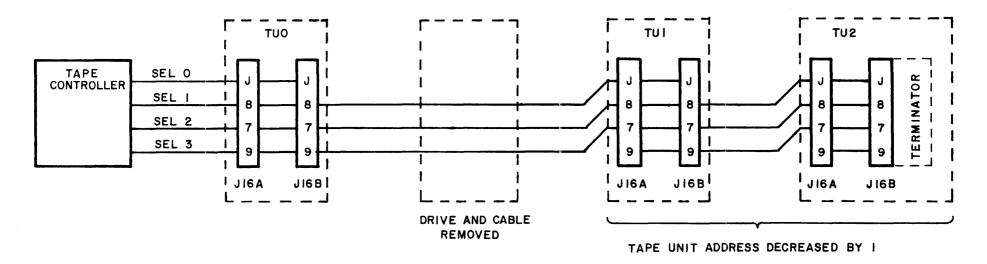
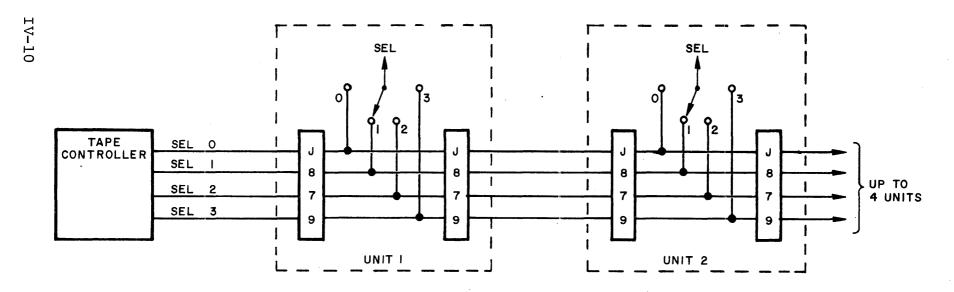


Figure 11B. Daisy Chaining With Drive and Cable Removed



THE LOGICAL ADDRESS OF ANY UNIT IS SELECTED BY SWITCH. EACH SELECT LINE MUST BE USED FOR I AND ONLY I DRIVE.

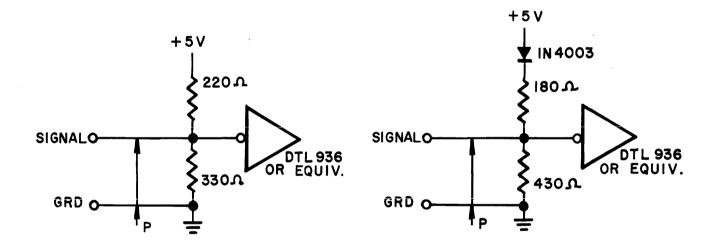
Figure 11C. Daisy Chaining With Unit Select Option

4.3 INPUT REQUIREMENTS

Input voltage requirements, a diagram of input load configuration, and a list of input control and data functions are shown below:

Input Requirements

FALSE (Logic 0)	+2.5 to +5.5V
TRUE (Logic 1)	0.0 to +0.5V



- (A) Internal Single Tape Unit
- (B) External Multiple Tape Unit

Figure 12. Input/Output Termination Configuration

Input Functions

Input Control	Lines	Input Data I	ines
Select Unit Select (Option) Forward/Reverse Run/Stop Rewind Density Select Off-line*	(1 line) (4 lines) (1 line) (1 line) (1 line) (1 line) (1 line)	Write Data (7 c Write Data Strobe Write Reset Read Permit Write Permit Low Read Threshold Select*	or 9 lines) (1 line) (1 line) (1 line) (1 line) (1 line)

^{*}These functions are not required for proper operation; therefore, they may be left disconnected.

The following on-line input signals (sections 4.4 and 4.5) control operation of the Mod 10 tape transport only after power is on, the on-line mode has been initiated, ready status has been established, and the unit has been selected. (Table 2 shows the pin connections required to achieve correct interface with the tape controller.)

4.4 INPUT CONTROL FUNCTIONS

4.4.1 Select

When this becomes TRUE, it enables all the write and read circuitry, the on-line transport control commands, and the status output lines <u>if</u> the ready status line is TRUE <u>and if</u> the unit is in the on-line mode. When the level goes FALSE, the above transport functions are disabled.

4.4.2 Unit Select

Four Select lines are provided such that when the one which is TRUE corresponds to the unit select switch position, the unit will be selected.

4.4.3 Forward/Reverse

The state of this line will determine the direction of tape motion upon receipt of a run command. When TRUE, the unit will be conditioned for forward motion. When FALSE, it will be conditioned for reverse motion. A transition shall not occur on this line while the Run/Stop signal is TRUE, but may occur simultaneously to a change on it.

4.4.4 Run/Stop

A TRUE level on this line will cause tape motion in the direction conditioned by the Forward/Reverse line. A FALSE level on this line will stop tape motion.

4.4.5 Rewind

A 2 µsec minimum pulse on this line shall cause the tape transport to drive tape, at 150 ips, in the reverse direction and stop at the Load Point, illuminating the Load indicator. The transport will remain in the On-Line mode. If already at Load Point when the rewind command is given, the command will be ignored. All other motion commands are inhibited until the rewinding sequence is complete.

4.4.6 Density Select

A TRUE level on this line conditions the MTT to operate at the higher packing density. A FALSE level selects the lower data packing density. This line is internally tied TRUE for 9-track systems. This line is inoperative when the Density Switch option is used.

4.4.7 Off-Line

This is a level or a 2 μ sec minimum pulse which resets the On-Line flip-flop to the ZERO state, placing the transport under manual control. It is gated only by Select in the transport logic, allowing an Off-Line command to be given while a Rewind is in progress.

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Table 2. Input/Output Pin Assignments

Connector Transitron 600-061-18-SL (or equivalent)	Signal Nomenclature	Signal Pin	Ground Pin
J-16 CONTROL INPUTS FROM CUSTOMER (See Figures B-23 and B-25) STATUS OUTPUTS TO CUSTOMER	SELECT 0 SELECT 1 SELECT 2 SELECT 3 SELECT 3 SELECT FORWARD/REVERSE RUN/STOP REWIND OFF-LINE DENSITY SELECT READY STATUS ON-LINE STATUS REWINDING STATUS EOT STATUS BOT STATUS WRITE ENABLE STATUS HI/LO DENSITY STATUS *SPEED STATUS +5V TERMINATOR POWER (Option)	J 8 7 9 J C E H L D T M N U R P F A S	- - - 8 3 5 7 10 4 16 11 12 17 14 13 6
J-1 WRITE DATA INPUT CONNECTOR (See Figures B-32, B-33, B-35 and B-36)	WRITE PERMIT READ PERMIT LOW READ THRESHOLD WRITE DATA STROBE WRITE RESET WRITE DATA PARITY WRITE DATA 1 WRITE DATA 1 WRITE DATA 2 WRITE DATA 3 WRITE DATA 4 WRITE DATA 5 WRITE DATA 6 WRITE DATA 7 +5 v TERMINATOR POWER (Option)	B E D A C L M N P R S T U V	2 5 4 1 3 10 11 12 13 14 15 16 17 18
J-6 READ DATA OUTPUT CONNECTOR (See Figures B-32, B-33, B-35 and B-36)	READ STROBE READ DATA PARITY READ DATA 0 READ DATA 1 READ DATA 2 READ DATA 3 READ DATA 4 READ DATA 5 READ DATA 5 READ DATA 6 READ DATA 7 NRZI STATUS	2 1 3 4 8 9 14 15 17 18 10	B A C D J K R S U V L M

^{*}Available only on Daisy Chain Assembly 200632.

4.5 INPUT DATA FUNCTIONS

4.5.1 Write Data

One line is required for each bit in a character. The write data lines establish the controlling condition for the NRZI write register. When TRUE, the state of the corresponding flip-flop will be changed at the time of the write data strobe. Wi) This will change the direction of the current through the write head and establish a flux reversal (ONE) on the tape. When FALSE, the state of the flip-flop will not be changed at the time of the write data strobe. This will result in no change in the direction of write head current, hence no flux reversal (ZERO) will be on tape. These data lines must be held steady through the time interval from 0.5 µsec before to 0.5 µsec after the write data strobe. A minimum of one data line must be TRUE for every strobe.

4.5.2 Write Data Strobe

A 2 µsec pulse on this line causes a change in the state of any NRZI write register cell for which the corresponding write data line is TRUE. One pulse is required for each character to be recorded. The recording density is determined by the tape speed and the frequency of the pulses. The frequency will be stable within 0.25 percent.

4.5.3 Write Reset

A 2 µsec pulse on this line resets the NRZI write register. This pulse is used to write the longitudinal parity check (LPC) character at the end of each block of data, creating an even number of flux reversals (One's) in each track of the block.

In a <u>seven-track</u> system, this pulse occurs fo<u>ur character</u> ter times after the last write data strobe of every block of data.

In a <u>nine-track system</u>, this pulse occurs <u>eight character</u> ter times after the last write data strobe of every block of data.

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4.5.4 Read Permit

The read permit line is used to enable all the read circuitry. When this line goes FALSE, the strobe generator is disabled and the read register is DC reset. This line can be tied permanently TRUE.

4.5.5 Write Permit

When a write enable ring is on the file reel and write permit is TRUE, the tape transport is placed in the write mode.

4.5.6 Low Read Threshold Select

A TRUE level on this line selects a low threshold level (12 percent) for the read signals, allowing for the detection of marginal areas of tape. A FALSE level on this line selects the normal read signal threshold level (25 percent). This line is active only in the read mode on dual gap machines since the threshold level in the write mode is fixed at 45 percent.

4.6 OUTPUT REQUIREMENTS

Output requirements, output current levels, and a list of output control and data functions are displayed below.

Output Requirements

FALSE (Logic 0)	User terminates line as shown in Figure 12(A)
TRUE (Logic 1)	0.0 to +0.5V

Output Current Level

FALSE level	Open collector
TRUE level	40 milliamp max sink

Output Functions

Output Control Status Lines		Output Data Lines	
Ready Status	(1 line)	Read Data (7 or 9 lines)	
Rewinding Status	(1 line)	Read Strobe (1 line)	
EOT Status	(l line)	*NRZI Status (1 line)	
BOT Status	(1 line)	*7 Track Status (1 line)	
Write Enable Status	(1 line)		
Hi/Lo Density Status	(1 line)		
Speed Status	(1 line)		

^{*}On daisy chain data board assembly 201142 only.

The following on-line output signals (sections 4.7 and 4.8) provide the data functions when the unit is ready and selected. The control status functions are activated when on-line and selected. (Refer to Table 2 for pin connections.)

4.7 OUTPUT CONTROL FUNCTIONS

4.7.1 Ready Status

This line is TRUE when the transport interlocks are made and the unit is on-line.

4.7.2 On-Line Status

When TRUE, this line indicates that the on-line flipflop is set and the transport is under remote control.

4.7.3 Rewinding Status

When TRUE, this line indicates that the tape transport is rewinding. The rewinding function is completed when the tape stops at the Load Point.

4.7.4 EOT Status

When TRUE, this line indicates that the tape transport is sensing the EOT reflective marker.

4.7.5 BOT Status

When TRUE, this line indicates that the tape transport is sensing the BOT reflective marker.

4.7.6 Write Enable Status

A TRUE level on this line indicates that a write enable ring has been installed on the supply reel.

4.7.7 Hi/Low Density Status

When this line is TRUE, the transport has been set for low-density operation, and the read circuitry has been conditioned accordingly. This line is used only for seven-channel systems.

4.7.8 Speed Status

When this line is TRUE, it indicates to the system that the selected tape unit operates at the lower one of two tape speeds. This line is utilized when two or more drives of different tape speeds are used in a daisy chain system.

4.8 OUTPUT DATA FUNCTIONS

4.8.1 Read Data

One for each bit in a character. The data is in the form of pulses occurring simultaneously and coincident with the Read Strobe pulse. The presence of a pulse indicates a ONE and the absence of a pulse indicates a ZERO. These pulses shall be 2 μ sec wide.

4.8.2 Read Strobe Pulse

The Read Strobe line shall provide a pulse of 2 μ sec for each data character read from tape. This pulse shall be coincident with the data pulses.

4.8.3 NRZI Status

This line is TRUE whenever the tape unit is Selected and On-Line, and indicates to the controller that the selected tape unit is a NRZI drive as opposed to a PE (Phase Encode) drive. This line is available only on the daisy chain data board assembly 201142.

4.8.4 7 Track Status

When this line is TRUE, it indicates to the controller that the selected tape unit has a 7 track head. This line is available only on the daisy chain data board assembly 201142.

SECTION V

PRINCIPLES OF OPERATION

For best understanding of the principles of operation of the Mod 10 tape system, the major subassemblies are described separately. The functional separation of system operations relates conveniently to the actual physical packaging of the subassemblies. Following are the major subassemblies, in the sequence in which their operation is explained:

- 1. Power supply
- 2. Capstan drive and servo system
- 3. Reel drive and servo systems
- 4. Control electronics
- 5. Data electronics

1. POWER SUPPLY

A single assembly supplies power to the entire system, handling the needs of the capstan and reel drive systems, the data electronics and the option electronics. As shown in Figure 13, AC power to the system is controlled by a double-pole, single-throw switch on the power supply chassis and by a single-pole, single-throw pushbutton switch on the operator's control panel. The switch on the power supply chassis must be switched on to use the operator's control panel switch to control power. A three-wire cord is used with the ground line connected directly to the power supply chassis. A circuit breaker is provided in the hot side of the primary power line.

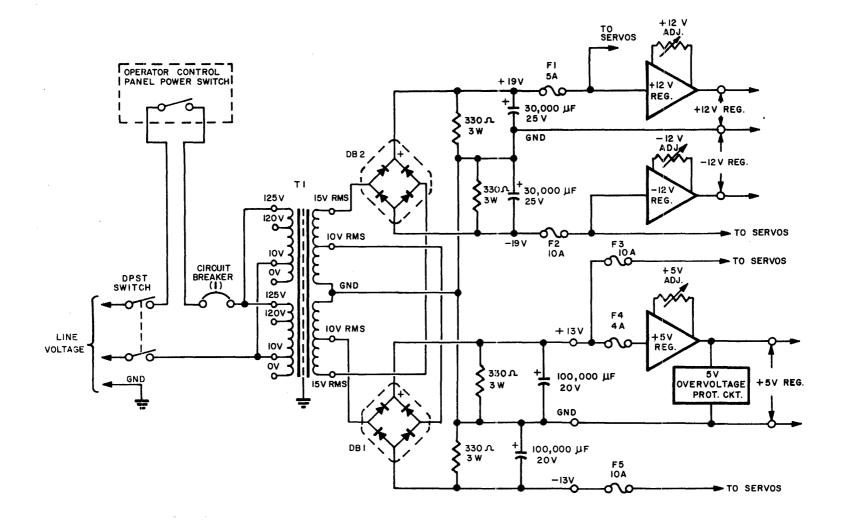


Figure 13. Mod 10 Power Supply

Unregulated DC from the power supply is sent to the regulators, which are on a separate printed circuit board mounted to the power supply chassis; this DC is also used to drive the capstan and reel motors. Voltages supplied unregulated are +19 volts, -19 volts, +13 volts, and -12, and +5 voltages.

Each voltage regulator consists of a linear integrated circuit amplifier plus power output transistors. The output voltage tolerance for the regulators is ± 5 per cent and each is potentiometer adjustable. The +12 and -12 volt regulators can supply up to 1.5 amperes and the +5 volt regulator, up to 3.5 amperes.

The output level of the +5 volt regulator is prevented from rising above +8 volts to protect the integrated circuits used in the system from overvoltage stress that could occur under abnormal conditions. If the voltage on the +5 volt line goes above +8 volts, an SCR will conduct, shorting the +13 volt unregulated input line to ground until the fuse opens, thus protecting the circuits.

2. CAPSTAN DRIVE AND SERVO SYSTEM

All tape motion in the Mod 10 is initiated by the capstan, which is driven by a DC motor. When the motor is running, a tachometer generates a DC voltage that is used to control the tape velocity through the capstan servo system (see Figure 14.)

The strobe disc will be on the front of the capstan and will have two patterns, one for 50 Hz and one for 60 Hz. The inner pattern will be for 60 Hz. It is to be viewed with the corresponding AC light (such as fluorescent) the pattern on this disc appears to stand still when the capstan motor of the tape transport is operating at the correct speed. The strobe pattern will be present only on machines operating at 12.5, 25, or 37.5 inches per second. Thus, proper operation of this component of the tape transport can be under continuous visual inspection by the operator. Any departure from a stationary pattern (i.e., precession of the strobe lines in either a clockwise or counterclockwise direction) indicates a speed variance of the capstan drive. (See Section VI for calculating the percentage of such variance.)

Two ramp generators are used in the capstan servo. One controls the forward and reverse speeds at nominal velocity, and the other controls the rewind speed. The forward/reverse ramp generator uses a Zener diode as a precise voltage reference. The rewind ramp generator uses the regulated +5 volt level as a voltage reference. Resistors R1 and R2 in Figure 14 in combination with R3 and R4, function as a

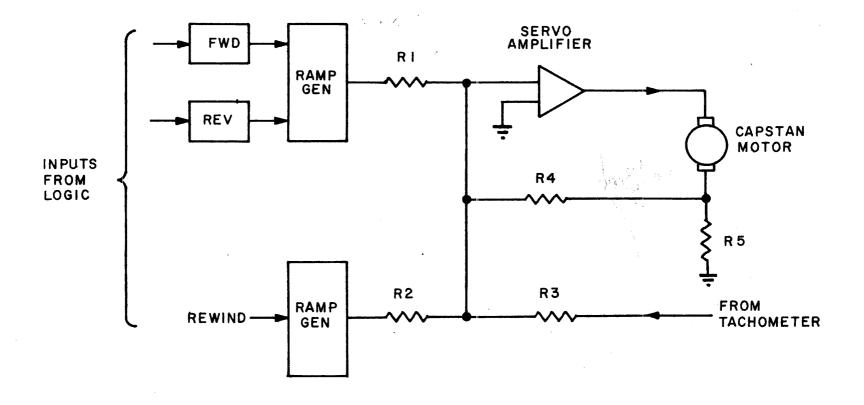


Figure 14. Capstan Drive and Servo System

summing network to control the capstan speed. Current through R3 is generated in the tachometer, and R4 provides feedback from the capstan motor, proportional to the motor current. The current feedback is generated by sensing the voltage across a 0.1 ohm resistor (R5) in series with the motor. When the motor is running, the sum of currents in R3 and R4 is equal to the sum of the currents in R1 and R2.

Either a forward or reverse command to the ramp generator preceding R1 establishes tape motion, in the appropriate direction. The distances traveled during acceleration or deceleration are such that an IBM-compatible interrecord gap is generated. Forward and reverse commands generate currents through R1 having opposite polarities. Symmetry of the start and stop times and distances is readily achieved through the potentiometers in the forward and reverse inputs to the ramp generator. A potentiometer is also used to adjust the capstan drive servo amplifier offset so that no tape motion occurs unless the tape transport has received a motion command.

Figure 15 shows the relative timing of commands to the capstan servo, the ramp function generated, and the resulting tachometer output seen by the servo amplifier.

In the rewind ramp generator, the rise time has nominally a 1 second time constant. This provides a time interval that permits the tape to accelerate to 150 ips without exceeding the storage capacity of the servo arms. Fall time is nominally a 0.5 second ramp and it assures that the storage arm capacity is not exceeded as the tape slows and halts.

When the system is in the ready state, the tape is held motionless by the balanced tension (eight ounces) in the storage arms and the friction in the capstan drive motor. Although the wrap on the capstan varies slightly with the arm position for the takeup reel, it is nominally 180 degrees. The area of tape in contact with the capstan and the tension on the tape prevent any relative motion between capstan and tape.

3. REEL SERVO SYSTEM

Two identical servo systems control the supply and takeup reels in the Mod 10. Storage of appropriate lengths of tape to permit acceleration and deceleration is provided by the buffer arms, which permit the capstan to start and stop the tape without having to start and stop the reels in the same short time. Storage of tape by the arms is sufficient to permit the system to operate at the nominal tape speed without program restrictions.

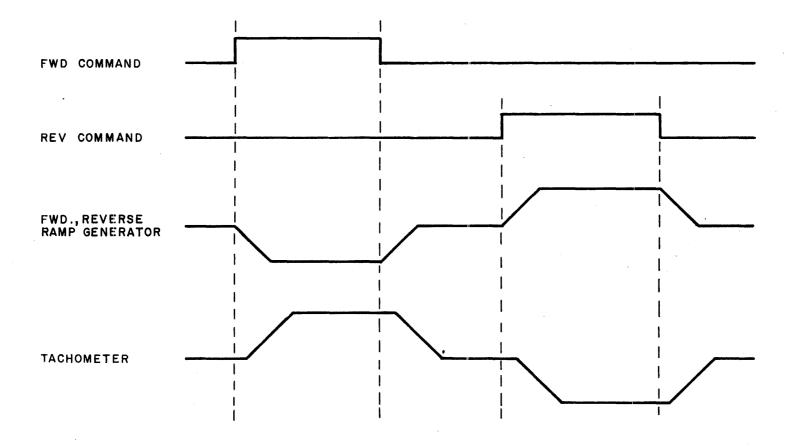


Figure 15. Timing Diagram of Commands to Capstan Servo

Operation of the reel servo system is diagrammed in Figure 16. A light-sensing circuit provides arm-position information to the servo amplifier, which drives the reel motor. As tape is delivered to the arm or taken from it, the arm moves up or down and the position of the mask between the light source and the light-sensing element changes. When the mask is at the appropriate position, the output of the light-sensing circuitry no longer provides an error signal to the amplifier. Enclosure of the light source prevents ambient light from affecting system performance.

Reel motors are driven by linear amplifiers, stablized for all operating situations and sequences. During the Rewind mode the amplifier gain is increased and the output stage operating voltage is raised to offset the increase in back emf generated by the reel motors at higher rpm. An offset signal is fed to each servo amplifier during the unload cycle to bias each servo swing arm close to its respective stop. This assures gentle handling of tape as it unloads from the fixed reel. It also prevents violent impact of the arms against their stops.

Spring tension on the servo arms is balanced at all times by torque in the reel motors. Should power fail or servo operation be interrupted, the springs pull the arms out and into contact with limit switches that turn off all reel servo and capstan functions. If power fails during high-speed rewind, the reel motors are shorted by contacts on the ready relay. The resulting strong dynamic braking effect stops the reels without damage or spilling of the tape.

Potentiometer adjustments are provided on the transport board to permit proper setting of each swing arm position. A potentiometer adjustment is also provided to set the gain of each reel servo amplifier, compensating for the normal manufacturing tolerances in components.

4. CONTROL ELECTRONICS

The control portion of the transport electronics printed circuit board (see Figure 17) receives its primary inputs from the operator's control panel or the remote controller. In addition, it responds to control signals from the photosense assembly and from the servo amplifiers (during the rewind sequence).

The internal control circuitry outputs signals to the remote tape controller and to the operator's control panel (in the form of indicator lights). Within the transport, it provides signals to the servo amplifiers and to the data electronics printed circuit board.

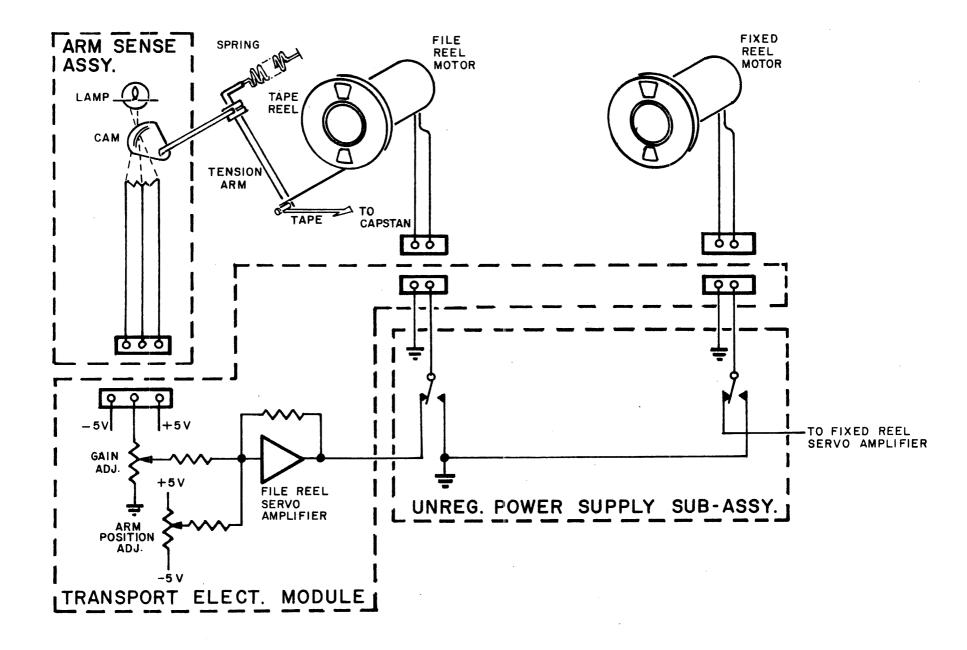


Figure 16. Reel Servo System

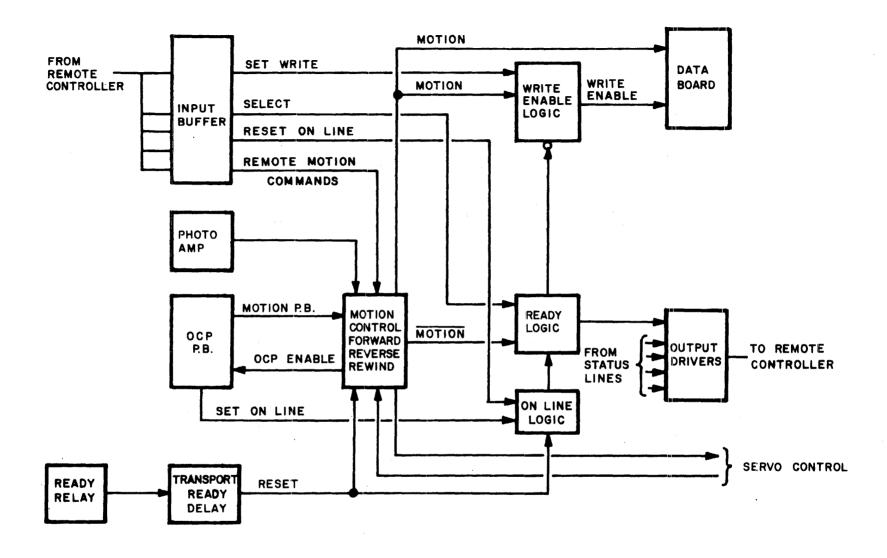


Figure 17. Transport Control Electronics

4.1 BRING-TO-READY SEQUENCE & SYSTEM INTERLOCK

When power is applied to the tape transport, it activates the arm retract motor, returning the servo arms to the load position. With the arms in the load position, the ready relay (K1) is unenergized and all three servo motors are shorted to ground. Interlock switches, S11 and S13, are also open, thus preventing latching of the ready relay (see Figure 18). The operator may then mount tape on the reel as specified in the instructions in Section II. When the operator pushes the LOAD pushbutton at the control panel, he initiates the following automatic load sequence (see Figure 19).

The retract motor is energized; its motion releases the servo arms from their retract position, and the series string of interlock switches (S10, S11, S12, S13) will be in their N.C. position. As the retract motor continues to turn, the load cam detent will be seen by the load cam switch S14, and a momentary ground will be transmitted to the ready relay terminal, K1-10. This energizes the ready relay, thus providing power to the servo motors which then maintain tension on the servo arms. The series string of interlock switches provide an unbroken circuit to ground for the ready relay Kl, thus holding the ready relay energized. If any one of the switches S10 through S13 is opened, the ready relay (K1) is deenergized. When the ready relay is energized, it sends a ground signal to the ready delay circuitry, which -- after timing out -gives an internal ready signal. (This signal does not reach the tape controller unit.) If the tape is not already at BOT, a set forward and on-line command is generated that sets the forward and on-line flip-flops. The tape moves forward, seeking BOT, and the ON-LINE indicator at the operator's control panel is illuminated. (Ready status to the tape controller unit is still inhibited.)

If the tape is already at BOT (or when it reaches BOT, after searching):

Tape motion stops (or is not initiated if at BOT)

A delay network times out and then the ready status line to the tape controller unit goes TRUE.

The LOAD indicator at the operator's control panel is illuminated.

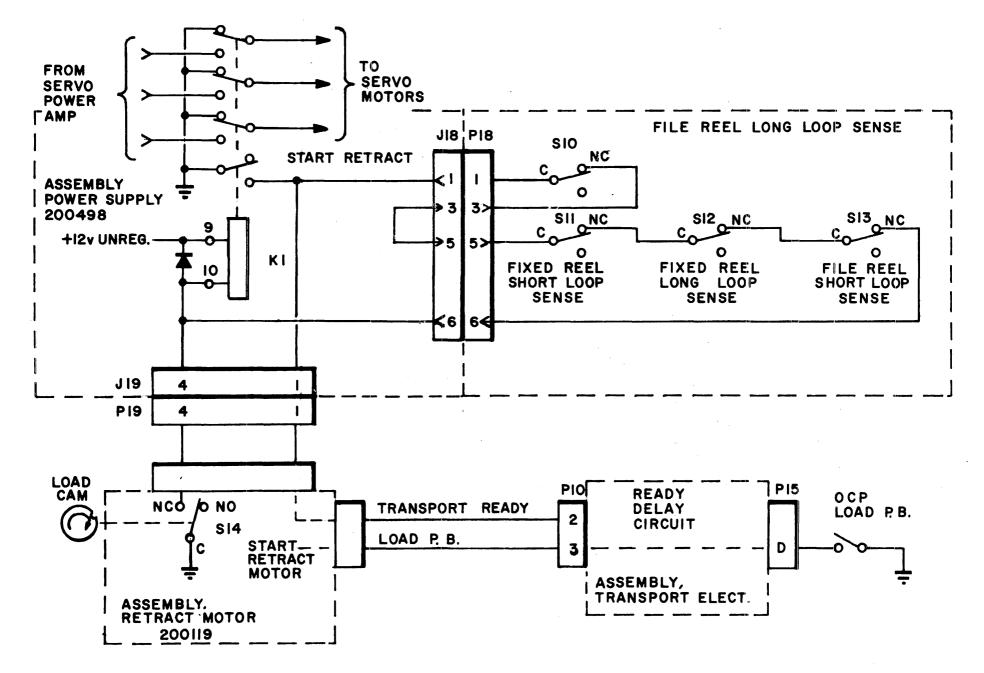


Figure 18. System Interlock Diagram

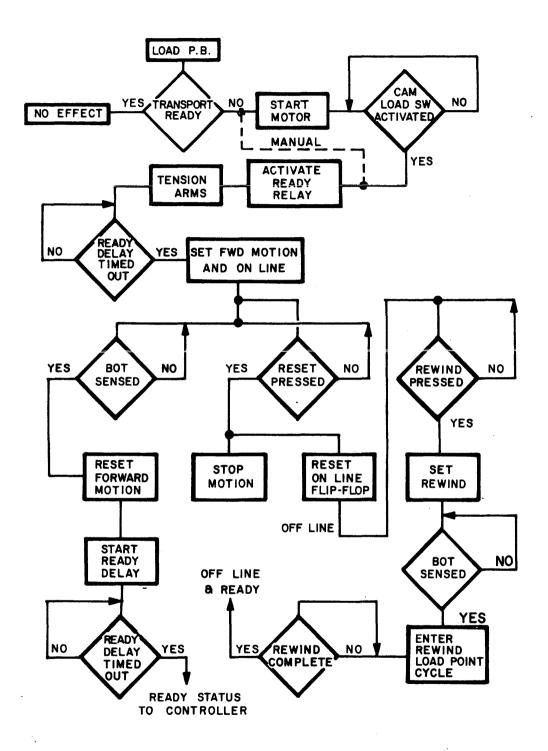
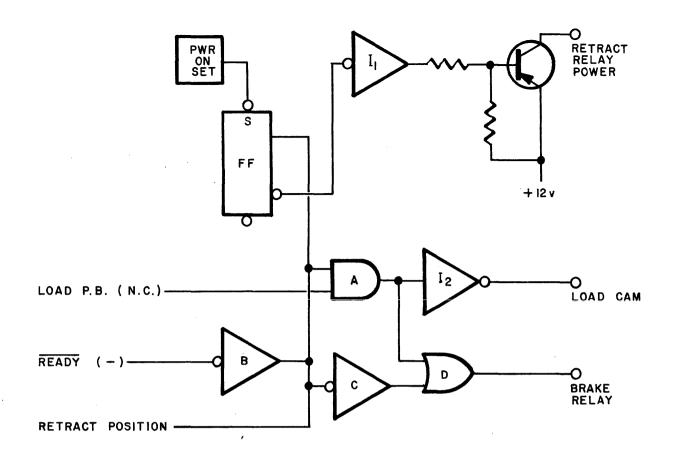


Figure 19. Flow Diagram of Auto Load Sequence

In summary, ready status output to the tape controller will not be TRUE, unless there is no locally initiated forward or reverse motion, there is no rewind in progress, and mechanical ready, on-line status, and selected status are all TRUE.

4.2 BRAKE LOGIC (OPTIONAL)

Figure 19A diagrams the brake logic. When power is initially turned on and if the retract position input is high (open), the flip-flop is set, and the retract relay driver I_1 is held off. The load cam driver I_2 and the brake relay driver D are also held off at this time if the input term Load P.B. is at ground. (Under normal system operation this input is depressed). When the Load P.B. input is High gate A is enabled and turns on I_2 , which initiates a load cycle. Gate A also enables gate D which releases the brakes. If the load operation is successful, the Ready (-) input will go High and the power on flip-flop will be reset. If during the power on cycle, the retract position input is Low, the power on flip-flop is held reset. When the power on flip-flop is in the reset state, only the retract relay driver I, is on. This allows normal loading and unloading with the arms retracting automatically.



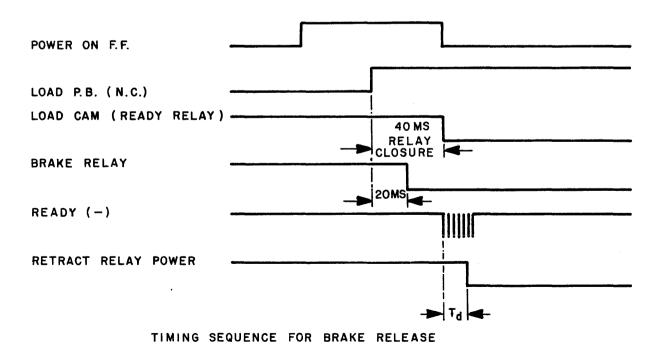


Figure 19A. Simplified Diagram of Brake Logic

In summary, ready status output to the tape controller will not be TRUE unless there is no locally initiated forward or reverse motion, there is no rewind in progress, and mechanical ready, on-line status, and selected status are all TRUE.

4.3 RESET AND ON-LINE LOGIC

When on-line status is TRUE, all pushbutton switches at the operator's control panel are disabled except RESET.

Pressing RESET at the control panel DC resets the terms Rewind, Motion (Forward or Reverse), and On-Line to FALSE. Remote control of the transport can be restored after a RESET action by pressing the ON-LINE pushbutton. The on-line command from the operator's control panel is gated through two cross-coupled OR-gates, and the transport is then ready to accept any remote command.

The transport can always be put in the off-line state by the remote off-line command if the tape unit is selected.

4.4 MOTION LOGIC (FORWARD AND REVERSE)

A diagram of the logic governing forward and reverse motion is given in Figure 20. Forward and reverse motion commands to the servos are initiated locally from the operator's control panel when the transport is in the off-line mode or from the remote controller when the transport is on-line.

The OCP-enable line must be TRUE (low) to initiate local motion from the operator's control panel. When the FORWARD pushbutton is pressed, the motion latch is set (U207A, U207B, and U208 in Figure 20), and the output of U207A will be TRUE (low). This output is transmitted through NOR-gate U213B, which OR's the local and remote forward commands and presents a forward (+) signal to the capstan servo.

Local reverse motion is initiated by pressing the REVERSE pushbutton on the operator's control panel. The reverse switch is interlocked in such a way that a reverse command cannot be initiated simultaneously with a forward command. With the motion latch set by the REVERSE pushbutton, the output of U207B will be TRUE (low). This output is transmitted through NOR-gate U214, which OR's the local and remote reverse commands and presents a reverse (+) signal to the capstan servo.

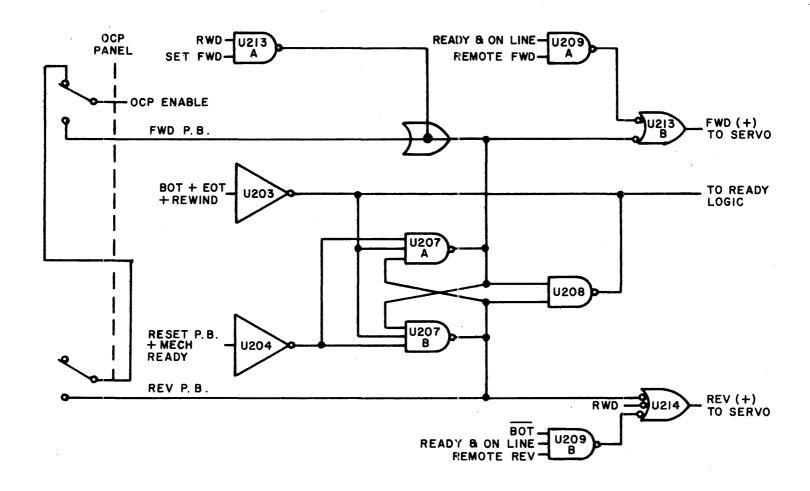


Figure 20. Simplified Logic of Motion Control (Forward and Reverse)

Local reverse or forward motion is terminated if a RESET ACTION is taken, if the transport is mechanically not ready, or if the terms EOT, BOT, or Rewind are TRUE.

When the transport is in the on-line mode, the OCP-enable line will be FALSE (high), thus disabling the FORWARD and REVERSE pushbutton inputs to the motion latch. The NAND-gates labeled U209A and U209B in Figure 20 are enabled by the terms Ready and On-Line, and any subsequent forward or reverse motion commands from the remote controller will be transmitted to the capstan servo control through U213B or U214.

The NAND-gate labeled U209B has an additional term (NOT BOT) on its input. This term prevents reversing off the BOT marker during the on-line mode of operation.

4.5 REWIND AND UNLOAD LOGIC

The rewind sequence is not internally different, whether it stems from an action at the operator's control panel or from a remote command. A logic diagram of this function is given in Figure 21.

The rewind sequence is mechanized with a series of three flip-flops, U210A, U210B, and U211A. The flip-flop labeled U210A in the diagram is set initially either by the REWIND pushbutton through NANDgate U208, or by the remote rewind command through NAND-gate U209. The NAND-gate labeled U212 decodes the outputs of flip-flops U210A and U210B and presents a rewind (-) command to the capstan rewind ramp generator. A reverse-for-rewind is also sent to the capstan servo control through U214. When the capstan servo receives the rewind(-) and reverse-for-rewind signals, the tape drive ramps to rewind speed and runs until either BOT is reached or a RESET pushbutton action is taken at the operator's control panel. If no RESET action is taken, the leading edge of the BOT tab loads flip-flop U211A and the trailing edge loads flip-flop U210B. With U210B set, the inputs to U212 are no longer TRUE, and the rewind signals to the capstan servo are terminated. The capstan ramps to a stop, a set-forward pulse is generated, and the tape drive begins searching forward for BOT. When BOT is reached, the series of three flip-flops (U210A, U210B, and U211) is reset and tape motion ceases.

At this point, two actions may be used to unload the tape. A RESET action takes the transport off-line, and a subsequent REWIND action causes tape to rewind until tape tension and mechanical interlocks are lost. During the process of unloading, a regular rewind command

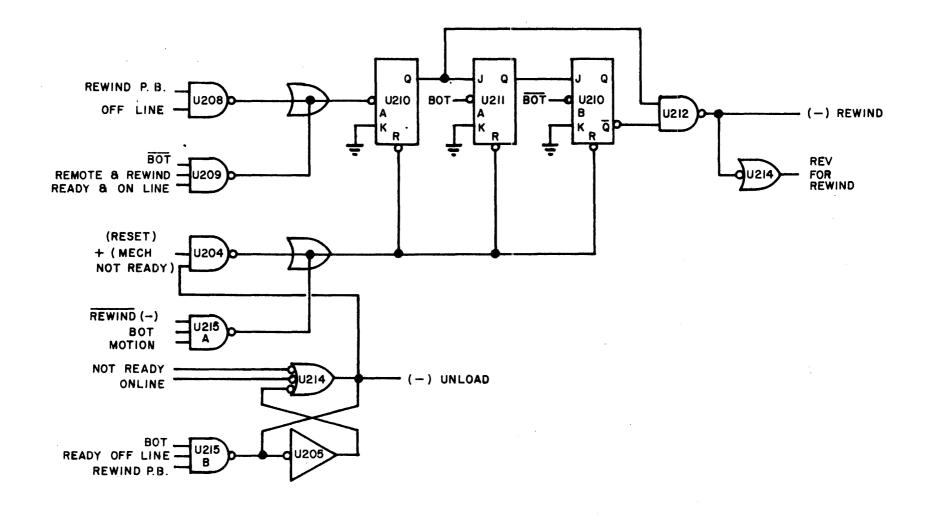


Figure 21. Simplified Logic of Rewind and Unload Control

is distinguished from a rewind-to-unload command by the gating to-gether at U215B of the terms Off-Line and Ready, BOT, and Rewind. Under these conditions, the easy unload latch, comprising U205 and U214, is set, and an unload (-) signal is sent to the fixed reel servo. The fixed reel servo is biased to a position very close to the stop, and the shortened stroke of the servo arms when tape tension is lost prevents accidental damage to the tape as it unloads. The unload latch is reset only by the term Not Mechanically Ready; thus, once an unload is initiated, it must complete its cycle. (Note: If a second BOT tab is sensed during an unload cycle, the tape drive will attempt a search for load point cycle, and will in most cases loop-out, causing the ready relay to drop out.)

4.6 WRITE ENABLE LOGIC

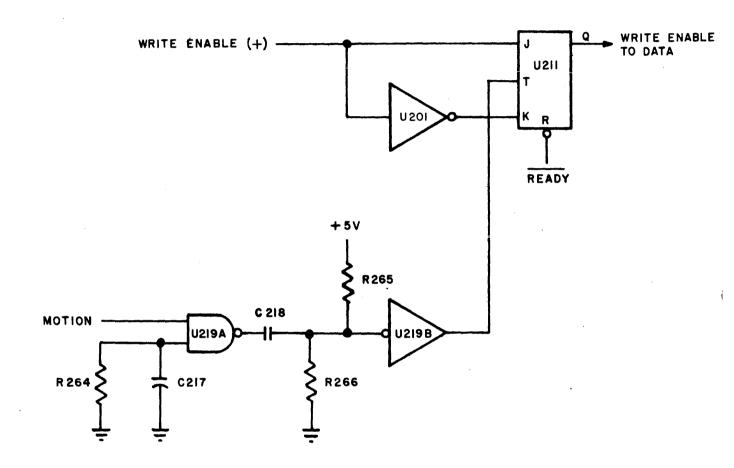
Figure 22 diagrams the write enable logic which comprises a flip-flop (U211) and a positive pulse generator (U219A and U219B). The flip-flop is set when the write enable line from the controller is TRUE (high), enabling the J input of U211, and when either a forward or reverse motion command is initiated. The T input positive pulse is generated by U219A and U219B. The pulse is generated when motion goes TRUE (high). The output of U219A goes to ground after a time delay set by R264 and C217. This negative transition initiates a positive pulse at the output of U219B. The trailing edge of this pulse causes the flip-flop to change states. The pulse width is determined by R265, R266, and C218. When the write enable flip-flop is set, the transport is conditioned to write.

The write enable flip-flop is reset when the write enable line from the controller is FALSE (i.e., when the K input of U211 goes high after inversion by U201), and when either a forward or reverse motion command is initiated.

4.7 FILE PROTECT LOGIC

The file protect logic is mechanized such that there will be a minimum of scraping of the write enable ring during the initial loading cycle of the transport.

The mechanization is shown in Figure 23. When a reel of tape is initially loaded, the file protect switch is closed, and the logic latches the write enable solenoid, thus retracting the solenoid pin to prevent scraping of the write enable ring.



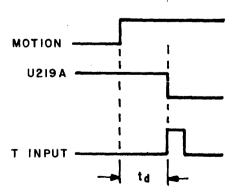


Figure 22. Simplified Logic of Write Enable Control

Figure 23. File Protect Logic

When the LOAD pushbutton is pressed, the logic releases the solenoid. This is done to sample if there truly is a write enable ring in place, and that the solenoid was not accidentally energized. When the loading cycle is completed, the transport ready signal is the holding signal.

4.8 READY LOGIC

The ready logic, diagrammed in Figure 24, provides three basic ready signals:

- a) <u>Select & Ready (+)</u> from U205, which conditions the data electronics to accept and transmit information to the controller.
- b) Ready & On Line from U201, which is transmitted to the controller via an output driver. This line informs the controller that the transport is ready and not rewinding, and therefore able to accept any command from the controller.
- c) Ready & Off Line from U208. This is an internal ready signal that enables the operator control panel so that any motion command generated by the operator control panel will be accepted by the transport.

The ready signal is generated by the following logic equation:

READY = (DELAYED MOTION) · (REWIND) · (RESET + MECH. READY + RESET REWIND)

and is mechanized by U215. If all the inputs to U215 are TRUE (high) the output will be low. This low signal is inverted by U205A and gated with the terms Select & On-Line by U212 to provide the Select & Ready term. The low output of U215 is also inverted by U205B and gated with the term Off-Line by U208 to provide the Ready & Off-Line term. U205A and U201 are collector-OR'd to provide the Ready & On-Line term.

5. DATA ELECTRONICS

Data electronics described in this manual pertain to NRZI mode recording only. Phase encoding requires additional special data electronics and is described in a separate manual.

In the <u>NRZI</u> mode of recording, a "1" is represented by a change of direction of magnetization between positive and negative saturation levels, and a "0" is represented by no change of magnetization. The data electronics subsystem provides a format that is compatible with the IBM 727-729, 7-track format, at data densities of 200, 556, and 800 cpi. The subsystem also provides compatibility with the IBM 2400 series, USASCII-compatible 9-track format at data densities of 800 cpi. Figures 25 and 26 present the 7 and 9-track location and space specifications.

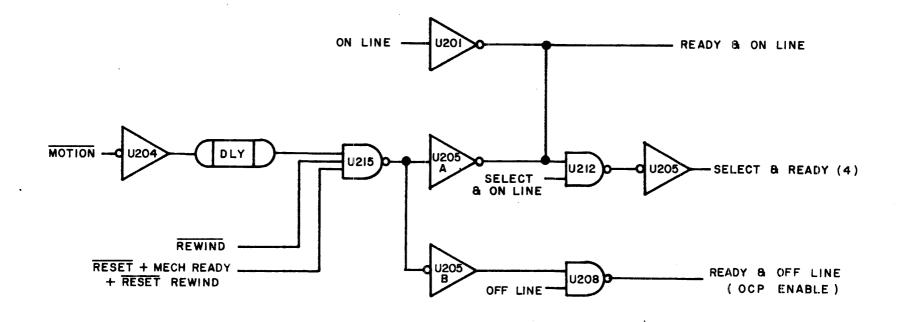


Figure 24. Simplified Logic of Ready Control

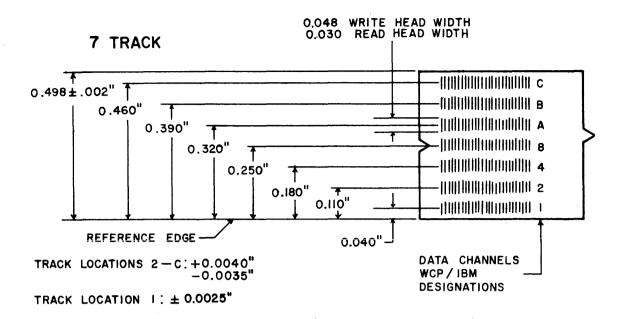


Figure 25. Track Locations and Spacing, 7-Track System

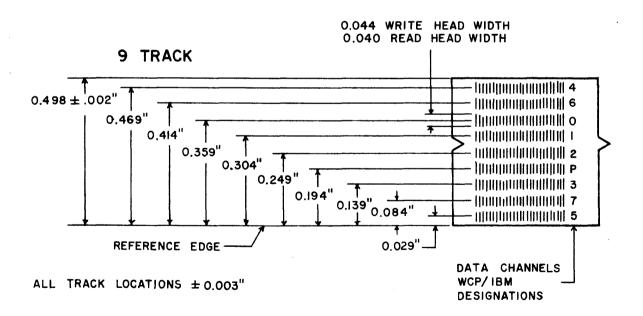


Figure 26. Track Locations and Spacing, 9-Track System

At the end of each data record, check characters must be recorded and an inter-record gap inserted. Figures 27 and 28 present the 7-and 9-track IBM inter-record gap and tape mark formats. As indicated by these figures, in the 7-track format the longitudinal redundancy check character (LRCC) only is written, whereas in the 9-track format, both a cyclic redundancy check character (CRCC) and an LRCC are written.

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The CRC character is supplied together with a single write data strobe signal by the customer to the transport interface. It is separated by four character spaces from the last data character of the previous record. In the 9-track system, the LRC character is written four character spaces after the CRCC character, whereas in the 7-track system, the LRC character is written four character spaces after the last data character of the previous record. The LRC character is written by the customer transmitting the WRITE AMPLIFIER RESET signal, (leading edge) at the proper time. This signal resets the write flip-flops causing the total number of magnetization transitions in any track to be an even number.

The Inter-record Gap (IRG) displacement is nominally 0.6 inch for 9-channel systems and 0.75 inch for 7-channel systems. The IRG is established by the sum of the following component distances:

<u>Stop Distance</u> - Stop distance is the distance traveled by a point on the tape from the time a stop command is issued until the tape velocity is zero.

Stop Delay Distance - Stop delay distance is the distance traveled by a point on the tape from the time the LRCC character is placed on tape until a stop command is issued. In dual gap systems, if the read data is used to sense the end of the record, the stop delay distance is the distance traveled from the time the LRCC is sensed at the read bus until the stop command is issued. The stop delay time is generated in the customer's controller.

<u>Start Distance</u> - This is the distance traveled by a point on the tape from the time a forward command is issued until the first data character is placed on tape. The <u>Write Delay time appropriate</u> to the <u>start distance</u> is generated in the customer's controller.

A tape mark is used to separate files of information recorded on tape. The tape mark configuration for 7- and 9-track systems is shown in Figures 27 and 28 respectively. Tape mark timing is established and provided by the customer's controller. The command sequence for inserting a tape mark is as follows: a forward command is issued, followed

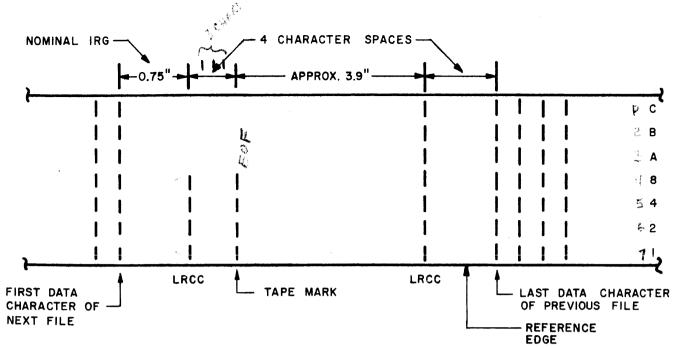
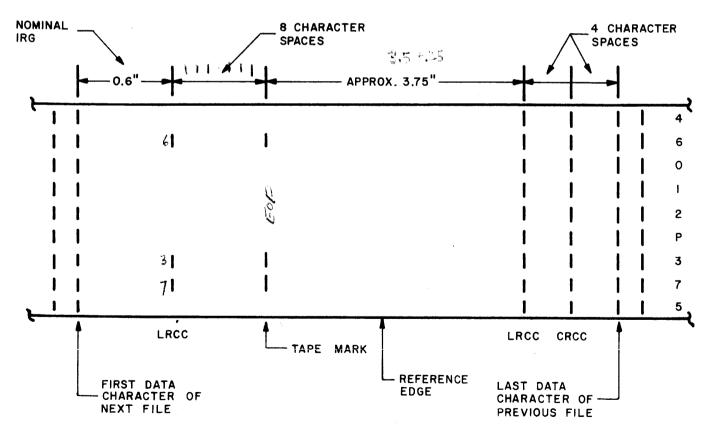


Figure 27. 7-Track File Gap Format



NOTE: TAPE VIEWED FROM MYLAR SIDE.

Figure 28. 9-Track File Gap Format

at the proper time by the tape mark character together with its write data strobe, which in turn is followed by the <u>LRC character written</u> four character spaces later in a 7-track system and 8 character spaces later in a 9-track system.

5.1 DATA ELECTRONICS, DUAL GAP SYSTEMS

5.1.1 Read-After-Write Head Assembly

A dual-gap read-after-write head is optionally available in either a nine-channel or a seven-channel format. A full-width erase head is located on the oxide side of the tape, positioned 0.34 inch from the write stack head gaps. The write stack is center-tapped and it operates at 50 milliamps of current per leg. The voltage output of the read stack is proportional to the speed of the tape; at 25 ips, it provides 18 to 20 millivolts peak to peak. The erase head operates at 50 milliamps.

Two auxiliary components are mounted adjacent to the read/write head on a common base—the photocell and lamp assembly that detects beginning and end of tape, and the tape cleaner. The photosense assembly is a self-contained unit that is directly cable—connected to the transport electronics printed circuit board. The tape cleaner, whose operation is entirely mechanical, is ideally positioned adjacent to the head so that the cleaned tape passes directly to the read/write head, minimizing the chance of contamination that might result in deterioration of data reliability.

5.1.2 Write Data Flow

Figures 29 and 30 present a block diagram and timing diagram of the flow of write data through the system. (Only one data line is shown. The components for the channel represented schematically in these diagrams are, of course, duplicated for each of the other write data channels.) Data enters through line receivers whose function is to invert the low-TRUE levels. Each receiver has a terminating impedance of 130 ohms.

A pulse on the write strobe line clocks information from the data lines into the system. If a given data line is TRUE, the write strobe pulse passes data on that line through the data strobe reset logic gates, which consist of two NAND-gates, OR'd together (see the block labeled A in the figure). If a given data line is FALSE, the pulse is gated out.

At the block labeled B (Figure 29), electronic correction is made for the static skew characteristics of the write head. The leading edge of the gated data pulse triggers the write deskew single-shot, whose pulse width

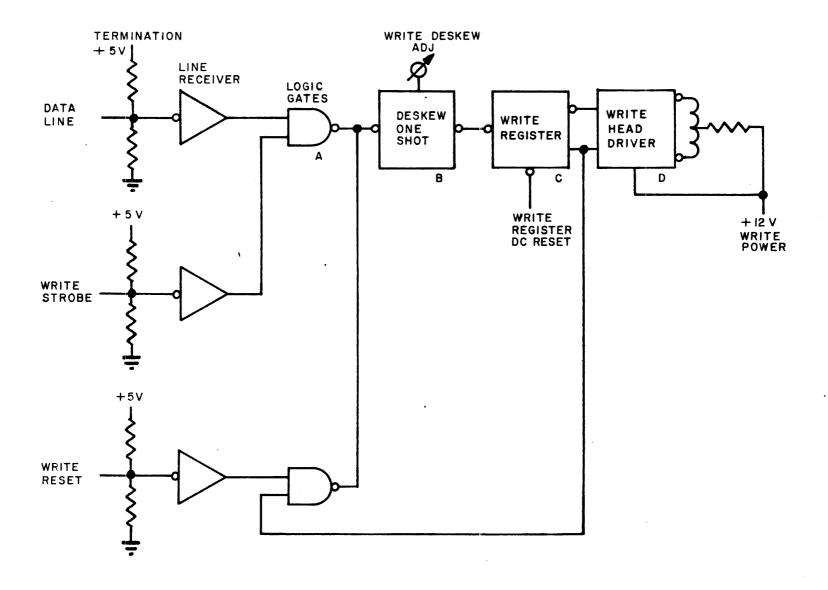


Figure 29. Write Data Flow, Dual Gap Systems

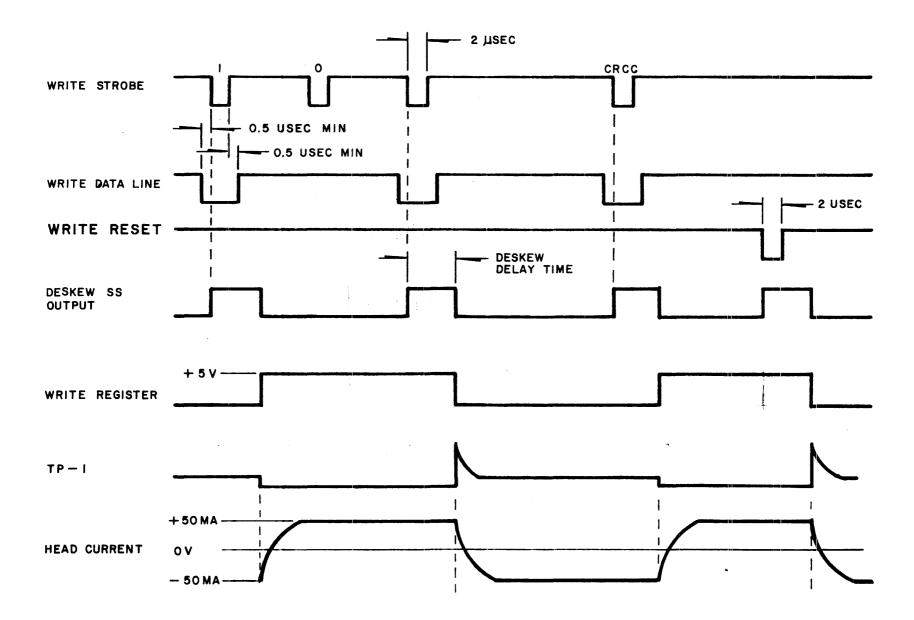


Figure 30. Write Data Flow Timing Diagram, Dual Gap Systems

has been preset and is adjustable by means of a potentiometer. The trailing edge of the pulse loads the write register, whose contents are then converted into currents by the head drivers. The head drivers operate the write heads, which put the data on tape.

At the end of each block of data, a write reset pulse enters the system. In the nine-channel configuration, this pulse enters eight character times after the last strobe of the data block; in the seven-channel configuration, it enters four character times after the last strobe. The function of this pulse is to reset any head drivers remaining in the set state at the end of a data block, thereby generating the longitudinal redundancy check character on tape.

The write register is DC reset at certain times and under certain conditions to ensure that information is not recorded on tape unless recording is deliberately intended. The logic created for this is such that if any one of the terms Motion, Write Enable, Select, and Ready is FALSE, the write register will be DC reset.

The flow of power to the write heads is controlled through the write power gate (see Figure 31). This is an AND-gate function that comprises the terms Write Enable (or Write Permit), Select & Ready, and File Protect. (Write power enters the data electronics printed circuit board from the transport electronics printed circuit board if the file protect switch on the deck has been energized.)

5.1.3 Read Data Flow

Figure 32 presents a block diagram of the flow of read data through the system. (As in Figure 29, only one channel is indicated.) The read head generates a low-level analog signal of approximately 10 to 20 millivolts peak to peak. The read amplifier, which has a differential input and single-ended output, picks up this signal and amplifies it to a suitable level, then sends it to a phase splitter, which generates the complementary signals required for full-wave rectification. The phase splitter output signal level is adjusted to 12 volts peak to peak by the attenuator control potentiometer at the output of the read amplifier. A clipping level DC bias is fed into the input of the full-wave rectifier with the result that positive peaks above the clip-level threshold are observed at the output of the circuit. This signal is then sent to the peak detector, which in turn generates a digital pulse whose trailing edge is synchronous with the peak of the analog signal and is used to load the read register at that time. The contents of the read register are sent to the output driver and then to the customer's data line.

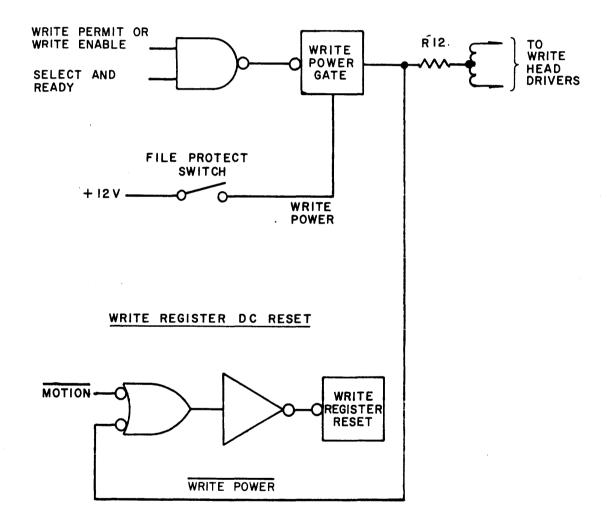


Figure 31. Write Power Gate and Write Register DC Reset, Dual Gap Systems

Figure 32. Read Data Flow, Dual Gap Systems

Auxiliary to this general flow of read data, several other functional circuits complete and control the read data generation and transfer process. These auxiliary functions are described in the subsections following.

Strobe Generation Circuitry. As in most other NRZI read systems, the OR'd data method of read strobe pulse generation is used in the Mod 10 (see Figure 33). The first arriving bit sensed at the read register is used to trigger the read strobe delay single-shot. This is implemented by taking the complement outputs of the read register and feeding them into a nine-way OR-gate whose output goes to the single-shot. The pulse width of the single-shot is controlled by adjusting a potentiometer and is set to approximately one-half frame time.

At the end of the variable time delay period, a read strobe pulse is generated (see the block labeled T in the diagram) and sent to the tape controller. The leading edge of this pulse also triggers the read register delayed reset pulse network, allowing 500 nanoseconds for scanning of the data lines by the controller before the read registers are reset. A summing function (data staircase) is provided at the output of the read registers so that interchannel time displacement can be measured.

A timing diagram for both read data flow and strobe generation is given in Figure 34.

<u>High-Low Density Select.</u> Data can be recorded on tape at either a high or low density (more or fewer characters per inch). An input from the high-low density select function changes the pulse width of the read strobe delay single-shot to correspond to the density of character generation.

Read Permit. This system function allows the remote tape controller unit to enable or inhibit read data at any time. Read permit is conditioned by the terms Select and Ready. If either of the two terms is FALSE, the read registers and output drivers are disabled.

Clipping Level Circuitry. This circuitry, shown in Figure 32, generates the clipping levels through which the read signals must pass before reaching the peak detectors. In the write enable mode, approximately 45 per cent of the read signal amplitude is clipped. In the read-only mode, the level is decreased so that only 24 per cent of the read signal amplitude is clipped. A provision has been implemented via the low threshold select remote input line so that an even lower threshold level (12 per cent) can be selected when reading marginal output tapes. The state of this line has no effect on the clipping level while in the write mode of operation.

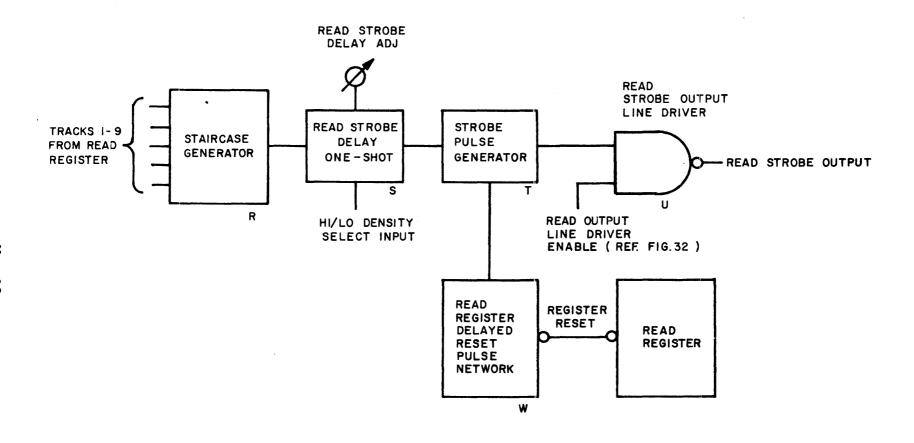


Figure 33. Read Strobe Generation Circuitry, Dual Gap Systems

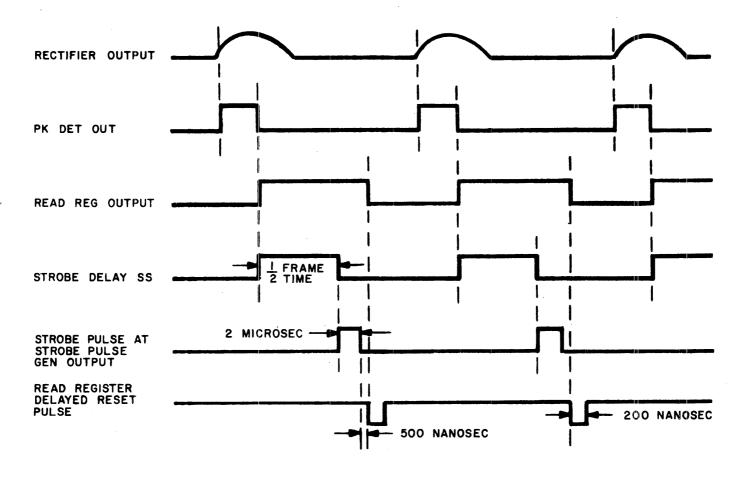


Figure 34. Timing Diagram of Read Data Flow and Strobe Generation, Dual Gap Systems

<u>Rewind Inhibit.</u> This system function prevents the reading of data if the tape is rewinding. The relevant circuitry prevents current flow in the phase splitter, disabling its operation during rewinding.

5.2 DATA ELECTRONICS, SINGLE GAP SYSTEMS

5.2.1 Read/Write Head Assembly

A single-gap read/write head is optionally available in either a nine-channel or a seven-channel format. The head assembly is illustrated in Figure 8. A full-width erase head is located on the oxide side of the tape, positioned 0.34 inch from the head gaps. The stack has a center tap configuration and is operated at 20 milliamps of current per leg. The voltage output of the stack is proportional to the speed of the tape; at 25 ips, it operates at 14 to 18 millivolts peak to peak. The erase head operates at 50 milliamps.

Two auxiliary components are mounted adjacent to the read/write head on a common base—the photocell and lamp assembly that detects beginning and end of tape, and the tape cleaner. The photosense assembly is a self—contained unit that is connected by cable to the transport electronics printed circuit board. The tape cleaner, whose operation is entirely mechanical, is ideally positioned so that the cleaned tape passes directly to the read/write head, minimizing the chance of contamination that might result in deterioration of data reliability.

5.2.2 Write Data Flow

Figure 35 presents a block diagram of the flow of write data through the system. (Only one data line is shown. The channel components represented schematically in this diagram are, of course, duplicated for each write data channel.) Figure 36 presents a write data flow timing diagram.

Data enters through line receivers whose function is to invert the low-TRUE levels. Each receiver has a terminating impedance of approximately 130 ohms. The output of the data line receiver is used to condition the J-K inputs of the write register cells. The write strobe signal is sent to the clock inputs of the write register. If the data line is TRUE at the time the write strobe pulse arrives, the write register will switch states at the trailing edge of the pulse. This in turn changes the state of the head driver which causes the current in the head to reverse its direction.

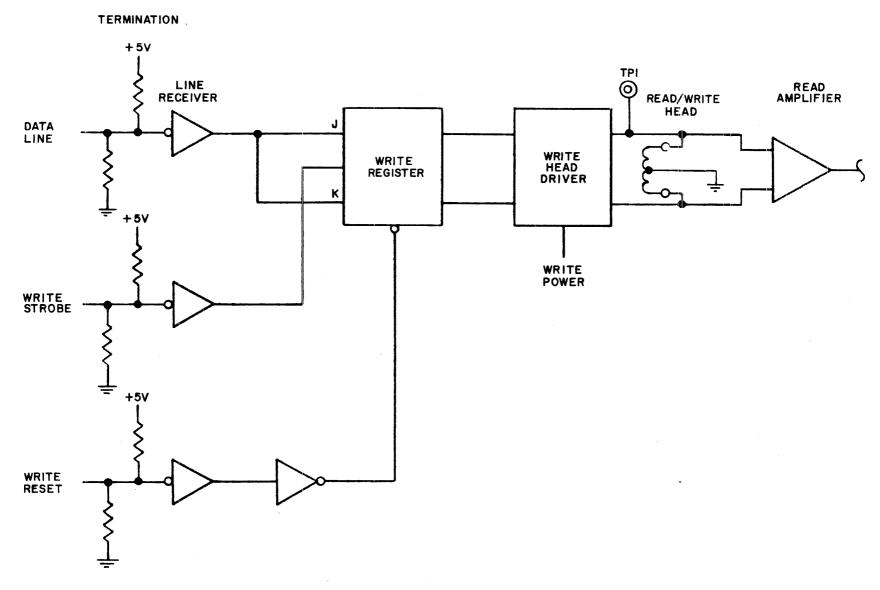


Figure 35. Write Data Flow, Single Gap Systems

Figure 36. Write Data Flow Timing Diagram, Single Gap Systems

If the data line is FALSE at the time of write strobe, since this causes both the J and the K inputs to be false, the register will not change states; hence, no current reversal will occur at the head. Current reversals at the heads cause data to be recorded on tape.

At the end of each block of data, a write reset pulse enters the system and DC resets the write register. In the nine-channel configuration, this pulse enters eight character times after the last strobe of the data block; in the seven-channel configuration, it enters four character times after the last strobe. The function of this pulse is to reset any head drivers remaining in the set state at the end of a data block, thereby generating the longitudinal redundancy check character on tape.

The write register is DC reset at certain other times to ensure that information is not recorded on tape unless recording is deliberately intended. The logic created for this is such that if any one of the terms Motion, Write Enable, Select, and Ready is FALSE, the write register will be DC reset.

The flow of power to the write heads is controlled via the Write Enable and Select & Ready NAND-gate which sends a signal to the DC set inputs of the write register. When either signal goes FALSE, the write register is both DC set and DC reset, causing both its outputs to go to a high level. This in turn disables both head driver outputs, hence removing both current paths to the head. If both inputs are TRUE, the DC set input to the register goes FALSE, allowing the head driver to drive current into the head. (Write power enters the data electronics printed circuit board from the transport electronics printed circuit board only if the file protect switch on the deck has been energized (see Figure 37.)

5.2.3 Read Data Flow

Figure 38 presents a block diagram of the flow of read data through the system. (As in Figure 35, only one channel is indicated.) A timing diagram for read data flow and strobe generation is given in Figure 39.

Input diodes protect the read amplifier during write operations. The read head generates a low-level analog signal of approximately 14 to 18 millivolts peak to peak. The read amplifier, which has a differential input and single-ended output, picks up this signal and amplifies it to a suitable level, then sends it to an inverting amplifier which generates the converted signal required for the full-wave rectifier. The amplifier output signal level is adjusted to 12 volts peak to peak by the gain control potentiometer. A clipping level DC bias is fed into the input of the

(Continued on page V-41)

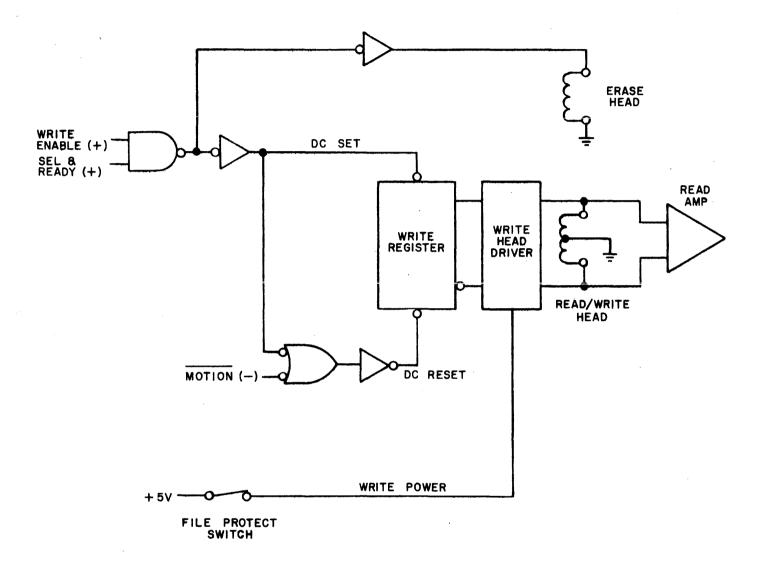


Figure 37. Write Power Gate and Write Register DC Reset, Single Gap Systems

Figure 38. Read Data Flow, Single Gap Systems

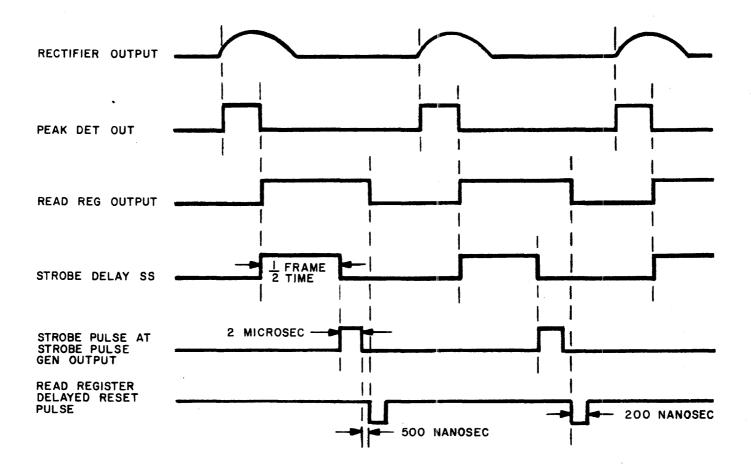


Figure 39. Timing Diagram of Read Data Flow and Strobe Generation, Single Gap Systems

full-wave rectifier with the result that positive peaks above the cliplevel threshold are observed at the output of the circuit. This signal is then sent to the peak detector, which in turn generates a digital pulse whose trailing edge corresponds to the peak of the analog signal and is used to load the read register at that time. The contents of the read register are sent to the output driver and thence to the customer's data line.

Auxiliary to this general flow of read data, several other functional circuits are implemented to complete and control the read data generation and transfer process. These auxiliary functions are described in the subsections following.

Strobe Generation Circuitry. As in most other NRZI read systems, the OR'd data method of read strobe pulse generation is used in the Mod 10 (see Figure 40). The first arriving bit sensed at the read register is used to trigger the read strobe delay single-shot. This is implemented by taking the complement outputs of the read register and feeding them into a nine-way OR-gate whose output goes to the single-shot. The pulse width of the single-shot is controlled by adjusting a potentiometer and is set to approximately one-half frame time.

At the end of the variable time delay period, a read strobe pulse is generated (see the block labeled T in the diagram) and sent to the tape controller. The trailing edge of this pulse also triggers the read register delayed reset pulse network, allowing 500 nanoseconds for scanning of the data lines by the controller before the read registers are reset. A summing function (data staircase) is provided at the output of the read registers so that interchannel time displacement can be measured.

<u>High-Low Density Select.</u> Data can be recorded on tape at either a high or low density (more or fewer characters per inch). An input from the high-low density select function changes the pulse width of the read strobe delay single-shot to correspond to the density of character generation.

Clipping Level Circuitry. This circuitry, shown in Figure 38, generates the clipping levels through which the read signals must pass before reaching the peak detectors. If the Read Threshold line is TRUE, approximately 45 per cent of the read signal amplitude is clipped. When this line is FALSE, the level is decreased so that only 25 per cent of the read signal amplitude is clipped. A provision has been implemented via the low-read-threshold remote input line so that an even lower threshold level (12 per cent) can be selected when reading marginal output tapes. The state of this line has no effect on the clipping level while the Read Threshold line is TRUE.

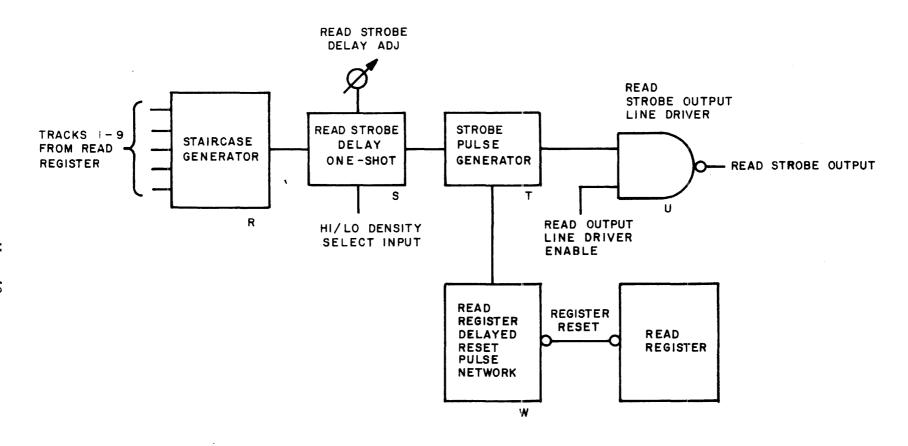


Figure 40. Read Strobe Generation, Single Gap Systems

6.0 KEY TO LOGIC SYMBOLS

In several portions of this Manual, primarily in this section and in Appendix B, logic symbols are used to represent certain logical functions or integrated circuit elements. The accepted integrated circuit manufacturer's industry standard symbols are used here.

Since DTL and TTL logic is being employed, it is of the typical inverting type, utilizing NAND-NOR elements rather than AND-OR devices.

Although the same device is used to implement both the NAND and the NOR function, the symbol is shown to correspond to the particular functional operation.

The input/output lines to the device are shown for the TRUE (active) state of the function. A state indicator, shown as a small circle at the input or output of the device, means that if that line is in the TRUE state, it will be at zero volts. Lack of a state indicator means that the TRUE state of the line is at +5 volts. The following symbol and explanation will serve as a clarification and example:

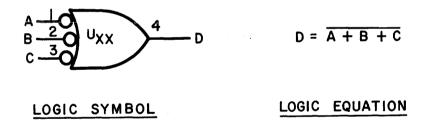


Figure 41. Logic Symbol Example

Figure 41 shows a logical NOR element that says that D will be at +5 volts (TRUE state) if any one, or any combination of A,B, or C, is at zero volts. Typically, the designation number of that particular chip in the assembly is shown within the symbol, and the corresponding chip pin numbers are shown on the lines external to the symbol.

Table 3 shows all of the logic symbols used in this Manual with their corresponding names and logical equations. The equations shown are defined by the TRUE level of the input signal. The single shot produced a positive going pulse at the "1" output and a negative going pulse at the "0" output and these are initiated at the time that the input pulse transitions to its TRUE state.

The flip-flops are of the J-K type and their input/output functions are as follows:

<u>Designation</u>	<u>Function</u>		
J	Synchronous set input		
K	Synchronous reset input		
T	Clock input		
$^{\mathtt{S}}\mathtt{D}$	Direct set input		
C_D^D	Direct clear (or Reset) input		
1	Set output		
0	Reset output		

The following truth tables are applicable to these devices:

SYNCHRONOUS OPERATION

BEF	BEFORE CLOCKS			AFTER CLOCK		
OUT	PUTS	INPU	JTS	OUT	PUTS	
1	0	J	K	1	0	
L	Н	L	Х	L	H	
L	Н	H	Х	H	L	
Н	L	X	L	Н	L	
H	L	X	H	L	Н	

ASYNCHRONOUS OPERATION

INPUTS		OUTPUTS		
SD	CD	1	0	
L	L	Н	Н	
L	H	H	L	
H	L	L	H	
Н	H	Synch Opera	ronous ation	

TABLE 3

IABLE 3			
SYMBOL	NAME	LOGICAL EQUATION	
A B	NEGATIVE INVERTER	B = Ā	
<u>A</u> <u>B</u>	POSITIVE INVERTER	B = A	
A D D	POSITIVE NAND GATE	D = ABC	
A D D	NEGATIVE NOR GATE	D = A + B + C	
A O D D	NEGATIVE WIRED OR GATE	D = A+B+C	
— ў S I — — К С _D О — Р	FLIP-FLOP (J-K)	SEE TRUTH TABLE	
ss o	SINGLE SHOT	SEE EXPLANATION	
A DLY B	TIME DELAY NETWORK	B = A · [DLY]	

SECTION VI

MAINTENANCE ON SITE

Before any Mod 10 tape transport leaves the factory, each of its components has been thoroughly tested and all adjustments have been made to ensure reliable operation. However, injudicious handling in transit or the effect of long use may necessitate the replacement of some parts or the readjustment of some components.

Table 4 lists a basic set of maintenance tools and supplies required for servicing the Mod 10. As the table suggests, some supplies should also be available to the operator for daily or shift-end cleaning.

Table 5 offers a suggested schedule for preventive maintenance. Again, some of these functions are the responsibility of the tape transport operator. Procedures for performing them have been specified in Section III. The remainder—preventive maintenance tasks that must be performed by a service engineer—are described in connection with the repair procedures for the subassembly to which they pertain.

In the pages that follow, instructions are provided for replacements, readjustments, and trouble shooting aids that can effectively be made while the tape transport remains installed in the customer's computer system. Some tasks of repair require test equipment not normally available in the field, or special alignment and adjustment tools that are not available to field engineers. Instructions for repairs of this more complex kind are NOT included in this section.

As in the preceding sections, the maintenance instructions are organized in terms of subassembly units.

Table 4. Maintenance Tools and Supplies

FOR THE OPERATOR			
Lint-free cloth Cotton swabs Isopropyl alcohol			
FOR THE SERVICE ENGINEER			
Equipment	Model or Type		
Hex. wrench set	For #4, 6, 8, 10 and 1/4 cap screws and set screws		
Spline wrench	For six-fluted #4 set screw		
Open-end wrench	For 7/16-inch bolts		
Long-nose pliers			
Screwdriver set	Phillips		
Screwdriver set	Standard blade		
Soldering aid			
Soldering iron			
Tape tracking fixture	WANGCO P/N T-00010		
Voltmeter	Triplett Model 800 or equivalent		
Reel hub alignment fixtures	WANGCO P/N T-00002		
Oscilloscope	Tektronix 547 or equivalent		
Dual trace plug-in	Tektronix 1Al or equivalent Tektronix		
X10 scope probes (3) Guide shims (as required)	WANGCO P/N 200203		
Master alignment tape	IBM #432640 or 432641		
Standard-level output tape	IBM #461108 or 432152		
Scratch tape			
Pulse generator or TCU			

Table 5. Suggested Schedule for Preventive Maintenance

	Maintenance Task	Interval (in operating hours)		Procedure Described in:
PERFORMED	Clean Head, Tape Cleaner Face, Head Guides, & Head Guide Blocks	8 (Daily)	الإرادة والشارات والمراجعة والمراط والم والمراط والمراط والمراط والمراط والمراط والمراط والمراط والمراط والمرا	Section III
BY	Clean and Check Roller Guides	8 (Daily)	Tre manufacture Constitution of the Party of	Section III
OPERATOR	Clean and Check Capstan	8 (Daily)		Section III
OPERATOR	Clean Entire Tape Unit Surface	(Approx. 4 months)		Section III
	Clean Tape Cleaner Unit	(as required)		Section VI, par. 7.2
PERFORMED	Check Tape Tracking	2,000		Section VI, par. 12.3
BY			Market and the second	
SERVICE	Replace Reel Motor Brushes	5,000	OF THE PROPERTY OF THE PROPERT	
ENGINEER	Replace Reel Motors	10,000	ORAL AUTHOR CARRESTONIA CLARITION	Section VI, par. 10
	Replace Capstan Drive Assembly	10,000	Mark and desirated in second desirate to small	Section VI, par. 9.2

1. POWER SUPPLY MAINTENANCE

1.1 CHECKING UNREGULATED POWER SUPPLY

A check may be made of the unregulated power supply by testing with a voltmeter at test points provided on the transport board. The table below shows the voltages and corresponding test points. The voltages should be within ± 20 per cent of the nominal specified. (See Figure B17 for test point locations.)

Voltage	Test Point
+19 V	TP 419
-19 V	TP 422
+13 V	TP 420
-13 V	TP 421

1.2 CIRCUIT BREAKER RESET

In the event of malfunction, an automatic circuit breaker prevents damage to the tape transport. The circuit breaker reset button is located adjacent to the power switch on the power supply chassis. The circuit breaker button will be in the OUT position after an automatic circuit break has occurred. Pushing in the button remakes the circuit.

1.3 FUSES

Five fuses, in the unregulated power supply lines, are located on the power supply subassembly. F1 is a 5 amp fuse in the +19 volt line. F2 is a 10 amp fuse in the -19 volt line. F3 is a 10 amp fuse in the +13 volt line supplying all loads except the +5 volt regulator. F4 is a 4 amp fuse in the +13 volt line supplying current to only the +5 volt regulator. F5 is a 10 amp fuse in the -13 volt line. All fuses are fast-blow types.

1.4 TRANSFORMER TAPS

The Mod 10 tape transport can accept power from sources of varying voltage, depending on the power transformer primary terminal connection chosen. Figure 42 shows the color coding of the transformer primary wires attached to the terminal strip TB1 under the power supply chassis.

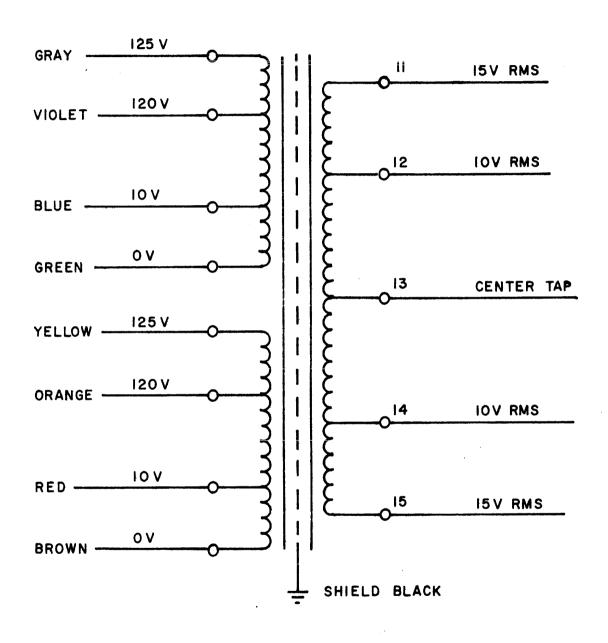


Figure 42. Mod 10 Power Transformer Lead Identification

For example, parallel connection to standard 115V power (plus or minus 10 per cent) is made by connecting the gray and yellow wires to one side of the line voltage and the blue and red wires to the other side. Series connection to a 220V power source is made by connecting the violet wire to one side of the line voltage, connecting the blue to the orange wire on the terminal strip, and connecting the red wire to the other side of the line. Unused wires should be left attached to the terminal strip.

2. OPENING OF POWER SUPPLY ASSEMBLY

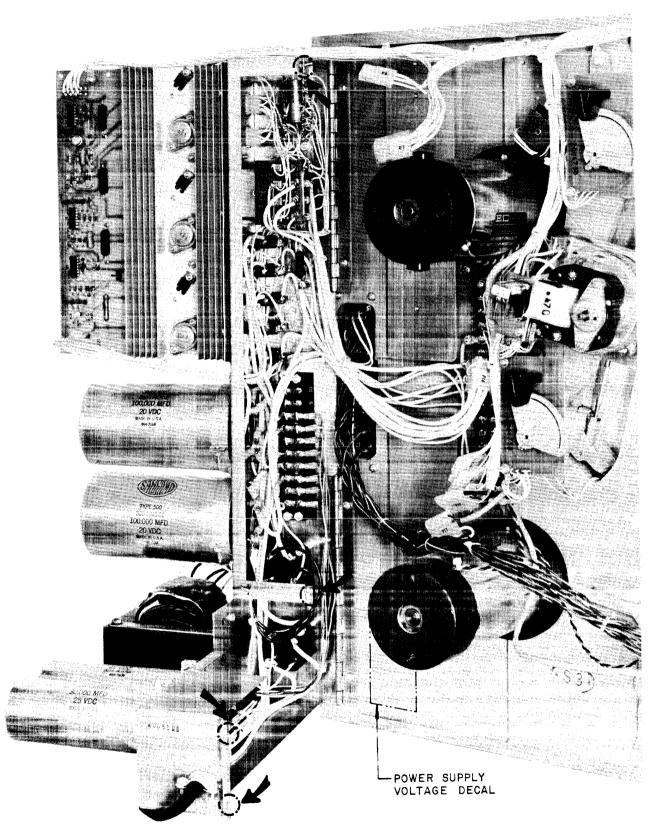
The opening of the power supply is necessary when trouble shooting and component replacement is required in this area. It is also required when it is desired to access TBl to change power transformer taps. The following procedure shall be used:

- 1. Turn power off of the unit with the toggle switch on the power supply and disconnect the power cord from the wall.
- 2. Swing out the transport.
- 3. Remove the 4 Phillips screws fastening the assembly to the deck. These screws are shown flagged in the photograph of Figure 43.
- 4. Swing assembly open.

3. TRANSPORT MODULE REPLACEMENT

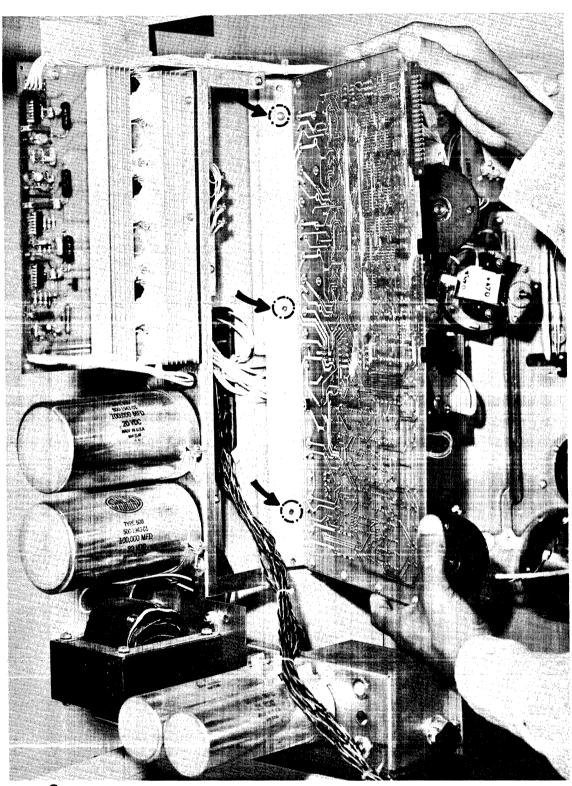
The transport module which houses all the servo and control logic electronics can be removed by following the steps below:

- 1. Turn power off of the unit with the toggle switch on the power supply and disconnect the power cord from the wall.
- 2. Remove all the connectors from the module using care to avoid damaging connector pins on the module.
- 3. Swing open power supply assembly as described in subsection 2.
- 4. Remove the 3 screws on the heatsink fastening the module to the deck. These screws are shown in the photograph of Figure 44. Be sure to support the assembly



power supply assy. Mounting screws.

Figure 43. How To Open Power Supply



TRANSPORT ELECTRONICS PWB ASSY. MOUNTING HOLES.

Figure 44. Transport Circuit Module Removal

to prevent damage when screws are removed. The module is now free to remove.

5. After installation of the new module, perform the transport module adjustments described in subsection 15.

4. DATA ELECTRONICS MODULE REPLACEMENT

The Data Electronics module which houses all of the record and read electronics can be removed by following the steps below:

- 1. Turn main power off either at the control panel or the power supply.
- 2. Remove connectors P3 and P4.
- 3. Remove the Winchester head cable connectors from the module. IMPORTANT use an appropriate size screwdriver on the jackscrew fasteners. Loosen the connectors evenly, alternating turns on each screw. Attempting to loosen one side at a time will cause the connectors to bind and possibly bend the pins. Use of fingers instead of a screwdriver risks the possibility of breaking wires on the connectors.
- 4. While supporting the module to prevent damage, remove the 4 Phillips screws, holding the module mounting brackets to the deck. The location of the bracket screws are shown in the photograph of Figure 45.
- 5. After replacement of the new module, perform the adjustments described in the appropriate data electronics alignment subsection.

5. OCP SWITCH REPLACEMENT

The operator's control panel pushbutton switches and indicators are sealed assemblies. If either the switch or the indicator fails, the whole sealed assembly must be replaced. (See the photograph in Figure 46.)

1. Put the utility power switch at the back of the transport chassis in the OFF position.

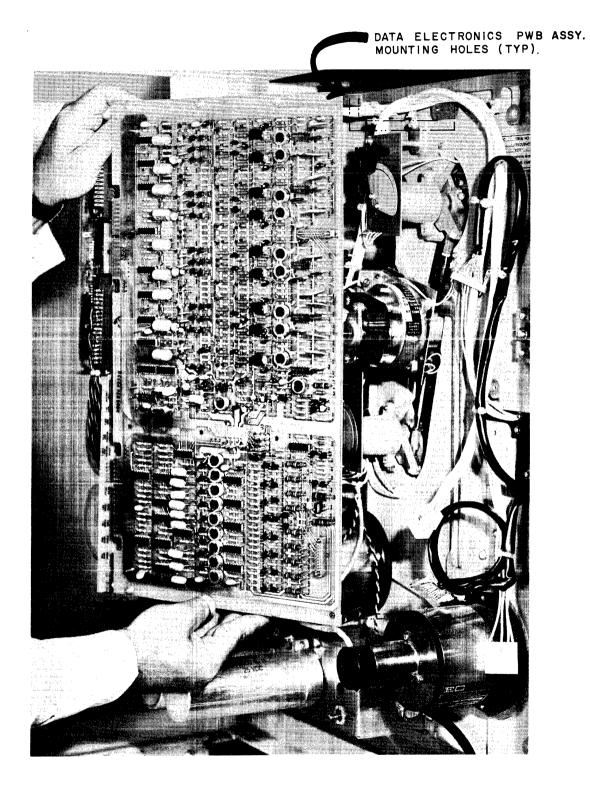


Figure 45. Data Module Removal

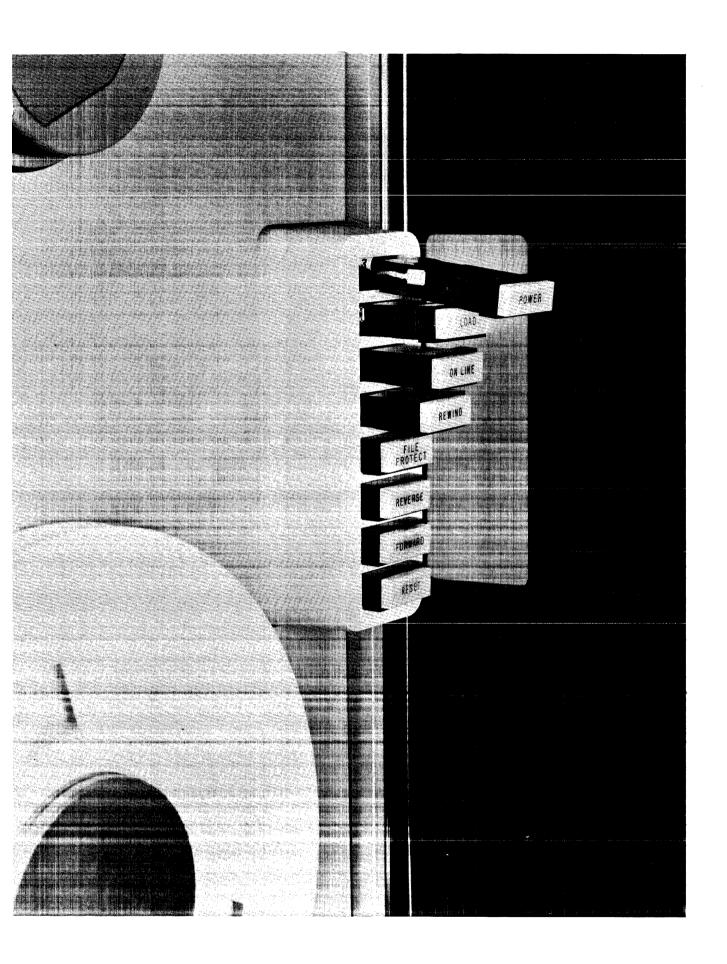


Figure 46. Control Panel Switch Removal

- 2. Grasp the pushbutton at either side and pull it directly away from the deck, rocking it gently from side to side, using care that the attached wires are not damaged.
- 3. Note the position of the push-on lugs before removing them from their terminals.
- 4. Connect the push-on lugs to the replacement switch in the noted positions.
- 5. Push the switch firmly into position.

6. ARM SENSE LAMP AND CELL REPLACEMENT

6.1 LAMP REPLACEMENT

The lamp and holder assembly is a plug-in unit. To replace the lamp disconnect holder from module. If the assembly is not the plug-in type, unsolder the lamp lead joints at top of shroud and break glyptol to free lamp. Solder and glyptol leads of new lamp. Perform the adjustments of section VI-14.

6.2 CELL REPLACEMENT

It is required to remove the arm sense module in order to replace the photocell. The following steps specify the mechanical procedure for removal:

- Loosen the Allen screw on the collet clamp and rotate the cam and clamp assembly until it is free of the shaft.
- 2. Cut the cable harness tie wraps to separate the cable from the rest of the harness.
- 3. Remove the three Phillips screws securing the module to the main frame.
- 4. Remove the connector at the end of the module cable located on the transport module. This will be P12 for the file side or P13 for the fixed side.
- 5. Perform the arm sense module adjustments in subsection 14 after replacement is completed.

7. HEAD ASSEMBLY REPLACEMENT

Read/Write head assemblies may be removed and replaced in the field by using the following procedure.

<u>CAUTION</u>: SYSTEM POWER MUST BE TURNED OFF PRIOR TO DISCONNECTING OR CONNECTING THE HEAD ASSEMBLY.

- 1. Remove the head connectors from the data electronics module located at the rear of the machine using an appropriate size slot screwdriver. Do not use fingers for this purpose so that the possibility of damaging connector wires is eliminated.
- Remove both pieces of head cover and remove the three large Allen screws fastening the head plate assembly to the deck. These screws are shown in the photograph of Figure 47.
- 3. Since it is not desirable to replace the photosense assembly due to its cable dressing configuration, disconnect this subassembly from the baseplate by removing the two Phillips screws at the rear of the plate.
- 4. Remove head assembly.
- 5. Following the procedure in reverse, install the new head assembly.
- 6. Perform the tape tracking check described in Section 12.3.
- 7. Perform the data electronics alignments described in Section 16 for dual gap heads or Section 17 for single gap heads.

7.1 REPLACING THE PHOTOSENSE UNIT

The EOT/BOT photosense unit is a sealed component. If either lamp or photocell fails, the unit must be replaced in its entirety, as follows:

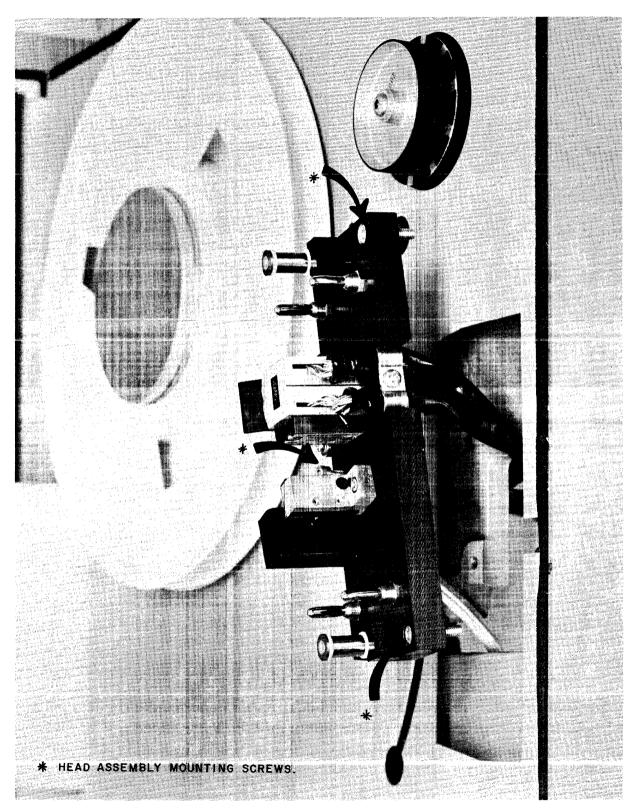


Figure 47. Head Assembly Removal

- 1. Perform step 2 of paragraph 7.
- Remove both screws holding photosense unit to read/write head assembly base plate, and move it to rear of deck. Cut the cable harness so that this cable is free. Disconnect P11 connector.
- 3. Replace photosense unit and reinstall read/write head assembly. Adjust R215 as described in paragraph 15.1 to ensure proper operation of the photosense unit.

7.2 CLEANING THE TAPE CLEANER

A jet of air directed into the perforations of the tape cleaner face will force the accumulation of particles through a vent hole provided on the back of the tape cleaner.

- Remove read/write head assembly covers (both sides).
- 2. Shield read/write head by inserting a piece of paper or cloth between the tape cleaner and the head.
- 3. Blow into the face of the cleaner.
- 4. Clean the tape cleaner, magnetic head, and base plate according to regular maintenance instructions (Section III).
- 5. Replace head covers.

If necessary, the tape cleaner can be removed from the head assembly so that a more forceful air jet can be applied. It is suggested, however, that frequent gentle cleaning is preferable to infrequent forceful cleaning.

- 1. Remove read/write head assembly covers.
- 2. Remove the screw holding the tape cleaner to the assembly base plate, and remove tape cleaner.
- 3. Clean by forcing air through the face perforations.
- 4. Replace tape cleaner and tighten screw. (Action of the roll pin in conjunction with the screw will correctly reposition the tape cleaner.)
- Replace head covers.

8. DECK OVERLAY REMOVAL

Removal and replacement of many components requires the removal of the deck overlay. The following procedures must be followed:

8.1 REMOVAL OF FIXED REEL

- 1. For fixed reel hub assemblies whose configuration does not have three screws on the hub cover, insert a flat blade screwdriver behind the chamfered edge of the hub cover and pry it up; this releases the three spring clips holding the cover in place. (See Figure 48.) Remove the three screws holding the reel in place and remove the reel.
- 2. For assemblies whose configuration have the three screws through the cover, ignore step 1 and remove these screws holding the reel in place. Remove reel.

8.2 REMOVAL OF FIXED GUIDE POST ASSEMBLIES

CAUTION: Identify the top and bottom assemblies prior to removal in order to return them to their correct location upon re-assembly.

 Remove each guide post by unscrewing two Phillips screws accessible from the rear of the deck. Under no circumstances should the small set screw that holds the roller guide assembly be removed. Removal of this screw destroys an adjusted setting and necessitates laboratory or factory re-tracking.

8.3 REMOVAL OF OVERLAY

- 1. Remove covers from the read/write head assembly by pulling in the direction perpendicular to the head plate.
- Loosen, but do not remove, the four overlay screws accessible from the rear of the machine. These screws are shown marked by arrows in the photograph of Figure 49.
- 3. Support the overlay prior to total removal of the screws to eliminate the falling hence possible damage to it.
- 4. Lift off overlay.

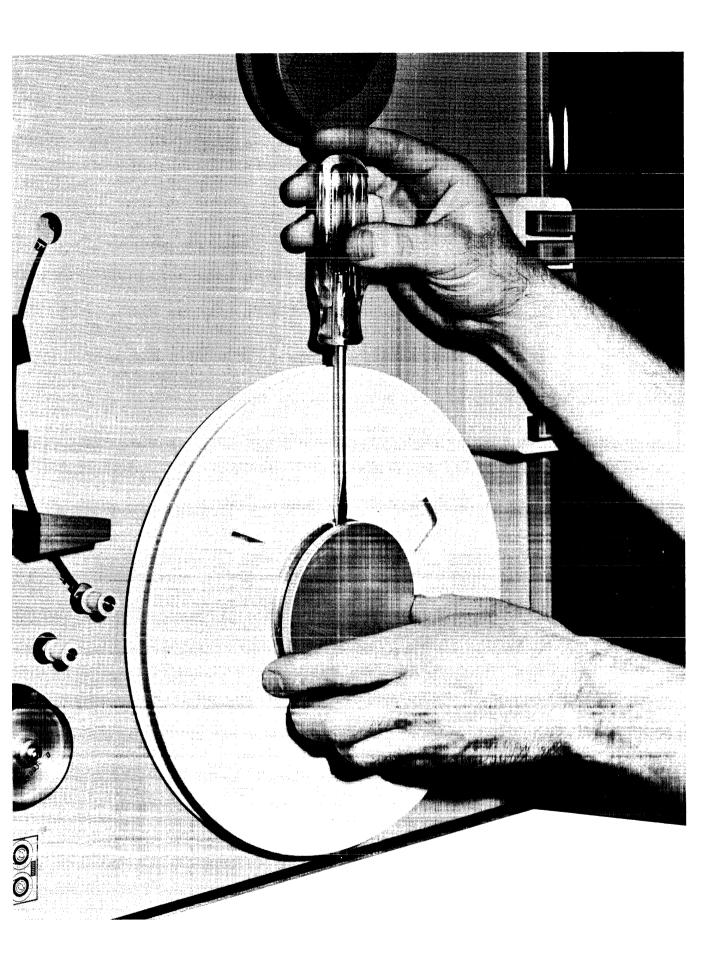


Figure 48. Fixed Reel Removal

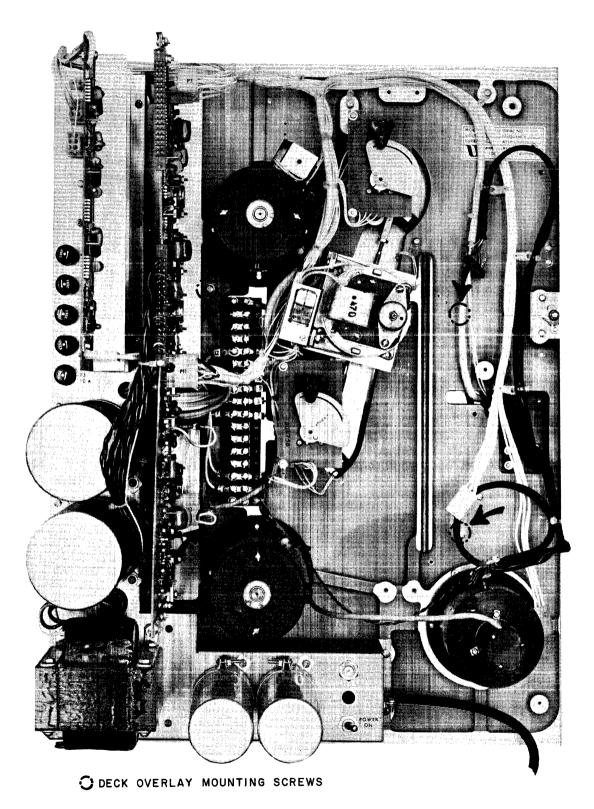


Figure 49. Deck Overlay Removal

9. CAPSTAN AND CAPSTAN MOTOR REPLACEMENT

9.1 CAPSTAN ONLY

The capstan can be removed and replaced by releasing the Allen screw on the top of the capstan motor shaft, holding the shaft by the flats provided. Note the orientation of the capstan before removing it, and ensure that it is replaced in the same position. Capstan speed adjustments are specified in a later section.

9.2 CAPSTAN DRIVE ASSEMBLY

Replacement of the entire capstan drive assembly (capstan and capstan motor) should be done in accordance with the following procedure:

- 1. Remove capstan (see 9.1).
- 2. Remove motor and tachometer leads at terminal board at rear.
- 3. Remove four screws holding motor to transport deck.
- 4. Replace capstan drive assembly.
- 5. Replace capstan (see 9.1).
- 6. Perform the adjustments for speed and start/stop ramps as described in subsections 15.2.2 15.2.4.

9.3 CALCULATING CAPSTAN SPEED ERROR

The 50/60 Hz strobe disc is inserted into each capstan. The inner strobe is for 60 Hz and is marked such. It is to be viewed with the corresponding AC light (such as fluorescent). The 50 Hz disc operates with a 100 Hz source whereas the 60 Hz disc requires 120 Hz source. The disc image will appear stationary at 12.5, 25 and 37.5 ips only. The error from nominal for the mentioned speeds is:

$$E = \frac{624}{T \times V} \%;$$

where V is nominal speed in ips, and T is the time in seconds for the image to drift one revolution. If the error exceeds 1% re-adjust speed per section VI-15.2.

10. REEL MOTOR REPLACEMENT

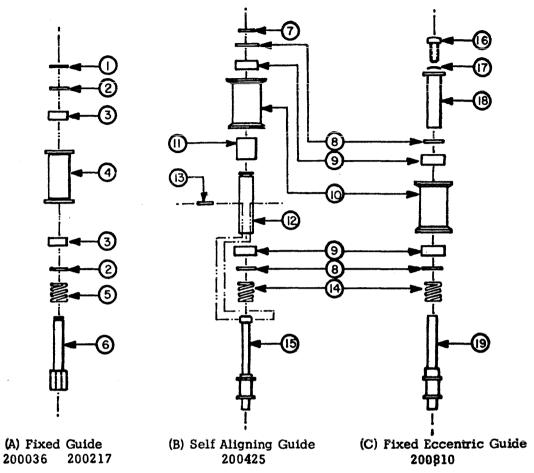
The preventive maintenance schedule (Table 5) suggests that reel motors be replaced after 10,000 hours of operation. Replacement is as follows:

- 1. Remove overlay.
- 2. Remove hub of motor to be replaced (two set screws). NOTE: if WCP fixture # P/N T-00002 is not available, measure and record the distance from the reference boss to the hub outer flange prior to removal.
- 3. Remove motor leads at terminal board at rear.
- 4. Remove four screws holding motor to transport deck.
- 5. Screw new motor into place.
- 6. Replace motor hub using reel hub alignment fixture, which sets the position of the outer flange to a distance 0.727 inch above the adjacent reference boss. If fixture is not available, re-position the hub to the distance measured in step 2. Tighten the two set screws against the flats on the motor shaft.
- 7. Replace overlay.

11. GUIDE ROLLER BEARING REPLACEMENT

Roller guide bearings, with the exception of those on the file reel swing arm guide, which control tape motion to the head, can be replaced whithout destroying preset tracking adjustment if appropriate care is exercised. (See Figures 50-A & B.)

- 1. Note the position of the guide roller with respect to its shaft. (The roller guide must be replaced with the same flange nearest the overlay panel that it originally occupied.)
- 2. Remove retaining ring at the shaft end and remove the guide roller.
- 3. Insert new bearing(s).
- 4. Replace guide roller.
- 5. Replace retaining ring.



Item No.	Des c ription	WCP Part No.
1	Ring, Retaining Ext.	100132-001
2	Washer, Shim	200077-001
3	Bearing, Roller	100006-001
4	Drum	200023
5	Spring	200156
6	Shaft	200037
7	Ring, Retaining Ext.	100132-002
8	Washer, Shim	200077-003
9	Bearing, Roller	100006-002
10	Drum	200419
11	Sleeve, Pin Retaining	200423
12	Sleeve, Bearing	200420
13	Pin	200422
14	Spring	200421
15	Shaft	200418
16	Screw, Button Hd 2-56 x 3/16	100039-903
17	Washer, Belleville	100256
18	Sleeve, Bearing	200752
19	Shaft	200766

Figure 50. Guide Bearing Replacement

Replacement of the file reel swing arm roller guide bearings requires that the guide be re-set as described in paragraph 12.1.1. The bearings are changed by removing the locking screw and withdrawing the eccentric guide assembly from the shaft. (See Figure 50-C.)

12. TAPE TRACKING ALIGNMENT

Tape tracking is the mechanical adjustment of elements in the tape path which contribute to the static and dynamic skew of the tape over the read/write head. Also the proper alignment of the tape edges between the file and fixed reels consistent with proper tape handling (i.e., without damaging the tape.) If retracking is found to be required, it is necessary to afterwards re-check the Read Stack Azimuth alignment per the procedure described in sections 16.7 or 17.4.

Forward tape tracking is controlled by guiding elements between the file reel and the capstan. Reverse tape tracking is controlled by guiding elements between the fixed reel and the capstan (see Figure 51).

The following tracking procedure assumes that there is no gross misalignment of guiding elements which would cause tape edge damage. Initially all roller guides are set such that the inner guiding edge is .837 inch from the transport component mounting surface.

12.1 FORWARD TAPE TRACKING

12.1.1 File Reel Swing Arm Roller Guide

Basic mechanical alignment of this guide is simplified through the use of a special tool, WCP # T-00010, the use of which is illustrated in Figure 52. Alignment is as follows:

- 1. Remove the overlay (see subsection 8 for procedure).
- Fasten the alignment tool to the head guides making sure the outer surface of the tool is against the fixed guide outer edges, with all shims removed from head guides.
- 3. Adjust the position of the swing arm at the supporting shaft (#8 screw) such that the roller guide trough mates with the alignment tool.

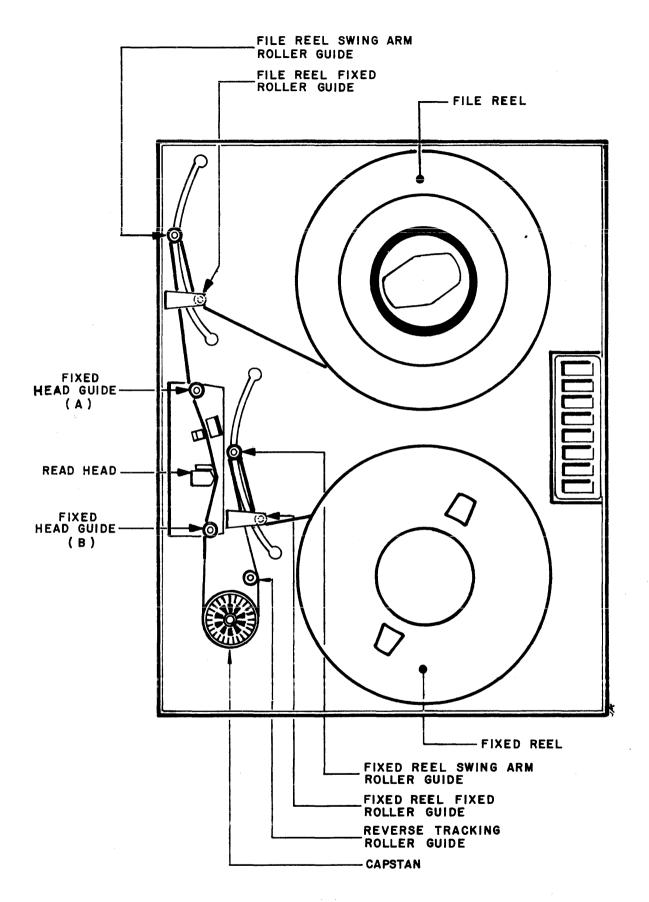


Figure 51. Tape Guide Diagram

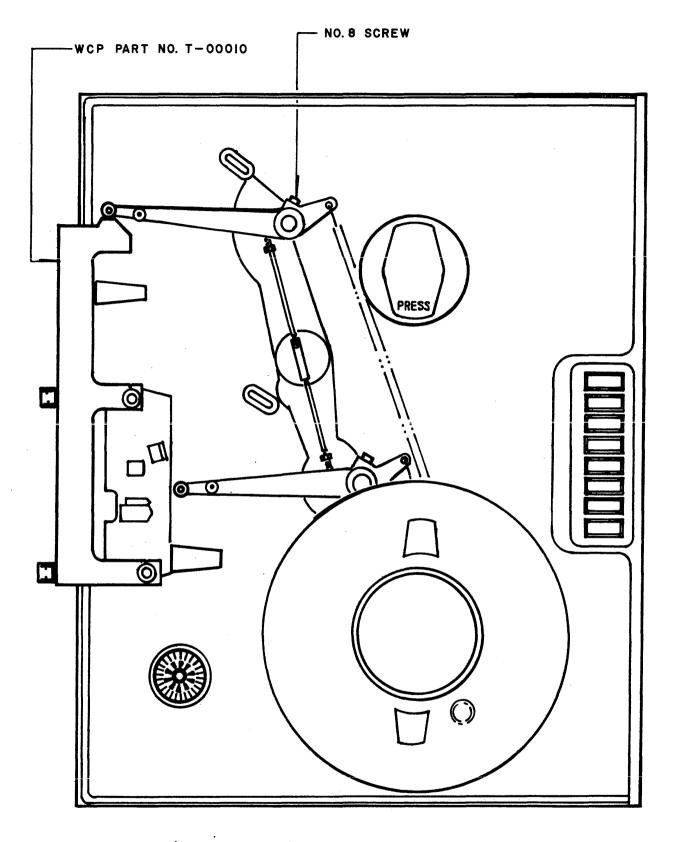


Figure 52. File Reel Arm Guide Alignment

- 4. Adjust the tilt of the roller guide such that the width of the drum is parallel to the alignment tool. This is accomplished by slackening the roller guide locking screw 1/2 turn and rotating the eccentric guide by means of the hexagon. (See Figure 53.) For the purpose of this adjustment the drum should be presented to the alignment tool by pressing against the roller guide as this simulates the effect of tape tension on the arm.
- 5. Shims should be replaced as required under Paragraph 16.7 or 17.4.

12.1.2 <u>File Reel Fixed Roller Guide</u>

This guide must be aligned to the swing arm roller guide. This may be done visually by rotating the file reel counterclockwise against the servo, using old tape, under tape tension, until the file reel swing arm reaches a point where the tape disengages the file reel fixed roller guide (see Figure 54). At this point any misalignment between the rollers is seen as a curling or scuffing of the tape edge against one of the file reel fixed guide flanges. This may be corrected by adjusting the file reel fixed guide, using the screw at the side of the guide support for this purpose.

12.2 REVERSE TAPE TRACKING

12.2.1 Reverse Tracking Roller Guide

- 1. Remove the reverse tracking roller guide by means of the screw at the side of the guide support.
- 2. Run the tape forward and observe the lateral position of the tape on the capstan. Now run in reverse and see that there is no "tape walk".
- 3. If this condition is observed, adjust the position of the fixed reel swing arm at its pivot (#8 screw) and align the adjacent fixed roller guide to the swing arm roller guide. The procedure is the same as that for the file reel fixed guide. Capstan "tape walk" between forward and reverse should not be greater than .01 inch with the reverse tracking guide removed.
- 4. Replace the reverse tracking guide and adjust the forward/reverse "tape walk" as close to zero as possible by means of this guide only.
- Now that all the alignments are complete, check the results by following the procedure in the next section.

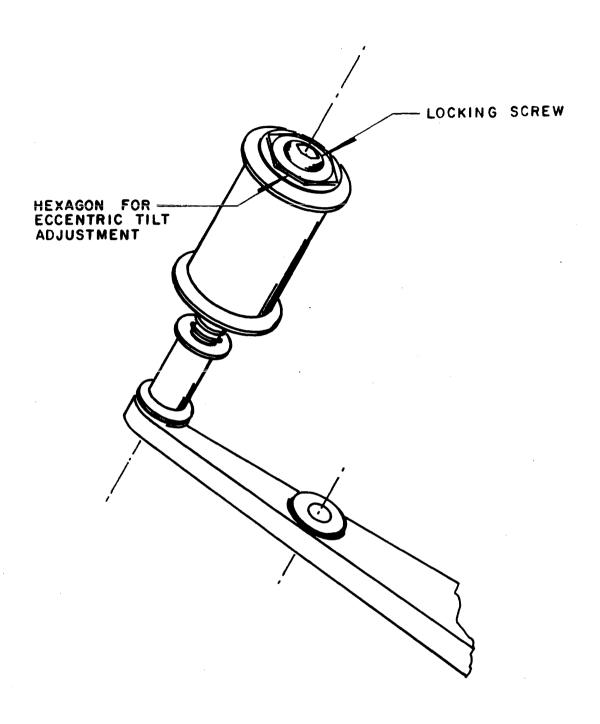


Figure 53. Tilt Adjustment - File Reel Arm Guide

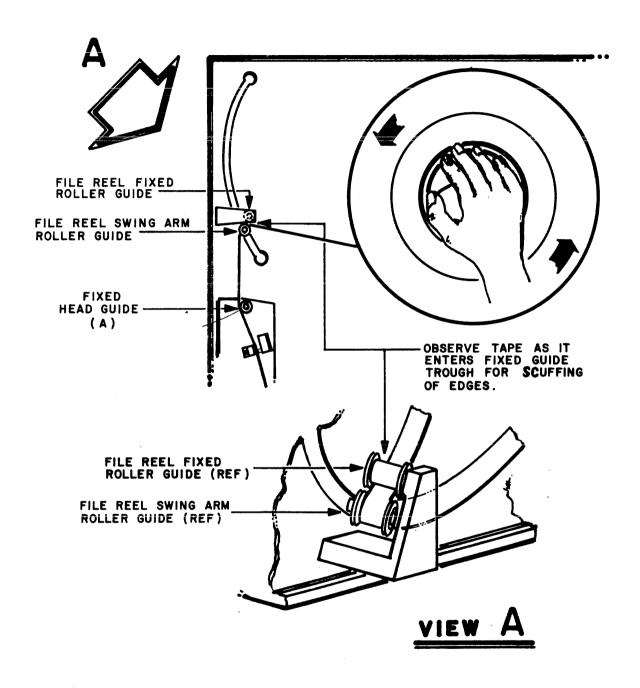


Figure 54. File Reel Fixed Guide Adjustment

12.3 CHECKING TAPE TRACKING

This procedure provides an electrical check to verify that tape is tracking in the reverse direction within acceptable limits with respect to the forward direction. The procedure compares the time displacements of the analog signal peaks of the two outside channels while running tape forward with the time displacement of those peaks while running tape in reverse. If the transport is perfectly tracked, the time displacements in both directions will be the same, but the phase relationship between the two peaks will be opposite. Since the accuracy of tape tracking is directly dependent upon mechanical alignments and mechanical tolerance build-ups, perfect tracking is usually not achieved; however, limits are established that will guarantee reliable operation in both directions.

Equipment required includes an oscilloscope, a dual trace plugin, and three 10X probes (see Table 4); also required is a scratchpad tape having all ones recorded on the outside channels. Procedural steps are as follows:

1. Scope controls:

- a) Mode--Chop, AC.
- b) Sensitivity—as required to get good resolution of the peak time displacement.
- c) Trigger--External (+), AC, trigger mode.
- d) Sweeptime--5 μsec/cm.
- Place Channel 1 scope probe and trigger probe on the test point corresponding to the head edge track located closest to the transport. This test point is 602 for nine-channel systems and 102 for seven-channel systems.
- 3. Place Channel 2 probe on the test point corresponding to the channel farthest from the transport. This test point is 702 for nine-channel systems and 902 for seven-channel systems.
- 4. Load the scratch-pad tape and run tape in the forward direction under manual control. Record T_1 (μ sec). Run tape in the reverse direction and record T_2 . (See Figure 55). Since the read head azimuth angle can be in either direction, the actual phase relation between the reference channel and the other outside channel may be opposite to that depicted in Figure 55.

5. The value of T_2 should be related to T_1 by the following equation:

$$T_2 = T_1 \pm \frac{75}{v}$$
 sec.

where V represents the transport speed. If this condition is not met, then either there is tape walk on the capstan, or the file reel swing arm guide is improperly set. Retrack the unit per the procedure described in subsection 12.1 and 12.2

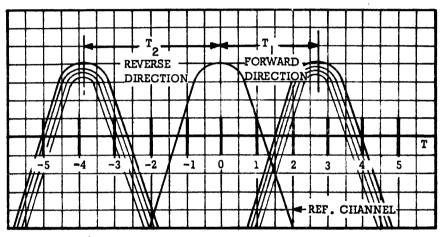


Figure 55. Checking Tape Tracking, Desired Waveform

13. REGULATED POWER SUPPLY ADJUSTMENTS

Three potentiometer adjustments are required to adjust the power supply regulators to the proper operating voltage levels. These potentiometers are located on the regulator subassembly module (See Figure B6). A voltmeter having an accuracy of at least 2 per cent should be used to make the adjustments. Each adjustment should be made according to the following table:

Adjust Voltage To:	By Potentiometer	Connect Meter Between Test Points	
+ 5 Volts	R2	TP1(+) & TP4(-)	
+12 Volts	R14	TP2(+) & TP4(-)	
-12 Volts	R21	TP3(-) & TP4(+)	

14. ARM SENSE MODULE ADJUSTMENTS

Correct adjustment of the arm sense module position, cam position, and two potentiometers is necessary to ensure the correct operation of each servo swing arm. The adjustments must be made in the order in which they are specified below. (Either arm may be adjusted first.)

The power must be ON and the transport must be RESET at the control panel before starting the adjustment procedure. No tape should be loaded on the machine.

14.1 FIXED REEL ADJUSTMENTS

- Mechanically position the swing arm in the center of its normal operating arc and verify that the center of the cam arc lines up with the photocell and lamp housing. If the cam is improperly positioned, reposition cam as specified in subsection 6.
- 2. Connect a voltmeter between test point 424 and ground on the transport board. (See Figure B24.)
- 3. Loosen the three screws that secure the arm sense module to the main frame and adjust the position of the module on the slotted holes until the voltmeter reads 0 ± 0.2 volts. Tighten the three mounting screws locking the assembly in place.
- 4. Adjust the fixed reel servo gain potentiometer R462 and the swing arm position potentiometer R465 as outlined in subsection 15.3.

14.2 FILE REEL ADJUSTMENTS

- 1. Perform Step 1 in 14.1 above.
- 2. Connect a voltmeter between test point 425 and ground on the transport board. (See Figure B24.)
- 3. Perform Step 3 in 14.1 above.
- 4. Adjust the file reel servo gain potentiometer R503 and the swing arm position potentiometer R508 as outlined in subsection 15.3.

15. TRANSPORT MODULE ADJUSTMENTS

15.1 EOT/BOT PHOTOSENSE ADJUSTMENT

- 1. Connect a voltmeter between test point 201 and ground. (Reference Figure B24.)
- Adjust potentiometer R215 so that the voltmeter reads 0.0V ± 0.15V while tape is loaded on the transport but neither photosense tab is being sensed.

15.2 CAPSTAN SERVO ADJUSTMENT

Five adjustments are required to ensure correct operation of the capstan drive. The order in which these adjustments are given below must be carefully followed since there is interrelationship between some adjustments. Adjustments should be performed with tape loaded on the transport. Ramp adjustments require that the transport be under program control so that the tape repeatedly starts and stops. (See Figure B24 for potentiometer and test point locations.)

15.2.1 Offset

- 1. Press RESET pushbutton.
- 2. Connect a voltmeter between test point 408 and ground.
- Adjust potentiometer R438 for zero volts, ±100 mv.

15.2.2 Forward Motor Speed

The strobe disc is mounted on the front of the capstan and has two patterns. The inner pattern is used for 60 Hz units and the outer pattern is used for 50 Hz units.

- 1. For standard speed units (see VI-9.3) containing a strobe disc, while running the unit in the forward direction under manual control, adjust R415 until the strobe pattern appears stationary.
- For all other speed units, using an IBM skew tape, adjust the potentiometer for a pulse repetition period shown below. This will be observed at TP3 (D/G module) or TP5 (S/G module).

$$P = \frac{1250}{S} \mu sec$$

where S is machine speed.

15.2.3 Reverse Motor Speed

- 1. Repeat the procedure of step 1 (Sec. 15.2.2) while running in reverse using potentiometer R411.
- 2. Duplicate the procedure of step 2 (Sec. 15.2.2) while running in reverse using potentiometer R411.

15.2.4 Start/Stop Ramp Time

The start/stop ramp times can be properly adjusted only after the forward-reverse speeds have been set up. Only the forward and reverse stop ramps will be adjusted since adjusting the stop ramp for one direction also adjusts the start ramp for the opposite direction. The ramps will be observed at the capstan tachometer output.

Forward Stop Ramp Time:

- 1. Initiate a start/stop forward motion program.
- 2. Trigger oscilloscope sweep on external negative at the Motion test point 204 and observe tach signal of TP406. In order to maintain a clean tach signal, pick up scope probe ground on TP403. Use sufficient vertical sensitivity on scope to cleanly measure where the signal reaches the zero axis.
- 3. Adjust potentiometer R423 so that the time for the tach signal to reach zero output is as follows:

$$T = \frac{340}{S}$$
 milliseconds

where T is the stop ramp in milliseconds and S is the operating speed of the transport in ips (see Figure 56). For example, a 25 ips transport would have a stop ramp time as follows:

$$T = \frac{340}{25} = 13.5 \text{ milliseconds}$$

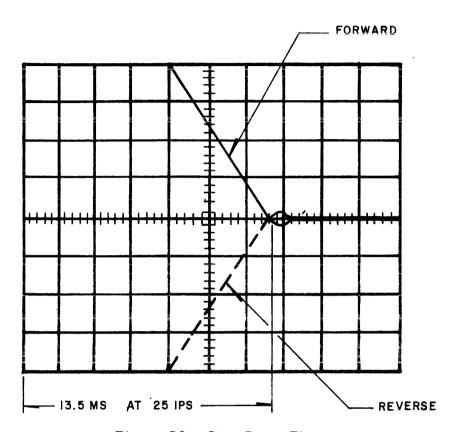


Figure 56. Stop Ramp Time

Reverse Stop Ramp Time:

- 1. Initiate a start/stop reverse motion program.
- 2. Using the same procedure as outlined in step 2 of the Forward Stop Ramp Time paragraph above, adjust potentiometer R426 for the same stop ramp time established in step 3 of the procedure.

15.3 REEL SERVO ADJUSTMENTS

Two potentiometer adjustments are required in each reel servo to provide proper servo gain and swing arm operating position. These adjustments vary depending upon the transport operating speed and are specified below.

15.3.1 <u>Gain</u>

- 1. Mark off four inches of arc along the path traveled by the swing arm tip.
- 2. Connect an oscilloscope to the servo amplifier output test point 418 for file reel or test point 410 for the fixed reel. (Reference Figure B24.)
- 3. With tape loaded and holding tension, move the tip of the swing arm back and forth between the end points of the four-inch arc marked off in step 1. (This can be most easily accomplished by moving the reel back and forth by hand rather than the swing arm.)
- 4. Adjust the gain potentiometer so that the four-inch arm movement in step 3 produces a total voltage change on the oscilloscope as specified below. Potentiometer R503 adjusts the file reel servo gain and R462 the fixed reel servo gain.
 - a) For 45 ips machines adjust for a total voltage change of 6.0 volts.
 - b) For 37.5 ips machines adjust for a total voltage change of 5.0 volts.
 - c) For 25 ips and slower machines adjust for a total voltage change of 3.5 volts.

15.3.2 Swing Arm Position

The swing arm position must be adjusted with tape loaded and the machine operating at the proper speed. Both file and fixed reel arm positions must be adjusted with minimum pack (less than 1/16-inch of tape on reels). The file reel arm position is adjusted by potentiometer R508 while running forward and the fixed reel arm position is adjusted by R465 while running in reverse. The correct operating arm positions for each speed machine is as follows:

- 1. 45 and 37.5 ips machines should have the swing arm adjusted so that the center of the outermost roller guide on the swing arm is 3/16 of an inch above (measured vertically) the top edge of the fixed roller guide support bracket.
- 2. 25 ips and slower machines should have the swing arm position adjusted according to the table below. The distances given in the table are measured vertically from the center of the swing arm roller guide to the top edge of the fixed roller guide support bracket.

Machine Speed	Swing Arm Position Above Fixed Guide Bracket		
25 ips	1/2 inch		
18 .7 5 ips	1.0 inch		
12.5 ips	1-1/2 inches		
10 ips	1-1/2 inches		

16. DATA ELECTRONICS DUAL GAP SYSTEMS ADJUSTMENTS

16.1 ADJUSTMENT SEQUENCE

All alignments are made at the factory prior to shipment of equipment. Verify alignments if either subassembly has been replaced, or if data electronics or heads seem to malfunction. Before performing the adjustments, verify that the scope probes, plug-in unit, and time base are calibrated.

All potentiometer and test point locations are identified by a silkscreened designator adjacent to the component on the module. (See FigureB32 for the physical board location of test points and adjustments.)

WARNING: SYSTEM POWER MUST BE TURNED OFF
BEFORE DISCONNECTING OR CONNECTING
EITHER THE DATA ELECTRONICS MODULE
OR THE HEAD ASSEMBLY.

Tape transport and power supply adjustments must be verified before performing the data electronics adjustments. Because of the inter-relationship among the circuits, the adjustments must be made in the following sequence:

- 1. Phase splitter quiescent level adjustment
- 2. Read amplifier gain adjustment
- 3. Crossfeed shield
- 4. Read strobe delay adjustment
- 5. Read stack azimuth measurement and correction
- 6. Write stack deskew
 - a) Read stack profile measurement
 - b) Write deskew single-shot adjustment
- 7. Verification--staircase measurement.

16.2 PHASE SPLITTER QUIESCENT LEVEL

The following prescribes the adjustment procedure for nine-channel tape transports. The levels at test points 202 and 302 need not be correct for seven-channel systems.

- 1. Scope controls:
 - a) Mode--Channel 1; DC.
 - b) Sensitivity--0.05 V/cm.
 - c) Trigger--Internal, automatic stability.
- 2. Connect Channel 1 probe to test point 102.
- Without running tape, adjust potentiometer R27 until
 + 1.0 VDC is observed at test point 102.
- 4. Scan test points 202 to 902 to ensure that the quiescent point of all the phase splitters falls within $+1.0 \pm 0.3$ VDC.
- 5. If this condition cannot be attained, readjust R27 until the condition is satisfied.

16.3 READ AMPLIFIER GAIN

The following prescribes the adjustment procedure for nine-channel tape transports. For seven-channel systems, set R218 and R318 fully counterclockwise.

- 1. Scope controls:
 - a) Mode--Channel 1; AC.
 - b) Sensitivity--0.2 V/cm.
 - c) Trigger--Internal, automatic stability.

- 2. Load <u>Standard Level Output Tape</u> on the transport and set the tape controller for a continuous write mode at a frequency corresponding to 800 cpi and ones written on all channels.
- 3. Connect Channel 1 scope probe to test point 102 and run tape forward. Adjust R118 so that the analog signal has a 12-volt peak to peak amplitude. (See Figure 57.)
- 4. Repeat for all channels. See Table 6 for correct potentiometers and test points.

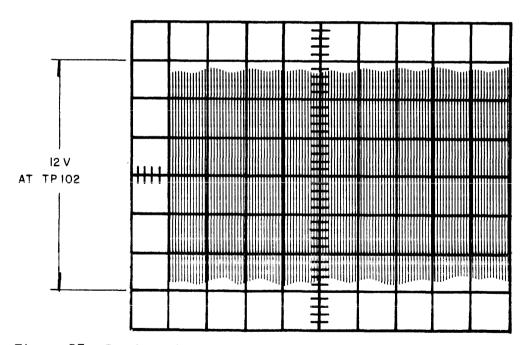


Figure 57. Read Amplifier Gain Adjustment, Dual Gap Systems

Table 6. Data Electronics Adjustment Points - Dual Gap Systems

	Alignment Section				
Channel	Read Amp Gain		Write Deskew		Comments
	Test Point	Pot. No.	Test Point	Pot. No.	
Р	TP-102	R-118	TP-103	R-104	
0 ·	TP-202	R-218	TP-203	R - 204	Not used in 7-Channel systems.
1	TP - 302	R - 318	TP-303	R - 304	Not used in 7-Channel systems.
2	TP - 402	R-418	TP-403	R -40 4	
3	TP - 502	R-518	TP-503	R-504	
4	TP-602	r-618	TP-603	R-604	
5	TP-702	R-718	TP -7 03	R -7 04	
6	TP-802	R - 818	TP-803	R - 804	
7	TP=902	R=918	TP-903	R-904	

16.4 CROSSFEED SHIELD

This is a mechanical alignment on the head gate assembly necessary to minimize the write-to-read crossfeed signal. If the complete head assembly has been replaced, proceed starting with Step 1. If only the crossfeed shield has been replaced, or if only a check is being performed, skip Step 1.

- 1. Turn all write deskew single-shot potentiometers (R104 to R904) so that all nine head drivers switch simultaneously. This can be observed by scoping test points 101 to 901.
- 2. Place Channel 1 scope probe on test point 602 and Channel 2 scope probe on test point 702. If this is a seven-channel system, place Channel 1 scope probe on 102 and Channel 2 scope probe on 902. With scope plug-in mode on alternate, set both scope channel vertical gains to 0.01 V/cm.
- 3. Remove tape from capstan so that the tape will not move when a run command is given. This is to be done by threading the tape, such as to wrap the guide adjacent to the capstan, onto the fixed reel swing arm.

4. Set the tape controller unit for a continuous write mode, all ones on all channels. Run transport and observe crossfeed on the two edge channels. If the peak to peak amplitude of the crossfeed is less than the following, no adjustment is required.

Null Voltage (MV - P-P)	Speed (IPS)	
7 50	10	
600	12.5	
500	18.75	
400	25 and above	

See Figure 59 for typical head gate wave forms.

5. If the amplitude is greater than the voltage resulting from the table in item 4, loosen the two head gate screws and reposition the gate by moving it in the plane shown in Figure 58 until a null voltage is reached. The edge of the ferrite should be approximately opposite the Write gap. Be sure that the shield housing is resting on the head block at front and back.

16.5 READ STROBE DELAY

- 1. Scope controls:
 - a) Mode--Channel 1, DC.
 - b) Sensitivity--0.1 V/cm.
 - c) Trigger--Internal (+) trigger mode.
- 2. Connect Channel 1 scope probe to test point 3.
- 3. Verify that the transport is selected for high density operation and write all ones as described in paragraph 16.4, step 2.
- 4. A positive pulse will be observed at test point 3. See Figure 60. Adjust R49 for a pulse width of approximately one-half frame time. At 25 ips this should be 25 μ sec. A frame time is defined as 1, where V is the transport velocity and D is the operating data density.

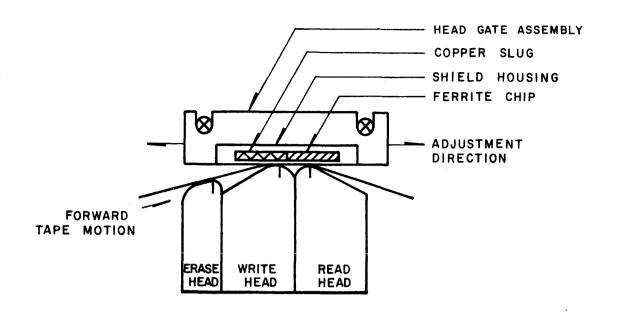


Figure 58. Head Gate Adjustment, Dual Gap Systems

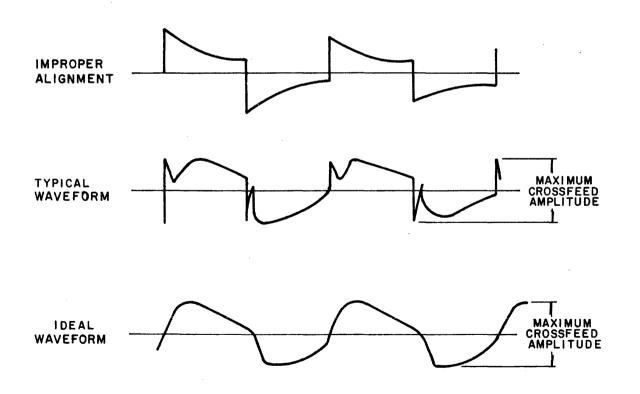


Figure 59. Head Gate Adjustment Waveforms, Dual Gap Systems

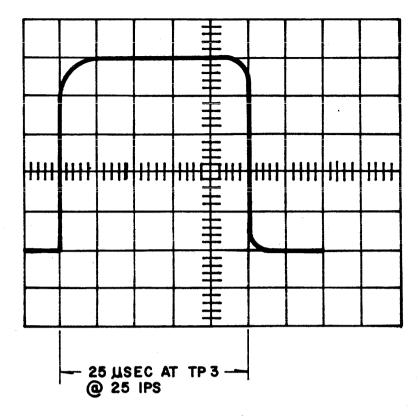


Figure 60. Read Strobe Delay Adjustment, Dual Gap Systems

16.6 READ STACK AZIMUTH MEASUREMENT AND CORRECTION

This adjustment is required only when the read/write head assemble has been replaced. Its purpose is to ensure that the read stack is perpendicular to the tape path. This is a mechanical adjustment and is accomplished by shimming either (but only one) of the two guides mounted on the head assembly base plate. The shims are mounted by removing the guide, inserting a shim on the guide sh and re-assembling the guide on the base plate. The shims are 0 inch thick and one shim will correct for 15 micro-inches of skew

1. Scope controls:

- a) Mode--Chop.
- b) Sensitivity--0.2 V/cm, DC, both channels.
- c) Trigger--External (+) AC trigger mode.
- d) Sweeptime--Sufficient resolution so that the positive-going edges of each trace can be accurately measured.

- 2. Place Channel 1 scope probe and trigger probe on the test point corresponding to the head edge track located closest to the transport. This test point is 603 for nine-channel systems and 103 for seven-channel systems.
- 3. Place Channel 2 probe on the test point corresponding to the channel farthest from the transport. This test point is 703 for nine-channel systems and 903 for seven-channel systems.
- 4. Load a master skew alignment tape, making sure that the write enable ring is removed. Place the tape controller unit in a read mode and observe the time displacement between leading edges (see Figure 61). If the time displacement corresponds to a distance less than 25 micro-2 inches (1 μ sec at 25 ips), no shimming is required:

25 = 1 ysee

Established

Distance (
$$\mu$$
inch) = Velocity (ips) X Time (μ sec).

If the time displacement corresponds to a distance greater than 25 micro-inches. than 25 micro-inches, the guide on the file reel side of the head assembly must be shimmed. The number of shims can be calculated as follows, where N represents the number of shims:

$$N = \frac{\text{(Tape Speed) (Time)}}{15}$$

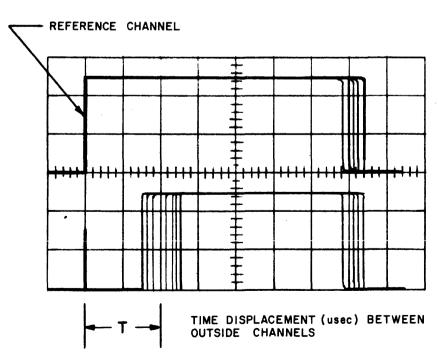


Figure 61. Head Stack Shimming, Dual Gap Systems

Number of Shims	Time Displacement for Speed Indicated (µsec)			
	12.5 ips	25 ips	37.5 ips	45 ips
1 2 3 4 5 6 7 8	0.7 - 1.8 1.9 - 3.0 3.1 - 4.2 4.3 - 5.4 5.5 - 6.6 6.7 - 7.8 7.9 - 9.0 9.1 - 10.2	1.0 - 1.5 1.6 - 2.1 2.2 - 2.7 2.8 - 3.3	1.1 - 1.4 1.5 - 1.8 1.9 - 2.2 2.3 - 2.6	0.2 - 0.5 0.6 - 0.9 1.0 - 1.2 1.3 - 1.5 1.6 - 1.8 1.9 - 2.2 2.3 - 2.5 2.6 - 2.8

Shim Table for Standard Tape Speeds

- 5. If the leading edge of the trace being triggered is seen but not that of the other channel, place the scope trigger probe on the opposite channel and observe the time displacement between pulse leading edges. In this case, the tape guide on the capstan side of the head assembly must be shimmed according to the instructions in step 4.
- 6. After the guide is shimmed, verify that the time displacement between the outside channels corresponds to a distance less than 25 microinches.
- 7. Measure and record the static data staircase using the master skew tape utilizing the method described in subsection 16.8. This data will later be used to compare with the results of that section.

16.7 WRITE STACK DESKEW

The method used to ensure proper Write head deskewing is first to plot the read stack gap scatter in the forward direction, referencing each track to the leading track, and using an IBM Master Skew Tape. Then the gap scatter plot is duplicated while writing all ones on a scratch-pad tape by adjusting the potentiometers of the Write Deskew single shots.

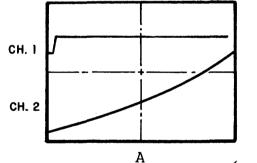
16.7.1 Read Head Stack Profile

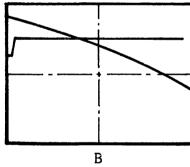
The method used to measure and record the gap scatter is first to locate the leading track and then to measure the time displacement of each of the other tracks with respect to this track.

16.7.1.1 How to Locate the Leading Track:

The leading track will be located by comparing all the tracks to each other in the method described below. The digital data compared, will be only that which corresponds to the negative peaks of the analog signals observed at TP102 - TP902. By taking this precaution, error due to the effect of the pulse pairing phenomenon is eliminated.

- 1. Scope Controls
 - a) Mode--Chop
 - b) Sensitivity--0.2 V/cm, DC, both channels
 - c) Trigger--External (+) AC mode connected to CH1 Trigger out jack.
- 2. Using the IBM Skew Tape, run the transport in the forward direction in the ON-LINE mode.
- 3. Set Channel 1 scope probe on TP103 and the Channel 2 probe on TP102. Set the scope sweeptime at $1 \mu \text{ sec/cm}$. One of the patterns shown in Figure 62 will be observed on the screen:





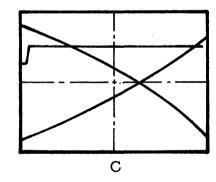


Figure 62. Triggering Method

- 4. If the display of Figure 62-A is observed, proceed to step 5, since this indicates that correct triggering of alternate bits generated by the negative analog signal peaks has been achieved.
 - a) If the display of Figure 62-B is observed, triggering is on alternate bits but created by the wrong polarity analog signal peak. To correct the triggering, lift and re-apply Channel 1 probe to TP103. Normally, after one or two tries, triggering will switch to the correct polarity.

- b) If the display of Figure 62-C is observed, triggering again is incorrect because it is occurring on every bit. To correct this condition, change to a faster or slower scope sweep speed.
- c) Once the display of Figure 62-A is obtained,
 do not change the sweep speed for the remainder of the procedure. If greater sweep
 speed resolution is required, use the Horizontal
 Magnifier. Correct triggering will be maintained as long as the trigger probe is not moved
 to another point or if the tape does not change
 direction.
- 5. Move Channel 2 probe to TP203.
 - a) If it is observed that the positive going pulse of TP203 follows the trigger pulse, move Channel 2 probe to TP303 since TP103 is the leading of the two tracks, and it is required to maintain the Channel 1 probe on the leading track. Repeat the process until the signal on Channel 2 is not observed.
 - b) If the signal on TP203 is not observed on the screen, it is the leading track. Move Channel 1 probe to TP203. Since the trigger probe has now changed location, verify that triggering is still correct, following the method described in step 4 by observing TP102 with Channel 2. Move Channel 2 to TP303.
- 6. Repeat the process described in step 5 until all the tracks have been scanned, making sure correct triggering is maintained every time the Channel 1 probe is moved to the newly-found leading track.
- 7. To verify that the leading track has truly been located, keep the Channel 1 probe fixed on that track and scan the remainder of the tracks with Channel 2 probe. The leading edge of the positive pulse will be observed at all of the test points.

16.7.1.2 Profile Plot:

Keeping Channel 1 probe on the Read register test point corresponding to the leading track, use Channel 2 probe on TP103 through TP903. Record the time displacement between the leading edges of both pulses for each track, making sure that the proper triggering method is used.

16.7.2 Write Single-Shot Deskew

This adjustment is performed while the transport is loaded with a scratch tape for writing all ones on all tracks at 800 cpi.

- 1. While running the transport continuously, display the reference track on Channel 1 and the test track using Channel 2 of the scope. Set the reference track potentiometer to approximately one-third turn from the counterclockwise position. Adjust the corresponding write deskew potentiometer so that the read profile of paragraph 16.7.1.2 is duplicated, making sure that the proper triggering method is used.
- 2. Repeat for all tracks. See Table 6 for correct test point and potentiometer.

16.8 VERIFICATION -- STAIRCASE MEASUREMENT

A quick verification of all the foregoing adjustments can be made by checking the width of the data staircase when the transport is running in the forward direction.

- 1. Scope controls:
 - a) Mode--Channel 1, DC.
 - b) Sensitivity--0.1 V/cm.
 - c) Trigger--External (+) AC, Trigger mode.
- 2. Connect scope trigger probe to test point 3 and Channel 1 probe to test point 2.

3. While writing continuous ones, the waveform should resemble that shown in Figure 63. Time T should approximate the results of subsection 16.6, step 7 and should not exceed:

$$\frac{100}{\text{Tape Speed}}$$
 μsec (T < 4 μsec at 25 ips)

Time T shall not include the effects of dynamic skew.

4. If this condition is not met, repeat the procedures specified in paragraphs 16.6 through 16.7.

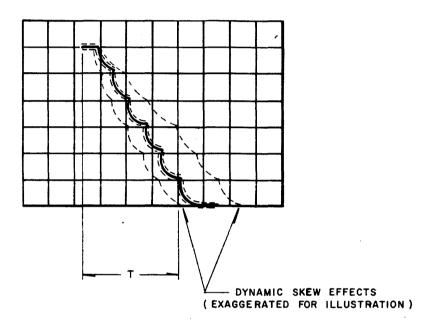


Figure 63. Staircase Waveform, Dual Gap Systems

17. <u>DATA ELECTRONICS SINGLE GAP SYSTEMS ADJUSTMENTS</u>

17.1 ADJUSTMENT SEQUENCE

All alignments are made at the factory prior to shipment of equipment. Verify alignments if either subassembly has been replaced, or if data electronics or heads seem to malfunction. Before performing the adjustments, verify that the scope probes, plug-in unit, and time base are calibrated.

All potentiometer and test point locations are identified on the module by a silk-screened designator adjacent to the component. See Figure B29for the location of test points and adjustments on the module.

WARNING: SYSTEM POWER MUST BE TURNED OFF
BEFORE DISCONNECTING OR CONNECTING
EITHER THE DATA ELECTRONICS MODULE
OR THE HEAD ASSEMBLY.

Tape transport and power supply adjustments must be verified before performing the data electronics adjustments. Because of the interrelationship among the circuits, the adjustments must be made in the following sequence:

- 1. Read amplifier gain adjustment
- 2. Read strobe delay adjustment
- 3. Read stack azimuth measurement and correction
- 4. Verification--staircase measurement.

17.2 READ AMPLIFIER GAIN

The following prescribes the adjustment procedure for nine-channel tape transports. For seven-channel systems, Set R211 and R311 fully counterclockwise.

- 1. Scope controls:
 - a) Mode--Channel 1; AC
 - b) Sensitivity--0.2 V/cm.
 - c) Trigger--internal, automatic stability.

NOTE: BE CAREFUL TO USE A STANDARD LEVEL OUTPUT TAPE FOR THE READ AMPLIFIER GAIN ADJUSTMENT.

- 2. Load standard level output tape on the transport and set the tape controller for a continuous write mode at a frequency corresponding to 800 cpi and ones written on all channels.
- 3. Rewind and then run forward in a Read mode.
- 4. Connect Channel 1 scope probe to test point 103 and run tape forward. Adjust R111 so that the analog signal has a 12-volt peak to peak amplitude. (See Figure 64.)
- 5. Repeat for all channels. See Table 7 for correct potentiometers and test points.

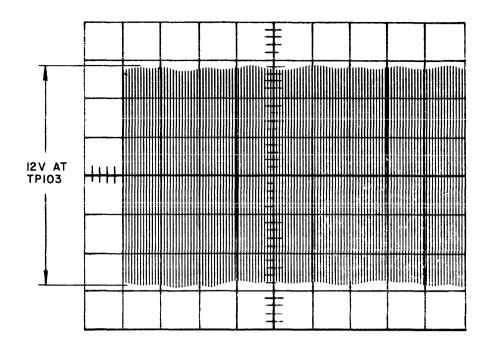
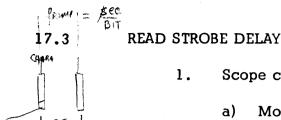


Figure 64. Read Amplifier Gain Adjustment, Single Gap System

Table 7. Data Electronics Adjustment Points - Single Gap System

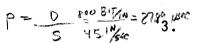
Alignment Section Read Amp Gain				
Channel	Test Point	Pot. No.	Comments	
Р	TP-103	R-111		
0	TP-203	R-211	Not used in	
1	TP-303	R-311	7-channel systems Not used in	
2	TP-403	R-411	7-channel systems	
3	TP-503	R-511		
4	TP-603	R-611		
5	TP-703	R-711		
6	TP-803	R-811		
7	TP-903	R-911		



Scope controls:

- Mode--Channel 1, DC.
- Sensitivity--0.1 V/cm.

Trigger--Internal (+) trigger mode.



Connect Channel 1 scope probe to test point 5.

Verify that the transport is selected for high density operation and read all ones.

A positive pulse will be observed at test point 5. (See Figure 65.) Adjust R28 for a pulse width of approximately one-half frame time. At 25 ips this should be 25 μ sec, at 37.5 ips, 17 μ sec, and at 45 ips, 14μ sec. A frame time is defined as 1 where V is the transport velocity and D is the operating data density.

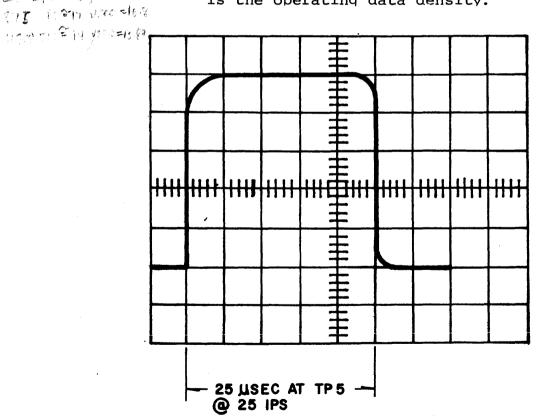


Figure 65. Read Strobe Delay Adjustment, Single Gap Systems

17.4 HEAD STACK AZIMUTH MEASUREMENT AND CORRECTION

This adjustment is required only when the read/write head assembly has been replaced. Its purpose is to ensure that the stack is perpendicular to the tape path. This is a mechanical adjustment and is accomplished by shimming either (but only one) of the two guides mounted on the head assembly base plate. The shims are mounted by removing the guide, inserting a shim on the guide shaft, and reassembling the guide on the base plate. The shims are 0.0002 inch thick and one shim will correct for 15 microinches of skew.

1. Scope controls:

- a) Mode--Chop.
- b) Sensitivity--0.2 V/cm, DC, both channels.
- c) Trigger--External (+) AC trigger mode.
- d) Sweeptime--Sufficient resolution so that the positive-going edges of each trace can be accurately measured.
- Place Channel 1 scope probe and trigger probe on the test point corresponding to the head edge track located closest to the transport. This test point is 605 for nine-channel systems and 105 for seven-channel systems.
- 3. Place Channel 2 probe on the test point corresponding to the channel farthest from the transport. This test point is 705 for nine-channel systems and 905 for seven-channel systems.
- 4. Load a master skew alignment tape, making sure that the write enable ring is removed. Place the tape controller unit in a read mode and observe the time displacement between leading edges. (See Figure 66.) If the time displacement corresponds to a distance less than 25 microinches, no shimming is required.

Distance (μ inch) = Velocity (ips) X Time (μ sec.)

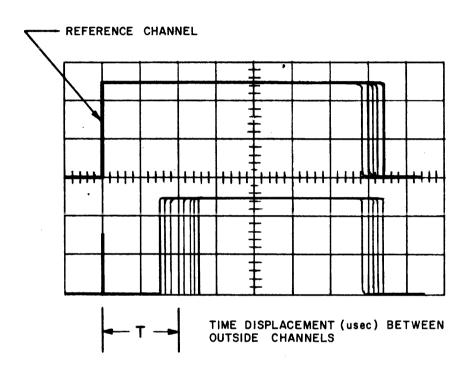


Figure 66. Head Stack Shimming, Single Gap System

If the time displacement corresponds to a distance greater than 25 microinches, the guide on the file reel side of the head assembly must be shimmed. The number of shims can be calculated as follows, where N represents the number of shims:

$$N = \frac{\text{(Tape Speed) (Time)}}{15}$$

Number of	Time Displa	Time Displacement for Speed Indicated (µsec)		
Sh i ms	12.5 ips	25 ips	37.5 ips	45 ips
1 2 3 4 5 6 7 8	0.7 - 1.8 1.9 - 3.0 3.1 - 4.2 4.3 - 5.4 5.5 - 6.6 6.7 - 7.8 7.9 - 9.0 9.1 - 10.2	0.4 - 0.9 1.0 - 1.5 1.6 - 2.1 2.2 - 2.7 2.8 - 3.3 3.4 - 3.9 4.0 - 4.5 4.6 - 5.1	1.5 - 1.8 1.9 - 2.2 2.3 - 2.6	0.2 - 0.5 0.6 - 0.9 1.0 - 1.2 1.3 - 1.5 1.6 - 1.8 1.9 - 2.2 2.3 - 2.5 2.6 - 2.8

- 5. If the leading edge of the trace being triggered is seen but not that of the other channel, place the scope trigger probe on the opposite channel and observe the time displacement between pulse leading edges. In this case, the tape guide on the capstan side of the head assembly must be shimmed according to the instructions in step 4.
- 6. After the guide is shimmed, verify that the time displacement between the outside channels corresponds to a distance less than 25 microinches.

17.5 VERIFICATION--STAIRCASE MEASUREMENT

A quick verification of all the foregoing adjustments can be made by checking the width of the data staircase when the transport is running in the forward direction.

1. Scope controls:

- a) Mode--Channel 1, DC.
- b) Sensitivity--0.1 V/cm.
- c) Trigger--External (+) AC, trigger mode.

- 2. Connect scope trigger probe to test point 5 and Channel 1 probe to test point 6.
- 3. While reading continuous ones that have just been recorded, the waveform should resemble that shown in Figure 67. Time T should not exceed:

$$\frac{100}{\text{Tape Speed}}$$
 $\mu \text{sec.}$ (T < 4 μsec at 25 ips)

Time T shall not include the effects of dynamic skew.

4. If this condition is not met, repeat the procedures specified in paragraph 17.4.

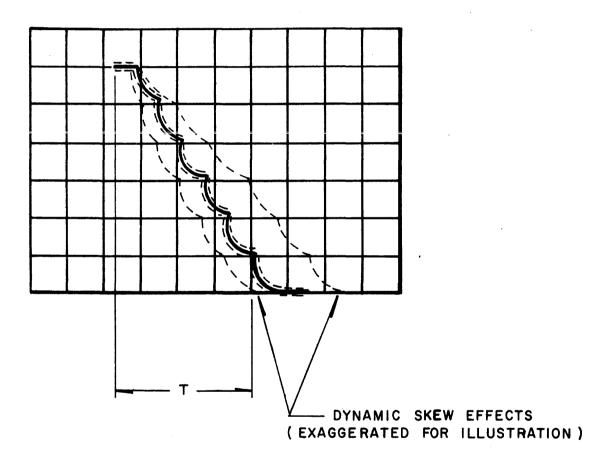


Figure 67. Staircase Waveform, Single Gap Systems

18.0 TROUBLESHOOTING

The following System Troubleshooting Chart provides a means of isolating faults by citing symptoms, providing probable causes and remedies and referencing descriptive sections within the text. This chart in general must be used in conjunction with applicable schematics, assembly drawings and wiring diagrams. Refer to the system photographs in Figure 68 and Figure 69 to help locate the various subassemblies.

Symptom	Probable Cause	Remedy	Reference
Power indicator light does not work when switch is pressed on front panel.	SI power switch in OFF position.	Switch S1 to ON position located by AC cord input.	Section 1, Figure 2
pressed on none paner.	+5 volts missing.	Check +5 volts at TP1 on regulator circuit board which is mounted on the power supply.	Section 6, Paragraph 13
	CB1 Thermo breaker open.	Push in thermo breaker button located by AC cord input.	Section 1, Figure 2
	Power Indicator Lamp burnt out.	Check the two outside terminals for lamp continuity. You can pull the switch out from the front.	Section VI, Paragraph 5
	No AC voltage to transport.	Check outlet with voltmeter for the proper AC voltage.	
When the LOAD button is pressed swing arms	Electro-mechanical retract assembly not working.	S16 micro switch open on cam retract assembly.	B13 & B14
do not move.	+13V unregulated is missing.	Check J19 Pin 2 for +13V.	В3
	P19 connector not seated.	Check connection.	
	Kl relay coil open.	Pull out relay and measure for continuity between pins 1 and 4.	Sec. VI Figure 49

Symptom	Probable Cause	Remedy	Reference
When the LOAD button is pressed the swing arms travel to their upper limits and retract to the	Tape threaded incorrectly.	Check threading diagram.	Sec. II., Fig. 5
	Electro-mechanical retract assembly not working.	S14 micro switch not closing during a load cycle.	B13, B14
load position.	Kl power relay not picking.	Check J19 Pin 2 for +13V.	В3
	+13 volt missing13 volt missing.	Check TP 420. Check TP 421.	Sec. VI Para. 1.1
When the LOAD button is pressed tape tensions and	Tape not threaded correctly.	Check threading diagram.	Sec. II., Fig. 5
moves forward at a fast speed.	Fixed reel amplifier defective.	Remove tape, press load button when swing arms reach their upper limit, turn power OFF & ON. Now the swing arms can be cycled by hand and the voltages can be checked.	Sec. VI. Para. 15.3.
When the LOAD button is	Tape not threaded correctly.	Check threading diagram.	Sec. II., Fig. 5
pressed tape tensions and travels at a fast reverse speed.	File reel amplifier defective.	Remove tape, press load button when swing arms reach their upper limit, turn power OFF & ON. Now the swing arms can be cycled by hand and the plus and minus voltages at TP425 and TP418 can be measured.	Sec. VI. Para. 15.3.

Symptom	Probable Cause	Remedy	Reference
When the LOAD pushbutton is pressed, tape tensions, but tape does not move	No forward motion (forward lamp not lit.)	Check TP402 for +5 volts.	B24 & B25
forward.	Ramp generator circuit not working.	Check TP404 for voltage output.	B24 & B25
· ·	Capstan amplifier not working.	Check TP408 for voltage output.	B24 & B25
When the LOAD pushbutton is pressed, tape tensions	BOT tab dirty or tarnished.	Clean with IBM cleaner.	
and the tape moves for- ward but does not stop at	Photosense lamp burnt out.	Remove head cover and check.	
the BOT marker.	Photosense assembly not adjusted correctly.	With tape loaded and not at BOT . TP 201 should be zero volts.	Sec. VI. Para. 15.1.
Swing arms continually cycle up and down after unloading the tape.	Microswitch on cam re- tract not opening.	Remove overlay and check S15 microswitch by pressing LOAD button and visually watching for make and break action.	B13 & B14
	Defective microswitch.	Test microswitch with power OFF using an ohmmeter.	B13 & B14

Symptom	Probable Cause	Remedy	Reference
Tape does not respond to a forward or reverse command in an ON LINE condition.	No ready status from trans- port.	Check ready status J16 Pin T for zero volts (low TRUE interface.)	B23 & B24
·	Interface cable fault.	Check at controller cable and for Ready Status zero volt level input.	B23 & B24
	No forward input command.	Check forward level J16 Pin C for zero volts input.	B23 & B24
	No select command	Check J16 Pin J for zero volts input. Check H and J jumper for +5 volts.	B23 & B24
Write command given but no data being recorded.	File protect logic not working.	Remove tape. Turn Power OFF. Turn power ON and push in solenoid plunger; it should stay in. Press the LOAD button. The plunger should now come out.	B12 Fig. 23.
	No write power. No write enable command.	Check TP6 for +12V. (Dual Gap) Check TP3 for +5V. (Single Gap) Check TP207 for +5 volts.	B31 & B32 B28 & B29
	Missing write clock.	Check Jl Pin A for negative going clock.	B28 & B29 (S/G) B31 & B32 (D/G)
·	Heads not plugged in correctly.	Check J2 connector	B28 & B29 (S/G) B31 & B32 (S/G)

Symptom	Probable Cause	Remedy	Reference
Written data is not correct.	Failure of one Write circuit.	Write all one's and check TP101 through TP901 for Write signals.	B31 & B32 (D/G) B28 & B29 (S/G)
	Intermittent Write power, motion, or write reset.	Monitor Write TP6, (D/G) or TP3 (S/G) motion TP204, Write reset J1 Pin C. Look for level changes.	B31 & B32 (D/G) B28 & B29(S/G)
Correct written data cannot be read.	One of the read channels is dead.	On dual gap units real all one's and check TP102 through TP902 for proper analog waveforms. Check TP103 through TP903 for proper digital waveforms.	B31 & B32 (D/G)
		On single gap units, read all one's and check TP103 through TP903 for proper analog waveforms. Check TP105 through TP905 for proper digital waveforms.	B28 & B29(S/G)
	Tape tracking is not adjusted correctly.	Check staircase.	Sec. VI. Par. 16.8 (Dual Gap) Sec. VI. Par. 17.5 (Single Gap)

TROUBLESHOOTING CHART

Symptom	Probable Cause	Remedy	Reference
Correct written data cannot be read, cont'd.	Read amplifier gains are incorrectly adjusted.	Check read amplifier gains.	Sec. VI. Par. 16.3 (Dual Gap) Sec. VI. Par. 17.2 (Single Gap)
	Read Strobe Delay adjustment not correct.	Check read strobe delay adjustment.	Sec. VI. Par. 16.5 (Dual Gap) Sec. VI. Par. 17.3 (Single Gap)

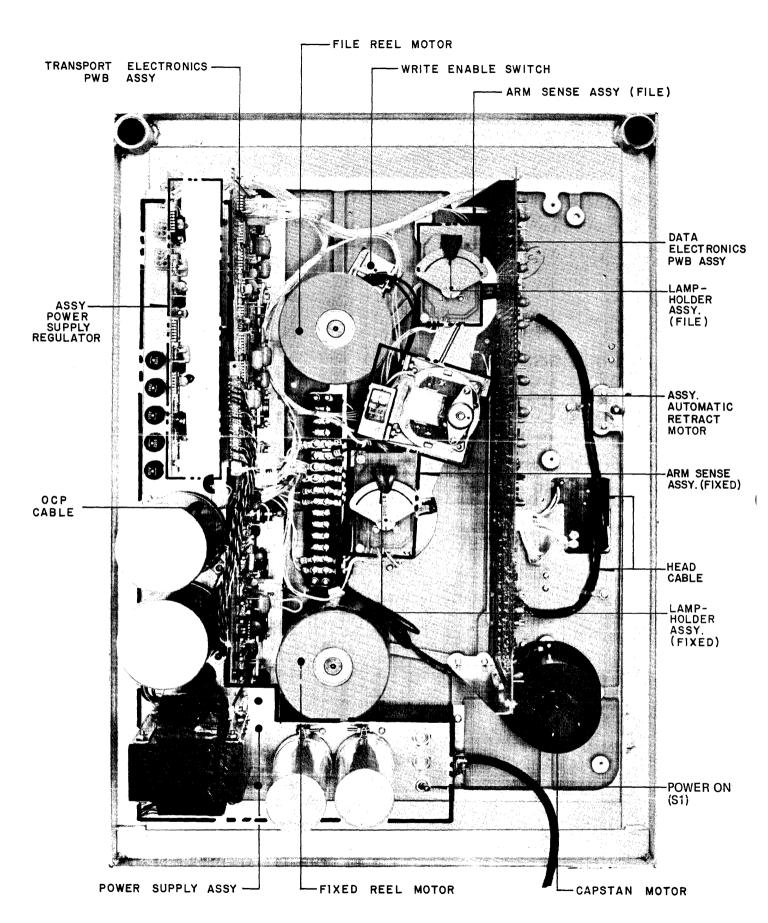


Figure 68. MOD 10 Tape System - Rear View

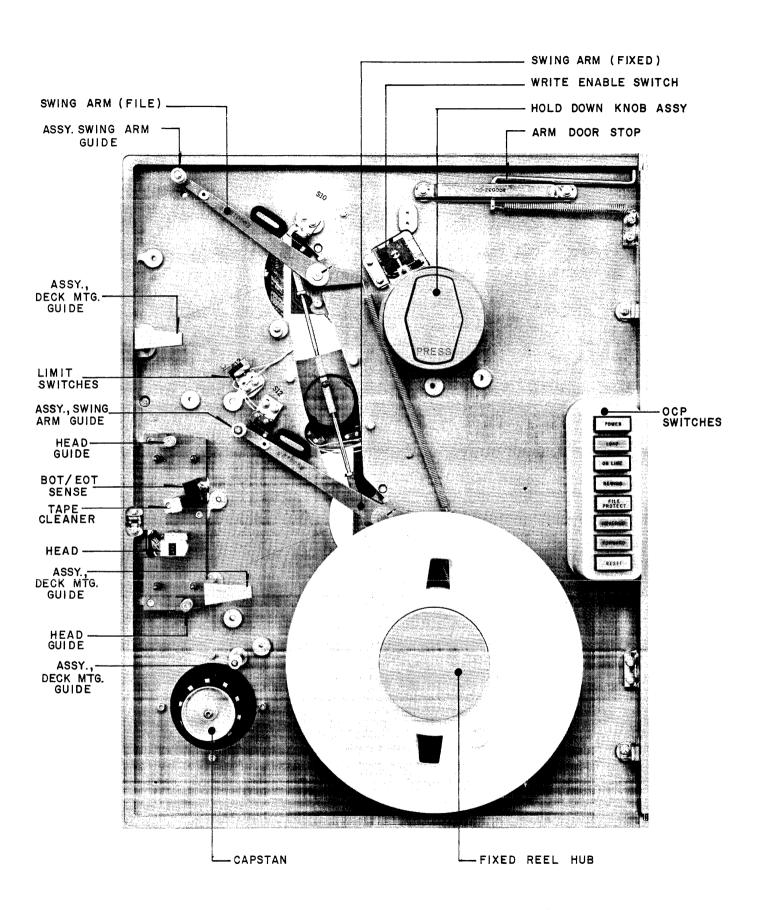


Figure 69. Front View with Overlay Removed

APPENDIX A

RECOMMENDED SPARE PARTS LIST
WANGCO MOD 10 TAPE SYSTEM

For resistors, capacitors, small hardware and other items not included in the following list, any equivalent in type, value, size, tolerance and quality may be substituted.

Description	Wangco Number	Qty	Remarks/ Commercial Equivalent
HEAD ASSEMBLIES AND ASSOCIATED	PARTS		
Head Plate Assy, 9 Ch, D/G	200043	1	
Head Plate Assy, 9 Ch, S/G	200227	1	
Head Plate Assy, 0.300", 7 Ch, D/G	200115	1	
Head Plate Assy, 0.150", 7 Ch, D/G	200589	1	
Head Plate Assy, 7 Ch, S/G	200226	1	
Tape Cleaner Assy	200048	1	
Cross Talk Shield Assy, 0.150", 7 & 9 Ch, D/G	200057	1	
Cross Talk Shield Assy, 0.300", 7 Ch. D/G	200461	1	
Photosense Assy	200057	1	
Head Cover	200277	1 '	
Photosense Cover	200278	1	
Tape Guide Washer	200046	1	
Tape Guide Spring	200047	1	
Tape Guide Drum	200096	1	
Tape Guide Shim	200203	as req.	
Spring Washer	100134-001	1	
Tape Guide Cap	201311	1	
Flat-Head Screw, 4-40 x 1 1/4"	100040-220	1	
MOTORS AND BRUSHES			
Reel Motor Assy	200063	1	
Reel Motor and Brake Assy	201021	1 Reel	l Brake Option

WANGEO FIOL	TO TAPE DIDI.	Remarks/
	Wangco	Commercial
Description	Number	Qty Equivalent
MOTORS AND BRUSHES (continued	<u>1)</u>	
Reel Motor Brake	100249	1 Reel Brake Option
Reel Motor Brush	100190	1 Use with motors 200220, 200374-002
Reel Motor Brush	100379	1 Use with motor 200374-001
Reel Motor Brush	100397	1 Use with motor 201598
Auto Retract Motor Assy	200119	1
Auto Retract Motor Assy	200500	1 Reel Brake Option
Capstan Motor/Tach Assy	200547	1 Use with motors 200042, 201534
Capstan Motor Brush	100186	1 Use with motor 200042
Capstan Motor Brush	100430	1 Use with motor 201534
PRINTED WIRING BOARD ASSEMBLE	ES	
Transport Electronics Assy, PWB	200488	l Single Edge Connectors
Transport Electronics Assy, PWB	200632	1 Dual Edge Connectors
Data Electronics Assy, PWB, S/G	200347	1
Data Electronics Assy, PWB, D/G	200521	1
Data Electronics Assy, PWB	201142	1 Dual Edge Connectors
Regulator Assy	200495	1
Brake Logic Assy, PWB	200518	1 Reel Brake Option
Arm Sense Assy, PWB	200475	1

WANGCO M	OD 10 TAPE S	
Description	Wangco Number	Remarks/ Commercial Qty Equivalent
TAPE GUIDE ASSEMBLIES		
Deck Mounting Guide Assy	200036	1 25 ips and below
Deck Mounting Guide Assy	200075	1 37½ ips and above
Deck Mounting Guide Assy	200217	1
Self Aligning Guide Assy	200425 1	- 3
Eccentric Guide Assy	200810	1
MISCELLANEOUS ELECTRO-MECHA	NICAL PARTS	
Arm Sense Lampholder Assy	200794	1
Write Enable Switch Assy	200378	1
Power Transformer	200011	1 25 ips, 115/240V
Power Transformer	200487	1 37½ ips & above, 115/240V
Power Transformer	201067	1 25 ips, 100/200V
Power Transformer	200116	1 37½ ips & above, 100/200V
Circuit Breaker	100014	1
Rectifier Bridge	100018	1 Sangamo 500-1943-01
Capacitor, 100,000uf	100020-008	1 Sangamo 500-1949-01
Capacitor, 30,000uf	100020-014	l Littlefuse, 311004
Fuse, 4 amp	100028-023	l Littlefuse, 311005
Fuse, 5 amp	100028-024	1 Littlefuse, 311010
Fuse, 10 amp	100028-027	1
Power Supply Relay	100030	1
Arm Retract Relay	100215	l Two required with Reel Brake Option

	Wangco		Remarks/ Commercial
Description	Number	Qty	Equivalent
MISCELLANEOUS ELECTRO-MECHA	ANICAL PARTS	(co	ntinued)
Switch & Indicator, FORWARD	100104-001	1	Control Panel
Switch & Indicator, LOAD	100104-002	1	Control Panel
Switch & Indicator, ON-LINE	100104-003	1	Control Panel
Switch & Indicator, REVERSE	100104-004	1	Control Panel
Switch & Indicator, POWER	100179-001	1	Control Panel
Switch & Indicator, DENSITY	100179-005	1	Contrl Pnl, Density Select Option
Switch & Indicator, REWIND	100130-001	1.	Control Panel
Switch, RESET	100130-002	1.	Control Panel
Thumb Switch, UNIT SELECT	100245	1	Control Panel, Unit Select
ELECTRONIC COMPONENTS USED	ON 200347 P	WB	
I.C. Hex. Inverter	100084	1	Motorola MC-836P
I.C. Quad, 2-Input NAND	100085	1	TI SN 15846N
I.C. Quad, 2-Input Power	100086	1	TI SN 15858N
I.C. 10-Input NAND	100087	1	Motorola MC-1804P
I.C. Dual Flip-Flop	100088	1	TI SN158093N
I.C. Monostable	100090	1	Fairchild U6A960159X
I.C. Dual Flip-Flop	100095	1	Motorola MC-852P
I.C. Operational Amplifier	100167	1	Motorola MC-1437L
Transistor, NPN	100080	5	2N4123
Transistor, PNP	100081	3	2N4125
Signal Diode	100091	12	ln914

WANGCO MOD	TO TAPE	SIST	
Description	Wangco Number	Qty	Remarks/ Commercial Equivalent
ELECTRONIC COMPONENTS USED ON	200488 PI	<u>wb</u>	
I. C. Hex Inverter	100084	1	Motorola MC-836P
I. C. Quad 2-Input NAND	100085	1	TI SN 15846N
I. C. Quad 2-Input Power	100086	1	TI SN 15858N
I. C. Dual Flip-Flop	100088	1	TI SN 158093N
I. C. Triple 3-Input NAND	100107	1	Motorola MC-862P
I. C. Operational Amp	100109	1	Fairchild U6A77241393
Transistor, NPN	100080	3	2N4123
Transistor, PNP	100081	2	2N4125
Transistor, NPN	100112	1	TI-P29
Transistor, PNP	100113	1	TI-P30
Transistor, NPN	100125	1	2N2219
Transistor, PNP	100158	1	2N3053
Transistor, PNP	100160	1	2N4037
Transistor, NPN	100173	1	2N3771
Signal Diode	100091	5	lN914
Zener Diode, 5.6V	100118	1	1N752
Power Diode	100174	1	1N3208
Rectifier Diode	100127	1	ln4003
ELECTRONIC COMPONENTS USED ON	200495 P	<u>WB</u>	
I. C. Voltage Regulator	100108	1	Fairchild U6A7723393
Transistor, PNP	100081	1	2N4125
Transistor, PNP	100113	1	TI-P30

Description	Wangco Number (Remarks/ Commercial Qty Equivalent
ELECTRONIC COMPONENTS USED ON	200495 PWI	B (continued)
Transistor, NPN	100159	1 2N3055 ·
Signal Diode	100091	1 1n914
Zener Diode	100118	1 1N752
Rectified Diode	100127	1 1N4003
Zener Diode	100161	1 1N4736A
Silicon C Rectifier	100162	1 40654
ELECTRONIC COMPONENTS USED ON	200518 PWI	<u>B</u>
Transistor, NPN	100080	1 2N4123
Transistor, PNP	100083	1 MPS-U51
Transistor, PNP	100125	1 2N2219
Signal Diode	100091	2 1N914
ELECTRONIC COMPONENTS USED ON	200521 PWE	<u>B</u>
I. C. Hex Inverter	100084	1 Motorola MC-836P
I. C. Quad 2-Input NAND	100085	1 TI SN 15846N
I. C. Quad 2-Input Power	100086	1 TI SN 15858N
I. C. 10-Input NAND	100087	1 Motorola MC-1804P
I. C. Dual Flip-Flop	100088	1 TI SN 158093N
I. C. Operation Amplifier	100089	l Fairchild U6A7739393
I. C. Mono Multivibrator	100090	1 Fairchild U6A960159X
Transistor NPN	100080	7 2N4123
Transistor PNP	100081	2 2N4125
Transistor Dual NPN	100082	1 TD 101

WANGCO MOD	IU TAPI	F 91911	
Description	Wangco Number	Qty	Remarks/ Commercial Equivalent
ELECTRONIC COMPONENTS USED ON	200521	PWB (continued)
Transistor PNP	100083	1	MPS-U51
Signal Diode	100091	5	lN914
ELECTRONIC COMPONENTS USED ON	200632	PWB	
I. C. Hex Inverter	100084	1	Motorola MC-836P
I. C. Quad 2-Input NAND	100085	1	TI SN 15846N
I. C. Quad 2-Input Power	100086	1	TI SN 15858N
I. C. Dual Flip-Flop	100088	1	TI SN 158093N
I. C. Triple 3-Input NAND	100107	1	Motorola MC-862P
I. C. Operational Amplifier	100109	1	Fairchild U6A7741393
I. C. Dual 4-Input Power Gate	100261	. 1	
Transistor NPN	100080	4	2N4123
Transistor PNP	100081	2	2N4125
Transistor NPN	100112	1	TI-P29
Transistor PNP	100113	1	TI-P30
Transistor NPN	100125	1	2N2219
Transistor NPN	100158	1	2N3053
Transistor PNP	100160	1	2N4037
Transistor NPN	100173	1	2N3771
Transistor PNP	100083	1	MPS-U51
Zener Diode, 5.6V	100118	1	ln752
Rectifier Diode	100127	1	ln4003
Power Diode	100174	1	1N3208

				Managa			Remarks/
	Description			Wangco Number	Qt [.]	У	Commercial Equivalent
	ELECTRONIC COMPONENTS	USED	ON	200632	PWB	(continue	d)
Signa	al Diode			100091	5	ln914	
	ELECTRONIC COMPONENTS	USED	ON	201142	PWB		
I.C.	Hex Inverter			100084	1		
I.C.	Quad 2-Input NAND			100085	1	,	
I.C.	Quad 2-Input Power			100086	1		
I.C.	10-Input NAND			100087	1		
I.C.	Dual Flip-Flop			100088	1		
I.C.	Operational Amplifier			100089	1		
I.C.	Monostable			100090	1		
Trans	sistor, NPN		•	100080	. 7	2N4123	
Trans	sistor PNP			100081	1	2N4125	
Trans	sistor Dual NPN			100082	1	TD-101	
Trans	sistor PNP			100083	1	MPS-U51	
Sign	al Diode			100091	4	1N914	
Rect	ifier Diode			100127	1	1N4003	

APPENDIX B

This appendix contains the circuit schematics, assembly drawings, and material lists for all assemblies and sub-assemblies in the MOD 10 Tape Transport. These documents are identified in the list on the following page.

The circuit schematics are complete representations of the electronics circuitry. The user of this manual will want to consult the schematics in conjunction with his study of the text and the simplified circuit diagrams in the text sections.

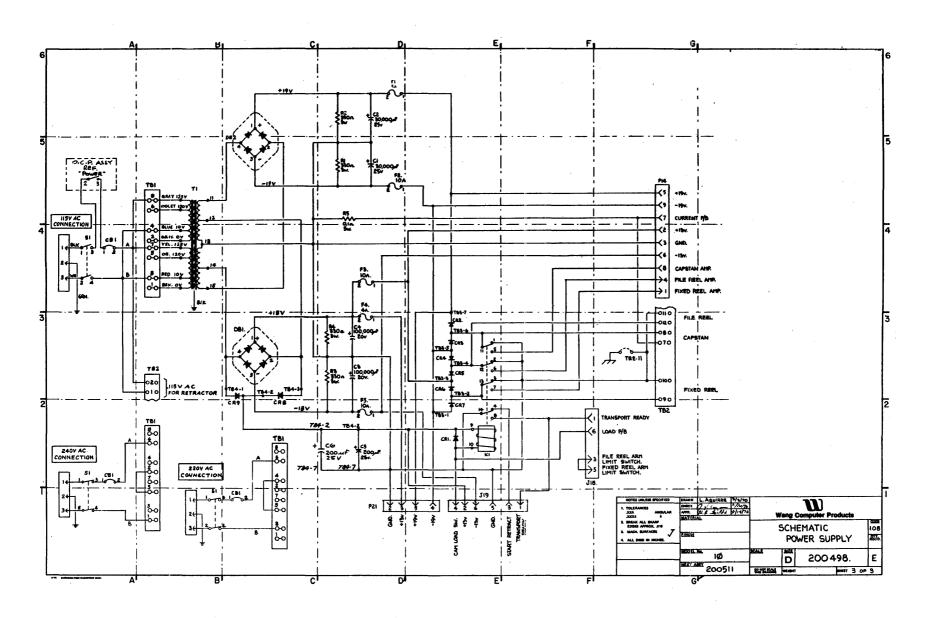
The assembly drawings identify every part on any given assembly or subassembly. Parts are identified either by item number (e.g., 1, 2, 3, etc.) or circuit reference number (e.g., Rl, Cl, Ul, etc.). The associated material lists incorporate these identification numbers, together with the part description, WANGCO part number, and part quantity (i.e., the quantity of a particular part required for the given assembly).

APPENDIX B

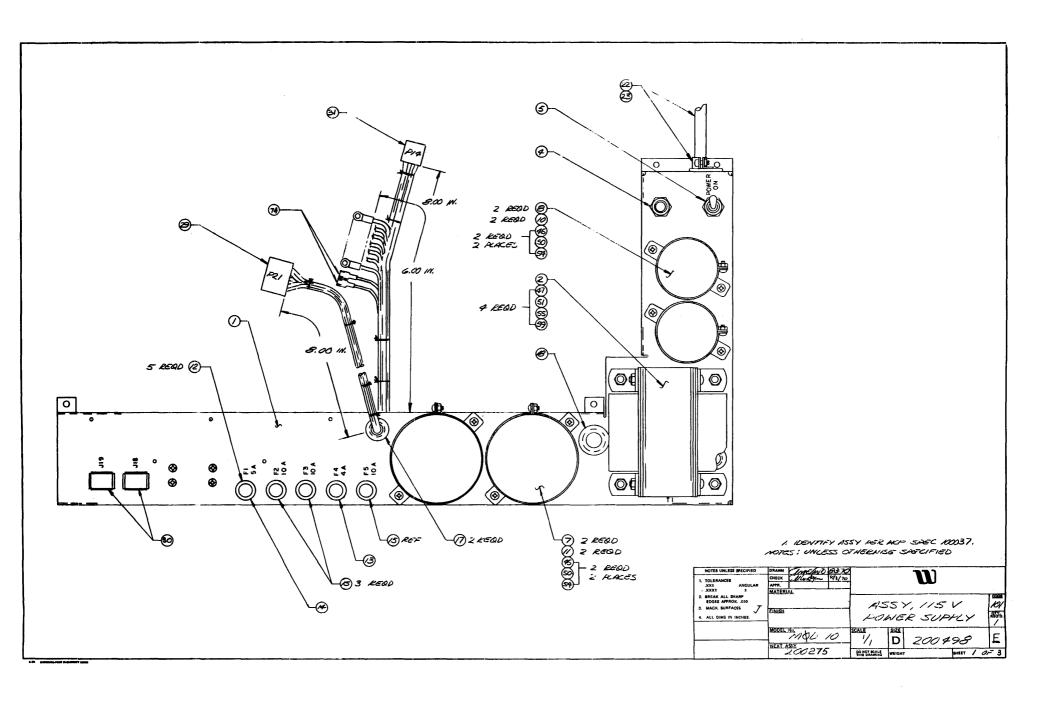
List of Drawings

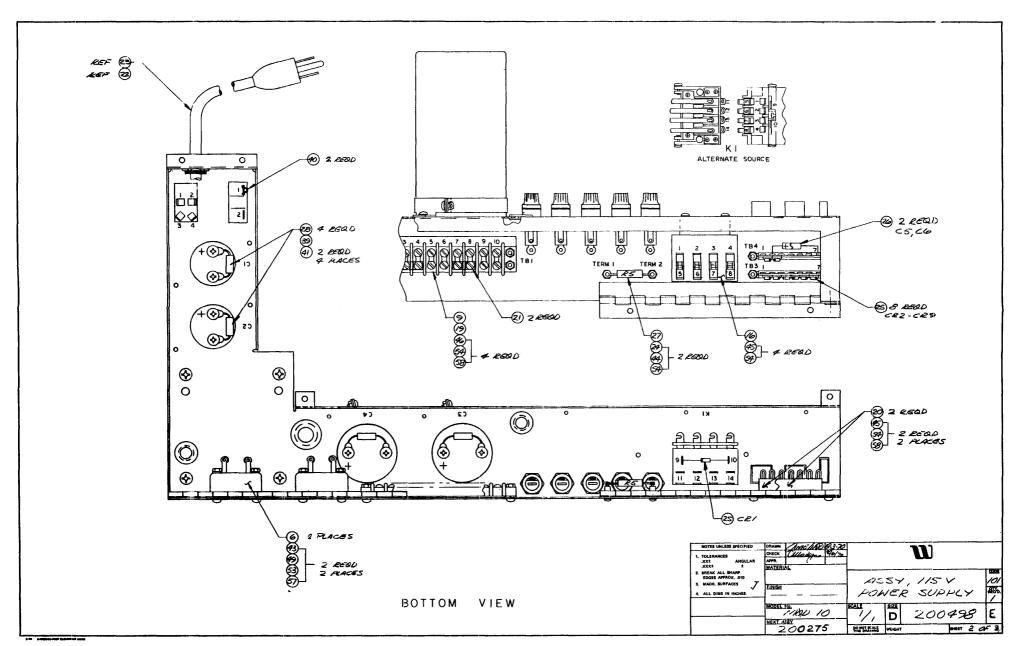
		Drawing	
		No.	Sheet
B-1.	Material List, Power Supply	200511G	1 & 2
B-2.	Schematic, Power Supply	200498E	
B-3.	Assembly, Power Supply	200498E	
B-4.	Material List, Power Supply Regulators		
B-5.	Schematic, Power Supply Regulators	200495F	
B-6.	Assembly, Power Supply Regulators	200495F	
B-7.	Deleted		
B-8.	Assembly, Regulator Output Cable	200858B	
B-9.	Assembly, Cable OCP	200505E	
B-10.	Assembly, Photosense	200164D	
B-10a.		200057A	
B-11.	Assembly, Arm Sense	2004 7 5E	
B-12.	Assembly, Write/Enable Switch	200378J	
B-13.	Schematic, Retract Motor	200119M	3 of 3
B-14.	Assembly, Retract Motor	200119M	1 & 2
B-15.	Material List, Retract Motor,		
	Brake Option	200500G	1 & 2
B-16.	Schematic, Retract Motor, Brake Option	200500F	4 of 4
B-17.	Assembly, Retract Motor, Brake Option	200500F	3 of 4
B-18.	Schematic, Brake Logic	200518B	3 of 3
B-19.	Assembly, Brake Logic	200518B	2 of 3
B-20.	Assembly, Data Control Cable	200504C	1 & 2
B-21.	Assembly, Micro Switch Harness	200550C	1 & 2
B-22.	Material List, Transport Electronics	200488T	
B-23.	Schematic, Transport Control Logic	200488T	
B-24.	Schematic, Servo Amplifiers	200488T	
B-25.	Assembly, Transport Electronics	200488T	
B-26.	Deleted		
B-27.	Material List, Transport Electronics	20063211	16 thru 42
B-28.	Schematic, Transport Control Logic	200632U	
B-29.	Schematic, Servo Amplifiers	200632U	
B-30.	Assembly, Transport Electronics	200632U	
B-31.	Material List, Data Electronics,	2000320	19 01 19
D 31.	Single Gap,	200347J	1 thru 8
B-32.	Schematic, Data Electronics, Single Gap		
B-33.	Assembly, Data Electronics, Single Gap		
B-34.	Material List, Data Electronics,	2003170	J 01 10
<i>D</i> 31•	Dual Gap	200521M	l thru 19
B-35.	Schematic, Data Electronics, Dual Gap	200521M	20 of 21
B-36.	Assembly, Data Electronics, Dual Gap	200521M	21 of 21
B-37.	Material List, Data Electronics,	2011425	1 th 25
D 20	Dual Gap	201142D	1 thru 35
B-38.	Schematic, Data Electronics, Dual Gap	201142D	
B-39.	Assembly, Data Electronics, Dual Gap	201142D	
B-40.	Wiring Diagram - Single Gap	200851A	
B-41.	Wiring Diagram - Dual Gap	200549C	1 of 1

1	Wang Computer Products	AL LIST	=	ML 200511 G	7	Wang Geoplete Products	AL LIST		ML 200511 G
DRAWIN TITLI	ASSI. 115v. 60Hs. POWER SUPPLY, 25 ips.	_ MODEL NO	10	DATE 8/4/70 SHEET 1 OF 3	DRAWIN	ASSY, 115v. 60Hz.	_ MODEL NO	1¢	DATE 8/4/70 SHEET 2 OF 3
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO, REQ.	REMARKS ON CKT. DESIG.
1	Chassis, Fower Supply.	200509	1		43	Screw, Pan Head.	100036-214	Į.	4 - 40 x 7/8*
2	Spec. Power Transformer.	200011	1	n.	1414	Screw, Pan Head.	100036-303	2	6 - 32 x 3/16*
3					45	Screw, Pan Head.	100036-304	16	6 - 32 x ¹ / ₄ n
4	Breaker, Circuit.	100017	1	CB-1	46	Screw, Pan Head.	100036-310	4	6 - 32 x 5/8*
5	Switch, Toggle. DPST.	100015	1	31.	47	Screw, Pan Head.	100036-508	12	10 - 32 x ½"
6	Bridge, Rectifier.	100018	2	DB-1. DB-2.	48				
7	Capacitor, Elect. 100,000uf.	100020008	2	C3.C4. Remove Terminal Screws	49	Washer, Flat.	100047-200	4	No.4.
8	Capacitor, Elect. 30,000uf.	100020-014	2	C1.C2.) and raplace with	50	Washer, Flat.	100047-300	8	No.6.
9	Block, Terminal.	100023-010	1	TB.1.	51	Washer, Flat.	100047-500	4	No.10.
10	Clamp, Capacitor. 2" Dia.	100025-003	2	Use with item 8.	52	TO THE PERSON OF			
11	Clamp, Capacitor. 3" Dia.	100025-007	2	Use with item 7.	5 3	Washer, Int. Tooth Lock.	100059-200	4	No.4.
12	Holder, Fuse.	100027	5		54	Washer, Lat. Tooth Lock.	100059-300	22	No.6.
13	Fuse. 4 amp.	100028-023	1	Fl.	55	Washer, Int. Tooth Lock.	100059-500	4	No.10.
14	Fuse. 5 amp.	100028-024	1	Fl.	56	The second of the second secon			
15	Fuse. 10 amp.	100028-027	3	F2.F3.F5.	5 7	Nut, Hex.	100043-200	4	No.4.
16	Relay.	100030	1	Kl.	58	Nut, Hex.	100043-300	8	No.6.
17	Grommet.	100227-005	2		59	Nut, Hex.	100043-500	4	No.10.
18	Grommet.	100227-009	1		60	TEST Procedure	201709-002	Ref.	
19	Strip, Marker.	100048-010	1		61	Assy. Power Supply.	200498	Ref.	Drawing only.
20	Strip, Terminal.	100149-007	2	TB.3. TB.4.	62				
21	Jumper, 2 Terminal.	100150	2		63	List, Wire.	200514	Ref.	
22	Clamp, Cable.	100152-001	1	Power Cord.	64	TEST Procedure	200311	Ref.	
23	Cord, Power.	100076	1		65	Pin, Connector. Male.	100021-003	4	
2)4	Terminal, Ins. Stand-off.	100178-001	2		66		,		
25	Diode, Rectifier.	100127	9	Ch.1. thru CR.9.	67	Pin, " Female.	100021-005	7	
26	Capacitor. 200uf.	100183	2	C5.C6.	68	Pin, " Female.	100021-006	11	
27	Resistor. 5%. 5w. 0.10	100111-001	1	R5.	69	Pin, " Male.	100021-007	2	
28	Resistor. " 3w. 3300	100068-331	1	Rl. thru R4.	70	Pin, " Male.	100021-010	3	
29	Connector, Female.	100010-005	1	P21.	71	Wire, Insulated.	100053-018	A/R	
30	Connector, Female.	100010-007	2	J18. J19.	72	Strap, Cable	100171-001	2	
31	Connector, Female.	100010-009	1	Pil.	73	Strap, Cable	100171-002	6	
32	,	 	├ -		74	Terminal, Quick Disconnect	100171-002	2	
33	Wire, Insulated.	100053-012	A/R		75	Insulator	100139-002	2	USE WITH ITEM 74
34	Wire, Insulated.	100053-014	A/R		/5	S. COLOTO	100232 001		100 11111 11111 111
35	Wire, Insulated.	100053-016	A/R					 	
36	Wire, Insulated.	100053-024	A/R			constitution of the consti		 	
37	Terminal, Ins. Ring Tongue.	100055-004	16	Yel. No.10.			 	 	
38	Terminal, " " "	100057-004	21	Red. No.6.				 	
	Terminal, " " "	100057-008	3	Red.No.1.0.		The same of the sa		 	
39		100139-001	2				<u> </u>	 	
40	Terminal, Quick Disconnect.		8						
41	Lug, Solder.	100138-004	 "	Yel. No.6.	├			 	
112	Terminal, Ins. Ring Tongue.	100055-002	LL	161° MO"O"	j	i	1	1	l



B-2. Schematic, Power Supply





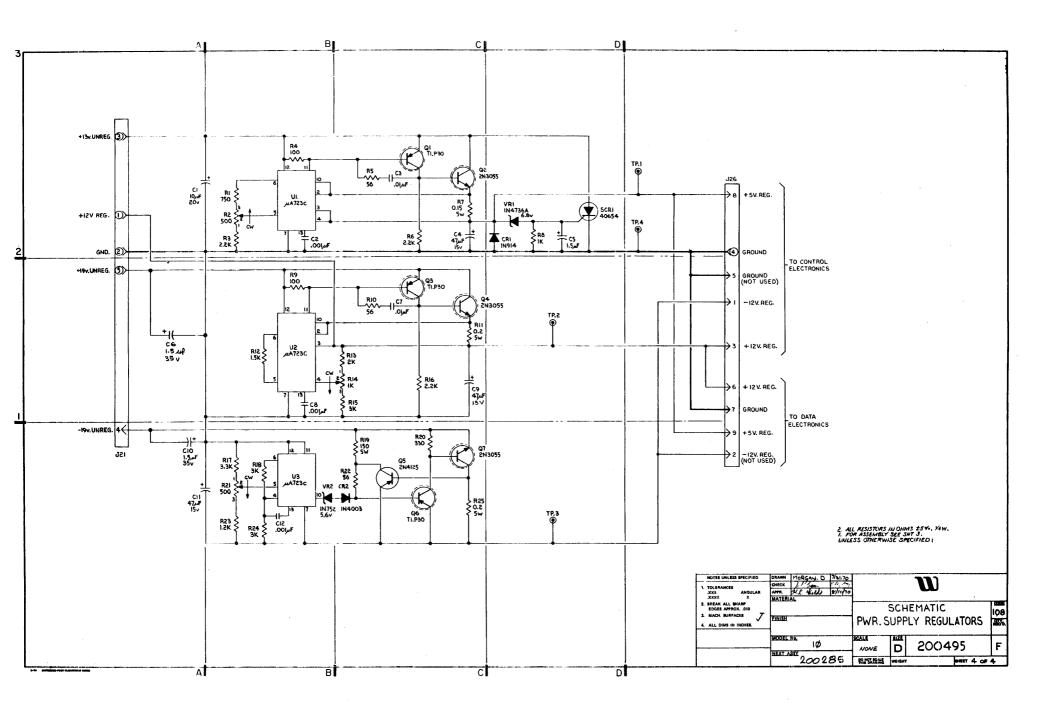
J.	1]	MATERI	AL LIST		IN //	REV.	1	1 3
DRAWI	ASSY. POWER SUPPLE REGULATORS.	[_ MODEL NO	1ø	DATE 7/21/70 SHEET 1 OF 1	-	DRAW!	ASSY. POWER SUPPLEMENTAL REGULATORS.
ITEM NO.	DRAWING TITL	E	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.		NO.	DRAWING TI
1	Board, Processed.		200497	1			33	Resistor. 5%. 1w.
2	Heatsink.		200510	1			34	Resistor. " "
3	Bracket, Support.		200515	2			35	Resistor. " "
4	I.C. Voltage Regulat	or.	100108	3	U1.2.3.		36	Resistor. " "
5							37	Resistor. " "
6	Transistor. PNP.	2NL125	100081	1	œ.		38	Resistor. " "
7	Transistor. PNP.	TI.P30	100113	3	Q1.3.6.		39	
8	Transistor. NPN.	2N3055	100159	3	Q2.4.7.	71	40	
9						\neg	41	_
10							L2	
11	Diode, Zener.	1N752	100118	1	VR2.		43	
12	Diode, Rectifier.	1N4003	100127	2	CR2, CRI		44	
13	Diode, Zener.	1N4736A	100161	1	VR1.	7	45	Pin, Male.
14	Rectifier, Silicon C	. 40654	100162	1	SCR1.		46	Pin, Female.
15							- 47	Pin, Test.
16	Capacitor, Ceramic.	.00luf	100073-102	1	C12		48	Pad, Transistor.
17	Capacitor, Polyfilm.	.Oluf	100078-103	1	C8		49	Insulator, Transist
18	Capacitor, Tantalum	1.5uf	100136-155	3	C5.6.10.		50	Insulator, Transist
19	Capacitor, "	10uf	100070-106	1	cı.		51	
20	Capacitor, "	47uf	100070-476	3	Ch.9.11.		52	washer, Flat
21	Capacitor, Polyfil	n .022µf	100078-223	1	C2		53	Screw, Pan Head.
22	Resistor, Variable.	500	100163-501	2	R2.21.		54	Screw, Pan Head.
23	Resistor, "	1.K	100163-102	1	RLL.		55	Spring Lock Wash
24	RESISTOR 5%,5W.	.4	100111-004	1	R25		56	Washer, Flat.
25	Resistor. 5%. 5w.	•15	100111-002	1	R7.		57	Washer, Nylon Shoul
26	Resistor. " "	.2	100111-003	1	Rll.		58	Nut, Hex.
27	Resistor. " w.	56	100156-560	1	R22		59	Nut, Hex.
28	Resistor. " "	100	100156-101	4	R4.9.5,10.		60	Washer, Int. Tooth
29	Resistor. * 5w.	150	100111-151	1	R19.	\neg	61	Artwork, Master.
30	Resistor. " 3w.	330	100156-331	1	R20.		62	Test Procedure.
31	Resistor. " "	750	100156-751	1	Rì.			
32	Resistor. * *	λĸ	100156-102	1	R8.	71		

1	MATERI	AL LIST		М	DRAWING NO.	REV.
1	JU. SON DOLEN SUMMER			IAIL	200495	4
DRAWI TITL	ASSY. POWER SUPPLY RESULATORS.	MODEL NO	1ø	DATE 7/2	4/70 SHEET 2 OF.	4
NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMA	RKS ON CKT. DESIG.	
33	Resistor. 5%. dw. 1.2K	100156-122	1	R23.		
34	Resistor. " " 1.5K	100156152	1	R12.		
35	Resistor. W W 2K	100156202	1	R13.		
36	Resistor. " " 2.2K	100156-222	3	R3.6.16.		
37	Resistor. " " 3K	100156302	3	R15.18.24	•	
38	Resistor. * * 3.3K	100156332	1	R17.		
39		,				
40						
l:1						
L2						
43						
44						-
45	Pin, Male.	100021-00%	9	J21 & J26.		
46	Pin, Female.	100021-00	5	J21 & J26.		
- 47	Pin, Test.	100098	<u>l</u> ı	TP1 thru T	Դ կ .	
48	Pad, Transistor.	100223	1	Use with 1	Item.ll.	
49	Insulator, Transistor.	190146	3	Use with]	Item.7	
50	Insulator, Transistor.	100151	3	Use with 1	Item.8.	
51						
52	washer, Flat	100251-200	9	No. 4.		
53	Screw, Pan Head.	100036-30\$	2	6 - 32 x 3	3/8#	
54	Screw, Pan Head.	100036-219	9	4 - 40 x 5	5/8¤	
55	Spring Lock Washer	100042-200	9	No.4.		
56	Washer, Flat.	100047-20 b	9	No.4.		
57	Washer, Nylon Shoulder.	100063-012	9			
58	Nut, Hex.	100043-200	9	40- 40.		
59	Nut, Hex.	100043-30\$	2	6 - 32.		
60	Washer, Int. Tooth Lock.	100059-300	2	No.6.		
61	Artwork, Master.	200496	REF			
62	Test Procedure.	200180	Ref.			

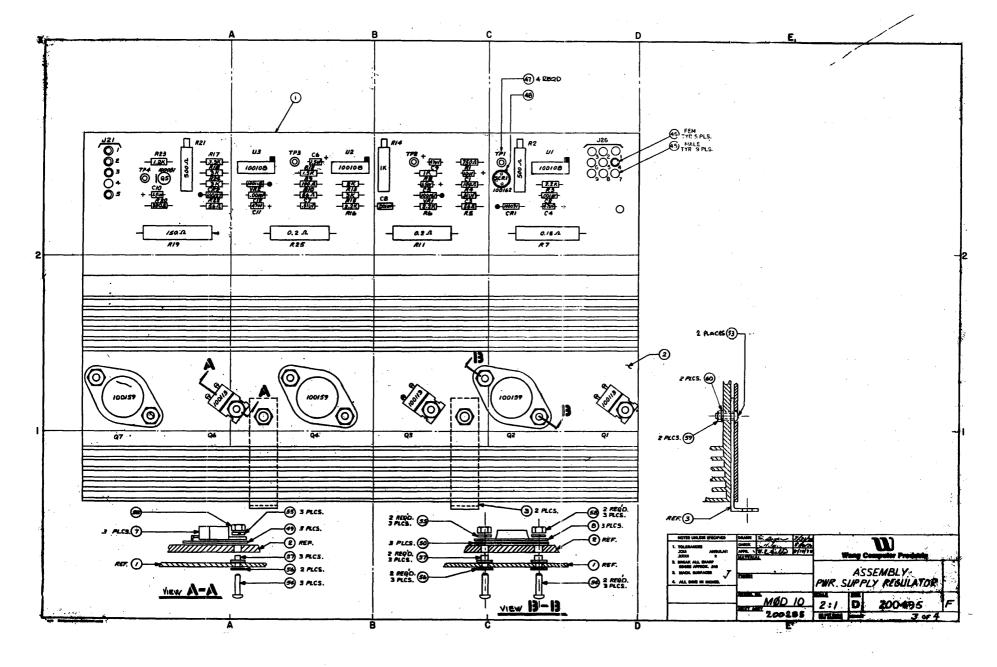
B-4. Material List, Power Supply Regulators

7	MATE	RIAL	LIST		МІ	DRAWING NO.	REV.
	ASSY. POWER SUPPLY					200475	H
DRAWI	REGULATORS.	мо	DEL NO	1ø	DATE 1/2	CL/70 SHEET 1 OF.	4_
ITEM NO.	DRAWING TITLE	DV	G. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG.	
1	Board, Processed.	200	497	1			
2	Heatsink.	200	510	1			
3	Bracket, Support.	200	515	2			
4	I.C. Voltage Regulator.	100	108	3	U1.2.3.		
5	·						
6	Transistor. PNP. 2N412	5 100	081	1	છ.		
7	Transistor. PNP. TI.P	30 100	113	3	Q1.3.6.		
8	Transistor. NPN. 2N30	5 100	159	3	Q2.4.7.		
9							
10							
11	Diode, Zener. 1N7	2 100	118	1	VR2.		
12	Diode, Rectifier. 1N400	3 100	127	a	CR2, CR1		
13	Diode, Zener. 1N4730	A 100	161	1	VR1.		
14	Rectifier, Silicon C. 4069	14 100	162	1	SCR1.		
15							
16	Capacitor, Ceramic00	uf 1000	73-102	1	C12		
17	Capacitor, Polyfilm03	uf 1000	78-103	1	C8		
18	Capacitor, Tantalum 1.	iuf 1001	36-155	3	C5.6.10.		
19	Capacitor, " 10	Auf 1000	70-106	1	C1.		
20	Capacitor, " 4	uf 1000	70-476	3	C4.9.11.		
21	Capacitor, Polyfilm , 02	5 h £ I 000.	78-223	1	C2		
22	Resistor, Variable. 500		63-501	2	R2.21.		
23	Resistor, " 1	1001	63-102	1	R14.		
24	RESISTOR 5%,5W.	1 1001	11-004	1	R25		
25	Resistor. 5%. 5w1	1001	11-002	1	R7.		
26	Resistor. " " .:	1001	11-003	1	Rll.		
27	Resistor. " w. 50	1001	56-560	1	R22		
28	Resistor. # " 100	1001	56-101	4	R4.9.5,1	10.	
29	Resistor. " 5w. 150	1001	11-151	1	R19.		
30	Resistor. * w. 33	1001	56-331	1	R20.		
31	Resistor. # # 750	1001	56-751	1	Rl.		
32	Resistor. " " li	1001	56-102	1	R8.		

7	MATERI	AL LIST		IMI	DRAWING NO.	REV
1				IAIL	200495	14
DRAN	ASSY, POWER SUPPLY REGULATORS.	_ MODEL NO	1ø	DATE 7_	24/70 SHEET 2 OF	4
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG.	
33	Resistor. 5%. 1w. 1.2K	100156-122	1	R23.		
34	Resistor. " 1.5K	100156-152	1	R12.		*******
35	Resistor. # # 2K	100156202	1	R13.		
36	Resistor. # # 2.2K	100156-222	3	R3.6.16.		
37	Resistor, " " 3K	100156302	3	R15.18.2	4.	
38	Resistor. " " 3.3K	100156332	1	R17.		
39						-
40						
41						-
L2						-
43						
44						*********
45	Pin, Male.	10002100%	9	J21 & J2	6.	
46	Pin, Female.	100021008	5	J21 & J20	5.	
- 47	Pin, Test.	100098	4	TP1 thru	TP4.	
48	Pad, Transistor.	100553	1	Use with	Item.14.	-
49	Insulator, Transistor.	100146	3	Use with		Marian Temperature
50	Insulator, Transistor.	100151	3	Use with	Item.8.	-
51					_	
52	washer, Flat	100251-200	9	No. 4.		
53	Screw, Pan Head.	100036-308	2	6 - 32 x	3/8"	
54	Screw, Pan Head.	100036210	9	ц - 40 x	5/8"	
55	Spring Lock Washer	100042-200	9	No.4.		
56	Washer, Flat.	100047-205	9	No.4.		
57	Washer, Mylon Shoulder.	100063-012	9			
58	Nut, Hex.	100043200	9	րութ0.		-
59	Nut, Hex.	100043-30\$	2	6 - 32.		
60	Washer, Int. Tooth Lock.	100059-300	2	No.6.		
61	Artwork, Master.	200496	REF			
62	Test Procedure.	200180	Ref.			
			<i>.</i>			
				,		

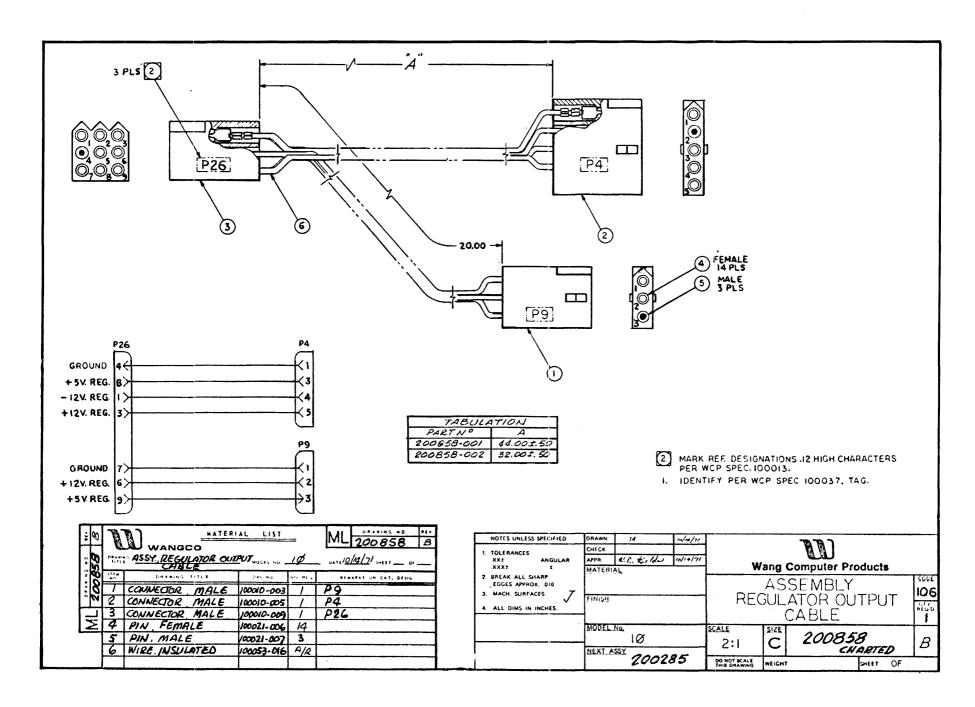


B-5 Schematic, Power Supply Regulators

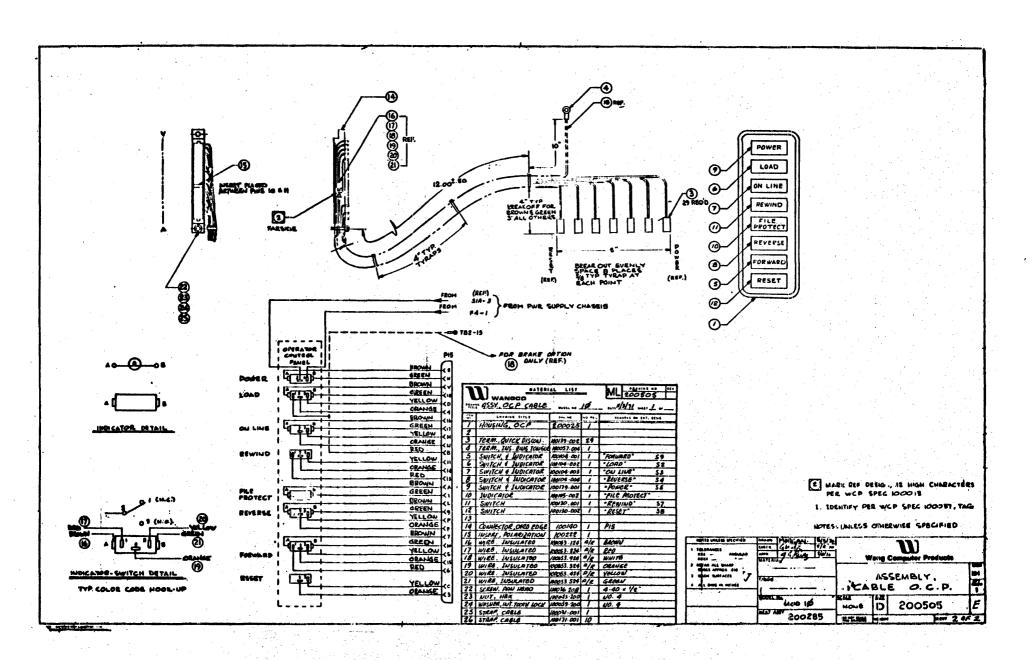


B-6 Assembly, Power Supply Regulators

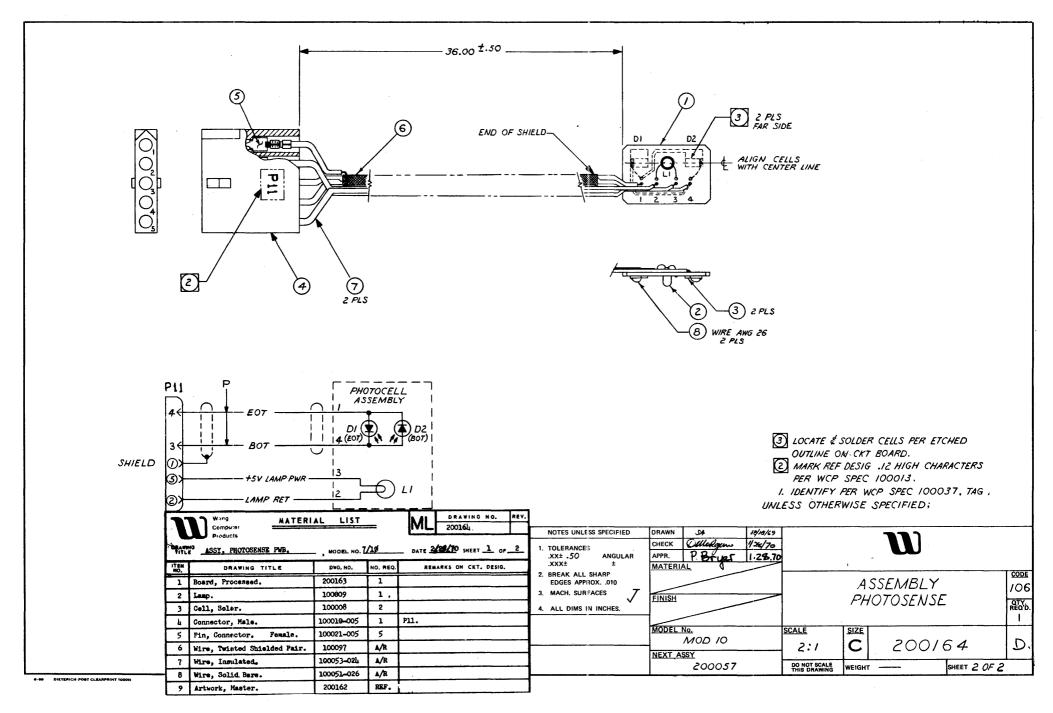




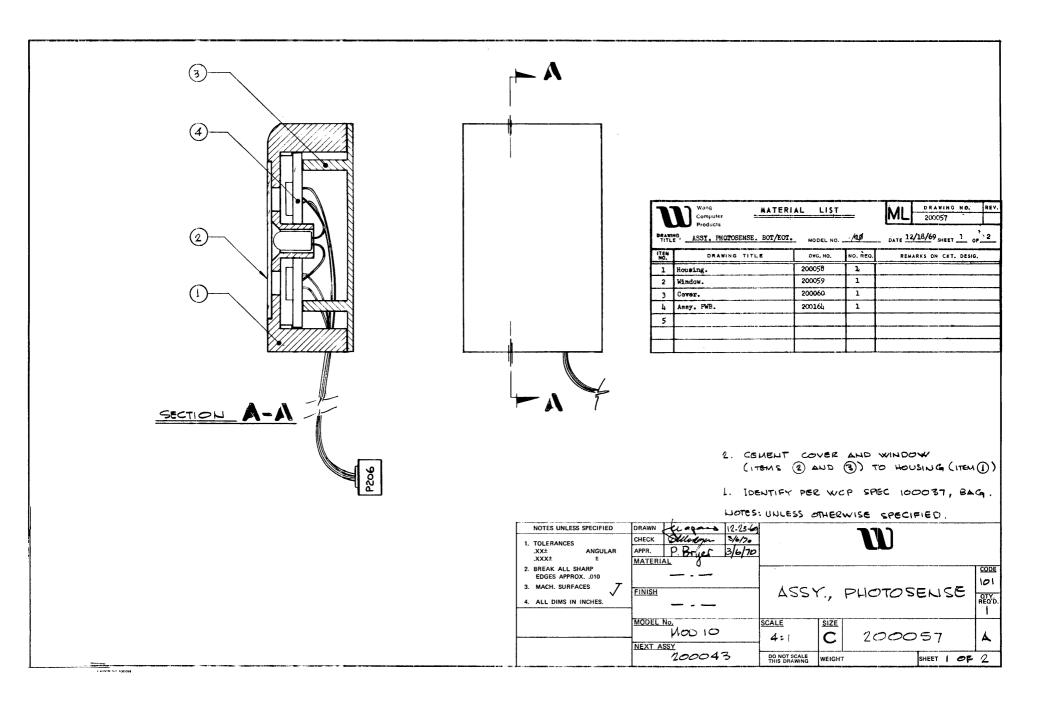
B-8. Assembly Regulator Output Cable



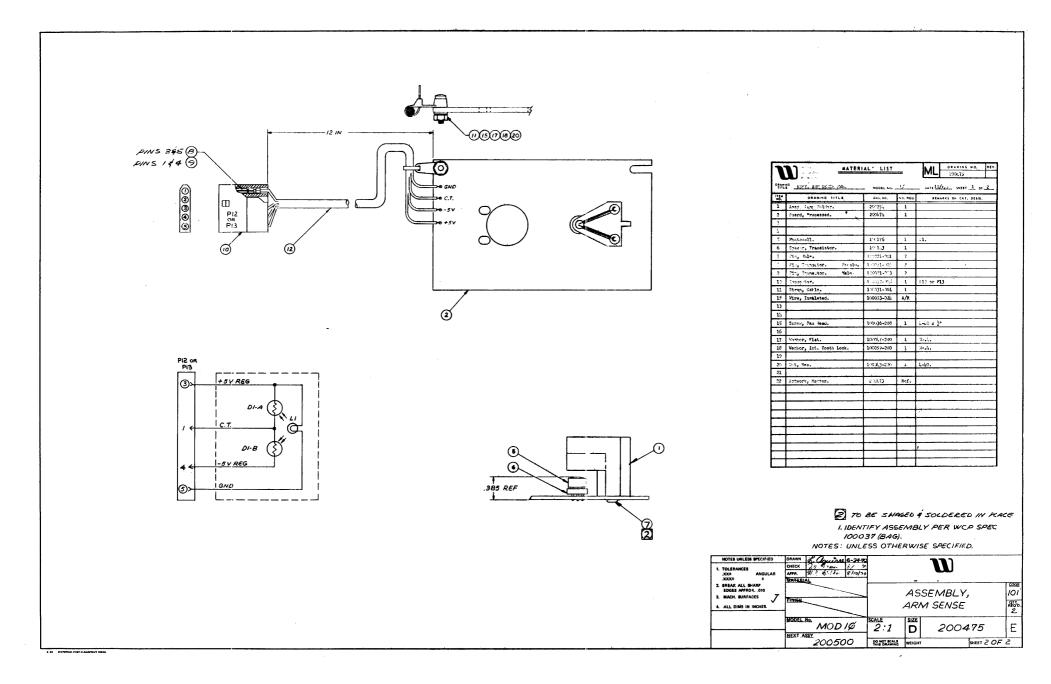
B-9. Assembly, Cable OCP



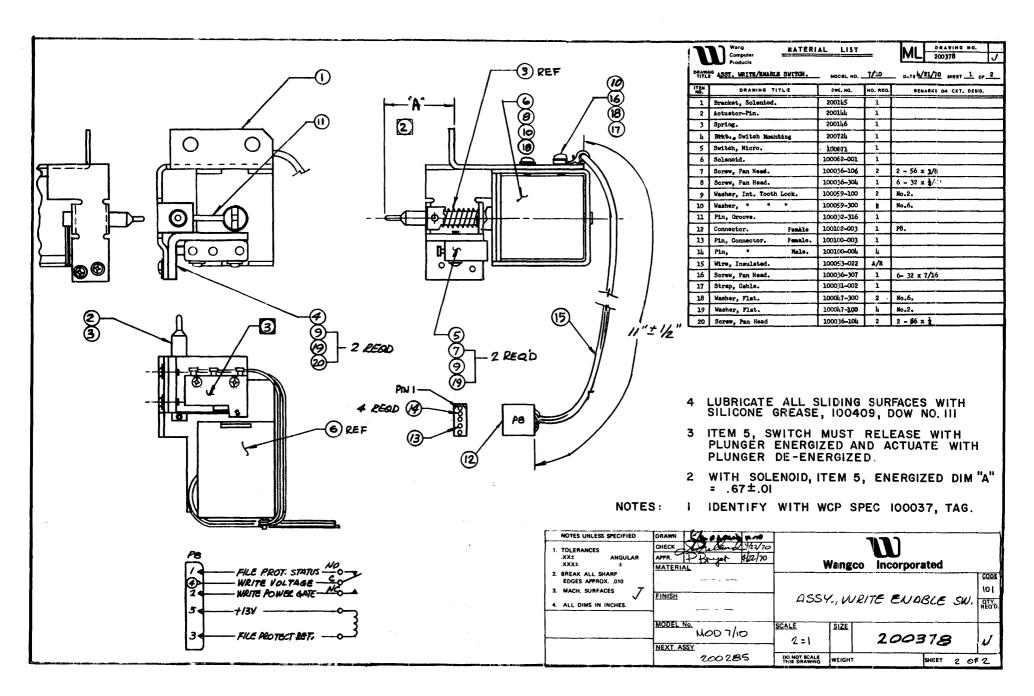
B-10 Assembly, Photosense, PWB



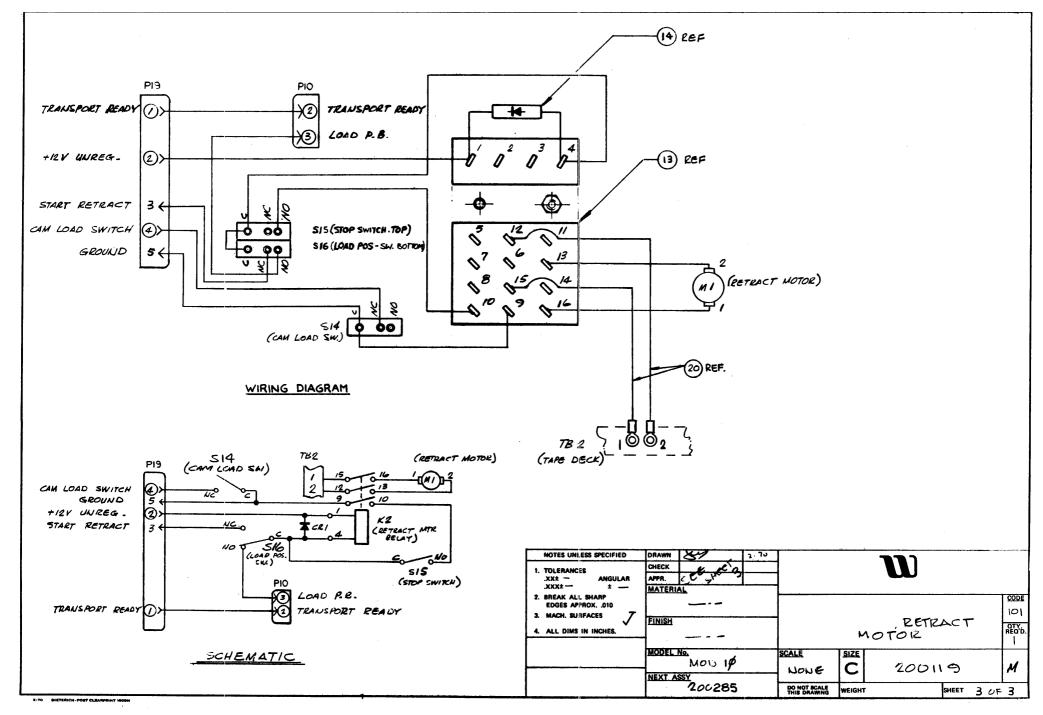
B-10a Assembly, Photosense



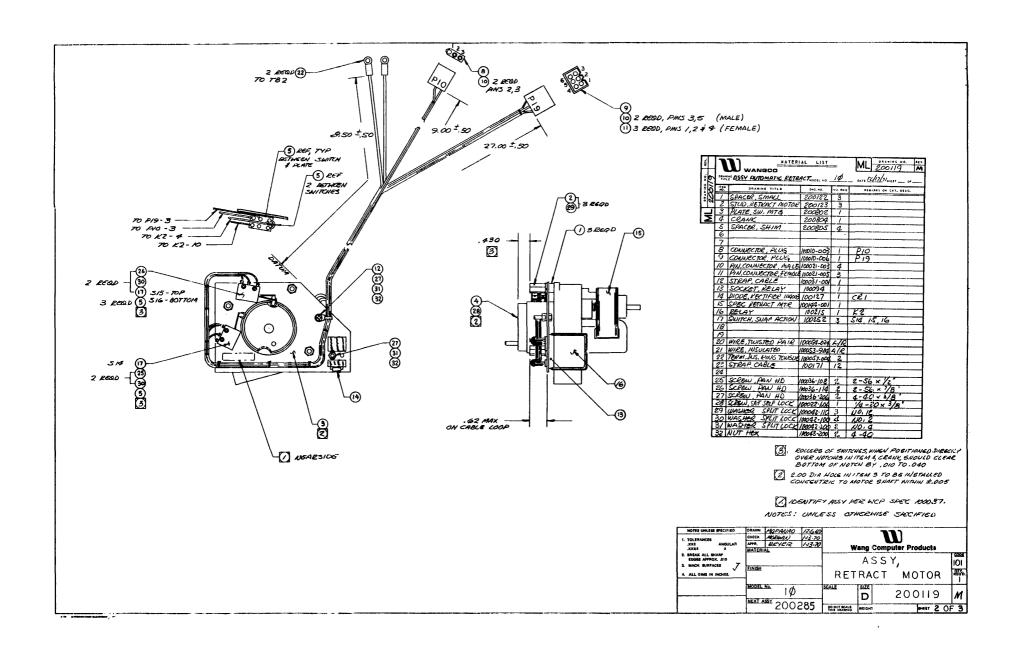
B-11 Assembly, Arm Sense



B-12. Assembly, Write/Enable Switch



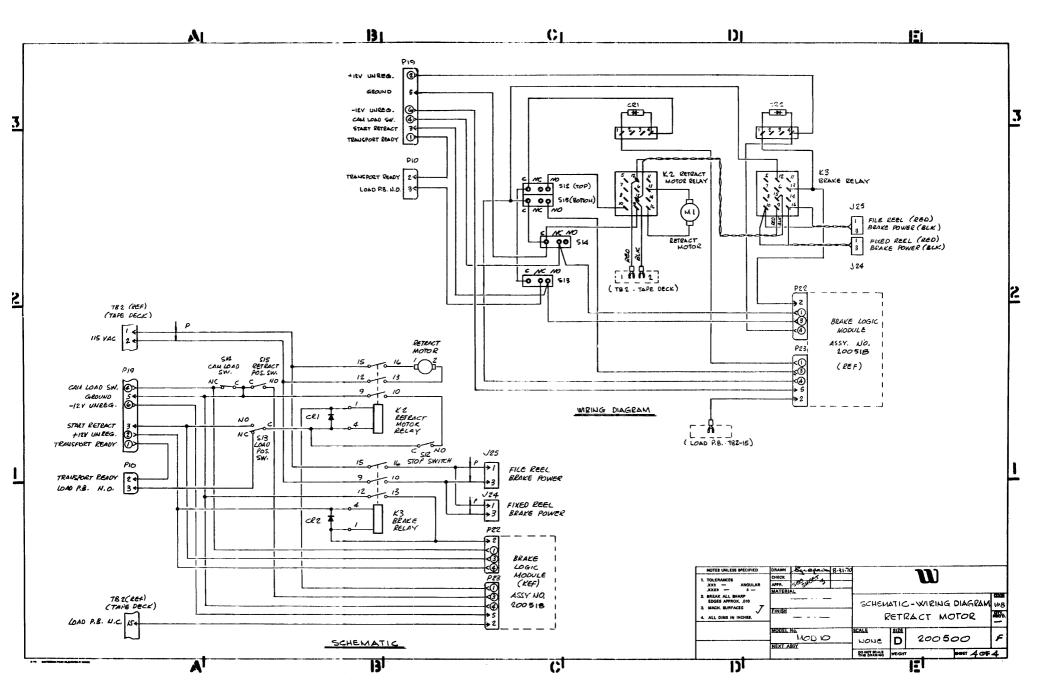
B-13. Schematic, Retract Motor



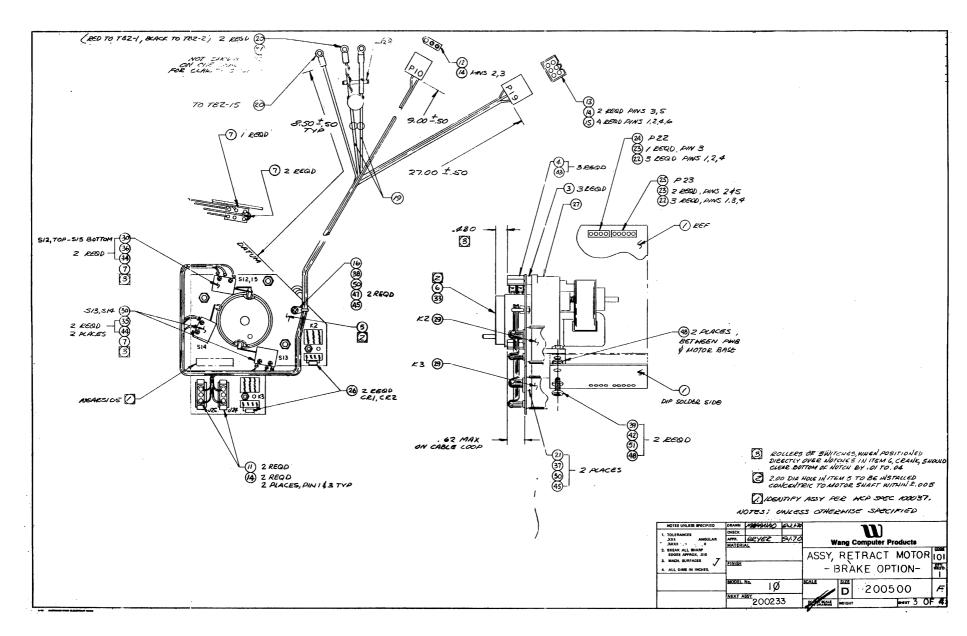
B-14. Assembly, Retract Motor

J.	MATERI	AL LIST		ML DRAWING NO. REV.	1	MATER	IAL LIST		ML DRAWING NO. REV.
DRAW	ASSY. RETRACT MOTOR. REEL FRAKE OPTION.	MODEL NO.	10		DRAW!	ASSY, RETRACT MOTOR.	MODEL NO	10	
ITEM NO.	DRAWING TITLE	DWG. NC.	NO. REQ.	REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
1	Assy. Brake Logic PWB.	200518	1		33	Screw, Set. Self Locking.	100022-606	1	1-20 x 3/8"
2					314				
3	Spacer, Small.	200122	3		35	Screw, Pan Head.	100036-108	4	2-56 x ½"
4	Stud, Retract Motor.	200123	3		36	Screw, " "	100036-114	2	2-56 x 7/8 4"
5	Plate, Switch Mounting.	200803	1		37	Screw, " "	100036-206	3	4-40 x 3/8"
6	Crank.	200804	1		3 8	Screw, " "	100036-207	1	4-40 ж 7/16"
7	Spacer, Shim.	200805	5		. 37	Screw, Pan Head.	100036-508	2	10-32 x ½"
.8					ĻЭ				
9					41				
10					42	Washer, Split Lock.	100042-500	2	No.10.
11	Connector, Jack.	100010-002	2	J251J25.	43	Washer, Split Lock.	1000/12-110	3	No.12.
12	Connector, Plug.	100010-003	1	P10.	4.7	Washer, Splitont Lock.	1000h2-100	6.	No.2.
13	Connector, Plug.	100010-006	1	P19.	45	Washer, Ant. In a Lock.	100075-500	3	No.4.
14	Pin, Connector. Male.	100021-003	. 8		46				
15	Pin, Connector. Female.	100021-005	lı		47	Washer, Flat.	100047-200	2	No.4.
16	Strap, Cable.	100031-001	1		43	Washer, Flat.	100047-500	4	No.10.
17					49				
18	Wire, Insulated.	100053-924	A/R		50	Nut, Hex.	100043-200	3	4-40 .
19	Wire, Twisted Pair.	100054-024	A/R		- 51	Nut, Hex.	100043-500	2	No.10.
20	Terminal, Ins. Ring Tongue.	100057-004	3						
21	Socket, Relay.	10009ե	2						
22	Pin, Connector. Female.	100100-003	6						
23	Pin, Connector. Male.	100100-004	3						
&p	Connector, Plug.	100102-002	1	P22.					
25	Connector, Plug.	100102-003	1	P23.					
26	Diode, Rectifier. 1N4003	100127	2	CR1. CR2.					
27	Spec. Retract Motor.	1001144-001	1						
2 8	Strap, Cable.	100171-001	17						
29	Relay.	100215	2	K2. K3.					
30	Switch, Snap Action.	100252	<u>ų</u>	S12.13.14.15.					
31	Varistor.	100392	1	VAR.1.			<u> </u>		
32	Tubing, Shrink.	100185-003	A/R	1			1		

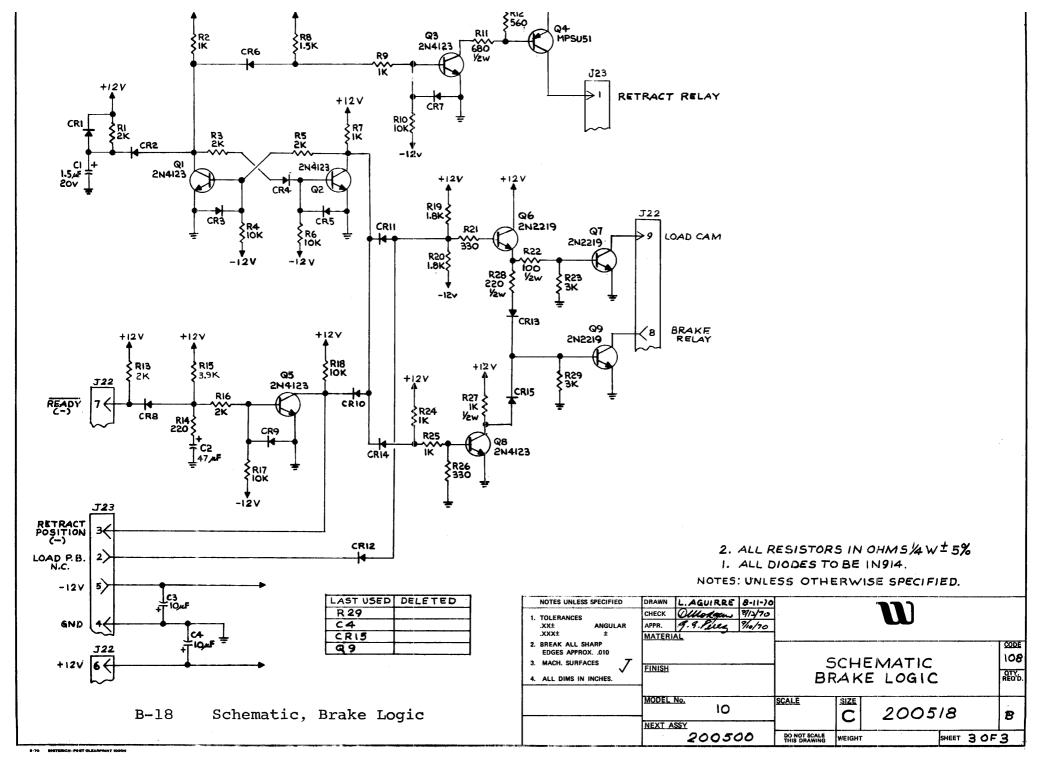
B-15. Material List, Retract Motor, Brake Option

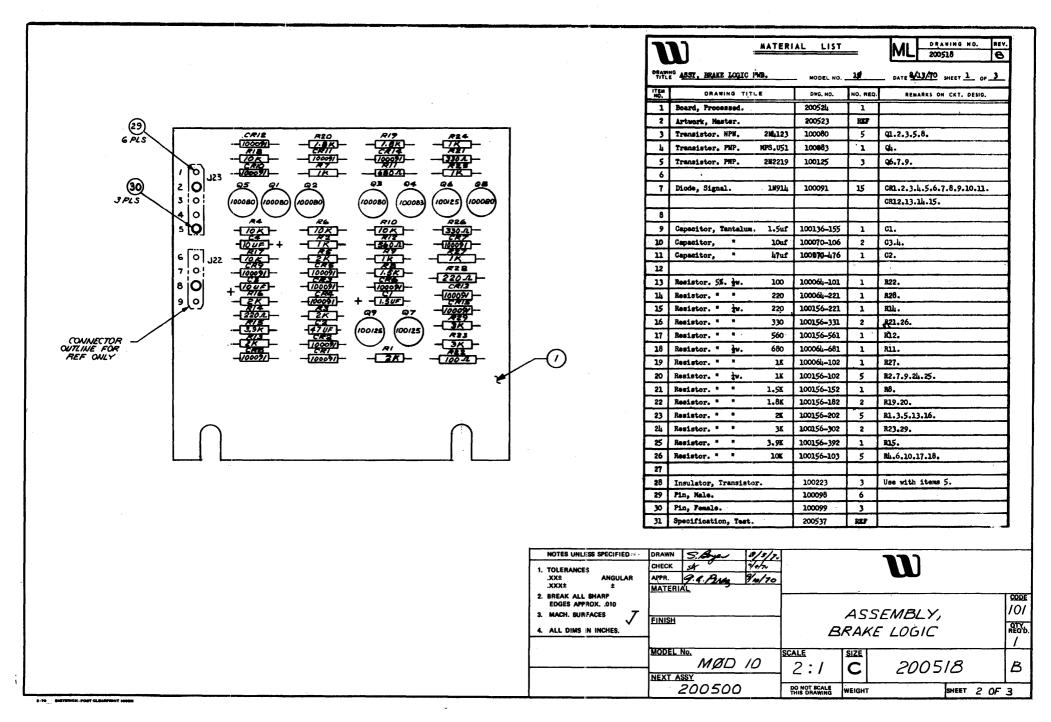


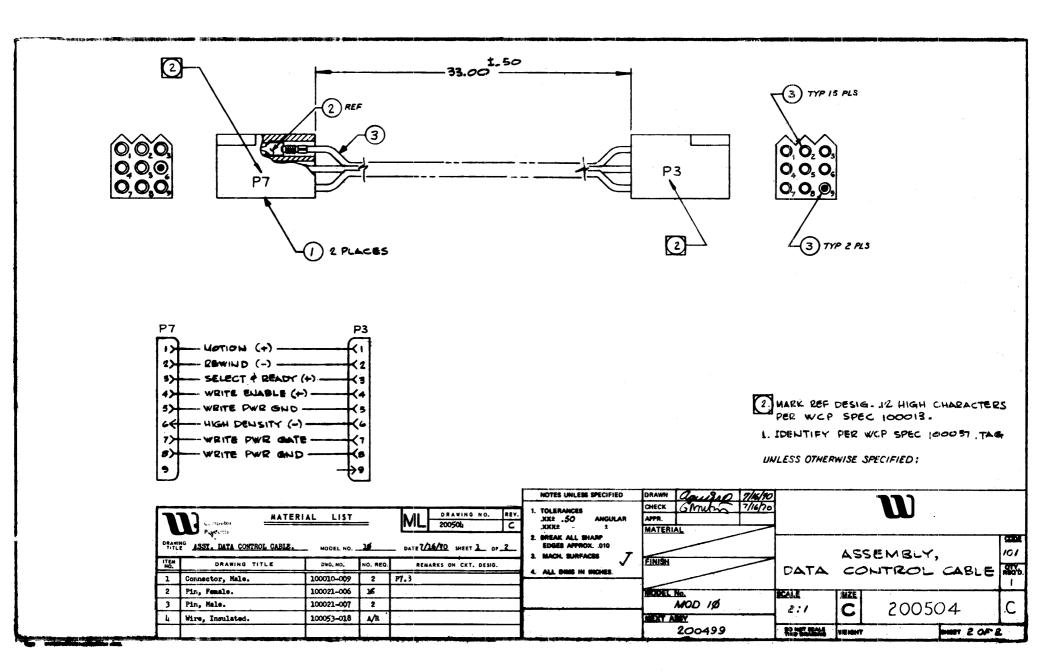
B-16 Schematic, Retract Motor, Brake Option



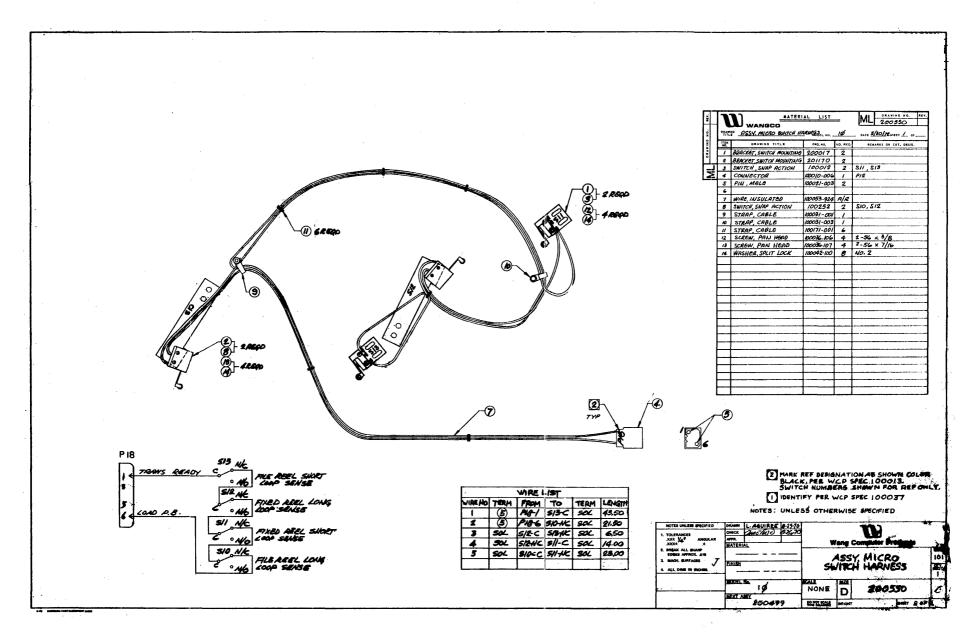
B-17 Assembly, Retract Motor Brake Option







B-20 Assembly, Data Control Cable



B-21 Assembly, Micro Switch Harness

	1 :	MAICHI	AL LIJI	==	ML 200488 - 000
DRAW	ASSY.TRANSPORT E		MODEL NO.	16	DATE 11/17/71 SHEET 1 OF
HO.	DRAWING TITE	E	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
1	Board, Processed.		200494	1	
.2	Heatsink.		200512	1	
· 3	Bracket, Support.		200513	2	
4					
5	I.C.Hex Inverter.		100084	5	U201.202.203.204.205.
6,	I.C.Quad.2 Input Mana	1,	100085	6	U206.208.212.213.219.220.
7	I.C.Quad.2 Input Pow	r.	100086	2	U216.217.
8	I.C.Dual Plip-Flop.		100088	2	U210.211.
•	I.C.Triple.3 Input No	and.	100107	4	U207.209.214.215.
20	I.C.Operational Ampl:	fier.	100109	3	U218.401.402.
10					
12	Transister, NFN.	2N4123	100080	32	Q200.201.204.209.231.212.401.
	٠,				QLG6.1407.1410.1411.1412.14114.1415.
					Qu21.422.423.424.425.426.428.
					Չե29.430.436.437.438.441.445.
					Չևև6.ևև8.ևև9.և50.
13	Translator, PMP.	2Mi125	100081	18	9202,203,205,206.402.403.40k.
					QL05.408.409.413.416.427.431.
	٠,				QL39- հենե - եկ7 - կ51 -
2 4	Transistor, NPN.	TI.P29	100112	2	QL3L. ارکار.
15	Transistor, PMP.	TI.P30	100113	2	Q132.152.
16	Transister, MPM.	2N2219	100125	3	Q207.208.210.
17	Transister, PMP.	21/3053	100158	1	Qui8.
18	Transistor, PNP.	284037	100160	3	գի17. իկի0. իկ3.
19	Transister, MPM.	2N3771	100173	7	Q119.1120.1133.1135.11112.1153.1155.
•				<u>. </u>	
20	Diode, Zener. 5.6v.	1N752	100118	1	VRLO1.
21	Diode, Pewer.	1.1/3208	100174	1	GEL 32.
22	Mode, Rectifier.	1Ma003	100127	1	GB210.
23					
24					
25		ليسب		L	
					
7		MATERI	AL LIST		ML 200488 - 000

DRAWN			SPORT ELE C BOARD.	ECTRONICS	MODEL NO	18	DATE 11/17/71 SHEET 3 OF
NO.	DR	AWI	NG TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
50	Resistor.	×.	₹w.	2.7	100156-2R7	2	R260.261.
51	Resistor.	•	3v.	47	100068-470	1	R271.
52	Resistor.	•	àw.	100	100156-101	18	R243.255.256.257.258.427.440.
							Rևև 3 . և և 45 . և 45 . և 56 . և 56 . և 82 .
							R483.489.528.529.
53	Resistor.	% .	3w.	150	100068-151	1	RL96.
54	Resistor.		<u>1</u> ₩.	200	100156-201	8	RL73.474.479.480.519.520.525.
							R526.
55	Resistor.	×.	àw.	220	100156-221	11	R200.202.204.206.208.210.212.4
							R235.239.269.273.
56	Resistor.	۶.	₹w.	300	100156-301	1	RL10.
57	Resister.	(1)		330	100156-331	9	R201.203.205.207.209.211.213.
							R218.219.
58	Resistor.	×.	3w.	330	100068-331	1	R502.
59	Resistor.	*	₹w.	360	100156-361	2	Rևև2.ևև6.
60	Resistor.	•	*	430	100156-431	2	R251.252.
61	Resistor.	п	3w.	470	100068-471	Ł	RL34.435.436.437.
62	Resistor.	•	à₩.	510	100156-511	2	R533.534.
63	Resistor.	*		560	100156-561	3	R214.216
64	Resistor.	×		1K	100156-102	20	R240.278.401.402.449.472.477.
			1				R478.481.485.491.494.497.501.
							R513.515.518.522.524.527.
65	Resistor.		1	1.2K	100156-122	1	R217.
66	Resistor.		in In	1.5K	100156-152	1	R270.
67	Resistor.	-	-	2K	100156-202	-	Rh18.463.50h.
68	Resistor.	-	-	2.2K	100156-222	- 6	R224.225.231.237.265.493.
-	Mesister.	_			100130-222	۳	1224.225.251.25(1.205.475).
<u>6</u> 9	Resistor.	ĸ,	<u>}</u> .,	310	100156-302	և	RL08.458.495.535.
70	Resistor.	H .	•	3.6K	100156-362	5	R222.223.232.238.266.
71	Resistor.	*	•	3.9₺	100156-392	6	R419.439.441.490.498.499.
							<u> </u>

DRAW		MODEL NO.	·	DATE 11/17/71 SHEET _
NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT.
99	Pin, Connector. Male.	100021-007	30	
100	Pin, Connector. Female.	100021-008	14	
101	<u> </u>		ļ	
102			L	
103	Pad, Transistor.	100223	5	Q210.417.418.440.443.
104	Insulator, Transistor.	100151	7	TO-3.
105				
106	Wire, Ingulated.	100053-916	A/R	From item 21 to hole H
107	Wire, Selid Insulated.	100248-924	A/R	Jumper J12. From SS to
108	Screw, Pan Head.	100036-206	10	4-40 x 3/8*
109	Screw, Pan Head.	100036-210	16	4-40 x 5/8"
110				
111	Washer, Flat.	100047-200	26	No.4.
112	Washer, Int. Tooth Lock.	100059-200	26	No.4.
tı,	Washer, Nylon Shoulder.	100063-012	11 ₄	
114	Wahher, Nylon Shoulder.	100063-008	1	Use with CR432.
115	Nut, Hex.	1000h3-200	26	4-40.
116				
117				
118	Specification, Test.	200532	Ref.	
119				
120				
121				
122				
123				
124				
125		1		
126		1		
127		1		
128		1		
129				
130				

IVIL 200488 - 000

TITL TITL ITEM NO.	PWB.Type 'P' 12-1ps.		DWG. NO.	NO. REQ.	DATE 3 18 17 SHEET 7 OF	T)TL	<u> </u>
		30.0		-	REMARKS ON CKT. DESIG.	ITEM NO.	_
131	Capacitor, Tantalum.	10uf	100070-106	1	C20L.	131	Capa
132	D. A. d. Per 3		20025(252			132	_
133	Resistor, 5%. 2w.	750	100156-751	1	R234.	133	Resi
134	Resistor, " 3w.	47	100068-470	1	R2L8.	134	Resi
135	1	750	100156-751	1	R268.	135	Resi
136		27K	100156-273	1	贴21.	136	Resi
137	ALCISTO1,	100K	100156-104	1	Rl ₁ 31.	137	Resi
138	Resistor, " "	12K	100156-123	1	RL32.	138	Resi
139	Resistor, " "	680K	100156-684	1	RL:66.	139	Resi
_	Resistor, " *	150	100156-151	1	N 467₽	3710	flesi
141	Resistor, " "	390K	100156-394	1	ત્યા 68.	Da.	Resi
142	Resistor, " "	1.5M	100156-155	1	R509.	11,2	Resi
143	Restator, "-	- 150	100156-151	1	DC10.	143	ReoL
144	Resistor, " "	390K	100156-394	1	R511.	1144	Resi
145	Resistor, 5%. w.	3.3M	100156-335	1	R536.	145	Resi
146						146	
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.	147	Wire
					Jumper J2. " U " V.		
					Jumper Ji. " PP " RR.		
					Jumper J5. " F " G.		
					Jumper J6. * GG * HH.		
					Jumper J7. " H " J		
					Jumper J8. " EE "FF.		
					Jumper J9. " D " E.		
					Jumper JlO. " AA " CC.		
					Jumper Jll. " W " X.		
					Jumper J19. " DD " TP208.		
					·		

						·	

J.	1 7	MATERI	AL LIST		ML 200488 - 000
PAYE	ABSY.TRANSPORT E		MODEL NO.	10	DATE 11/17/71 SHEET 2 OF
TEM NG.	DRAWING TITE	. E	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
26	Diede, Signal.	1M914	100091	147	CR200,201.202.203.204.205.206
					CB207.208.209.211.401.402.403
			•		CBLOL.405.406.407.408.409.410
					CRL11.412.413.414.415.416.417
					CR418.419.420.421.422.423.424
					CRL25.426.427.428.429.430.431
					CR433.434.435.436.437.
27					
26	Capaciter, Ceramic.	330pf	100073-331	1	C205.
29	Capacitor, "	.00luf	100073-102	2	C216.217.
30	Capacitor, "	.0022uf	100073-222	1	C218.
31	Capaciter, "	.005uf	100073-502	2	CL06.407.
32					
33	Capacitor, Polyfilm.	.0luf	100078-103	5	C200.201.202.410.426
兆	Capacitor, "	.luf	100078-104	2	C203.219.
35		,			
36	Capacitor, Polyfilm.	.15uf	100128-154	2	Ch13.420.
37	Capacitor, "	.33uf	100128-334	1	CL 2L.
38	Capacitor, *	.47u£	100128-474	2	Ch12.h19.
39					
ko	Capacitor, Tantalum.	1.5uf	100136-155	9	Ch01.404.605.408.409.416.415.
					Ch21.h22.
41	Capacitor, Tantalum.	10uf	100070-106	12	C206.207.208.209.210.211.212.
					C213.214.215.402.403.
42	Capacitor, Tantalum.	47 u f	100 070- 476	4	Ch11.417.418.425.
43					
劜	Resistor, Variable.	1K	100163-102	1	R215.
15	Resistor, "	5 x	100163-502	2	Rh11.h15.
h6	Resistor, "	10K	100163-103	5	RL23.426.438.465.508.
47	Resistor, "	20K	100163-203	2	Rh62.503.
1.8					

	\ =	MA I E KII		=	VI 200k80 - 000	
DRAWN	ASSI.TRANSPORT EL		MODEL NO	16	DATE 11/17/71 SHEET 4 OF	
ITEM NO.	DRAWING TITL	e	DWG. NO.	NO. REQ.	, REMARKS ON CKT, DESIG.	I [
72	Resistor. 5%. jw.	4.3K	100156-432	1	肚29。	
73	Resistor. " "	4.7K	100156-472	2	Bl.12.116.	lſ
74	Resistor. " "	5.1K	100156-512	21	R230.233.236,253.254.259.262.	Π
					R263.264.267.272.279.407.409.	lſ
					R413.414.424.425.428.464.505.	lſ
						Ιſ
75	Resistor. 5%. jw.	6.8x	100156-682	5	R226.228.229.247.450.	ΙΓ
76	Resistor. " "	8.2K	100156-822	1	R227.	lſ
77	Resistor. " "	10K	100156-103	10	R245.276.403.404.420.422.452.] [
					R454.461.492.	lſ
78	Resistor. " "	111	100156-113	2	R486.488.] [
79	Resistor. " "	12K	100156-123	1	RL;30.] [
80	Resistor. " "	20K	100156-203	2	R274.487.] [
81	Resistor. " #	22K	100156-223	2	R506.531.	1 [
82	Resistor. " "	27K	100156-273	2	RL75.521.] [
83	Resistor. " "	33K	100156-333	3	Rh60.514.516.] [
84	Resistor. " "	39K	100156-393	1	R500.] [
85	Resistor. " "	43K	100156-433	1	R275.] [
86	Resistor. " "	h7K	100156-473	3	R405.406.453.] [
87	Resistor. " "	100K	100156-104	5	R242.277.433.451.532.] [
88	Resistor. " "	220K	100156-224	1	R2lıl.] [
89	Resistor, " "	270K	100156-274	1	R459.	l [
90	Resistor. " "	300K	100156-304	3	RL17.L71.517.	1 [
91	Resistor, * *	330K	100156-334	2	R220,221.	1 [
92	Resistor. " "	390K	i00156-394	6	R246	1 [
					R\$23.	1 [
93	Resistor. " "	1Meg.	100156-105	1	BS07.] [
94	Resistor. " "	150	100156-151	2	R467.510.] [
95	Resistor, " "	390	100156-391	2	R249.250.] [
96	Heatsink.		100096	2	TO-5. Use with Qu17.418.] [
97		Male.	100098	35	Includes J8-4.	4 [
98	Pin, Female.		100099	h		1 1

	1	ATERI	AL LIST		ML 200488 - 001
DRAWIN	ASSY.TRANSPORT ELECT	TRONICS D/G. 9	Ch. MODEL NO	16	DATE 11/18/71 SHEET 6 OF
ITEM NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131	Capacitor, Tantalum.	10uf	100070-106	1	C204.
132					
133	Resistor, 5%. iw.	750	100156-751	1	R234.
1.34	Resistor, " 3w.	47	100068-Li70	1	R248.
135	Resistor, " iw.	750	100156-751	1	R268.
136	Resistor, " "	33K	100156-333	1	RL121.
137	Resistor, " "	120K	100156-12h	ì	R431.
138	Resistor, " "	12K	100156-123	1	R432.
139	Resistor, " "	680K	100156-684	1	R466.
1 <u>1</u> 10	Resistor, * *	150	100156-151		PL67-
141	Resistor, " "	390K	100156-394	1	R468.
142	Resistor, " "	1.5M	100156-155	1	R509.
143	Restotor,	250	100156-151	1	R510+
144	Resistor, " "	390K	100156-394	1	R511.
145	Resistor, 5%. 4w.	3.3M	100156-335	1	R536.
146					
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.
					Jumper J2. " U " V.
					Jumper Jh. " PP " RR.
					Jumper J5. " F " G.
					Jumper J6. " GG * HH.
					Jumper J7. " H " J.
					Jumper J8. " 'EE " FF.
					Jumper J9. " D " E.
					Jumper JlO. " AA " CC.
					Jumper Jll. " W " X.
					Jumper J19. " DD " TP208.
			l	l i	

1	<u> </u>	MATERI	AL LIST	_	ML DRAWING NO. REV. 200468 - 003 7	1	1)
DRAWN	ASSY. TRANSPORT ELE PWB. Type P' 18 1p		In MODEL NO.	10	DATE 11/18/71 SHEET 8 OF	DRAW	ASSY.
ITEM NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT, DESIG.	ITEM NO.	
131	Capacitor, Tantalum.	10uf	100070-106	1	C2O4.	131	Capacito
132						132	
133	Resistor, 5%. iw.	750	100156-751	1	R234.	133	Resistor
134	Resistor, " 3w.	47	100068-470	1	R248.	134	Resistor
135	Resistor, * 1w.	750	100156-751	1	R268.	135	Resistor
136	Resistor, " "	18 K	100156-183	1	RL 21.	136	Resistor
137	Resistor, " "	68K	100156-683	ì	RL 31.	137	Resistor
138	Resistor, " "	13K	100156-133	1	RL32.	138	Resistor
139	Resistor, " "	680 K	100156-684	1	R466.	139	Resister
140	Resistory "	150	100156-151	-	Nac7-	240	Resister
地	Resistor, " "	390K	100156-394	1	Rl ₄ 68.	141	Resistor
142	Resistor, " "	1.5M	100156-155	1	R509.	142	Resistor
143	Restatory "- "		100156-151		1510.	11/13	Rectator
11th	Resistor, " "	390K	100156-394	1	R511.	344	Resistor
145	Resister, 5%. 2w.	3.3M	100156-335	1	R536.	145	
146						1146	
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.	14.7	Wire, Se
					Jumper J2. " U " V.		
					Jumper Ju. * PP * RR.] [
					Jumper J5. * F * G.] [
					Jumper J6. " GG " HR.] [
					Jumper J7. " H " J.]	
					Jumper J8. " KE " FF.] [
					Jumper J9. " D " K.]	
					Jumper J10. " AA " CC.		
					Jumper Jll. " W " I.] [
					Jumper J19. " DD " TP208.] [
]	
						1 —	

of
(1
PWB
Electronics,
Transport
List,
Material

(9

-	\ =	MATERIA	AL LIST	<u></u>	ML 200488 - 000
	ASSY. TRANSPORT ELE	CTRONICS			
DRAW	MG PWB. BASIC BOARD.		MODEL NO	19	DATE 11/17/71 SHEET 3_ OF
NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
50	Resistor. 5%. jw.	2.7	100156-2R7	2	R260.261.
51	Resistor. * 3w	47	100068-470	1	R271.
52	Resistor. " iv.	100	100156-101	18	R243.255.256.257.258.427.440
					82 يا ، 56 يا ، 55 يا ، 7 يا يا ، 5 يا يا ، يا يا يا ، 3 يا يا ، 5 يا يا ، 5 يا يا ، 5 يا يا ، 5 يا
					R483.489.528.529.
53	Resistor. 5%. 3w.	150	100068-151	1	RL96.
ξĮ,	Resistor. " aw.	200	100156-201	8	RL73.474.479.480.519.520.525
					R526.
55	Resistor. 5%. jw.	220	100156-221	11	R200.202.204.206.208.210.212
					R235.239.269.273.
56	Resistor. 5%. tw.	300	100156-301	1	RL10.
57	Resister. ** *	330	100156-331	9	R201.203.205.207.209.211.213
<u> </u>					R218.219.
58	Resistor. 5%. 3w.	330	100068-331	1	R\$02.
59	Resistor. * w.	360	100156-361	2	Rևև2.ևև6.
60	Resistor.	430	100156-431	2	R251.252.
61	Resistor. " 3w.	470	100068-471	4	RL34.435.436.437.
62	Resistor. " w.	510	100156-511	2	R533.534.
	Resistor. " "	560	100156-561	3	R214.216448.
63 64	MESIS CO.	300 J	100156-102	20	R240.278.401.402.449.472.477
04	Resistor. " "	114	100130-102		R478.481.485.491.494.497.501
					R513.515.518.522.524.527.
				-	//-/-//////////
	Designation of 1	 +	100156-122	1	R217.
65	Resistor. 5%. tw.	1.2K			<u> </u>
66	Resistor.	1.5K	100156-152	1	R270.
67	Resistor. " "	5K	100156-202	3	RL18.463.504.
68	Resistor. "	2.2K	100156-222	- 6	R224.225.231.237.265.493.
69	Resistor. 5%. jw.	3K	100156-302	14	RL08.458.495.535.
70	Resistor. "	3.6K	100156-362	5	R222.223.232.238.266.
7	Resistor. "	3.9K	100156-392 AL LIST	6	R419.439.441.490.498.499. ORAWING NO. 2004887-000
1	N ==	MATERI	AL LIST	=	DRAWING NO. 2006887- 000
DRAWIL ITEM	ASSY, TRANSPORT ELE	MATERI/	AL LIST	16	DRAWING NO. 200688"- 000
DRAWIT TITEM	ASSY, TRANSPORT ELE PER, BASTO BOARD. DRAWING TITLE	MATERIA ECTRONICS	AL LIST MODEL NO DWG. NO.	16 NO. REQ.	DRAWING NO. 200687 - 000 DATE 11/17/71 SHEET & OF REMARKS ON CKT. DESIG.
DRAWITITL ITEM NO. 72	ASSY.TRANSPORT RIFE PER BASTO BOARD. DRAWING TITLE Resistor. 5%. 1w.	MATERIA ECTRONICS	MODEL NO	16 NO. REQ.	DRAWING NO. 2004887 - 000 DATE 11/17/71 SHEET & OF. REMARKS ON CKT. DESIG.
DRAWING. 17EM NO. 72 73	ASSY.TRANSPORT RIFE PER BASTO BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	MATERIA ECTRONICS : L.3K L.7K	MODEL NO DWG. NO. 200156-432	16 NO. REQ. 1	DRAWING NO. 200488"- 000 DATE 11/17/71 SHEET & OF. REMARKS ON CKT. DESIG. Eli29. Eli21-116.
DRAWITITL ITEM NO. 72	ASSY.TRANSPORT RIFE PER BASTO BOARD. DRAWING TITLE Resistor. 5%. 1w.	MATERIA ECTRONICS	MODEL NO DWG. NO. 200156-432	16 NO. REQ.	DRAWING NO. 200487 - 000 DATE 11/17/71 SHEET 4 OF REMARKS ON CKT. DESIG. B129. B112.116. R230.233.236.253.254.259.26
DRAWING. 17EM NO. 72 73	ASSY.TRANSPORT RIFE PER BASTO BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	MATERIA ECTRONICS : L.3K L.7K	MODEL NO DWG. NO. 200156-432	16 NO. REQ. 1	DRAWING NO. 200687 - 000 DATE 11/17/71 SHEET 1 OF REMARKS ON CKT. DESIG. BL29. BL12.116. B230.233.236.253.251.259.26. B263.261.267.272.279.107.10
DRAWING. 17EM NO. 72 73	ASSY.TRANSPORT RIFE PER BASTO BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	MATERIA ECTRONICS : L.3K L.7K	MODEL NO DWG. NO. 200156-432	16 NO. REQ. 1	DRAWING NO. 200687 - 000 DATE 11/17/71 SHEET 1 OF REMARKS ON CKT. DESIG. BL29. BL12.116. B230.233.236.253.251.259.26. B263.261.267.272.279.107.10
DRAWING. TEM NO. 72 73	ASSY.TRANSPORT ELE- PUR BASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " " Resistor. " "	MATERIA ECTRONICS LL-3K LL-7K S.1L	MODEL NO DWG. NO. 100356-132 100156-172	NO. REQ. 1 2 21	DRAWING NO. 2004887 - 000 DATE 11/17/71 SHEET 14 OF
DRAWING. 172 173 714	AGSY.TRANSPORT ELEMENT PURB. BASTC BOARD. DRAWING TITLE Resistor. 55. 1w. Resistor. " Resistor. "	MATERIA ECTRONICS : : : : : : : : : : : : : : : : : : :	MODEL NO DWG. NO. 100156-132 100156-512	NO. REQ. 1 2 21	DRAWING NO. 2004887 - 000 DATE 11/17/71 SHEET 14 OF REMARKS ON CKT. DESIG. B129. B112.116. B230.233.236.253.2518.259.26. B263.2618.267.272.279.1107.110 B113.111.1121.1125.1125.1126.11614.50 B226.228.229.217.1150.
72 73 74 75	ASSY.TRANSPORT ELF PER BASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " " Resistor. " "	MATERIA DETRONICS L.3K L.7K 5.1K 6.8K 8.2K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-512 100156-682 100156-882	NO. REQ. 1 2 21	DRAWING NO. 2004887 - 000 DATE 11/17/71 SHEET 14 OF
DRAWING. 172 173 714	AGSY.TRANSPORT ELEMENT PURB. BASTC BOARD. DRAWING TITLE Resistor. 55. 1w. Resistor. " Resistor. "	MATERIA ECTRONICS : : : : : : : : : : : : : : : : : : :	MODEL NO DWG. NO. 100156-132 100156-512	NO. REQ. 1 2 21	DRAWING NO. 2004887 - 000 DATE 11/17/71 SHEET 14 OF REMARKS ON CKT. DESIG. B129. B12.116. B230.233.236.253.254.259.26. B263.264.267.272.279.1107.110 B113.111.1121.1125.1125.1126.1164.50 B226.228.229.217.1150. B227. R215.276.1103.1101.1120.1122.115
72 73 74 75 76	AGSY.TRANSPORT ELFE PUR. RESIT BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	MATERIA COTRONICS L.3K L.7K 5.1K 6.8K 8.2K 10K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-172 100156-512 100156-682 100156-822 100156-103	16 NO. REQ. 1 2 21 5 1	DATE 11/17/71 SHEET 14 OF REMARKS ON CKT. DESIG. B129. B112.116. B230.233.236.253.2518.259.26. B263.2618.267.272.279.1107.110 B113.111.1121.1125.1125.1126.1161.50 B226.228.229.217.1150. B227. R215.276.1103.1101.1120.1122.115 B151.1161.1192.
72 73 74 75	AGSY.TRANSPORT RIFE PAR. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " Resistor. " Resistor. 1 " Resistor. 1 " Resistor. 1 " Resistor. 1 "	MATERIA DETRONICS L.3K L.7K 5.1K 6.8K 8.2K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-172 100156-512 100156-682 100156-103	16 NO. REQ. 1 2 21 5 1 10	DATE 11/17/71 SHEET 14 OF
72 73 74 75 76	AGSY.TRANSPORT RIFE PAR. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	MATERIA COTRONICS L.3K L.7K 5.1K 6.8K 8.2K 10K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-512 100156-682 100156-103 100156-113 100156-123	NO. REQ. 1 2 21 5 1 100 2 1	DRAWING NO. 2004887-000 DATE 11/17/71 SHEET 1 OF REMARKS ON CKT. DESIG. B129. B12.116. B230.233.236.253.251.259.26 B263.261.267.272.279.107.10 B113.111.121.125.125.126.161.50 B226.228.229.217.150. B227. R215.276.103.101.120.122.15 B151.161.192. B186.168. B130.
72 73 74 75 76 77	AGSY.TRANSPORT RIFE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	MATERIA COTRONICS L.3K L.7K 5.1K 6.8K 8.2K 10K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-172 100156-512 100156-682 100156-103	16 NO. REQ. 1 2 21 5 1 10	DATE 11/17/71 SHEET 14 OF
72 73 74 75 76 77	AGSY.TRANSPORT RIPE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	MATERIA COTRONICS L.3K L.7K 5.1K 6.8K 8.2K 10K 11K 12K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-512 100156-682 100156-103 100156-113 100156-123	NO. REQ. 1 2 21 5 1 100 2 1	DRAWING NO. 2004887-000 DATE 11/17/71 SHEET 1 OF REMARKS ON CKT. DESIG. B129. B12.116. B230.233.236.253.251.259.26 B263.261.267.272.279.107.10 B113.111.121.125.125.126.161.50 B226.228.229.217.150. B227. R215.276.103.101.120.122.15 B151.161.192. B186.168. B130.
72 73 74 75 76 77 78 79	AGSY.TRANSPORT RIFE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	MATERIA COTRONICS L.3K L.7K 5.1K 6.8K 8.2K 10K 11K 12K 20K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-512 100156-682 100156-103 100156-113 100156-123 100156-203	NO. REQ. 1 2 21 5 1 10 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. B129. B112.116. B230.233.236.253.2518.259.26 B263.2618.267.272.279.1107.110 B113.111.1121.1125.1125.1126.1161.50 B226.228.229.217.1150. B227. R215.276.1103.1101.1120.1122.115 B1151.1161.1192. B1160.1188. B130. B2711.1187.
72 73 74 75 76 77 78 79 80 81	AGSY.TRANSPORT RIPE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	MATERIA DOCTRONIGS L.3K L.7K 5.1K 6.8K 8.2K 10K 11K 22K 22K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-512 100156-682 100156-103 100156-113 100156-123 100156-223	NO. REQ. 1 2 21 5 1 10 2 2 1 2 2 2	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. B129. B112.116. B230.233.236.253.2518.259.26 B263.2618.267.272.279.1107.110 B113.111.1121.1125.1125.1126.1161.50 B226.228.229.217.1150. B227. R215.276.1103.1101.1120.1122.115 B1151.1161.1192. B1160.1187. B506.531.
75 76 77 78 79 80 81 82	AGSY.TRANSPORT RIPE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	MATERIA COTRONICS L.3K L.7K 5.1K 6.8K 8.2K 10K 11K 22K 22K 27K	MODEL NO DWG. NO DWG. NO. 100156-132 100156-512 100156-682 100156-103 100156-113 100156-123 100156-223 100156-223	NO. REQ. 1 2 21 5 1 10 2 2 1 2 2 2 2	DATE 11/17/71 SHEET 14 OF REMARKS ON CKT. DESIG. B1.29. R1.2.116. R230.233.236.253.251.259.26. R263.261.267.272.279.1107.110 R113.111.1121.1125.1125.1150. R227. R215.276.1103.1101.1120.1122.115 R1.51.1161.1192. R1.66.168. d1.30. R271.1167. R506.531. R175.521.
75 76 77 78 79 80 81 82 83	ASSY.TRANSPORT RIPE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 6.8x 10x 11x 20x 22x 27x 33x	DWG, NO. — DWG, NO. — DWG, NO. 100156-132 100156-512 100156-682 100156-103 100156-103 100156-203 100156-223 100156-233	NO. REQ. 1 2 21 5 1 100 2 1 2 2 2 2 3 3	DATE 11/17/15HEET 1 OF REMARKS ON CKT. DESIG. B1.29. R1.12.116. R230.233.236.253.251.259.26. R263.261.267.272.279.107.100. R113.111.121.125.126.161.50 R226.228.229.217.150. R227. R215.276.103.101.1120.122.15 R1.51.161.192. R1.86.188. a1.30. R271.187. R506.531. R175.521. R160.511.516.
72 73 714 75 76 77 78 79 80 81 82 83 84	AGSY.TRANSPORT RIPE AGSY.TRANSPORT RIPE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 8.2x 10x 11x 20x 22x 27x 33x 39x	MODEL NO DWG. NO DWG. NO. 100156-132 100156-512 100156-512 100156-103 100156-103 100156-203 100156-203 100156-203 100156-203 100156-303 100156-303	5 1 10 2 2 2 2 3 1 1	DATE 11/17/71sHEET 1. OF REMARKS ON CKT. DESIG. B1.29. B1.12.116. B230.233.236.253.251.259.26. B263.261.267.272.279.1107.110 B113.111.1121.1125.1125.1126.1161.50 B226.228.229.217.1150. B227. R215.276.1103.1101.1120.1122.115 B1.51.1161.1192. B1.66.168. B1.30. B271.1167. B506.531. B175.521. R160.511.516.
72 73 74 75 76 77 78 79 80 81 82 83 84 85	ASSY.TRANSPORT RIPE PHB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 6.8x 10x 11x 20x 22x 27x 33x 39x 43x	MODEL NO DWG. NO DWG. NO. 100156-132 100156-172 100156-512 100156-103 100156-103 100156-203 100156-203 100156-203 100156-203 100156-303 100156-303 100156-303 100156-303	5 1 10 2 2 2 2 3 1 1 1	DATE 11/17/71 SHEET 14 OF
75 76 77 78 79 80 81 82 83 84 85 86	ASSY.TRANSPORT RIPE PMB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 6.8x 10x 11x 20x 22x 27x 33x 39x 43x 47x	MODEL NO. – DWG. NO. – DWG. NO. 100156–132 100156–512 100156–682 100156–103 100156–103 100156–203 100156–203 100156–203 100156–203 100156–203 100156–203 100156–203 100156–203 100156–203 100156–203 100156–203 100156–203	5 1 10 2 2 2 2 3 1 1 3 3	DATE 11/17/71 SHEET 1 OF
75 76 77 78 79 80 81 82 83 84 85 86 87 88	ASSY.TRANSPORT RIP TO PHB. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 6.8x 10x 11x 20x 22x 27x 33x 39x 43x 100x	DWG, NO. — DWG, NO. — DWG, NO. — 100156-432 100156-472 100156-512 100156-682 100156-103 100156-123 100156-223 100156-233 100156-333 100156-333 100156-433 100156-473 100156-104	5 1 10 2 2 2 2 3 1 1 3 3 5	DRAWING NO. 2004887-000 DATE 11/17/15HEET 1 OF REMARKS ON CKT. DESIG. B129. R12.116. R230.233.236.253.251.259.26 R263.261.267.272.279.107.10 R113.111.121.125.125.126.161.50 R227. R215.276.103.101.1120.1122.15 R151.161.192. R186.188. a130. R271.187. R506.531. R175.521. R160.511.516. R500. R275. R105.106.153. R212.277.133.151.532.
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89	ASSY.TRANSPORT RIPPER BASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 8.2x 10x 11x 20x 22x 27x 33x 39x 43x 100x 220x	100156-482 100156-133 100156-133 100156-233 100156-233 100156-333 100156-333 100156-131 100156-131 100156-231 100156-231 100156-231 100156-231 100156-333	5 1 10 2 2 2 3 1 1 3 3 5 1 1	DATE 11/17/71sHEET 1- OF
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90	ASSY.TRANSPORT RIP PR. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 6.8x 6.8x 10x 11x 20x 22x 27x 33x 47x 100x 22x 27x 30x 40x 20x 27x 30x 40x 20x 20x 20x 20x 20x 40x 20x 20x 20x 20x 20x 20x 20x 20x 20x 2	100156-482 100156-133 100156-133 100156-133 100156-233 100156-333 100156-333 100156-131 100156-131 100156-231 100156-231 100156-231 100156-333	5 1 10 2 2 2 2 3 1 1 3 3 5 1 1 3 3	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. Bi.29. Ri.12.i.16. R230.233.236.253.25i.259.26. R263.26i.267.272.279.i.107.i.j.0 Ri.13.i.11.i.12i.1.25.i.26.i.66i.50 R226.228.229.217.i.50. R227. R215.276.i.03.i.0i.1.20.i.22.i.5 Ri.5i.,i.61.i.92. Ri.86.i.88. ai.30. R271.i.87. R506.531. Ri.75.521. Ri.60.51i.516. R500. R275. Ri.05.i.06.i.53. R212.277.i.33.i.51.532. R211. R159. Ri.17.i.71.517.
75 76 77 78 78 79 80 81 82 83 84 85 86 87 88 89 90 91	ASSY.TRANSPORT ELECTION AND ASSY.TRANSPORT ELECTION AND ASSY.TRANSPORT ELECTION AND ASSY.TRANSPORT ELECTION ASSOCIATION AND ASSOCIATION AS	6.8x 6.8x 8.2x 10x 11x 20x 22x 27x 33x 47x 100x 22x 27x 33x 47x 100x 20x 20x 20x 30x 43x 43x 43x 43x 43x 43x 43x 43x 43x 43	100156-482 100156-133 100156-133 100156-133 100156-133 100156-133 100156-133 100156-133 100156-133 100156-133 100156-134 100156-134 100156-134	5 1 10 2 2 2 3 1 1 3 3 5 1 1 3 3 2 2	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. Bi29. Bi12.116. B230.233.236.253.251.259.26 B263.261.267.272.279.107.100 Bi13.111.125.125.126.161.50 R226.228.229.217.150. R227. R215.276.103.101.120.122.15 Bi30. R271.187. R506.531. R175.521. R160.511.516. R500. R275. R195.106.153. R212.277.133.151.532. R211. R159. B117.171.517. R220.221.
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90	ASSY.TRANSPORT RIP PR. RASTC BOARD. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8x 6.8x 6.8x 10x 11x 20x 22x 27x 33x 47x 100x 22x 27x 30x 40x 20x 27x 30x 40x 20x 20x 20x 20x 20x 40x 20x 20x 20x 20x 20x 20x 20x 20x 20x 2	100156-482 100156-133 100156-133 100156-133 100156-233 100156-333 100156-333 100156-131 100156-131 100156-231 100156-231 100156-231 100156-333	5 1 10 2 2 2 2 3 1 1 3 3 5 1 1 3 3	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. Bit 29. Rit 2, 11/16. R230,233,236,253,251,259,26. R263,261,267,272,279,107,100 Rit 3, 111,112,1125,126,161,50 R226,228,229,217,150. R227. R215,276,103,101,120,122,15 R151,161,192. R166,168. Al 30. R271,167. R506,531. R175,521. R160,511,516. R500. R275. R105,106,153. R215,277,133,151,532. R211, 187,171,517. R220,221. R216169,170,176. 11.51
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	ASSY.TRANSPORT ELE- PHR. BASTO ROADS. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	6.8K 8.2K 10K 11K 20K 22K 27K 33K 10K 22K 27K 33K 10K 22K 27K 33K 10K	100156-482 100156-113 100156-103 100156-103 100156-203 100156-233 100156-393 100156-104 100156-216 100156-216 100156-394	5 1 10 2 2 2 2 3 1 1 3 3 5 1 1 3 2 6	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. Bi29. Ril2.h16. B230.233.236.253.254.259.26. R263.264.267.272.279.h07.h07.h07.k07. Ril3.h1h.h2h.h25.h26.h64.50 R226.228.229.217.h50. R227. R2h5.276.h03.h0h.h20.h22.h5 Rh5h.h61.h92. Rh86.h88. Ah30. R271.h87. R506.531. Rh75.521. Rh60.51h.516. R500. R275. Ril05.h06.h53. R2h2.277.h33.h51.532. R2h1. Rh59. Rh17.h71.517. R220.221. R2h6h69.h70.h761.51
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	ASSY.TRANSPORT ELE- PHR. BASTO ROADS. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	6.8x 6.8x 8.2x 10x 11x 20x 22x 27x 33x 43x 100x 22x 27x 33x 43x 100x 22x 27x 30x 22x 27x 30x 43x 47x 10x	100156-482 100156-132 100156-133 100156-133 100156-233 100156-333 100156-131 100156-133 100156-133 100156-133 100156-393 100156-393 100156-393 100156-393 100156-393 100156-393 100156-393 100156-393 100156-393 100156-393	5 1 10 2 2 2 2 3 1 1 3 3 5 1 1 3 2 6 6	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. Bi29. Rh12.116. R230.233.236.253.251.259.26. R263.261.267.272.279.107.100 Rh13.111.121.125.126.161.50 R227. R215.276.103.101.120.122.155 R151.161.192. R160.511.516. R500. R275. R105.106.153. R275. R105.106.153. R275. R105.106.153. R215.277.133.151.532. R211. R159. R117.171.517. R220.221. R266169.170.1761.51 R523. R507.
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	ASSY.TRANSPORT RIME PMB. BASTO ROADS. DRAWING TITLE Resistor. 5%. 1w. Resistor. "	6.8x 6.8x 8.2x 10x 11x 20x 22x 27x 33x 43x 100x 22x 27x 33x 43x 100x 22x 27x 30x 22x 27x 30x 10x 10x 10x 10x 10x 10x 10x 10x 10x 1	100156-482 100156-132 100156-133 100156-133 100156-133 100156-133 100156-134 100156-104 100156-104 100156-104 100156-104 100156-393 100156-393 100156-393 100156-393 100156-394 100156-394	5 1 10 2 2 2 2 3 1 1 3 3 5 1 1 3 2 6 6 1 2	DATE 11/17/71sHEET 14 OF
75 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94	ASSY.TRANSPORT ELE- PHR. BASTO ROADS. DRAWING TITLE Resistor. 5%. 1w. Resistor. " "	6.8K 8.2K 10K 11K 20K 22K 27K 33K 10K 22K 27K 33K 10K 22K 27K 33K 10K 22K 27K 33K 10K	MODEL NO. — DWG. NO. — DWG. NO. — 100156-432 100156-472 100156-512 100156-822 100156-103 100156-123 100156-233 100156-233 100156-333 100156-104 100156-216 100156-304 100156-304 100156-394	5 1 10 2 2 2 2 3 1 1 3 3 5 1 1 3 2 6 1 2 2 2 2 3 1 1 3 3 2 2 6 1 2 2 2 2 3 3 1 1 3 3 2 3 5 1 1 3 3 2 3 6 6 1 1 2 2 2 3 3 1 1 3 3 2 3 6 6 1 1 2 2 2 3 3 1 1 3 3 2 3 6 6 1 1 2 2 3 2 3 3 1 1 3 3 2 3 6 6 1 1 2 2 3 2 3 3 1 1 3 3 2 3 6 6 1 1 2 2 3 2 3 3 1 1 3 3 3 2 3 6 6 1 1 2 2 3 2 3 3 1 3 3 3 2 3 6 6 1 3 3 3 3 2 3 6 6 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	DATE 11/17/71sHEET 1 OF REMARKS ON CKT. DESIG. Bi29. Rh12.h16. R230.233.236.253.254.259.26 R263.264.267.272.779.h07.h0 Rh13.h1h.h2h.h25.h26.h64.50 R226.228.229.217.h50. R227. R2h5.276.h03.h0h.h20.h22.h5 Rh5h.h61.h92. Rh66.h88. Bh30. R27h.h87. R506.531. Rh75.521. Rh60.51h.516. R500. R275. Rh105.h06.h53. R212.277.h33.h51.532. R2h1. Rh59. Rh17.h71.517. R220.221. R266h69.h70.h761.51 R523. R507. Rh67.510. R2h9.250.
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	ASSY.TRANSPORT ELE- PER. BASTO BOARD. DRAWING TITLE Resistor. S. tw. Resistor. " "	6.8x 6.8x 8.2x 10x 11x 20x 22x 27x 33x 43x 100x 22x 27x 33x 43x 100x 22x 27x 30x 22x 27x 30x 10x 10x 10x 10x 10x 10x 10x 10x 10x 1	100156-482 100156-132 100156-133 100156-133 100156-133 100156-133 100156-134 100156-104 100156-104 100156-104 100156-104 100156-393 100156-393 100156-393 100156-393 100156-394 100156-394	5 1 10 2 2 2 2 3 1 1 3 3 5 1 1 3 2 6 6 1 2	DATE 11/17/71sHEET 14 OF

				<u> </u>	<u> </u>		
7	1) :	MATERIA	AL LIST	_	ML 200688 - 000		
RAWI	ASSY.TRANSPORT E		, MODEL NO	16	DATE 11/17/71 SHEET 1 OF		
TEM NO.	DRAWING TITE	LE DWG. NO.		NO. REQ.	, REMARKS ON CKT. DESIG.		
72	Resistor. 5%. jw.	4.3K	100156-432	1	胜29。		
73	Resistor. " "	4.7K	100156-472	2	R412.416.		
74	Resistor. " "	5.1 K	100156-512	21_	R230.233.236,253.254.259.262.		
					R263.264.267.272.279.407.409.		
					R413.414.424.425.428.464.505.		
					<u> </u>		
75	Resistor. 5%. jw.	6.8 x	100156-682	5	R226.228.229.247.450.		
76	Resistor. " "	8.2K	100156-822	1	R227.		
77	Resistor. " "	10K	100156-103	10	R245.276.403.404.420.422.452.		
				<u> </u>	RI,51,.1,61.1,92.		
78	Resistor. " "	אנג	100156-113	2	RL86.L88.		
79	Resistor. * "	12K	100156-123	1	al ₁ 30.		
80	Resistor. " "	20K	100156-203	2	R274.487.		
81	Resistor. " "	22K	100156-223	2	R506.531.		
82	Resistor. " "	27K	100156-273	2	耻75.521.		
83	Resistor. " "	33K	100156-333	3	RL60.514.516.		
84	Resistor. " "	39K	100156-393	1	R500.		
85	Resistor. " "	43K	100156-433	1	R275.		
86	Resistor. " "	47K	100156-473	3	Rijo5 .ij06.ij53 .		
87	Resistor. " "	100K	100156-104	5	R242.277.433.451.532.		
88	Recistor. " "	220K	100156-224	1	R2h1.		
89	Resistor. " "	270K	100156-274	1	R459.		
90	Resistor. " "	300K	100156-30 4	3	RL17.1.71.517.		
91	Resistor. " "	330K	100156-334	2	R220.221.		
92	Resistor. " "	390K	100156-394	6	R246		
					R\$23.		
93	Resistor. " "	1Mag.	100156-105	1	£\$07 .		
94	Resistor. " "	150	100156-151	2	R467.510.		
95	Resistor. " "	390	100156-391	2	R249.250.		
96	Heatsink.		100096	2	TO-5. Use with Ch17.418.		
97	Pin, Test Point.	Male.	100098	35	Includes J8-4.		

7	MATER	RIAL LIST		MI	DRAWING NO.	REV.	12	B)
J	J			14.5	200488 - 000	Щ	1	JU .
GRAW!	ASSI.TRANSPORT ELECTRONIC PWB. FASIC BOARD.	CS MODEL NO.	10	DATE 11	/17/71 SHEET 5 OF	_	DRAWI	NG PW
ITEM NO.	DRAWING TITLE	DWG. NO.	NO, REQ.	REM	ARKS ON CKT. DESIG.		ITEM NO.	
99	Pin, Connector. Male.	100021-007	30				131	Capaci
100	Pin, Connector. Female.	100021-008	14				132	
101]	133	Resist
102			<u> </u>				134	Resist
103	Pad, Transistor.	100223	5	Q210.417.	.և18.440.443.		135	Resist
10lı	Insulator, Transistor.	100151	7	TO-3.			136	Resista
105						\neg	137	Resist
106	Wire, Insulated.	100053-916	A/R	From item	21 to hole B.		138	Resist
107	Wire, Solid Insulated.	1002118-9211	A/R	Jumper J1	2. From SS to IT.		139	Resista
108	Screw, Pan Head.	100036-206	10	4-40 x 3/	/8=	7	140	Resista
109	Screw, Pan Head.	100036-210	16	4-40 x 5/8	•		141	Resist
110						\neg	1/42	Resist
111	Washer, Flat.	100047-200	26	No.4.			143	Recist
112	Washer, Int. Tooth Lock.	100059-200	26	No.L.			144	Resist
13	Washer, Nylon Shoulder.	100063-012	14				145	Resist
14	Wahher, Nylon Shoulder.	100063-008	1	Use with	CR432.		146	
115	Nut, Hex.	100013-200	26	4-40.			11.7	Wire,
116								
117								
118	Specification, Test.	200532	Ref.					
119						\Box		
120								
121								
122								1
123							 	
124						\neg		
125		1					-	1
126								1
127		1						
128								
129		1					_	
130								

	_	MATERI	AL LIST	=	ML		#ING 1		REV.
DRAWIN	ASSY.TRANSPORT ELE	CTRONICS D/G. 9	Ch. MODEL NO	16	DATE 11	<u>/18/7</u> 1	SHEET _	5_ of_	
ITEM NO.	DRAWING TITL	ž	DWG. NO.	NO. REQ.	REMA	RKS ON	CKT.	DESIG.	
131	Capacitor, Tantalum.	10uf	100070-106	1	G204.				
132									
133	Resistor, 5%. żw.	750	100156-751	1	R234.				
134	Resistor, " 3w.	47	100068-կ70	1	R248.				
135	Resistor, " tw.	750	100156-751	1	R268.				
136	Resistor, " "	33K	100156-333	1	RL21.				
137	Resistor, " "	120K	100156-124	1	R431.				
138	Resistor, " "	12K	100156-123	1	RI ₁ 32.			,	
139	Resistor, " "	680K	100156-684	1	R466.				
170	Restator, " "	150	100156-151	1	Dié?				
141	Resistor, " "	390K	100156-394	1	RL 68.				
142	Resistor, " "	1.5%	100156-155	1	R509.				
143	Restator,	150	200256-252	-	R520-				
144	Resistor, " "	390K	100156-394	1	R511.				
145	Resistor, 5%. 4w.	3.3M	100156-335	1	R536.				
146									
147	Wire, Solid Insulated		100248-924	A/R	Jumper Jl				
					Jumper J2	. "	บ "		
					Jumper JL		PP "	RR.	
					Jumper J5	. •	F *	G.	
					Jumper J6	. 11	0G "	HH.	
					Jumper J7		н •		
					Jumper J8		RE "		
					Jumper J9		D "		
					Jumper Jl	0. •	AA "		
			<u>.</u>		Jumper Jl	1. "	M 4		
					Jumper Jl	9. "	DD "	TP208	<u>. </u>
									
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			<u> </u>		ļ				
				L					

7	N 7	MATERI	AL LIST		N.AI		_	G NO√	REV.	.	D.
	\			=	IVIL	2001	.88 -	002] 🖊	L
DRAWIN	ASSY.TRANSPORT EL. PWB.Type 'P' 1211		Ch. MODEL NO.	19	DATE	18/71	SHEE	· • <u>1</u>	OF	DRAW!	NG E
NO.	DRAWING TITL	E.	DWG. NO.	NO, REQ.	REM	ARKS O	N CK	r. DES	G.	ITEM NO.	
131	Capacitor, Tantalum.	10uf	100070-106	1	C204.					131	Ca
132										132	
133	Resistor, 5%. iw.	750	100156-751	1	R234.					133	Re
134	Resistor, " 3w.	Ь7	100068-470	1	R2L8.					134	Re
135	Resistor, " www.	750	100156-751	1	R268.					135	Re
136	Resistor, " "	27K	100156-273	1	RL21.					136	Re
137	Resistor, " "	100K	100156-104	1	RL 31.					137	Re
138	Resistor, " "	12K	100156-123	1	RL;32.					138	Re
139	Resistor, " "	680K	100156-684	1	RL:66.					139	Re
140	Resistor,	150	100156-151	1	Ni.67.					3710	-74
141	Resistor, " "	390K	100156-394	1	R468.					141	Re
142	Resistor, " "	1.5M	100156-155	1	R509.					11,2	Re
143	Resistor, " "	150	100156-151		DS10.					1 143	P.
144	Resister, " "	390K	100156-394	1	R511.					144	Re
145	Resistor, 5%. w.	3.3M	100156-335	1	R536.					145	Re
146										146	Γ
147	Wire, Solid Insulated		100248-924	A/R	Jumper Jl	. From	ı JJ	to KK	•	147	Wi
					Jumper J2	. "	U	η V.			
					Jumper Ji	. "	PP	" RR		1	Г
					Jumper J	, n	F	* G.			T
					Jumper Jó	. "	GG	• HH			Γ
					Jumper J	. "	Н	* J			Г
					Jumper J	. "	EE	* FF	•		
					Jumper J	. "	D	* E.			
					Jumper Ji	.0. "	AA	• cc			
				1	Jumper J	u. *	W	" I.			1
					Jumper J	9. "	DD	" TP	208.	1	\vdash
				1							1
											1
										•	

ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131	Capacitor, Tantalum. 10	ıf 100070-106	1	C204.
132				
133	Resistor, 5%. iw. 7	50 100156-751	1	R234.
134	Resistor, " 3w.	47 100068-470	1	R248.
135	Resistor, " \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	50 100156-751	. 1	R268.
136	Resistor, " " 1	BK 100156-183	1	RL21.
137	Resistor, " " 6	8K 100156-683	3 1	RL31.
138	Resistor, " " 1	3K 100156-133) 1	Rh32.
139	Resistor, " 68		. 1	R466.
140	Resistory	50 100156-151	-	N. C.
1)11	Resistor, " " 39	OK 100156-391		R468.
1),2		5M 100156-159		R509.
143		50 100156 151	1	1610.
7 144	Resistor, " " 39	OK 100156-391		R511.
145	Resister, 5%. gw. 3.	3M 100156-335	1	R536.
146			 	
147	Wire, Solid Insulated.	100248-921	A/R	Jumper Jl. From JJ to KK.
				Jumper J2. " U " V.
				Jumper Jt. * PP * RR. Jumper J5. * F * G.
			+	Jumper J6. " GG " HR. Jumper J7. " H " J.
			+	Jumper J8. * EE * FF.
			+	Jumper J9. D II.
			+	Jumper JlO. * AA * CC.
				Jumper Jll. * W * X.
			+	Jumper J19. " DD " TP208
	<u> </u>			

NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131	Capacitor, Tantalum.	1.5uf	100136-155	1	C20h.
132					
133	Resistor, 5%. w.	750	100156-751	1	R2处。
134	Resistor, * 3w.	47	100068-470	1	R2l ₄ 8。
135	Resister, " aw	750	100156-751	1	R268,
136	Resister, " "	15K	100156-153	1	Ri,21.
137	Resistor, " "	51K	100156-513	1	Pl:31.
138	Resistor, " "	13K	100156-133	1	RL32.
139	Resistor, " "	680K	100156-684	1	RU66.
3710	Resistor,	150	100156-151		N.67.
ĺц	Resistor, " "	390K	100156-394	1	R468.
142	Resistor, " "	1.5M	100156-155	1	R509.
143	Resister, * *	250	100156-151		N/LO.
144	Resister, " "	390K	100156-394	1	R511.
145	Resistor, 5%. aw.	3.3M	100156-335	1	R536.
146					* 1.
147	Wire, Solid Insulated.		100248+924	A/R	Jumper Jl. From JJ to KK.
				. ,	Jumper J2 " U 2 V.
					Jumper Jh PP RR.
					Jumper J5. * F "G.
					Jumper J6. " GG " HH.
					Jumper J7. " H " J.
					Jumper J8. * EE * FF.
					Jumper J9. " D " B.
					Jumper JlO. " AA " CC.
					Jumper Jll. W W X.
					Jumper J19. " DD = 2P20

I					IVIL 200488 - 005
DRAW!	ASSY.TRAMSPORT ELECTRIC PMB. Type P' 37 ins			1 d	DATE 1/18/77 SHEET 10 OF
NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131	Capacitor, Tantalum.	1.5ut	100136-155	1	C204.
132					
133	Resistor, 5%. 1w.	750	100156-751	1	R234.
134	Resistor, " 3w.	47	100068-470	1	R21,8.
135	Resistor, " w.	750	100156-751	1	R268.
136	Resistor, " "	10K	100156-103	1	R421.
137	Resistor, " "	3 3 K	100156-333	.1	RL31.
138	Resistor, " "	15K	100156-153	1	R432.
139	Resistor, " "	300K	100156-304	1	RI466.
1140	Resistor, * "	-10K	100156-103	-1-	NG-
141	Resistor, " "	390K	100156-394	1	R468.
142	Resistor, " "	680K	100156 -68 4	1	R509.
11.3	Restator, " -	101	100156-103	-	25101
144	Resistor, " "	390K	100156-394	1	R511.
145					·
146					
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. Prom &J to KK.
					Jumper J2. " U " V.
					Jumper Ju. " PP " RR.
					Jumper 35. " F "G.
					Jumper J6. * GG * HH.
					Jumper J7. " H " J.
					Jumper J8. * EE *FF,
					Jumper J9. * D * B.
					Jumper J10. * AA * 0C.
					Jumper Jll. " W " I.
					Jumper J19. * DD * TB208.
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	MAIEKI	AF FIST		ML 2001/88 - 006 #
ASSY.TRANSPORT E	LECTRONTOS	· · · · · · · · · · · · · · · · · · ·		200488 - 006 T
AWING PWB. Type P1 LS1	D/G 9	Ch. MODEL NO	1ø	DATE 11/19/71 SHEET 11 OF
DRAWING TITE	LE	DWG, NO.	NO. REQ.	REMARKS ON CKT. DESIG.
Capacitor, Tantalum.	1.5uf	100136-155	1	C204.
2				
3 Resistor. 5%. 4w.	750	100156-751	1	R234.
ik Resistor. " 3w.	47	100068-470	1	R2148.
35 Ressistor. * lw.	750	100156-751	• 1	R268.
36 Resistor. " "	9.18	100156-912	1	Ri,21.
37 Resistor. " "	27K	100156-273	1	RL31.
38 Resistor. " "	15K	100156-153	1	RL32.
39 Resistor. " "	300K	100156-304	1	R\$66.
Decistor,	150	100156-151	1	Pk67-
A Resistor. " "	330K	100156-334	1	R1468.
2 Resistor. "	680K	100156-684	1	R509
3 Rectators	150	100156-151	1	1510.
Resistor. " "	330K	100156-334	1	R511.
ıs i				
k6				¥
7 Wire, Selid Insulate	đ.	1003/18-63/	A/R	Jumper Jl. From JJ to KK.
				Jumper J2. " U " V.
				Jumper Jt. * PP * RR.
				Jumper J5. " F " G.
				Jumper J6. " GG " HH.
				Jumper J7. * H + J.
				Jumper J8. * EE * FF.
				Jumper J9. " D " E.
				Jumper J10. * AA " CC.
				Jumper Jll. " W " X.
				Jumper J19. " ID " TP208.
	MATERI	AL LIST		DRAWING NO. REV.

TITL					DATE 11/18/71 SHEET 13 OF_
NO.	DRAWING TITLE		DWG. NO.	NO, REQ.	REMARKS ON CKT. DESIG.
131					
132					
133		750	100156-751	1	R234.
134	Resistor. 3w.	47	100068-470	1	R248.
135	Resistor. * 4w.	750	100156-751	1	R268.
136	Resistor. " "	27K	100156-273	1	RL21.
137	Resistor. " "	100K	100156-10	1	RL31.
138	Resister. " "	1.2K	100156-123	1	RL32.
139	Resistor. " "	680K	100156-684	1	R466.
140	Reciptor:	150	100156-151	-	RL67+
141		390K	100156-394	1	RL,68.
142	Resistor. " "	1.5M	100156-155	1	R509.
143	Recietor. 1	150	100156-151	1	R520+
144	Resistor. " "	390K	100156-394	1	R511.
145	Resistor. " "	3.3M	100156-335	1	R536.
146					
147	Wire, Solid Insulated.		1005118-651	A/R	Jumper J1. From JJ to KK.
					Jumper J2. " T " V.
					Jumper J3. " L " M.
					Jumper J5. " F "G.
					Jumper J7. " H " J.
					Jumper J8. EE FF.
				L	Jumper J9. " D " E.
					Jumper JlO. * AA * CC.
					Jumper Jll. " W " X.
					Jumper J13. " N " P.
					Jumper Jlh. " R "S.
					Jumper J19. " DD * TP208
			!	!	!

- 311021 - 3222 01-2			_
ON CKT. DESIG.		ITEM NO.	
		131	
		132	
		133	Resis
		- 134	Resi:
		135	Resis
		136	Resi:
		137	Resis
		138	Resis
		139	Resis
		140	Roots
		141	Resis
		1 142	Resis
		143	ilest
		144	Resis
		145	Resis
		146	
m JJ to KK.		1հ7	Wire
T " V.			
L " M.			
F G.			
н " J.			
EE FF.			
D " E.			
AA " CC.			
W " I.			
N "P.			
R * S.			
DD * TP208	·		
	_		
		L	L
00488 - 009	T.	J	
1 sнеет 11 ог_	_	DRAWL TITL	NG

NO.			Ch . MODEL NO	10	DATE11/18/71 SHEET 15 OF
131	DRAWING TITLE		DWG. NO.	NO, REQ.	REMARKS ON CKT. DESIG.
132					
133	Resistor. 5%. 2w.	750	100156-751	1	R234.
134	Resistor. " 3w.	47	100068-470	1	R248.
135	Resistor. * 4w.	750	100156-751	1	R268.
136	Resistor. " "	15K	100156-153	1	RL,21.
137	Resistor. " "	51K	100156-513	1	R431.
138	Resistor. " "	13K	100156-133	1	RL32.
139	Resistor. " "	680K	100156-684	1	RL 66.
140	Resistor: " "	150	100156-151	1	Nt.67.
141	Resistor. " "	390K	100156-394	1	RL68.
142	Resistor. " "	1.5M	100156-155	1	R509.
143	Restoters "	150	100156-151	1	nçıe.
1հհ	Resistor. " "	390K	100156-394	1	R511.
145	Resistor. " "	3.3M	100156-335	1	R536.
146					
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.
					Jumper J2. " T " V.
					Jumper J3. " L " M.
					Jumper J5. " F "G.
					Jumper J?. " H " J.
					Jumper J8. " EE " FF.
					Jumper J9. " D " E.
					Jumper J10. " AA " GC.
					Jumper Jll. " W " X.
					Jumper J13. " N " P.
					Jumper Jlu. " R "S.
					Jumper J19. " DD " TP208
Ţ					
			<u> </u>		

TEM NO.	DRAWING TITL	E	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131					
132					
133	Resistor. 5%. tw.	750	100156-751	1	R234.
134	Resistor. " 3w.	47	100068-470	1	R248.
135	Resistor. " tw.	750	100156-751	1	R268.
1.36	Resistor. " "	9.1K	100156-912	1	RL21.
137	Resistor. " "	27K	100156-273	1	R431.
138	Resistor. " "	15K	100156-153	1 '	RL32.
139	Resistor. " "	30 0 K	100156-304	1	R466.
ηŧο	Resister: " "	150	100156-151	1	11,67 .
141	Resistor. " "	330K	100156-33h	1	R468.
142	Resistor. " "	680K	100156-684	1	R509.
143	Recistor	150	100156-151	-	10,10.
1747	Resistor. " "	330K	100156-334	1	R511.
145					
146					
147	Wire, Solid Insulated		100248-924	A/R	Jumper Jl. From JJ to KK.
				ļ	Jumper J2. " T " V.
					Jumper J3. " L " M.
			· · · · · · · · · · · · · · · · · · ·		Jumper J5. " F "G.
					Jumper J7. " H " J.
					Jumper J8. " EE "FF.
					Jumper J9. " D " E.
					Jumper J10. " AA " CC.
					Jumper Jll. " W " X.
					Jumper Jl3. " N "P.
					Jumper Jll. " R "S. Jumper Jl9. " DD " TP208.
				-	Jumper J19. " DD " TP208.
_					

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7	b) ,	MATERI	AL LIST	=	ML	200488 - 207	REV.
L	ASSY.TRANSPORT E	HOPPOUTCS					
DRAWN	Pim. Type'A' 101	pa. D/G. 90	À. MODEL NO	29	DATE 11	19/71 SHEET 12 O	<u>'</u>
HQ.	DRAWING TIT	LE	DWG. NO.	NO. REQ.	REMA	RKS ON CKT. DESIG	
131							
132							
233	Recistor. 5%. 1w.	750	100156-751	1	R234.		
134	Resister. " 3w.	47	100068-470	'1	R248.		
135	Resistor. * w.	750	100156-751	1	R268.		
136	Resistor. " "	33K	100156-333	1	R421.		
137	Resistor. " "	120K	100156-124	1	RL31.		
138	Resistor. " "	12K	100156-123	1	RL32.		
139	Resistor. " "	680K	100156-684	1	R466.		
ilio	Restator	150	100156-151	-1-	PLCP.		
241	Resistor. " "	390K	100156-394	1	RU68.		
142	Resistor. " "	1.5M	100156-155	1	R509		
143	Reciptor.	150	100156-151	-	2520-		
344	Resistor. " "	390K	100156-394	1	R511.		
345	Resistor. " "	3.3M	100156-335	1	R536.		
146							
147	Wire, Solid Insulate	d.	100248-924	A/R	Jumper Jl	. From JJ to KK.	
		,			Jumper J2	T "V.	
					Jumper J3	. " L "H.	
					Jumper J	. * F * G.	
					Jumper J7	. п н « J.	
					Jumper J6	3. " KS "PF.	
					Jumper J	. " D " E.	
					Jumper J	LO. " AA "CC.	•
					Jumper J	u. * W * X.	
	1				Jumper J	13. " N "P.	
					Jumper J	ц. "R "S.	
					Jumper J	19. '* DD "TP:	208.
	 			T			
	1						
	1						
-							

7	MATE	RIAL	LIST	_	М		WING		REV.
I	N	-00			IVIC	200	488 -	009	17
DRAWIN	ASSY.TRANSPORT ELECTRON PWB. Type 'A' 18 ips. D/	.co <u>}</u> 9Ch ⊶.c	DEL NO.	10	DATE	/18/71	SHEET	14 of.	
NO.	DRAWING TITLE	ום	rG. NO.	NO. REQ.	REA	ARKS OF	CKT.	DESIG.	
131									
132									
133	Resistor. 5%. tw. 7	0 100	156-751	1	R234.				
13h	Resistor. * 3w.	7 100	068-470	1	R248.				
135	Resistor. " lw. 7	50 100	156-751	1	R268.	-			
136	Resistor. " 1	K 100	156-183	1	RL21.				
137	Resistor. " " 6	3K 100	156-683	1	RL31.				
138	Resistor. " " 1	3K 100	156-133	1	RL32.				
139	Resistor. " * 68	OK 100	156-684	1	R466.				
140	Recietor: 1	50 100	156-151	-	RL67.				
141	Resistor. " " 39	OK 100	156-394	1	RL68.				
142	Resistor. " " 1.	5M 100	156-155	1	R509.				
143	Resistor: 1	50 100	156-151	-	1510-				
144	Resistor. " " 39	OK 100	156-394	1	R511.				
145	Resistor. " " 3.	3M 100	156-335	1	R536.				
146									
147	Wire, Solid Insulated.	100	245-924	A/R	Jumper J	1. From	ı JJ 1	to KK.	
					Jumper J	2. "	T	" V.	
					Jumper J	13. "	L	H M.	
				j	Jumper J	15. "	F	* G.	
					Jumper J	7. "	Н	" J.	
					Jumper J	8. "	EE	" FF.	
					Jumper J	9. "	D	" E.	
		1			Jumper J	10. "	AA	" CC.	
					Jumper J	11. "	W	" ¥.	
					Jumper J		N	" P.	
		T			Jumper J		R	" S.	,
	<u> </u>				Jumper J	119. "	DO	" TP20	8.
					 				
		7			 				
	<u> </u>	1							

ITEM NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131					
132					
133	Resistor. 5%. iw.	7 50	100156-751	1	R234.
134	Resistor. " 3w.	47	100068-470	1	R2l ₁ 8.
135	Resistor. * 1w.	750	100156-751	1	R268.
136	Resistor. " "	10K	100156-103	1	RL21.
137	Resistor. * *	33K	100156-333	1	RL31.
138	Resister. " "	15K	100156-153	1	RL32.
139	Resistor. * "	300K	100156-304	1	R466.
1 710	Recistery	10X	100156-103	1	AL67-
141	Resistor. " "	390 K	100156-394	1	RL68.
1h2	Resistor. " "	680K	100156-68h	1	R509.
143	Resistor	101	100156-103	1	RELOT
144	Resistor. " "	390K	100156-394	1	R511.
145					
146					
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.
					Jumper 12. " T "V.
					Jumper J3. " L " M.
					Jumper J5. ". F " G.
					Jumper J7 " H " J.
					Jumper J8. " EE "FF.
					Jumper J9. " D "E.
				L	Jumper JlO. " AA " CC.
					Jumper Jll. W W X. *
				<u> </u>	Jumper Jl3. " N " P.
					Jumper Jlh. " R "S.
					Jumper J19. " DD " TP208.
	1		I	i	E .

TITL	ASSY.TRANSPORT ELECT		Ch. MODEL NO	15	DATE 1/18/71 SHEET 17 OF
EM).	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
31					
32					
33	Resistor. 5%. tw.	750	100156-751	1	R234.
14	Resistor. * 3w.	47	100068-470	1	R248.
35	Resistor. " jw.	750	100156-751	1	R268.
36	Resistor. " "	9.1K	100156-912	1	Rl ₁ 21.
37	Resistor. " "	27K	100156-273	1	R431.
8	Resistor. " "	15K	100156-153	1 '	Rl132.
9	Resistor. " "	30 0 K	100156-304	1	R466.
0	Resister: "	150	100156-151	1	21.67 .
1	Resistor. " "	330K	100156-334	1	R468.
12	Resistor. " "	680K	100156-684	1	R509.
13	Resistory	150	100156-151	-	RC10+
<u>14</u>	Resistor. " "	330K	100156-334	1	R511.
5	:		<u> </u>		X P
16				 	
17	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.
				 	Jumper J2. " T " V.
_					Jumper J3. " L " M.
				 	Jumper J5. " F "G.
				<u> </u>	Jumper J7. " H " J.
					Jumper J8. " EE "FF.
					Jumper J9. " D " E.
					Jumper J10. " AA " CC.
	<u> </u>				Jumper Jll. " W " X.
					Jumper Jl3. " N "P.
_					Jumper Jlu. " R "S.
				-	Jumper J19. " DD " TP208.
				 -	
				 	
					1
N	ASSA LEVANSBORT ETENA			=	ML DRAWING NO. REV. 200488 - 013 7
	ASSY.TRANSPORT ELECT	TRONICS	h. MODEL NO		ML 2001,88 - 013 7
EM O.	ASSY.TRANSPORT ELECT PWB. Type P 10ips.	TRONICS S/G. 90	DYG. NO.	NO. REQ.	2001,88 - 013 7 DATE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG.
M).	ASSY.TRANSPORT ELECT	TRONICS	DYG. NO.		ML 2001,88 - 013 7
EM 0. 31	ASSY.TRANSPORT ELECT PWB. Type P 10ips.	TRONICS S/G. 90	DYG. NO.	NO. REQ.	2001,88 - 013 7 DATE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG.
5.M 31 32	ASSY.TRANSPORT ELECT PWB. Type P 10ips.	TRONICS S/G. 90	DYG. NO.	NO. REQ.	2001,88 - 013 7 DATE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG.
31 32 33 34	ASSY.TRANSPORT ELECT PWB. Type P 10ips.	TRONICS S/G. 90	24. MODEL NO DWG. NO. 100070-106	NO. REQ.	2001,88 - 013 7 DATE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG.
5. ^M 31 32 33 34 35	ASSY.TRANSPORT ELECT PWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum.	TRONICS S/G. 90	2h. MODEL NO DWG. NO. 100070-106	NO. REQ.	DATE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG. C20h.
31 32 33 34 35	ASSY.TRANSPORT ELECTION FWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. aw.	TRONICS S/G. 90	DWG. NO. 100070-106	NO. REQ.	DATE 11/18/71 SHEET 18 OF REMARKS ON CKY. DESIG. C204.
5. ^M 31 32 33 34 35 36	ASSY.TRANSPORT ELECT FWB. Type!P! loips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. 2w. Resistor. " "	TRONICS S/G. 90 10uf 33K	DWG, NO. 100070-106	1 1 1	DATE 11/18/71 SHEET 18 OF DATE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG. C204.
31 32 33 34 35 36 37 38	ASSY.TRANSPORT ELECTIVE PWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. iw. Resistor. " " Resistor. " "	10uf 10uf 33K 120K	DWG. NO. 100070-106 100156-333 100156-124 100156-123	NO. REQ.	DATE 11/18/71 SHEET 18 OF DATE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG. C204.
33 33 34 35 36 37 38	ASSY.TRANSPORT ELECT FWE. Type!P! loips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. 2w. Resistor. " " Resistor. " " Resistor. " "	10uf 10uf 33K 120K 12K 680K	DWG. NO. 100070-106 100156-333 100156-124 100156-123 100156-684	1 1 1 1 1 1	DATE 11/18/71 SHEET 18 OF PARKS ON CRT. DESIG. C204. RL21. RL31. RL32. RL66. RL66.
1 2 3 4 5 6 7 8	ASSY.TRANSPORT ELECT FWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. iw. Resistor. " " Resistor. " " Resistor. " " Resistor. " "	10uf 10uf 33K 120K 12K 680K	DWG. NO. 100070-106 100156-333 100156-124 100156-684 100156-55	1 1 1 1 1	DATE 11/18/71 SHEET 18 OF PARKS ON CRT. DESIG. C204. RL21. RL31. RL32. RL66. RL66. RL67.
1 2 3 4 5 6 7 8	ASSY.TRANSPORT ELECT FWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	33K 120K 12K 680K 390K	DWG. NO. 100070-106 100156-333 100156-124 100156-684 100156-52 100156-394	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N
1 2 3 4 5 6 7 8 9 0 1 2 2	ASSY.TRANSPORT ELECT FWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. iw. Resistor. " "	33K 120K 12K 680K 259 390K 1.5M	DWG. NO. 100070-106 100156-333 100156-124 100156-684 100156-394 100156-155	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DATE 11/18/71 SHEET 18 OF PARTE 11/18/71 SHEET 18 OF REMARKS ON CKT. DESIG. C20h.
5. 31 32 33 34 35 36 37 38 39 40 41	ASSY.TRANSPORT ELECT FWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 250 390K 1.5M	DWG. NO. 100070-106 100156-333 100156-124 100156-684 100156-394 100156-155	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DATE 11/18/71 SHEET 18 OF PART PART
5.5. 31 32 33 34 35 36 37 38 39 40 41 42 43 44	ASSY.TRANSPORT ELECT FWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	0wc. No. 100070-106 100156-333 100156-12h 100156-123 100156-68h 100156-39h 100156-155 100156-39h	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N
31 32 33 34 35 36 37 38 39 40 41 42 43	ASSY.TRANSPORT ELECT FWB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantalum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 250 390K 1.5M	DWG. NO. 100070-106 100156-333 100156-124 100156-684 100156-394 100156-155	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DATE 11/18/71 SHEET 18 OF PART PART
16. 31 32 33 34 35 36 37 38 40 41 42 43 44 45 46	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-127 100156-128 100156-129 100156-129 100156-129 100156-129 100156-129 100156-129	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N
16. 31 32 33 34 35 36 37 38 40 41 42 43 44 45 46	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	0wc. No. 100070-106 100156-333 100156-12h 100156-123 100156-68h 100156-39h 100156-155 100156-39h	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N
5. 31 32 33 34 35 36 37 38 39 40 41 45 46	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-127 100156-128 100156-129 100156-129 100156-129 100156-129 100156-129 100156-129	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N
5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NL 200188 - 013 7
5. 31 32 33 34 35 36 37 38 39 40 41 42 43 445	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
31 32 33 34 35 36 37 38 39 40 41 42 43 44	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 139 140 141 141 141 141 141 141 141 141	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 139 140 141 142 143 144 145	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 140 141 141 141 141 141 141 141 141	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 139 140 141 142 143 144 145	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 139 140 141 142 143 144 145	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 139 140 141 142 143 144 145	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 139 140 141 142 143 144 145	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-125 100156-125 100156-125 100156-125 100156-125 100156-394 100156-394 100156-335	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
131 132 133 134 135 136 137 138 139 140 141 141 141 141 141 141 141 141	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-155 100156-151 100156-394 100156-395 100156-395	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7
16. 31 32 33 34 35 36 37 38 40 41 42 43 44 45 46	ASSY.TRANSPORT ELECT MB. Type'P' 10ips. DRAWING TITLE Capacitor, Tantelum. Resistor. 5%. iw. Resistor. " "	10uf 10uf 10uf 33K 120K 12K 680K 158 390K 1.5M 350 390K	100156-333 100156-124 100156-684 100156-155 100156-151 100156-394 100156-395 100156-395	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. 200188 - 013 7

NO. REV.	MATERIAL LIST ML DRAWING NO. REV.	MATERIAL LIST ML DRAWING NO. REV.	DATA GENATERIAL LIST ML DRAWING NO. REV.	MATERIAL LIST AND DRAWING NO. RE
006			VIL 200488 - 012	MATERIAL LIST ML DRAWING NO. RE 2004,88 - 08.1;
l l	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 12; ips. D/G. 9Ch. MODEL NO. 15 DATE 11/18/71 SHEET 13 OF	DRAWING ASSY.TRANSPORT ELECTRONICS DRAWING FWB, Type'A' 25ips. D/G. 9Ch. MODEL NO. 10 DATE:11/18/71 SHEET 15 OF	ASSY.TRANSPORT ELECTRONICS DRAWING TITLE PMB. Type A' 151ps. D/u, 9Ch. MODEL NO. 16 DAT611/18/71 SHEET 17 OF	ASSY.TRANSPORT ELECTRONICS
11 of				
OESIG.	ITEM NO. DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	ITEM DRAWING TITLE DWG. NO. REQ. REMARKS ON CKT. DESIG.	TEM DRAWING TITLE DWG. NO. REQ. REMARKS ON CKT. DESIG.	ITEM NO. DRAWING TITLE . DWG. NO. NO. REQ. REMARKS 'ON CKT. DESIG.
D	131	131	131	131 Capacitor, Tantalum. 10uf 100070-106 1 C204.
	132	132	132	132
	133 Resistor. 5%. iv. 750 100156-751 1 R234.	133 Resistor. 5%. 4w. 750 100156-751 1 R234.	133 Resistor. 5%. tw. 750 100156-751 1 R234.	133
	134 Resistor. " 3w. 47 100068-470 1 R248.	134 Resistor. " 3w. 47 100068-470 1 R248.	134 Resistor. " 3w. 47 100068-470 1 R248.	134
I	135 Resistor. " 4w. 750 100156-,51 1 R268.	135 Resistor. " aw. 750 100156-751 1 R268.	135 Resistor. * r. 750 100156-751 1 R268.	135
	136 Resistor. " " 27K 100156-273 1 RL21.	136 Resistor. " " 15K 100156-153 1 RL21.	136 Resistor. " " 9.1K 100156-912 1 Ru21.	
		137 Resistor. " " 51K 100156-513 1 R431.		
i				137 Resister. " 180% 100156-104 1 R431.
	138 Resistor. " " 12K 100156-123 1 RL32.	138 Resistor. " " 13K 100156-133 1 R432.	136 Resistor. " " 15K 100156-153 1 'R432.	138 Resistor. " " 12K 100156-123 1 Ri32.
	139 Resistor. " " 680K 100156-684 1 R466.	139 Resistor. " " 680K 100156-68H 1 R466.	139 Resistor. " " 300K 100156-30L 1 R466.	139 Resister. " " 680K 100156-684 1 R466.
	140 Resistor: " 150 100156-151 1 11467.	140 Recistor: " " 150 100156-151 1 Rh67.	140 Resister: " 150 100156-152 1 Rid9.	140 Resister. " * 150 180155-151 1 1467.
	1)11 Resistor. " " 390K 100156-394 1 R468.	141 Resistor. " " 390K 100156-394 1 R468.	141 Recistor. " " 330K 100156-334 1 R468.	141 Resister. " " 390K 100156+394 1 R468.
	142 Resistor. " " 1.5M 100156-155 1 R509.	1h2 Resistor. " " 1.5M 100156-155 1 R509.	142 Resistor. " " 680K 100156-684 1 R509.:	142 Resistor. * * 1.5M 100156-155 1 R509.
	1h3 Recietors 1 1 150 100156-151 1 R510-	143 Resisters " 150 100156-151 1 2520.	11/3 Recistory " " 150 100156 151 1 R510.	113 Resister. ** 250 100156-151 1 2520-
	1hk Resistor. " 390K 100156-394 1 R511.	1bh Resistor. " " 390K 100156-394 1 R511.	144 Resistor. " " 330K 100156-334 1 R511.	
	145 Resistor. " " 3.3M 100156-335 1 R536.	lh5 Resistor. " " 3.3M 100156-335 1 R536.	145	
	116 nesistor. 3.5m 100250=355 1 1050.	116	146	
				146
KK.	lh7 Wire, Solid Insulated. 1002h8-92h A/R Jumper Jl. From JJ to KK.	1h7 Wire, Solid Insulated. 1002h8-92h A/R Jumper Jl. From JJ to KK.	147 Wire, Solid Insulated. 100246-924 A/R Jumper Jl. From JJ to KK.	11.7 Wire, Solid Insulated 10021,3-921, A/R Jumper Jl. From KK to LL.
. ∀. k,/	Jumper J2. " T " V.	Jumper J2. " T "V.	Jumper J2. " T " V. 🗶	Jumper J2. " U " V. Jumper Jk. " PP " RR.
RR.	Jumper J3. " L " M.	Jumper J3. " L " M.	✓ Jumper J3. " L " M. X →	Jumper Jk. " PP " RR.
G. —	Jumper J5. " F " G.	Jumper J5. " F " G.	Jumper J5. " F " G	Jumper J5. " F " G.
HH.	Jumper J7. " H " J.	Jumper J?. " H " J.	Jumper J7. " H " J.	Jumper J6. " GG " HH.
J	Jumper J8. " EE " FF.	Jumper J8. " EE "FF.	Jumper J8. " EE " FF	Junper J7. " H " J.
FF	Jumper J9. " D " E.	Jumper J9. " D " E.	Jumper J9. " D " E	Jumper J8. " EE " FF.
E	Jumper JlO. " AA " GC.	Jumper J10. " AA " CC.	Jumper Jlo. " AA " CC.	
	Jumper Jll. " W " X.	Jumper Jll. " W " X.	Jumper Jll. " W " I.	Jumper J9. " D * E.
cc.	Jumper J13. " N " P.	Jumper 311. " W " 1.	Jumper JII. " W " A. Jumper J13. " N " P. ×	Jumper J10. " AA " CG,
<u>x.</u> -				Jumper Jll. " W " X.
TP208.	Jumper Jli. " R "S.	Jumper Jlh. " R "S.	Jumper Jl4. " R "S. ❤	Jumper J15. * A * C.
	Jumper J19. " DD " TP208.	Jumper Jl9. " DD " TP208.	Jumper J19. " DD " TP208.	Jumper Jlé. " UU " VV.
				Jumper J17. " WW " XX.
				Jumper J19. " DD " TP208.
			X-REMOVE	
NO. REV.	MATERIAL LIST MI DRAWING NO. REV.	MATERIAL LIST MI DRAWING NO. REV.	MATERIAL LIST ORANING NO. REV.	MATERIAL LIST AND DRAWING NO. BEEK.
NO. REV.	MATERIAL LIST ML DRAWING NO. REV. 2004,88 - 009	MATERIAL LIST ML DRAWING NO. REV. 200488 - 011 .	MATERIAL LIST ML DRAWING NO. REV. 200488 - 013	MATERIAL LIST ML 200488 - 025
NO. REV.	ML 2004,88 - 009	ASSY, TRANSPORT ELECTRONICS	ML 200488 - 013	ML 200488 - 025
NO. REV.	ML 2004,88 - 009	ASSY. TRANSPORT ELECTRONICS TITLE PMB. Type A 3741Bs. D/G. 9Ch amodel No. 10 DATED/18/71 SHEET 16 OF	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE PWB. Type P' 10ips. S/G. 9Ch. MODEL NO. 18 DATE 11/18/71 SHEET 18 OF	MATERIAL LIST ML DRAWING NO. REV. DRAWING NO. REV. 200468 - 015 DATE 11/18/71 SHEET 20 OF
DESIG.	DRAWING ASST. TRANSPORT ELECTRONICS DRAWING PWB, Type 'A' 18 ips, D/G, 9Ch MODEL NO. 10 DATE 1/18/71 SHEET 14 OF ITEM DRAWING TITLE DWG, NO. NO. REQ. REMARKS ON CKT. DESIG.	PRANIMG ASSY. TRANSPORT ELECTRONICS TITLE PMB. Type A' 374108. D/G. 9Ch amodel no. 16 DATEIJ/18/71 SHEET 16 OF PARIMG DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG.	ML 200488 - 013	DRAWING NO. REV. DRAWING NO. DRAWING NO. DATE 11/18/71 SHEET 20 OF TILE THE DRAWING TITLE DRAWING TITLE DRAWING NO. NO. REQ. REMARKS ON CKT. DESIG.
	DRAWING ASST. TRANSPORT ELECTRONICS DRAWING PWB, Type 'A' 18 ips, D/G, 9Ch MODEL NO. 10 DATE 1/18/71 SHEET 14 OF ITEM DRAWING TITLE DWG, NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING TITLE DWG. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE PWB. Type P' 10ips. S/G. 9Ch. MODEL NO. 18 DATE 11/18/71 SHEET 18 OF	ASST. TRANSPORT ELECTRONICS TITLE ASST. TRANSPORT ELECTRONICS FIB. Type P1 18 1ps. S/G. 9Ch-MODEL NO. 10 DATE 11/18/71 SHEET 20 OF ITEM DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.
DESIG.	DRAWING ASSY, TRANSPORT ELECTRONICS TITLE PMB, Type 'A' 18 ips. D/G, 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 14 OF	DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG.	200488 - 013	ASST. TRANSPORT ELECTRONICS TITLE PMB. Type-IP' 18 ips. S/G. 9Ch-MODEL NO. 10 DATE 11/18/71 SHEET 20 OF ITEM NO. DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204.
DESIG.	DRAWING ASSY, TRANSPORT ELECTRONICS TITLE PMB, Type'A' 18 ips. D/G, 9Ch MODEL NO. 10 DATE 1/18/71 SHEET 14 OF ITEM NO. DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 132	DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 132	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE PMB. Type P' 10ips. S/9. 90h. Model No. 18 DATE 11/18/71 SHEET 18 OF NO. DRAWING TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G20h. 132	DRAWING TITLE DWG. NO. NO. NO. NO. NO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 C204.
DESIG.	ML 2001,88 - 009	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE PHB. Type: At 37 ins. D/G. 90h MODEL NO. 10 DATEII/18/71 SHEET 16 OF ITEM NO. DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 132 133 Resister. 5%. iw. 750 100156-751 1 R231.	ASSY.TRANSPORT ELECTRONICS DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 C20h. 132 133	DRAWING TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204.
DESIG.	ML 200L88 - 009	ASSY.TRANSPORT ELECTRONICS DATEII/18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 133 134
DESIG.	Mainternal Mai	DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 132 133 Resistor. 5%. 1w. 750 100156-751 1 R214. 134 Resistor. " 3w. 147 100068-1470 1 R2148. 135 Resistor. " 1w. 750 100156-751 1 R268.	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF NO. REMARKS ON CKT. DESIG.	DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 C204. 133 134 135
DESIG.	DRAWING ASSI.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 14 OF	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF NO. REMARKS ON CKT. DESIG.	ASSI.TRANSPORT ELECTRONICS TITLE DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. ½v. 18K 100156-183 1 RL21.
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	DRAWING ASSY.TRANSPORT ELECTRONICS DMG. NO. 16 DATEIJ/18/71 SMEET 16 OF ITEM	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF DATE 18 OF	ASST.TRANSPORT ELECTRONICS PMB. Type*P* 18 ips. S/G. 9Ch.model No. 16 DATE 11/18/71 SHEET 20 OF ITEM
DESIG.	Maint Main	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG.	ASST. TRANSPORT ELECTRONICS TITLE DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. \(\frac{1}{4}\)v. 18K 100156-183 1 Rh21. 137 Resistor. " " 68K 100156-683 1 Rh31. 138 Resistor. " " 13K 100156-133 1 Rh32.
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DMG. Type At 374108. D/G. 9Ch AMODEL NO. 16 DATEIJ/18/71 SMEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF DATE 18 OF DATE 18 OF DATE 18	ASST. TRANSPORT ELECTRONICS TITLE DRAWING TITLE DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 C204. 132 133 134 135 136 Resistor. 5\$. 4v. 18K 100156-183 1 R421. 137 Resistor. " " 68K 100156-683 1 R431. 138 Resistor. " " 68K 100156-133 1 R432. 139 Resistor. " " 680K 100156-684 1 R432.
DESIG.	Maint Main	ASSY.TRANSPORT ELECTRONICS DATEIN 18	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG.	ASST. TRANSPORT ELECTRONICS TITLE DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. \(\frac{1}{4}\)v. 18K 100156-183 1 Rh21. 137 Resistor. " " 68K 100156-683 1 Rh31. 138 Resistor. " " 13K 100156-133 1 Rh32.
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DMG. Type At 374108. D/G. 9Ch AMODEL NO. 16 DATEIJ/18/71 SMEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF DATE 18 OF DATE 18 OF DATE 18	ASST. TRANSPORT ELECTRONICS TITLE DRAWING TITLE DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 C204. 132 133 134 135 136 Resistor. 5\$. 4v. 18K 100156-183 1 R421. 137 Resistor. " " 68K 100156-683 1 R431. 138 Resistor. " " 68K 100156-133 1 R432. 139 Resistor. " " 680K 100156-684 1 R432.
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG.	ASST.TRANSPORT ELECTRONICS THE Type P' 18 ips. S/G. 9Ch-MODEL NO. 10 DATE 11/18/71 SHEET 20 OF ITEM DRAWING TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. \(\frac{1}{4}\)v. 18% 100156-183 1 Ri-21. 137 Resistor. " " 68% 100156-683 1 Ri-31. 138 Resistor. " " 68% 100156-681 1 Ri-32. 139 Resistor. " " 68% 100156-681 1 Ri-66. 1h0 Resistor. " " 680% 100156-681 1 Ri-66.
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATEIN 18	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PMB. Type*P' 18 ips. S/G. 9Ch.Model No. 10 DATE 11/18/71 SHEET 20 of ITEM DRAWING TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. ½v. 18X 100156-183 1 Ri21. 137 Resistor. " " 68K 100156-683 1 Ri31. 138 Resistor. " " 13K 100156-133 1 Ri32. 139 Resistor. " " 680K 100156-68h 1 Ri466. 1h0 Resistor. " " 680K 100156-68h 1 Ri466.
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF	ASSI, TRANSFORT ELECTRORICS WILL Type P! 18 ips. S/G. 9Ch-MODEL NO. 10 DATE 11/18/71 SHEET 20 of ITEM DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. \$\frac{1}{2}\times. 18K 100156-183 1 Right. 137 Resistor. " " 68K 100156-683 1 Right. 138 Resistor. " " 13K 100156-133 1 Right. 139 Resistor. " " 680K 100156-68h 1 Right. 130 Resistor. " " 680K 100156-68h 1 Right. 1h0 Resistor. " " 390K 100156-394 1 Right. 1h1 Resistor. " " 390K 100156-394 1 Right. 1h2 Resistor. " " 150 100156-155 1 Right. 1h3 Resistor. " " 1.5M 100156-155 1 Right.
DESIG.	Mair	ASSY.TRANSPORT ELECTRONICS DATEIN ASSY.TRANSPORT ELECTRONICS PMB. Type A' 37 108. D/G. 90h amodel no. 16 DATEIN 18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	ASSI, TRANSFORT ELECTRONICS THE PMB. Type*P' 18 ips. S/G. 9Ch. MODEL NO. 10 DATE 11/18/71 SHEET 20 of
DESIG.	Mair	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF	ASSI, TRANSFORT ELECTRONICS PMB. Type*P' 18 ips. S/G. 9Ch. MODEL NO. 10 DATE 11/18/71 SHEET 20 of ITEM
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB, Type 'A' 18 ips. D/G, 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATEIL/18/71 SHEET 16 OF	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	ASST.TRANSPORT ELECTRONICS PMB. Type*P* 18 ips. S/G. 9Ch.Model No. 16 DATE 11/18/71 SHEET 20 of ITEM
DESIG.	DRAWING ASSI.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF TEM	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING PMB. Type Pl 8 DR. S/G. 9Ch. MODEL NO. 10 DATE 11/18/71 SHEET 20 of
DESIG.	DRAWING ASSI.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF TITLE	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF	ASSI, TRANSFORT ELECTRONICS PMB. Type*P' 18 ibs. S/G. 9Ch. MODEL NO. 10 DATE 11/18/71 SHEET 20 of ITEM DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. \$\frac{1}{2}\times. 168 \times 100156-183 1 Rh21. 137 Resistor. " " 68 \times 100156-683 1 Rh31. 138 Resistor. " " 680 100156-681 1 Rh52. 139 Resistor. " " 680 100156-681 1 Rh66. 1h0 Resistor. " " 680 100156-681 1 Rh67. 1h1 Resistor. " " 390 100156-394 1 Rh68. 1h2 Resistor. " " 150 160156-155 1 R509. 1h3 Resistor. " " 390 100156-394 1 Rh68. 1h4 Resistor. " " 390 100156-394 1 R511. 1h5 Resistor. " " 390 100156-394 1 R511. 1h6 Resistor. " " 390 100156-395 1 R536. 1h6 Wire, Solid Insulated. 1002h8-92h A/R Jumper Jl. Frem KK to LL. Jumper J2. " U " V.
DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB, Type'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF 18/71 SHEET 16/71 SHEET 1	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	ASSI, TRANSPORT ELECTRONICS PMB. Type*P' 18 ips. S/G. 9Ch. Model No. 10 DATE 11/18/71 SHEET 20 of ITEM NO. DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 1001 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. \$\frac{1}{2}\times. 18K 100156-183 1 Rh21. 137 Resistor. " " 68K 100156-683 1 Rh31. 138 Resistor. " " 680K 100156-681 1 Rh51. 139 Resistor. " " 680K 100156-681 1 Rh52. 139 Resistor. " " 680K 100156-681 1 Rh66. 1h0 Resistor. " " 390K 100156-391 1 Rh67. 1h1 Resistor. " " 390K 100156-391 1 Rh68. 1h2 Resistor. " " 150 160156-151 1 R509. 1h3 Resistor. " " 390K 100156-391 1 R509. 1h4 Resistor. " " 390K 100156-391 1 R511. 1h5 Resistor. " " 390K 100156-391 1 R511. 1h6 1h7 Wire, Solid Insulated. 1002h8-92h A/R Jumper Jl. Frem KK to LL. Jumper Jl. " FF " RR.
EK.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB, Type'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	ASSY.TRANSPORT ELECTRONICS DATE 18/71 SHEET 16 OF DATE 18/71 SHEET 16/71	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	ASSI, TRANSFORT ELECTRONICS PMB. Type*P' 18 ibs. S/G. 9Ch-Model No. 10 DATE 11/18/71 SHEET 20 of TEM. Type*P' 18 ibs. S/G. 9Ch-Model No. No. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5\$. \$\frac{1}{2}\times. 168 \times 100156-163 1 Rh21. 137 Resistor. " 168 100156-683 1 Rh31. 138 Resistor. " 138 100156-683 1 Rh31. 139 Resistor. " 1680 100156-684 1 Rh62. 140 Resistor. " 1680 100156-684 1 Rh67. 141 Resistor. " 3908 100156-394 1 Rh68. 142 Resistor. " 159 160156-155 1 R509. 143 Resistor. " 3908 100156-394 1 Rh68. 144 Resistor. " 3908 100156-394 1 R511. 145 Resistor. " 3908 100156-394 1 R511. 146 Resistor. " 3908 100156-395 1 R536. 147 Wire, Solid Insulated. 1002h8-92h A/R Jumper J1. From KK to LL. Jumper J1. " FF " RR. Jumper J5. " F " O.
DESIG. KK. V. M. G. J.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131	ASSY.TRANSPORT ELECTRONICS DMG. NO. NO. REO. DATEIJ/18/71 SMEET 16 OF THE	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	ASSI, TRANSFORT ELECTRORICS THE PMB. Type 18 ips. S/G. 9Ch-Model No. 10 DATE 11/18/71 SHEET 20 of
DESIG. KK. V. M. G. J. FF.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	Dearwise	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 11/18/71 SHEET 18 OF ITEM DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING PMB. Type*P* 18 ips. S/G. 9Ch.model.No. 10 DATE 11/18/71 sweet 20 of
DESIG. EK. V. M. G.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131	ASSY.TRANSPORT ELECTRONICS DMG. NO. NO. REO. DATEIJ/18/71 SMEET 16 OF THE	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING PMB. Type*P* 18 ips. S/G. 9Ch-MODEL NO. 10 DATE 11/18/71 SHEET 20 of 1750 DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 G204.
DESIG. KK. V. M. G. J.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type 'A' 18 ips. D/G. 9Ch MODEL NO. 16 DATE 1/18/71 SHEET 11 OF	Dearwise	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE DWG. NO. 16 DATE 11/18/71 SHEET 18 of	ASSI, TRANSFORT ELECTRONICS PMB. Type*P' 18 ibs. S/G. 9Ch. MODEL NO. 10 DATE 11/18/71 SHEET 20 of TEM
EK. V. M. G. J. FF.	ASSY.TRANSPORT ELECTRONICS PWB. TYPE'A' 18 ips. D/G. 9Ch-Model No. 19 Date 1/18/71 SHEET 11 of	Deaming	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 16 DATE 1/18/71 SHEET 18 OF	ASSI, TRANSFORT ELECTRONICS FMB. Type*P' 18 ips. S/G. 9Ch-Model No. 10 DATE 11/18/71 SHEET 20 of
DESIG. EK. V. M. G. J. FF. E.	ASSY.TRANSPORT ELECTRONICS PWB, Type'A' 18 ips. D/G, 9Ch-MODEL NO. 10 DATE: 18/71 SHEET 11 OF DATE: 18/71 SHEET 11 OF	Deaming	MIL 200188 - 013	DRAWING
EK. V. M. G. J. FF. E. CG.	ASSY.TRANSPORT ELECTRONICS TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.	Dearing	DRAWING PARE Type P 10 10 10 10 10 10 10	ASSI, TRANSPORT BIEGTRONICS DATE 11/18/71 SWEET 70 OF VIEW DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131
DESIG. KK. V. M. G. J. FF. E. CG.	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG.	ASSY.TRANSPORT ELECTRONICS THE TYPE'A TY	ASSY.TRANSPORT ELECTRONICS TITLE PAR. Type!P! loips, S/G, 99h. Model No. 16 . Date 11/18/71 SHEET 18 of TYPE PAR. Type!P! loips, S/G, 99h. Model No. 16 . Date 11/18/71 SHEET 18 of SASY.TRANSPORT ELECTRONICS PAR. Type!P! loips, S/G, 99h. Model No. 16 . Date 11/18/71 SHEET 18 of TYPE PAR. Type!P! loips, S/G, 99h. Model No. No. Req. Remarks on CKT. Desid. 131 Capacitor, Tantalum. 10uf 100070-106 1 G20h. 132	ASSI, TRANSPORT BIEGTRONICS DATE 11/18/71 SHEET 20 OF ITEM DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 131
EK. V. M. G. FF. E. CG.	ASSY.TRANSPORT ELECTRONICS TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.	Dearing	ASSY,TRANSPORT ELECTRONICS PAB. Type PP 10ips. S/G. 90h. Nodel No. 16 OATE 11/18/T1 SHEET 18 of ITTLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING TYPE 18 IDS. S/S. SCH. MODEL NO. 10
DESIG. KK. V. M. G. J. FF. E. CG.	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG.	ASSY.TRANSPORT ELECTRONICS THE TYPE'A TY	ASSY,TRANSPORT ELECTRONICS PAB. Type*P* 10ips. S/G. 90h. Nodel No. 16 OATE 11/18/T1 SHEET 18 of ITTLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWNC TRANSPORT ELECTRONICS DWG. NO. NO. REC. REMARKS ON CKT. DESIG.
DESIG. KK. V. M. G. J. FF. E. CC. X.	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG.	ASSY.TRANSPORT ELECTRONICS THE TYPE'A TY	ASSY,TRANSPORT ELECTRONICS PAB. Type PP 10ips. S/G. 90h. Nodel No. 16 OATE 11/18/T1 SHEET 18 of ITTLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING TYPE 18 IDS. S/S. SCH. MODEL NO. 10
DESIG. KK. V. M. G. J. FF. E. CC. X. P.	ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. NO. REO. REMARKS ON CKT. DESIG.	ASSY.TRANSPORT ELECTRONICS THE TYPE'A TY	ASSY,TRANSPORT ELECTRONICS PAB. Type*P* 10ips. S/G. 90h. Nodel No. 16 OATE 11/18/T1 SHEET 18 of ITTLE DWG.NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWNC TRANSPORT ELECTRONICS DWG. NO. NO. REC. REMARKS ON CKT. DESIG.

	DRAWING TITLE		DWG. NO.	NO, REQ.	REMARKS ON CKT. DESIG.	ITEM NO.	
31	Gapacitor, Tantalum.	1.5uf	100136-155	1	C204.	131	Ca
32						132	
33						133	
3h						134	
35				<u> </u>		135	
36	Resistor. 5%. 4w.	15K	100156-153	1	Ri:21.	136	Re
37	Resistor. " "	51K	100156-513	1	RL 31.	137	Re
38	Resistor. " "	1.3K	100156-133	1	RL:32.	138	Re
39	Resistor. " "	680K	100156-684	1	副,66。	139	R
40	Resident.	150	190156-151	1	14:67 s	1710	P.
11	Resistor, " "	390K	100156-394	1	RL68.	171	Ra
12	Resistor. " "	1.5%	100156-155	1	R509.	1715	R
43	Resistor: " "	150	100156-151	<u> </u>	NS10:	1 43	ŧ
¥	Resistor. " "	390K	100156-394	1	R511.	144	R
15	Resistor. " "	3 .3 M	100156-335	1	R536.	145	
16						11,6	
47	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From KK to LL.	147	3
				l	Jumper J2. " U " V.		
					Jumper Jh. " PP "RR.		
					Jumper J5. " F "G.		
					Jumper J6. " GG " HH.		
				<u> </u>	Jumper J7. " H "J.		
					Jumper J8. " EE "FF.		
					Jumper J9. " D "E.		
				L	Jumper JlO * AA " CC.		
					Jumper Jll. * W * X.		
					Jumper J15. " A " C.		
					Jumper J16. " UU * VV.		
			<u></u>		Jumper J17. " W " XX.		L
					Jumper J19. " DD * TP208.		L
							Ĺ

TEM NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131	Capacitor, Tantalum.	1.5uf.	100136-155	1	C204.
132					
133					
134					
13 5					
136	Resistor. 5%. 4w.	9.1K	100156-912	1	R421.
137	Resistor. " "	27K	100156-273	1	RL31.
138	Resistor. " "	15K	100156-153	1	R432.
139	Resistor. " "	300K	100156-304	1	ац66.
170	Restator. " "	- 350	100156 151		DL67.
141	Resistor. " "	330K	100156-334	1	R468.
1115	Resistor. " "	680K	100156-684	1	R509.
143	Resistor.	150	100156-151	1	R510+
144	Resistor. " "	330K	100156-334	1	R511.
145					
1116					
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From KK to LL.
					Jumper J2. " U " V.
					Jumper J4. " PP "RR.
					Jumper J5. " F "G.
					Jumper J6. " GG # HH.
			·		Jumper J7. " H " J.
					Jumper J8. " EE " FF.
					Jumper J9. " D " E.
					Jumper J10. * AA * CC.
				<u> </u>	Jumper Jll. " W " X.
				<u> </u>	Jumper J15. " A " C.
				ļ	Jumper J16. " UU * VV.
				ļ	Jumper J17. " WW " II.
					Jumper J19. " DD " TP208.
				<u> </u>	

MATERIAL LIST

ML 200488 - 018 /

131					
132					
133					
134					
135					
136	Resistor. 5%. 2w.	27K	100156-273	1	ત્ય:21.
137	Resistor. * "	100K	100156-104	1	RL31.
138	Resistor. " "	12K	100156-123	1	RL32.
139	Resistor. " "	680 K	100156-684	1	RL66.
1710	Recistor, " "	₩,	100156-151	-1-	RL67.
141	Resistor. " "	390K	100156-394	1	R468。
11.2	Resistor. " "	1.5M	100156-155	1	R509.
143	Register, * *	72.0	100156-151	-	B510.
144	Resistor. " "	390 K	100156-394	1	R511.
145	Resistor. " "	3 .3 M	100156-335	1	R536.
146					
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.
					Jumper J2. " T " V.
					Jumper J3. H L H M.
					Jumper J5. " F " G.
					Jumper J7. " H " J.
					Jumper J8. * EE " FF.
					Jumper J9. " D " E.
					Jumper JlO. " AA " CC.
					Jumper Jll. " W " X.
					Jumper Jl3. " N " P.
					Jumper Jlh. " R "S.
					Jumper J19. * DD * TP208.

DWG. NO.

ASSY.TRANSPORT ELECTRONICS
PWE. Type'A' 12210s. S/G. 9Ch. MODEL NO.

DRAWING TITLE

ML 200488 - 020 1

DATE 11/22/71 SHEET 25 OF_

REMARKS ON CKT. DESIG.

131 132 133 134 135 DRAWING TITLE REMARKS ON CKT. DESIG. 136 Resistor. 5%. aw. 15K 100156-153 137 Resistor. " " 51K 100156-513 138 Resistor. " " 13K 100156-133 1 R432. 680K 100156-684 139 Resistor. " " 1 ikl,66. 141 Resistor. " " 390K 100156-394 142 Resistor. " " 1.5M 100156-155 1 R509. 143 Resister. " " 390K 100156-394 1 R511. 1hh Resistor. " " 145 Resistor. " " 3.3M 100156-335 1 R536. 1062k8-92k A/R Jumper Jl. From JJ to KK. lh7 Wire, Solid Insulated. Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J7. " H " J. • Jumper J8. " EE " FF. Jumper J9. " D " E. Jumper JlO. " AA " CC. Jumper Jll. " W " X. Jumper J13. " N * P. Jumper Jlh. " R "S. Jumper J19. " DD " TP208. MI DRAWING NO. REV MATERIAL LIST

MATERIAL LIST

ASSY.TRANSPORT ELECTRONICS
PWB. Type'A' 251ps. S/G. 9Ch. Model No. 19

ML 200488 - 022 T

DATE 11/22/71 SHEET 27 OF ____

7	n 3	MATERI	AL LIST		MI		WING		REV.
L	L			==	IAIL	200	- 88	017	7
DEAMI	ASSY. TRANSPORT EI			16	DATE 11	<i>/22/7</i> 1	SHEET.	22 of .	
ITEM NO.	DRAWING TITE	. E	DWG. NO.	NO, REQ.	REM	ARKS ON	CKT.	DESIG.	
131	Capacitor, Tantalum.	1.5uf.	100136-155	1	C204.				Ⅱ.
132									
133									
134									
135									
136	Resister. 5%. tw.	10K	100156-103	1	RL21.				
137	Resistor. " "	33K	100156-333	1	RL31.				
138	Resistor. " "	15K	100156-153	1	RL 32.				
139	Resistor. " "	300K	100156-304	1	RL 66.				
110	Recistor. " "		100156-103	1	DL69-				
141	Resistor. " "	390K	100156-394	1	R468.				
11,2	Resister. " "	680K	100156-684	1	R509				
143	Restotor,		100156-109	-	1520-				
244	Resistor. " "	390K	100156-394	1	R511.				
21.5									
146									
147	Wire, Selid Insulate	d.	100248-924	A/R	Jumper J.	l. Free	XX t	u.	
					Jumper J	2. *	U 1	٧.	
					Jumper J	4	PP	RR.	
					Jumper J	5. "	F	G.	
					Jumper J	6. "	00	* HH.	
					Jumper J	7. "	Н	* J.	
					Jumper J	8. *	EE	FF.	
					Jumper J	9. "	D	* E.	
					Jumper J	10. "	AA	* GC.	
					Jumper J	11. "	W	• X.	
					Jumper J	15. •		" C.	
					Jumper J	16. "	טט	• W.	
					Jumper J	17. *	WW	" IX.	
					Jumper J	19. *	DDO	* TP208	3.
	17.		1						

7	MATER	HAL LIST		ML		wing 88 -		REV.	
DRAWN	ASSY.TRANSPORT ELECTRONI PHB. Type'A' 101pa. S/G.	CS 9Ch. Model no	<u> ¥</u>	DATE 11	<u>/22/7</u> 1	SHEET	24 of		
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.					
131									
132									
133									
134									
135									
136	Resistor. 5%. jw. 33	K 100156-333	1	RL:21.					
137	Resistor. W # 120	K 100156-124	1	RL:31.					
138	Resistor. " " 12	K 100156-123	1	RL32.					
139	Resistor. " " 680	K 100156-684	1	RL66.					
1710	Reciptory 4 4	0 100156-151-		D) 67.					
141	Resistor. " " 390	K 100156-394	1	RL 68.					
142	Resistor. " " 1.5	M 100156-155	1 .	R509.					
143	Restator, I I 1	0 100156 151	1	N510.					
144	Resistor. " " 390	к 100156-394	1	R511.					
145	Resistor. * * 3.3	M 100156-335	1	R536.					
146									
147	Wire, Solid Insulated.	100246-924	A/R	Jumper J	1. From	JJ t	o KK.		
				Jumper J	2. "	T	+ V.		
				Jumper J	3. "	L	* M.		
				Jumper J	5. "	F	٩ ٥.		
				Jumper J	7. "	Н	* J.		
				Jumper J	8. "	EE	"FF.		
				Jumper J	9. •	D	* B.		
				Jumper J	10. "	AA	" CC.		
				Jumper J	u. "	W	* ¥.		
				Jumper J	13. "	N	" P.		
				Jumper J	չկ. "	R	* s.		
				Jumper J	19. "	DD	* TP20	8.	
						_			

ITEM NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
131					
132					
133		1			·
134					
135					
136	Resistor. 5%. w.	18K	100156-183	1	RL21.
137	Resistor. " "	68 k	100156-683	1	Rl:31.
138	Resistor. " "	1.3K	100156-133	1	别32.
139	Resistor. " "	680K	100156-684	1	RL66.
1710	Resistor: " *	150	100156-151	1	1867
141	Resistor. " "	390K	100156-394	1	RL68.
11;2	Resistor. " "	1.5M	100156-155	1	R509.
11.3	Recietor. * *	150	100156-151	1	R510:
144	Resistor. " "	390K	100156-39կ	1	R511.
145	Resistor. " "	3.3M	100156-335	1	R536.
146					•
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.
				,	Jumper J2. " T " V.
					Jumper J3. " L " M.
					Jumper J5. * F * G.
					Jumper J7. " H " J.
					Jumper Jo. " EE " FF.
					Jumper J9. " D " E.
					Jumper J10. M AA M CC.
					Jumper Jll. " W " X.
					Jumper J13. " N " P.
					Jumper Jlh. " R "S.
					Jumper J19. " DD " TP208.

131 132 133 134 135 136 Resistor. 5%. ½w. 10K 100156-103 1 Rl,21. 137 Resistor. " " 33K 100156-333 1 Rl,31. 138 Resistor. " " 15K 100156-153 1 Rl,32. 139 Resistor. " " 300K 100156-304 1 Rl,66. 110 Resistor. " " 390K 100156-394 1 Rl,68. 111 Resistor. " " 680K 100156-684 1 R509. 114 Resistor. " 680K 100156-394 1 Rl,68. 114 Resistor. " 680K 100156-394 1 R511. 115 116 117 Wire, Solid Insulated. 100216-924 A/R Jumper J1. From JJ to Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J7. " H Jumper J7. " H Jumper J7. " H Jumper J7. " EE Jumper	stor. 5%. 2w. 10K 100156-103 1 Rh21. stor. " " 33K 100156-333 1 Rh31. stor. " " 15K 100156-153 1 Rh32. stor. " " 30K 100156-30h 1 Rh66. stor. " " 390K 100156-39h 1 Rh68. stor. " " 390K 100156-39h 1 Rh68. stor. " " 680K 100156-68h 1 R509. stor. " " 108 100156-39h 1 R511. stor. " " 390K 100156-39h 1 R511. stor. " " 390K 100156-39h 1 R511. stor. " " 390K 100156-39h 1 R511. Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J6. " EE " FF. Jumper J9. " D " E. Jumper J9. " D " E. Jumper J0. " AA " CC.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	DEMANUE ON CHE DESIG
132 133 134 135 136 Resistor. 5%. ½w. 10K 100156-103 1 Rl;21. 137 Resistor. " " 33K 100156-333 1 Rl;31. 138 Resistor. " " 15K 100156-153 1 Rl;32. 139 Resistor. " " 300K 100156-304 1 Rl;66. 140 Resistor. " " 390K 100156-394 1 Rl;68. 141 Resistor. " " 680K 100156-684 1 R509. 143 Resistor. " " 680K 100156-394 1 R511. 145 146 147 Wire, Solid Insulated. 100216-924 A/R Jumper J2. " T Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J3. " E Jumper J7. " H Jumper J7. " H Jumper J7. " H Jumper J7. " E Jumper J7. " E Jumper J7. " E Jumper J7. " H Jumper J7. " E Jumper J7	stor. " " 33K 100156-333 1 R431. stor. " " 15K 100156-153 1 R432. stor. " " 300K 100156-304 1 R466. *** 100 156-304 1 R466. *** 100 156-394 1 R509. *** 100 156-684 1 R509. *** 100 156-684 1 R509. *** 100 156-394 1 R511. *** 100 156-394 1 R521. *** 100 156-394 1 R521. *** 100 156-394 1 R521. *** 100 156-394 1 R529. ** 100 156-394 1 R529. *** 100 156-394 1 R668. *** 100 156-394 1 R529. *** 100 156-394 1 R668. *** 100 156-394 1 R699. ** 100 156-394 1 R699. *** 100 156-394 1 R6		DAARING TITLE	DWG. NO.	NO. HEQ.	REMARKS ON CKT. DESIG.
133 134 135 136 Resistor. 5%. ½w. 10K 100156-103 1 Rl,21. 137 Resistor. " " 33K 100156-233 1 Rl,31. 138 Resistor. " " 15K 100156-153 1 Rl,32. 139 Resistor. " " 300K 100156-30h 1 Rl,66. 1h0 Resistor. " " 390K 100156-39h 1 Rl,68. 1h1 Resistor. " " 680K 100156-68h 1 R509. 1h3 Resistor. " " 680K 100156-39h 1 R510. 1h4 Resistor. " " 390K 100156-39h 1 R511. 1h5 1h6 1h7 Wire, Solid Insulated. 100216-92h A/R Jumper J2. " T Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J3. " E Jumper J7. " H Jumper J7. " H Jumper J7. " E Jumper J7. " H Jumper J7. " E Jumper J7	stor. " " 33K 100156-333 1 R431. stor. " " 15K 100156-153 1 R432. stor. " " 300K 100156-304 1 R466. *** 100 156-304 1 R466. *** 100 156-394 1 R509. *** 100 156-684 1 R509. *** 100 156-684 1 R509. *** 100 156-394 1 R511. *** 100 156-394 1 R521. *** 100 156-394 1 R521. *** 100 156-394 1 R521. *** 100 156-394 1 R529. ** 100 156-394 1 R529. *** 100 156-394 1 R668. *** 100 156-394 1 R529. *** 100 156-394 1 R668. *** 100 156-394 1 R699. ** 100 156-394 1 R699. *** 100 156-394 1 R6			+	 	
13h	stor. " " 33K 100156-333 1 R431. stor. " " 15K 100156-153 1 R432. stor. " " 300K 100156-304 1 R466. *** 100 156-304 1 R466. *** 100 156-394 1 R509. *** 100 156-684 1 R509. *** 100 156-684 1 R509. *** 100 156-394 1 R511. *** 100 156-394 1 R521. *** 100 156-394 1 R521. *** 100 156-394 1 R521. *** 100 156-394 1 R529. ** 100 156-394 1 R529. *** 100 156-394 1 R668. *** 100 156-394 1 R529. *** 100 156-394 1 R668. *** 100 156-394 1 R699. ** 100 156-394 1 R699. *** 100 156-394 1 R6			 	 	
135 136 Resistor. 5%. ½w. 10K 100156-103 1 Rl;21. 137 Resistor. " " 33K 100156-333 1 Rl;31. 138 Resistor. " " 15K 100156-153 1 Rl;32. 139 Resistor. " " 300K 100156-304 1 Rl;66. 140 Resistor. " " 390K 100156-304 I Rl;66. 141 Resistor. " " 680K 100156-394 I Rl;68. 142 Resistor. " " 680K 100156-684 1 R509. 143 Resistor. " " 680K 100156-394 I R511. 145 1 Resistor. " " 390K 100156-394 I R511. 145 1 Jumper J1. From JJ to Jumper J2. " T Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J5. " F Jumper J7. " H Jumper J7. " H Jumper J7. " E Jumper J7. " H Jumper J7. " H Jumper J7. " E Jumper J7. "	stor. " " 33K 100156-333 1 R431. stor. " " 15K 100156-153 1 R432. stor. " " 300K 100156-304 1 R466. stor. " " 390K 100156-394 I R468. stor. " " 680K 100156-684 1 R509. stor. " " 186 100156-103 2 R510. stor. " " 390K 100156-394 1 R511. Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J6. " EE " FF. Jumper J7. " H " J. Jumper J9. " D " E. Jumper J1. " W " X.			 	 	
136 Resistor. 5%. 2w. 10K 100156-103 1 Ri.21. 137 Resistor. " " 33K 100156-333 1 Ri.31. 138 Resistor. " " 15K 100156-153 1 Ri.32. 139 Resistor. " " 300K 100156-304 1 Ri.66. 110 Resistor. " " 390K 100156-304 1 Ri.66. 111 Resistor. " " 390K 100156-394 1 Ri.68. 112 Resistor. " " 680K 100156-684 1 R509. 113 Resistor. " " 390K 100156-394 1 R511. 114 Resistor. " " 390K 100156-394 1 R511. 115 116 1 Jumper J3. " I Jumper	stor. " " 33K 100156-333 1 R431. stor. " " 15K 100156-153 1 R432. stor. " " 300K 100156-304 1 R466. stor. " " 390K 100156-394 I R468. stor. " " 680K 100156-684 1 R509. stor. " " 186 100156-103 2 R510. stor. " " 390K 100156-394 1 R511. Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J6. " EE " FF. Jumper J7. " H " J. Jumper J9. " D " E. Jumper J1. " W " X.			 	 	
137 Resistor. " " 33K 100156-333 1 Kl31. 138 Resistor. " " 15K 100156-153 1 Kl32. 139 Resistor. " " 300K 100156-304 1 Kl66. 110 Resistor. " " 390K 100156-304 1 Kl68. 111 Resistor. " " 680K 100156-394 1 Kl68. 112 Resistor. " " 680K 100156-684 1 K509. 113 Resistor. " " 390K 100156-394 1 K510. 114 Resistor. " " 390K 100156-394 1 K511. 115 116 117 Wire, Solid Insulated. 100246-924 A/R Jumper J1. From JJ to Jumper J3. " L Jumper J3. " L Jumper J3. " L Jumper J3. " E Jumper J7. " H Jumper J7. " H Jumper J7. " E Jumper J7. "	stor. " " 33K 100156-333 1 R431. stor. " " 15K 100156-153 1 R432. stor. " " 300K 100156-304 1 R466. stor. " " 390K 100156-394 I R468. stor. " " 680K 100156-684 1 R509. stor. " " 186 100156-103 2 R510. stor. " " 390K 100156-394 1 R511. Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J6. " EE " FF. Jumper J7. " H " J. Jumper J9. " D " E. Jumper J1. " W " X.		Resistor, 5%, 2w. 10	100156-103	1	RL21.
138 Resistor. " " 15% 100156-153 1 Rij32. 139 Resistor. " " 300% 100156-30h 1 Rij66. 1h0 Resistor. " " 390% 100156-39h 1 Rij68. 1h1 Resistor. " " 680% 100156-39h 1 Rij68. 1h2 Resistor. " " 680% 100156-48h 1 R509. 1h3 Resistor. " " 390% 100156-39h 1 R511. 1h5 1h6 1h7 Wire, Solid Insulated. 100246-92h A/R Jumper J1. From JJ to Jumper J2. " T Jumper J3. " L Jumper J3. " L Jumper J7. " H Jumper J7. " H Jumper J7. " H Jumper J7. " EE Jumper J7. " A Jumper J7. " A Jumper J7. " B Jumper J7. " B Jumper J7. " A Jumper J7. " A Jumper J7. " B Jumper J7. " B Jumper J7. " A Jumper J7. " B Jumper	Stor. " " 15% 100156-153 1 R432 R466 R500 1 R466 R60		<u> </u>	+	1	RL31.
139 Resistor. " " 300K 100156-304 1 R466. 110 Recistor. " " 390K 100156-394 1 R468. 114 Resistor. " " 680K 100156-684 1 R509. 114 Resistor. " " 680K 100156-394 1 R511. 115 Resistor. " " 390K 100156-394 1 R511. 116 Using the second of t	Stor.					
141 Resistor, " " 390K 100156-394 1 R468. 142 Resistor. " " 680K 100156-684 1 R509. 143 Resistor. " " 390K 100156-394 1 R511. 145	Stor. " " 390K 100156-394 1 Rh68. R509. R500. R500. R510. R511.		Resistor. " " 300		1	RL66.
11/2 Resistor. " " 680K 100156-68h 1 R509. 11/3 Resistor. " " 390K 100156-39h 1 R511. 11/5	Stor. " " 680K 100156-68L 1 R509.	140	Resistory " * 10	100156-103		DL67.
113 Resistor. " 16K 1681/6-103 1 R510.	1 100156-103 1 100156-105 1 100156-105 1 100156-105 1 100156-105 1 100156-105 1 1 1 1 1 1 1 1 1	141	Resistor, " " 390	100156-394	1	RL68.
1 1 1 1 1 1 1 1 1 1	Stor. " " 390K 1002\(\partial 6-39\psi\) 1 R511.	142	Resistor. " " 680	K 100156-68L	1	R509.
11.5 11.6 11.7 Wire, Solid Insulated. 100216-924 A/R Jumper J1. From JJ to Jumper J2. " T Jumper J3. " L Jumper J5. " F Jumper J7. " H Jumper J6. " EE Jumper J9. " D Jumper J9. " D Jumper J9. " D	, Solid Insulated. 100246-924 A/R Jumper Jl. From JJ to KK. Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J7. " H " J. Jumper J6. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.	143	Restator: 10	100156-103		R510+
116 Image: Ji of the property of	Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J7. " H " J. Jumper J6. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.	144	Resistor. " " 390	100156-394	1	R511.
117 Wire, Solid Insulated. 1002 6-92 A/R Jumper J1. From JJ to Jumper J2. " T Jumper J2. " T Jumper J3. " L Jumper J5. " F Jumper J7. " H Jumper J6. " EE Jumper J9. " D Jumper J9. " D Jumper J10. " AA Jumper J10.	Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J7. " H " J. Jumper J6. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.	145				
Jumper J2. " T Jumper J3. " L Jumper J5. " F Jumper J7. " H Jumper J6. " EE Jumper J9. " D Jumper J9. " A	Jumper J2. " T " V. Jumper J3. " L " M. Jumper J5. " F " G. Jumper J7. " H " J. Jumper J6. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.	146				
Jumper J3. " L Jumper J5. " F Jumper J7. " H Jumper J6. " EE Jumper J9. " D Jumper J9. " A	Jumper J3. " L " M. Jumper J5. " F " G. Jumper J7. " H " J. Jumper J9. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.	147	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From JJ to KK.
Jumper JS. " F Jumper J7. " H Jumper J0. " EE Jumper J9. " D Jumper J10. " AA	Jumper J5. " F " G. Jumper J7. " H " J. Jumper J6. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.					Jumper J2. " T " V.
Jumper J7. " H Jumper J6. " EE Jumper J9. " D Jumper J9. " D Jumper J10. " AA	Jumper J7. " H " J. Jumper J6. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.					Jumper J3. " L " M.
Jumper JO. " EE Jumper JO. " D Jumper JO. " AA "	Jumper JG. " EE "FF. Jumper JG. " D " E. Jumper JIO. " AA " CC. Jumper JII. " W " X. Jumper JI3. " N " P.					Jumper J5. " F "G.
Jumper J9. " D Jumper J10. " AA	Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.					Jumper J7. " H " J.
Jumper JlO. " AA	Jumper J10. " AA " CC. Jumper J11. " W " X. Jumper J13. " N " P.				ļ	
	Jumper Jll. " W " X. Jumper Jl3. " N " P.					Compet Cyt. D 2.
Jumper Jll. " W '	Jumper Jl3. " N " P.					
				ļ		
	Jumper Jih. " R "S.			1	1	Jumper Jl3. " N " P.

PWB Electronics, Transport List, B-22

7	MATERI	AL LIST	_	ML.	200488 - 01		1			MATERI	AL LIST		ML		WING NO.	
DRAWIN	ASSY.TRANSPORT ELECTRONICS		14				DRAWII	ASSY.TE	ANSPORT	ELECTRONICS	Ch. MODEL NO	na!	السا		SHEET <u>25</u>	
TITLE	PWB, Type P 151ps. S/G, 9	DWG. NO.	NO. REQ.		22/71 SHEET 23		ITEM NO.		AWING T		DWG. NO.	NO. REQ.			CKT. DES	
131	Capacitor, Tantalum. 1.5uf.	100136-155	1	C204.			131									
132	Capacitor, Tantoarium.	100130-100	<u> </u>	OLGI,			132			-,		-			· · · · · · · · · · · · · · · · · · ·	
133							133									
134							134									
135							135									
136	Resistor. 5%. 2w. 9.1K	100156-912	1	RL 21.			136	Resistor.	5%. žv.	27K	100156-273	1	ત્યો:21.			
137	Resistor. * * 27%	100156-273	1	RL;31.			137	Resistor.		100K	100156-104	1	R431.			
138	Resistor. " " 15K	100156-153	1	RL 32.			138	Resistor.	и и	12K	100156-123	1	RL 32.			
139	Resistor. " " 300K	100156-304	1	RL:66.			139	Resistor.	и п	680K	100156-684	1	RL66.			
140	Resister. 1 150	100156-151		DL67-			1140	Resister	и а	150	100156-151		RL67.			
141	Resistor. " " 330K	100156-334	1	RL 68.			141	Resistor.	. 11	390K	100156-394	1	RL 68.			
142	Resistor. " " 680K	100156-684	1	R509.			11/2	Resistor.	N N	1.5M	100156-155	1	R509.			
143	Resistor: 150	100156-151	1	R510.			11;3	Resistor.	_#_#_	150	200256 252		2520			
144	Resistor. " " 330K	100156-334	1	R511.			144	Resistor.		390 K	100156-394	1	R511.			
145							145	Resistor.	H 11	3.3M	100156-335	1	R536.			
146				I			146									
147	Wire, Solid Insulated.	100248-924	A/R	Jumper J	1. From KK to	LL.	147	Wire, Soli	d Insula	ted.	100248-924	A/R	Jumper J	1. From	JJ to KI	K.
				Jumper J	2. º U "	٧.							Jumper J	2. #	Ť " V	
				Jumper J	4. " PP "	RR.							Jumper J	3. "	L"M	•
				Jumper J	5. " F "	G.							Jumper J	ž. "	F "G	
				Jumper J	6. " GG "	HH.							Jumper J	7. "	н " Ј	
				Jumper J	7. " H "	J.							Jumper J	8. "	EE "F	F.
				Jumper J	8. " EE "	FF.							Jumper J). "	D "E	
				Jumper J	9. " D "	Ε.							Jumper J	10. "	AA " C	J. '
				Jumper J	10. " AA "	cc.							Jumper J	11. "	W H X	
				Jumper J	11. " W "	x.							Jumper J	L3. *	N " P	
				Jumper J	15. ' A "	c.							Jumper J	此。"	R "S	
				Jumper J	16. " UU "	٧٧.							Jumper J	19.	DD "TI	P208.
				Jumper J	17. " WW "	IX.										
			<u> </u>	Jumper J.	19. ° DD °	TP208.						ļ	! ∤			
_			ļ	ļ			<u> </u>				ļ					
			<u> </u>				L						<u> </u>			
					DRAWING N	o. REV.	Γ		***********				1 1	D.P.A	WING NO.	REV
L	MATERI	AL LIST	==	ML	200488 - 0					MATERI	AL LIST	_	ML		88 - 021	
DRAWIN	ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 10ips. S/G.	S 9Ch - Honel No	36	OAZE XI	/22/71 SHEET 2		DRAWI			ELECTRONICS	h MODEL NO	10	DATE 11	/22/71	SHEET <u>26</u>	OF.
TEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.		ARKS ON CKT. D		ITEM NO.		AWING T		DWG. NO.	NO. REQ.			CKT. DES	
131		 	 	 			131									
132		 	\vdash	 			132									
~		 	 	 			172				L					

0. REV.

1 or___ ESIG.

LL.

V.

RR.

G.

KH.

J.

FF.

E.

CG.

X.

J.

TP208.

o. REV.

ESIG.

LL.

V.

RR.

J.

FF.

C.

VV.

XX.

TP208.

				Jumper J19. * DD * TP208.					
7	MATERI	AL LIST		ML 200488 - 019 T	B .	MATERI	AL LIST		ML DRAWING
			===	200488 - 019 T					200488 -
DRAWI	ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 101ps. S/G. S	Ch. MODEL NO	<u>¥</u>	DATE 11/22/71 SHEET 24 OF	DRAW TITL	ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 18 ips.S/G. 90	n. MODEL NO	16	DATE 11/22/71 SHEET
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT.
131					131				
132					132				<u> </u>
133					133	•			
134					134				
135					135	· · · · · · · · · · · · · · · · · · ·			
136	Resistor. 5%. tw. 33K	100156-333	1	RL21.	136	Resistor. 5%. 18K	100156-183	1	Ri,21.
137	Resistor. " 120K	100156-124	1	Rl; 31.	137	Resistor. " * 68K	100156-683	1	RL31.
138	Resistor. " " 12K	100156-123	1	RL32.	138	Resistor. " " 13K	100156-133	1	ત્રો, 32.
139	Resistor. " " 680K	100156-684	1	RI,66.	139	Resistor. " " 680K	100156-684	1	RL66.
140	Restatory # 1 150	100156-251	-	DI.67.	140	Resistors " 150	100156-151	1	11467 r
141	Resistor. " " 390K	100156-394	1	RU,68.	17/1	Resistor. # # 390K	100156-394	1	нц68.
142	Resistor. " " 1.5M	100156-155	1	R509.	11:2	Resistor. " " 1.5M	100156-155	1	R509.
143	Resister. 1 1 150	100156 151		R510.	14,3	Resistory " 150	100156-151	1	R510:
144	Resistor. " " 390K	100156-394	1	R511.	144	Resistor. * * 390K	100156-394	1	R511.
145	Resistor. " " 3.3M	100156-335	1	R536.	145	Resistor. " " 3.3M	100156-335	1	R536.
146			l		146				<u> </u>
147	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From JJ to KK.	147	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From JJ t
				Jumper J2. " T " V.				! .	Jumper J2. " T
				Jumper J3. " L " M.				L	Jumper J3. " L
	·			Jumper J5. * F * G.				<u> </u>	Jumper J5. * F
				Jumper J7. " H " J.					Jumper J7. " H
				Jumper J8. " EE "FF.					Jumper J8. * EE
				Jumper J9. " D * E.	·				Jumper J9. " D
				Jumper JlO. " AA " CC.				<u> </u>	Jumper JlO. M AA
				Jumper Jll. " W " X.					Jumper Jll, " W
				Jumper Jl3. " N " P.					Jumper J13. " N
				Jumper Jih. * R * S.					Jumper Jlk. "R
				Jumper J19. " DD " TP208.					Jumper J19. " DD
						·			
			<u> </u>						ļ
•	1			•	-	•			•

TEM NO.	DRAWING TITLE		DWG. NO.	NO, REQ.	REMARKS ON CKT. DESIG.
131					
132					
133					
134					
135					
136	Resistor. 5%. aw.	15K	100156-153	1	R421.
137	Resistor. " "	5 1 K	100156-513	1	R431.
138	Resistor. " "	13K	100156-133	1	R432.
139	Resistor. " "	680K	100156-684	1	йц66.
140	Resinter. " "	150	100156-151	1	AL671
141	Resistor. " "	390K	100156-394	1	RU68.
142	Resistor. " "	1.5%	100156-155	1	R509.
143	Resistor, I "	150	100156-151		R510.
144	Resistor. " "	390K	100156-394	1	R511.
145	Resistor. " "	3.3M	100156-335	1	R536.
146					
147	Wire, Solid Insulated.		100248-924	A/R	Jumper Jl. From JJ to KK.
					Jumper J2. " T " V.
					Jumper J3. " L " M.
					Jumper J5. " F "G.
					Jumper J7. " H " J. •
					Jumper J8. " EE " FF.
					Jumper J9. " D " E.
					Jumper J10. " AA " CC.
					Jumper Jll. " W " X.
					Jumper J13. " N " P.
					Jumper Jll. " R "S.
					Jumper J19. " DD " TP208
				1	

MATERIAL LIST

10. REV.	I	MATE	RIAL LIST	_	ML 200488 - 023 T
6 or	DRAWII TITL	ASSY.TRANSPORT ELECTRONI FWE. Type'A' 3711ps.S/G.		10	DATE 11/22/71 SHEET 28 OF
esig.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
	131				
	132				
	133				,
	134				
	135				
	136	Resistor. 5%. 4w. 1	OK 100156-103	1	Ri21.
	137	Resistor. " " 3	3к 100156-333	1	R431.
	138	Resistor. " 1	5K 100156-153	1	R432.
	139	Resistor. " " 30	OK 100156-304	1	R466.
	140	Recietory " "	OK 100156-103		RL67.
	1/17	Resistor, " " 39	OK 100156-394	1	RL68.
	142	Resistor. " " 68	OK 100156-684	1	R509.
	143	Reciptors " - 1	OK 100156-103	1	R510.
	1144	Resistor. " " 39	OK 100156-394	1	R511.
	145				·
	146				
KK.	147	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From JJ to KK.
٧.					Jumper J2. " T " V.
M.					Jumper J3. " L " M.
G.					Jumper J5. " F "G.
J.					Jumper J7. " H " J.
PF.					Jumper J8. " EE " FF.
E.					Jumper J9. " D " E.
cc.					Jumper JlO. " AA " CC.
I.					Jumper Jll. " W " X.
P.					Jumper Jl3. " N " P.
s.					Jumper Jih. " R "S.
TP208.					Jumper J19. " DD " TP208.
				T	

ML DRAWING NO. REV.	1	MATER	IAL LIST	_	ML	200188 - DEL
DATE 11/22/71 SHEET 27 OF	DRAW	ASSY.TRANSPORT ELECTRONIC PWB. Type A 151ps. S/G.	S 9 C b. Model no	<u> 10 </u>	DATE 1	22/17 SHEET 27 OF_
REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG.
	131					
	132		ļ			
	133		1			
	134					
	135		1			
1.	136	Resistor. 5%. ½w. 9.1K	100156-912	1	RL21.	
1.	137	Resistor. " " 27K	100156-273	1	Ri 31.	
2.	138	Resistor. " " 15K	100156-153	1	R432.	
6.	139	Resistor, " " 300K	100156-304	1	Bl;66.	
7 1	140	Reciptors 150			illor.	-
8.	141	Resistor. " " 330K	100156-334	1	RL68.	
9.	142	Resistor. " " 680K	+	1	R509.	
4.	143	Rosioters * 150	100156-151	-	1510:	
1.	144	Resistor. " " 330K	100156-334	1	R511.	
36.	145		 			10 10 10 10 10 10 10 10 10 10 10 10 10 1
	146		 	1		
mper Jl. From JJ to KK.	11,7	Wire, Solid Insulated.	100248-924	A/R	Jumer J	l. From JJ to KK.
nper J2. " T " V.	1 -	, , , , , , , , , , , , , , , , , , , ,	1	-7	Jumper J	
per J3. " L " M.	1 🗁		 	-	Jumper J	
per J5. " F "G.	1		 	 	Jumper J	
per J7. " H " J. *	1 -		 		Jumper J	
per J8. " EE "FF.	1 -		+	1	Jumper J	
per J9. " D "E.	 		+		Jumper J	
mper JlO. " AA " CC.	1 ├─		+		Jumper J	
per Jll. " W " X.	1 -		 			
nper J13. " N " P.	1 -		 		Jumper J	
per Jlh. R R S.	1 ├─		 		Jumper J	
mper J19. " DD " TP208.	1		+	1	Jumper J	
per 127. He 112001	 		 		Jumper J	19. " DD " TP208.
	!	<u> </u>	 			
		†				

7	N]	MATERI	AL LIST		ML 20048 - 085
DRAWN. TITLE	assy.Transport 2 PWR.Type 'P' 10i	ECTRONICS S. D/G. 7	Ch. MODEL NO.,	10	DATE 21/18/71 MEST 20
ITÉM NO.	DRAWING TITE	. E	DWG. NO.	NO. REQ.	REMARKS ON CKT. DEND
131	Capacitor, Tantalum.	10uf	100070-106	1	czol.
132					
133	Resistor, 5%. iw.	750	100156-751	1	R2列。
134	Resistor, * 3w.	. 47	100068-470	1	R248.
135	Resistor, " jw.	750	100156-751	ľ	R268.
136	Resistor, " "	33K	100156-333	1	RL21.
137	Resistor, " "	120K	100156-124	2	RL31.
138	Resistor, * *	12K	100156-123	1	RL 32.
139	Resistor, " "	680 K	120156-684	1	Rt.66.
3 710	Honistor, " "	150	100156-151		Rióf.
141	Resistor, " "	390K	100156-394	1	Rui68.
142	Resistor, " "	1.5M	100156-155	1	R509.
143	Hesister, * *	150	100156 151	-	RC10.
144	Resistor, * " .	390K	190156-394	1	R511.
145	Resistor, 5%. av.	3.3M	100156-335	1	R536.
146					
147	Wire, Solid Insulate	1.	1902կ:3-92կ	• A/R	Jumper Jl. From JJ to KK.
					Jumper J2. " U " 7.
					Jumper Ji, " PP " RR.
					Jumper J5. " F " G.
					Jumper J6. * GG * HH.
					Jumper 17. " H * - 1.
					Jumper J8. * EE * FF.
					Jumper J9. * E.
					Jumper J10. * AA * CC.
					Jumper Jll. " W." I.
					Jumper J3. " L " K.
П					

MATERIAL LIST ML 200488 - 026 7 DANNING PWB, Type 191 124188, D/O, 70h MODEL NO. 10 DATELLATED MATERIAL LIST MATERIAL LIST ML 200488 - 026 7	MATERIAL LIST ME 200488 - 028 F ORANING 785. 7726'P' 25128. 1/G. 705. Mode. No. 10 DATE: 1/15/71 SHEET 33. OF	MATERIAL LIST MATERIAL LIST DRAWING TITLE ASSY.TRANSPORT ELECTRONICS PAR. Type 121 h Sips. E/G. 7Ch. Model to 10 Date 11/19/71 sheet 35 of 11/19/71 sheet	MATERIAL LIST ML 200468 - 032 CONTROL OF THE PART OF T	DRAWING TITLE
	TITEM DRAWING TITLE DRG. NO. REG. REMARKS ON CKT. DESIG.	ITEM DRAWING TITLE DEG. NO. NO. REQ. REMARKS ON CKT. DESIG.		TITLE
TEM DRAWING TITLE DWG, NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 10cf 100079-106 1 6274.	131 Capucitor, Tantalum. 1.51.f 100136-155 1 C204.	131 Capacitor, Tantalum. 1.5uf 100136-155 1 C204.	NO. DRAWING TITLE DIG. NO. NO. REMARKS ON CKT. DESIG.	131
131 Capacitor, Industria.	132	132	132	132
133 Resistor, 5%. lw. 750 190156-751 1 R234.	133 Refintor, 5%. am. 750 100156-751 1 R234.	133 Recistor. 5%. ;w. 750 100156-751 1 ft23h.	133 Resistor. 5%. 2w. 750 100156-751 1 R234.	133 He.
13h Resistor, " 3w. h7 100068-h70 1 R2L6.	134 Resistor, " 3w. 17 100068-470 1 R248.	134 Resistor. 3w. 47 100068-470 1 R248.	134 Resistor. " 3v. 47 100066-470 1 R248.	134 Re:
135 Resistor, " ju. 750 190156-751 1 8268.	135 Resistor, " 44. 750 100156-751 1 R268.	135 Ressistor. " 4w. 750 100156-751 1 R268.	135 Resistor. 750 100156-751 1 R268.	135 Res
136 Resister, " " 27K 199156-273 1 5.21. 137 Resistor, " " 100K 199156-104 1 8.31.	137 Resistor, " " 51% 100156-513 1 2431.	137 Resistor. " 27K 100156-273 1 Rh31.	136 Resistor. " 100K 100156-104 1 R431.	137 des
138 Registor, * 12K 190156-123 1 R432.	, 138 Resistor, " 13% 100156-133 1 RL32.	138 Resistor. " " 15K 100156-153 1 R432.	138 Resistor. " " 12K 100156-123 1 Rb32.	138 Res
139 Resistor, " " 680K 100156-684 1 RLoo.	139 Resistor, " " 680K 100156-684 1 R466.	139 Resistor. " " 300K 100156-30L 1 R466.	139 Resistor. " " 680K 100156-664 1 RL66.	139 der
140 Bestetes, 1 1 150 1001/6 151 1 1467.	110 Resistor, " " 150 100156-151 1 R167.	140 decistor, * * 150 -100156-153 1 -8467.	11 ₁ 0 Recistor. " " 150 100156-151 1 9167v	140 ile.
1h1 Resistor, " " 399K 100156-39h 1 2468.	141 Resistor, " " 390K 100156-394 1 R468. 142 Remistor, " " 1.5M 100156-155 1 R509.	1 Resistor. " " 330% 100156-334 1	1h1 Resistor. " * 390K 10°156-39h 1 Rh66. 1h2 Resistor. * " 1.5M 100156-155 1 R509.	141 Res 142 Res
143 Resistor, " 1.5M 10015c-155 1 R5/9.	113 Secietar, " " 150 100156 151 1 1950.	11/3 Resistor " " 150 100151-153 1 R510	11:2 Resistor. " 1.5M 130156-155 1 R509.	11:3 Res
11th Resistor, " " 390K 100156-39h 1 2511.	11th Hesistor, " " 390% 100156-394 1 8511.	1bb Resistor. " " 330K 100156-33L 1 R511.	144 Resistor. " " 390K 100156-394 1 R511.	lld Re
11.5 Resistor, 5%. 4w. 3.3M 1.0156-335 1 R536.	1 145 Registor, 51. 14. 3.3M 100156-335 1 R536.	145	145 Resistor. " " 3.3M 100156-335 1 R536.	145 Hes
11,4	11,6	146	11/6	145
1h wire, Solid Insulated. 1002h5-92h A/R Jumper J1. From JJ to KK.	117 Wire, Solid Insulated. 1502L5-92L A/R Jumper J1. From J3 to KK. Jumper J2 * U 2 V.	11.7 Wire, Solid Insulated. 1002h2-92h A/E Jumper J1. From JJ to MR. Jumper J2. " U " V.	1h7 Wire, Solid Insulated. 1002h6-92h A/R Jumper Jl. From JJ to KK.	147 Vii
Jumper JL. " PP " RR.	Jumper Jh PP RR.	Jumper J2. " U " V. Jumper J4. " PP " BR.	Jumper J2. " 7 " V. Jumper J3. " L " M.	}
Jumper J5. " F " G.	Jumper J5. " F " G.	Jupper J5. * *F *G.	Jumper J5. " F " G.	1
Jumper J6. " G9 " WH	Jumper J6. " GG " HH.	Jumper J6. " 00 " HH.	Jumper J7. " H " J.	
Jumper J7. " H " J	Jumper J7. " H " J.	Jumper J7. " H " J.	Jumper J8. " EE " FF.	
Jusper J8. " EE "FF.	Jumper Jö. " EE " FF. Jumper J9. " D " E.	Jusper JS. " EE " FF.	Jumper J9. " D " E.	
Juner J10, " D " E. Juner J10, " - At " CC.	Jumper JD. " AA " CC.	Jumper J9. " D " E. Jumper J10. " AA " CC.	Jumper JlO. " AA " CC. Jumper Jll. " W " X.	
Jumper Jll. " W "X.	Jumper Jll. " W " X.	Jumper Jll, " W " X,	Junger J13. " N " P.	
Jumper J3. " L "K.	Jumper J3. " L " K.	Jumper J3. * L "K.	Jumper Jli. " R "S.	1
			4	
			1	
A 40 DRAWING NO. REYS	MATERIAL LICT ALL DRAWING NO. REV.	MATERIAL LIST ARE DRAWING NO. REV.		
ASSY. TRANSPORT ELECTRONICS PMB. Type P 18 1ps. D/G. 7Gh. Model No. 16 Date 11/18/71 sheet 32 of	DRAWING ASSY. TRANSPORT SLECTRONICS TITLE 745 TYDE 21 175105 11/3 7Ch. MODEL NO. 10 DATE11/15/71 SMEET 34 OF	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE PRE TYPE'A' 1010B. D/G. 7Ch. MODEL NO. 10 DATE 11/19/71 SHEET 36. OF	ASSY.TRANSPORT ELECTRONICS TITLE PWB. Type A 15 ips. E/G. 7Ch AUDEL NO. 10 DATE11/18/71 SHEET 38 OF	DRAWING TITLE
ASSY. TRANSPORT ELECTRONICS PMB. Type PP 18 ine, D/G, 7Ch. Model No. 10 DATE 11/18/T1 SHEET 22 OF THE DWG, NO. DRAWING TITLE DWG, NO. NO. REO. REMARKS ON CKT. DESIG.	DRAWING ASSY. TRANSPORT SLECTRONICS TITLE THE TYPE TYPE TITLE DRG. NO. NO. REO. REMARKS ON CKT. DESIG.	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE PRE TYPE'A' 101DR. D/G. 7Ch. MODEL NO. 10 DATE 11/19/71 SHEET 36. OF ITEM NO. DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING ASSY. TRANSPORT ELECTRONICS TITLE PME. Type A' 15 10s. E/G. TCh MUDEL NO. 10 DATE11/18/71 SHEET 38 OF TITLE DWG. NO. NO. REO REMARKS ON CKY, DESIG.	DRAWING TITLE
ASSY. TRANSPORT ELECTRONICS	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE THE TYPE TO THE TITLE DIG. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Fantalum 1.5uf 100136-105 1 C201.	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE PRE TYPE'A' 1010B. D/G. 7Ch. MODEL NO. 10 DATE 11/19/71 SHEET 36. OF	DRAWING ASSY. TRANSPORT ELECTRONICS TITLE PMP. Type'A' 10 ips. E/U, 7Ch MUDEU NO. 10 DATE11/18/71 SHEET 38 OF TEM DRAWING TITLE DWG, NO. NO. REQ REMARKS ON CKT. DESIG. 131	131
ASST.TRANSPORT ELECTRONICS	DRAWING ASSY. TRANSPORT SLECTRONICS TITLE THE TYPE TYPE TITLE DRG. NO. NO. REO. REMARKS ON CKT. DESIG.	DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING ASSY. TRANSPORT ELECTRONICS TITLE PME. Type A' 15 10s. E/G. TCh MUDEL NO. 10 DATE11/18/71 SHEET 38 OF TITLE DWG. NO. NO. REO REMARKS ON CKY, DESIG.	131
ASSY.TRANSPORT ELECTRONICS DATE 11/18/T1 SHEET 32 OF	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE PAS TYPE 12 175123.11/3. 7Ch. MODEL NO. 10 DATEL/15/71 SHEET 34 OF 131 Capacitor, Instalum 1.5uf 107136-105 1 C201. 132 133 Remistor, 5% in. 750 100156-751 1 R23. 134 Resistor, 3 N. 17 100068-170 1 R218.	ML 200\(188 - 031 T \)	DRAWING ASSY. TRANSPORT ELECTRONICS TITLE PMB. Type'A' 15 ips. E/G. 7Ch MUDEL NO. 10 DATE11/18/71 SHEET 38_ OF ITEM NO. DRAWING TITLE DWG, NO. NO. RED REMARKS ON CKT. DESIG. 131 132	131 132 133 Rec 134 Rec
ASSY.TRANSPORT ELECTRONICS DATE 11/18/71 SHEET 32 OF TITLE DRAWING TITLE DWG. NO. NO. NO. NO. NO. NO. NO. NO. NO. NO	DRAWING ASSY.TRANSPORT ELECTRORICS TITLE 748. Type 121 178 198 11/3. 7Ch. MODEL NO. 18 DATELL/15/71 SHEET 34 OF 1764. DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKY. DESIG. 131 Capacitor, Tentalum 1.5uf 107136-125 1 C201. 132 133 Remistor, 58. im. 750 100156-751 1 R231. 134 Resistor, " 3w. 47 100068-470 1 R218. 135 Resistor, " iw. 750 100156-751 1 R268.	DRAWING ASSI.TRANSPORT ELECTRONICS DATE 11/19/71 SHEET 36. of TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 10 DATE11/18/71 SMEET 38 OF DATE11/18/7	131 132 133 Rec 13h Rec 135 Rec
ATERIAL LIST	DRAWING ASSY.TRANSPORT ELECTRONICS DATE: 1/5/71 SMEET 34 OF DRAWING TITLE DWG. MO. NO. REO. REMARKS ON CKT. DESIG.	ASSI.TRANSPORT ELECTRONICS DATE 11/19/71 SHEET 36. 0F	ASSY.TRANSPORT ELECTRONICS TITLE DNG. NO. NO. REO REMARKS ON CKT. DESIG.	131 132 133 Rec 134 Rec 135 Rec 136 Rec
ASSY.TRANSPORT ELECTRONICS DEATHER ASSY.TRANSPORT ELECTRONICS PMB. Typos!P! 19 ins.D/G. 7Gh. Model No. 16 DATE 11/18/71 SMEET 32 of 131 Capacitor, Tantalum. 10uf 100070-106 1 C204. 132 133 Resistor, 5%. 1w. 750 100156-751 1 R234. 134 Resistor, " 3w. 17 100068-170 1 R248. 135 Resistor, " 1w. 750 100156-751 1 R268. 136 Resistor, " 1w. 750 100156-751 1 R268. 137 Resistor, " 68K 100156-183 1 R121. 137 Resistor, " 68K 100156-683 1 R131.	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE MG. Type 19 137sins.11/3. 7Ch. Model No. 16 Date1/15/71 SMEET 34 OF TEM DRAWING TITLE DWG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Fantalum 1.5uf 100136-105 1 C204. 132 133 Remistor, 5%. jw. 750 100156-751 1 R234. 134 Resistor, " 3w. 47 100068-470 1 R248. 135 Resistor, " jw. 750 100156-751 1 R268. 136 Resistor, " " 10K 100156-103 1 R421. 137 Remistor, " " 33K 100156-333 1 R431.	DRAWING ASSI.TRANSPORT ELECTRONICS DR. NO. 19	ASSY.TRANSPORT ELECTRONICS DATE: 18 2001.88 - 033 7	131 132 133 Rec 13h Rec 135 Rec 136 Res 137 Rec
ASSY.TRANSPORT SLECTRONICS MED. Typo Pi 18 ins.D/G. 7Ch. Model No. 16 DATE 11/18/71 SHEET 32 OF	DRAWING ASSY.TRANSPORT ELECTRORICS THE TYPE	ASSI.TRANSPORT ELECTRONICS DATE 11/19/71 SHEET 36. 0F	ASSY.TRANSPORT ELECTRONICS TITLE DNG. NO. NO. REO REMARKS ON CKT. DESIG.	131 132 133 Rec 13h Rec 135 Rec 136 Rec 137 Rec 138 Rec
ASSY.TRANSPORT ELECTRONICS DEATHER ASSY.TRANSPORT ELECTRONICS PMB. Tyron'P' 19 ins.D/G. 7Gh. Model No. 16 DATE 11/18/71 SMEET 32 OF 131 Capacitor, Tantalum. 10uf 100070-106 1 C204. 132 133 Resistor, 5%. iv. 750 100156-751 1 R234. 134 Resistor, " 3w. 1/7 100068-1/70 1 R21/8. 135 Resistor, " 1w. 750 100156-751 1 R268. 136 Resistor, " 1w. 750 100156-751 1 R268. 137 Resistor, " 1 18K 100156-183 1 R121. 138 Resistor, " 68K 100156-683 1 R131. 138 Resistor, " 1 3K 100156-133 1 R132. 139 Resistor, " 1 680K 100156-661 1 R166. 110 Resistor, " 1 680K 100156-661 1 R166.	Dearwing ASSY.TRANSPORT ELECTRONICS THE Type Pl 175 ins. il/3, 7Ch. Model No. 10 Date1/16/71 SMEET 34 of	ML 2001/88 - 031 T	ASSY.TRANSPORT ELECTRONICS PMB. Type 'A' 15 ipe. E/G. TOH MUDEL NO. 16 DATell/18/71 SHEET 38_ of	131 132 133 Rec 134 Rec 135 Rec 136 Rec 137 Rec 138 Rec 139 Rec
ASSY.TRANSPORT ELECTRONICS DEATHER PURE TYPO PI 19 ins.D/G. 7Gh. MODEL NO. 16 DATE 11/18/71 SMEET 32 OF	Dearwing ASSY.TRANSPORT ELECTRONICS THE Type Pl 175 ins. il/3. 7Ch. Model No. 10 Date 1/16/71 SHEET 34 of Title DNG.NO. No. REO. REMARKS ON CKT. DESIG.	ASSI.TRANSPORT ELECTRONICS DATE 11/19/71 SHEET 36. of DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKI. DESIG.	ASSY.TRANSPORT ELECTRONICS PWB. Type A' 15 ips. B/G. 7Ch MUDEL NO. 16 DATE11/18/71 SHEET 38_ OF 131	131 132 133 Rec 134 Rec 135 Rec 136 Rec 137 Rec 138 Rec 139 Rec 140 Rec 140
ASSY.TRANSPORT ELECTRONICS DEATHS PART TYPE PP 19 ins.D/G.7Gh. MODEL NO. 16 DATE 11/18/71 SMEET 32 OF	DRAWING ASSY.TRANSPORT ELECTRORICS THE T	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE DWG.NO. 10 DATE 11/19/71 SHEET 36 OF	ASSY.TRANSPORT ELECTRONICS PMB. Type'A' 15 ips. B/G. 7Ch MUDBEL NO. 16 DATE11/18/71 SHEET 38_ OF 131 132 133 Resistor. 5%. 2w. 750 100156-751 1 R234. 134 Resistor. 9 3w. 1/7 10006-1/70 1 R248. 135 Resistor. 9 4w. 750 10015/-751 1 R266. 136 Resistor. 9 16 16 10015/-751 1 R266. 137 Resistor. 9 16 16 10015/-63 1 R121. 137 Resistor. 9 16 16 10015/-63 1 R132. 138 Resistor. 9 16 16 10015/-60 1 R166. 14 16 16 16 16 16 16 16	131 132 133 Rec 134 Rec 135 Rec 136 Rec 137 Rec 138 Rec 139 Rec
ASSY.TRANSPORT ELECTRONICS DATE 1/18/71 SHEET 32 of OATE OATE 1/18/71 SHEET 32 of OATE 1/18/71 SHEET 32 of OATE	DRAWING ASSY.TRANSPORT ELECTRORICS THE TYPE	ML 200488 - 031 T	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 15 ips. b/G. 7Ch MUDEL NO. 16 DATE11/18/71 SHEET 38 OF	131 132 133 Rec 134 Res 135 Rec 136 Res 137 Rec 136 Rec 137 Rec 138 Rec 139 Rec 140 Rec 141 Rec 141 Rec 141 Rec
ASSY.TRANSPORT SIECTRONICS DATE 1/18/71 SHEET 32 OF	DRAWING ASSY.TRANSPORT ELECTRORICS THE T	ML 200488 - 031 T	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type A' 15 ips. b/G. 7Ch MODEL NO. 16 DATe11/18/71 SHEET 38 0F 131 132 133 Resistor. 5 W. 750 100156-751 1 R234. 134 Resistor. 3w. 17 100068-1.70 1 R248. 135 Resistor. 4w. 750 100156-751 1 R266. 136 Resistor. 7 W. 750 100156-163 1 R21. 137 Resistor. 7 8 16 100156-163 1 R21. 137 Resistor. 7 8 100156-163 1 R132. 139 Resistor. 7 680K 100156-60k 1 R166. 140 Resistor. 7 680K 100156-60k 1 R166. 140 Resistor. 7 390K 100156-39k 1 R166. 142 Resistor. 7 15 100156-155 1 R509. 148 Resistor. 7 15 100156-155 1 R509. 148 Resistor. 7 150 100156-155 1 R511. 150 R509. 148 Resistor. 7 150 100156-155 1 R511. 150 R509. 148 R600 REMARKS ON CKT. DESIG. 7 7 7 7 7 7 7 7 7	131 132 133 Rec 134 Res 135 Rec 136 Res 137 Rec 136 Rec 137 Rec 138 Rec 139 Rec 140 Rec 141 Rec 141 Rec 141 Rec 141 Rec
ASSY.TRANSPORT SIECTHONICS DATE 11/18/71 SHEET 32 of DATE	Dearwing ASSY.TRANSPORT ELECTRONICS THE PASSY.TRANSPORT ELECTR	DRAWING ASSI.TRANSPORT ELECTRONICS PKE. Type'A' 101ps. D/G. 7Ch. Model No. 16	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 15 ips. b/G. TCh MUDEL NO. 16 DATell/18/71 SHEET 38 OF	131 132 133 Rec 134 Rec 135 Rec 136 Rec 137 Rec 136 Rec 137 Rec 138 Rec 138 Rec 140 Rec 141 Rec 141 Rec 141 Rec 141 Rec 141 Rec 141 Rec
ATTRIAL LIST	DRAWING ASSY.TRANSPORT ELECTRONICS THE TYPE	DRAWING ASSY.TRANSPORT ELECTRONICS PKE. Type'A' 101ps. D/G. 7Ch. Model No. 16 DATE 11/19/71 SHEET 36. of ITEM DRAWING TITLE DWG. NO. NO. NO. NO. NO. REQ. REMARKS ON CKT. DESIG. 131 132 133 Resistor. 5%. 7w. 750 130156-751 1 R234. 134 Resistor. 3w. 1/7 130068-1/70 1 R248. 135 Resistor. 3w. 750 130156-751 1 R268. 136 Resistor. 3w. 750 130156-333 1 R121. 137 Resistor. 3w. 120K 130156-333 1 R121. 137 Resistor. 3w. 120K 130156-124 1 R1.31. 138 Resistor. 3w. 120K 130156-124 1 R1.31. 138 Resistor. 3w. 120K 130156-124 1 R1.32. 139 Resistor. 3w. 150 130156-68h 1 R1.66. 110 Resistor. 3w. 150 130156-151 1 R1.66. 110 Resistor. 3w. 150 130156-394 1 R1.68. 112 Resistor. 3w. 150 130156-151 1 R509. 113 Resistor. 3w. 150 130156-151 1 R509. 114 Resistor. 3w. 150 130156-394 1 R511. 115 Resistor. 3w. 3w. 100156-394 1 R511. 115 Resistor. 3w. 3w. 100156-395 1 R536. 116 117 Wire, Solid Insulated. 100216-924 A/R Jumper J1. From JJ to KK.	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 15 ips. b/G. TCh MUDEL NO. 16 DATell/18/71 SHEET 38 OF	131 132 133 Rec 134 Rec 135 Rec 136 Rec 136 Rec 137 Rec 138 Rec 138 Rec 139 Rec 140 Rec 141 Rec 141 Rec 141 Rec 141 Rec
ASST.TRANSPORT ELECTRONICS ME. Type Pi 18 ins. R/G. 7GR. Model No. 16 Date 11/18/71 sheet 32 of ME. Type Pi 18 ins. R/G. 7GR. Model No. 16 Date 11/18/71 sheet 32 of The Drawing Title Dra. No. Red. Remarks On Ckt. Desig. 131 Capacitor, Tantalina. 10ur 10007c-106 1 C204. 132 133 Resistor, 5%. iv. 750 100156-751 1 R218. 134 Resistor, " iv. 750 100156-751 1 R268. 135 Resistor, " iv. 750 100156-751 1 R268. 136 Resistor, " iv. 68K 100156-683 1 R131. 137 Resistor, " iv. 68K 100156-633 1 R132. 138 Resistor, " iv. 68K 100156-681 1 R166. 110 Resistor, " iv. 68K 100156-681 1 R166. 110 Resistor, " iv. 390K 100156-394 1 R168. 1113 Resistor, " iv. 150 100156-155 1 R509. 1113 Resistor, " iv. 390K 100156-394 1 R511. 1146 Resistor, 5%. iv. 3.3M 100156-335 1 R536. 1147 Wire, Solid Insulated. 100248-924 A/R Jumper J1. From JJ to KK. Juaper J2. " U " V.	Dearwing ASSY.TRANSPORT ELECTRONICS THE TYPE PRINTING TITLE DEG. NO. NO. REO. 131 Capacitor, Fentalum 1.5uf 100136-105 1 G20L. 132	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE DWG.NO. 10 DATE 11/19/71 SHEET 36 OF	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 15 ips. b/G. TCh MODEL NO. 16 DATell/18/71 SHEET 38 OF	131 132 133 Rec 134 Rec 135 Rec 136 Hes 137 ince 136 Rec 137 ince 138 Rec 140 ince 141 Rec
ASSY.TRANSPORT SLECTRONICS MFB. Type 18 ins.D/G. 7Ch. Model No. 16 Date 1/18/71 SHEET 32 Of MFB. Type 18 ins.D/G. 7Ch. Model No. 16 Date 1/18/71 SHEET 32 Of MFB. Type 18 ins.D/G. 7Ch. Model No. No. REMARKS ON CKT. DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS THE T	DRAWING ASSY.TRANSPORT ELECTRONICS PKE. Type'A' 101ps. D/G. 7Ch. Model No. 16	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 15 ips. b/G. TCh MUDEL NO. 16 DATell/18/71 SHEET 38 OF	131 132 133 Rec 134 Rec 135 Rec 136 Hes 137 ince 136 Rec 137 ince 138 Rec 140 ince 141 Rec
ASSY.TRANSPORT SLECTRONICS ME. Type 18 ins.D/G. 7Ch. Model No. 16 Date 1/18/71 Sheet 32 Of	Dearwing ASSY.TRANSPORT ELECTRONICS THE TYPE PLITTSIDS.H/G. 7Ch. Model No. 10 Date1/15/71 SHEET 34 of WEN DRAWING TITLE DMG.MO. No. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Fentalum 1.5uf 100136-105 1 G20L. 132 133 Remistor, 56. iw. 750 100156-751 1 R2M. 134 Resistor, 3w. ht 100068-ht 1 R2M. 135 Resistor, 4w. 750 100156-751 1 R268. 136 Resistor, 4w. 750 100156-751 1 R268. 137 Resistor, 4w. 750 100156-333 1 Rh21. 138 Remistor, 4w. 33K 100156-333 1 Rh21. 139 Resistor, 4w. 30K 100156-333 1 Rh32. 139 Resistor, 4w. 30K 100156-30 1 Rh66. 1ho Secieties, 4w. 390K 100156-30 1 Rh67. 1hl Resistor, 4w. 390K 100156-31 1 Rh68. 1h2 Resistor, 4w. 390K 100156-31 1 Rh68. 1h3 Resistor, 4w. 390K 100156-30 1 Rh67. 1h4 Resistor, 4w. 390K 100156-30 1 R509. 1h5 1h6 10016-30 1 R510. 1h5 1h6 10016-30 1 R510.	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE DWG.NO. 10 DATE 11/19/71 SHEET 36 OF	DRAWING ASSY.TRANSPORT ELECTRONICS PMP. Tyge'A' 15 ips. D/G, 7Ch Dec. No. 10 Date11/18/71 sheet 38 OF TKM DRAWING TITLE Dec. No. No. REQ REMARKS ON CKT. DESIG. 131 132 133 Resistor. 5%. im. 750 100156-751 1 R234. 135 Resistor. 1 m. 750 100156-751 1 R248. 135 Resistor. 1 m. 750 100156-751 1 R268. 136 Resistor. 1 m. 750 100156-751 1 R268. 137 Resistor. 1 m. 750 100156-751 1 R268. 137 Resistor. 1 m. 13K 100156-183 1 R121. 137 Resistor. 1 m. 13K 100156-603 1 R131. 138 Resistor. 1 m. 13K 100156-604 1 R166. 140 Resistor. 1 m. 150 100156-152 1 R1674 140 Resistor. 1 m. 150 100156-394 1 R166. 140 Resistor. 1 m. 1.5% 100156-155 1 R509. 141 Resistor. 1 m. 1.5% 100156-394 1 R511. 141 Resistor. 1 m. 390K 100156-394 1 R511. 141 Resistor. 1 m. 390K 100156-395 1 R536. 141 R511. 141 Resistor. 1 m. 3.3M 100156-335 1 R536. 141 R511. 141 Resistor. 1 m. 3.3M 100156-335 1 R536. 141 M.	131 132 133 Rec 134 Rec 135 Rec 136 Rec 137 Rec 136 Rec 137 Rec 138 Rec 139 Rec 140 Rec 141 Rec
ASSY.TRANSPORT ELECTHONICS PWE. Type P' 13 ins.D/G. 7Gh. Model No. 16 DATE 11/18/71 SHEET 32 OF	DRAWING ASSY.TRANSPORT ELECTRONICS THE T	Dearwing ASSY.TRANSPORT ELECTRONICS FME. Type'A' 10ids. D/G. 7Ch. Model No. 16	DRAWING ASSY.TRANSPORT ELECTRONICS PWB. Type'A' 15 ips. b/G. TCh MUDEL NO. 16 DATell/18/71 SHEET 38 OF	131 132 133 Rec 134 Res 135 Rec 136 Rec 137 Rec 136 Rec 137 Rec 138 Rec 140 Rec 141 Rec
ASSY.TRANSPORT ELECTRONICS PMB. Type: P' 13 ins.D/G_TCh. Model No. 16 Date 11/18/T1 sweet 32 or Total Dwd. No. No. Neo. Remarks on Ckt. Desig.	DRAWING	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE DWG.NO. 15 DATE 11/19/T1 SHEET 36 OF ITLE DWG.NO. NO. REQ REMARKS ON CKT. DESIG.	DRAWING ASSY.TRANSPORT ELECTRONICS PNB. Type'A' 15 ips. D/G, 70h Dec. No. 10	131 132 133 Rec 134 Rec 135 Rec 136 Rec 137 Rec 136 Rec 137 Rec 138 Rec 139 Rec 140 Rec 141 Rec
ASSY.TRANSPORT ELECTRONICS PAR. Type'P' 13 ins.D/G. Toh. Model No. 16	DRAWING ASSY.TRANSPORT ELECTRONICS DATE 1/15/71 SHEET 34 OF	DRAWING ASSY.TRANSPORT ELECTRONICS TITLE DEG.NO. NO. REQ REMARKS ON CKT. DESIG.	ASSY.TRANSPORT ELECTRONICS DATE	131 132 133 Rec 134 Rec 135 Rec 136 Rec 136 Rec 137 Rec 138 Rec 139 Rec 140 Rec 141 Rec
### ASY. TRANSPORT ELECTRONICS TITLE PRE TYPOLIP! 18 ing. D/G. TGL. MODEL NO. 16 DATE 11/18/T1 SMERT 32 OF MARKET TO CAT. DESIG. 131 Capacitor, Tantalum. 10uf 100070-106 1 C204. 132	ASSY.THANSPORT ELECTROMICS PMS. Types 17 17 17 17 17 17 17 1	ASSY.TRANSPORT ELECTRONICS DATE 11/19/T1 SHEET 36 OF	ASSY.TRANSPORT ELECTRONICS DATE 1/18/71 MEET 38 OF PME. TYPE 1/18 198. L/9. 70h MUDEL NO. 19 DATE 1/18/71 MEET 38 OF PME. TYPE 1/18 198. L/9. 70h MUDEL NO. 19 DATE 1/18/71 MEET 38 OF PME. TYPE 1/18 199. L/9. 70h MUDEL NO. 10 MEMARKS ON CKT. DESIG.	131 132 133 Rec 134 Rec 135 Rec 136 Rec 136 Rec 137 Rec 138 Rec 139 Rec 140 Rec 141 Rec
ASST.TRANSPORT SIRCTNONICS PRE TYPOLY 13 ins.D/G. 7Ch. Model No. 16	ASSY.THANSPORT ELECTROMICS	ASSI.TRANSPORT ELECTRONICS PRE. Type A 101ps. D/9. TCh. Model No. 10 DATE 11/19/71 SHEET 36, OF	ASSY.TRANSPORT ELECTRONICS DATELL/18/71 SHEET 38	131 132 133 Rec
ASSY.TRANSPORT ELECTRONICS PR. Type: P: 13 ins. D/G. Toh. wodel no. 16 Date 11/18/T1 sheet 32 of the first process of the first p	ASSY.THANSPORT ELECTROMICS PMS. Types 17 17 17 17 17 17 17 1	ASSY.TRANSPORT ELECTRONICS DATE 11/19/T1 SHEET 36 OF	ASSY.TRANSPORT ELECTRONICS DATE 1/18/71 MEET 38 OF PME. TYPE 1/18 198. L/9. 70h MUDEL NO. 19 DATE 1/18/71 MEET 38 OF PME. TYPE 1/18 198. L/9. 70h MUDEL NO. 19 DATE 1/18/71 MEET 38 OF PME. TYPE 1/18 199. L/9. 70h MUDEL NO. 10 MEMARKS ON CKT. DESIG.	131 132 133 Rec
ASSY.TRANSPORT SLECTHONICS DEG. NO. NO. NEO. NEW PARKS ON CET. DESIG.	ASSY.THANSPORT ELECTROMICS	ASSI.TRANSPORT ELECTRONICS PRE. Type A 101ps. D/9. TCh. Model No. 10 DATE 11/19/71 SHEET 36, OF	ASSY.TRANSPORT ELECTRONICS DATELL/18/71 SHEET 38	131 132 133 Rec
ASSY.TRANSPORT SLECTHONICS DEG. NO. NO. NEO. NEW PARKS ON CET. DESIG.	ASSY.THANSPORT ELECTROMICS	ASSI.TRANSPORT ELECTRONICS PRE. Type A 101ps. D/9. TCh. Model No. 10 DATE 11/19/71 SHEET 36, OF	ASSY.TRANSPORT ELECTRONICS DATELL/18/71 SHEET 38	131 132 133 Rec
### 200468 - 027 7 ***TITLE PMB. TYPE 13 198.B/G. TCM. MODEL NO. 16 DATE 11/18/T1 SHEET 32 OF	ASSY.THANSPORT ELECTROMICS	ASSI.TRANSPORT ELECTRONICS PRE. Type A 101ps. D/9. TCh. Model No. 10 DATE 11/19/71 SHEET 36, OF	ASSY.TRANSPORT ELECTRONICS DATELL/18/71 SHEET 38	131 132 133 Rec

1	1	MATERI	AL LIST	_	Mi:		NG NO. 8 - 028	REV.	7	Ti
J	ASSY.TRANSPORT E	LECTRONICS			<u></u>			+		ASS
TITL	16 7.5 7		Ch. MODEL NO	13	DATE	15/71 shi	EET 33 . O		DRAW	LE PV
TEM NO.	DRAWING TIT	. E	DWG. NC.	NO. REQ.	REMA	ARKS ON C	KT. DESIG		ITEM NO.	
131	Capacitor, Pantalum.	1.5uf	100136-155	1	C204.				131	Capaci
132									132	
133	Remistor, 5%. W.	750	100156-751	1	3234.				133	Resist
134	Resistor, " 3w.	L7	100068-470	1	R2L8.				134	Resist
135	Resistor, " 4".	750	100156-751	1	R26δ.				135	Ressis
136	Resistor, " "	15K	100156-253	1	Ri;21.				136	Resist
137	Resistor, " "	5 1 K	100156-513	1	ai;31.			i	137	Resist
135	Resistor, " '	13K	100156-133	1	RL32.				138	Resista
139	Resistor, " "	680K	100156-684	1	R466.				139	Resista
1770	Resister, " "	150	100156-251	1	DL-67				140	desist
141	Resistor, " "	390K	100156-394	1	RL68.				נוּננ	Resist
142	Resistor, " "	1.5M	100156-155	1	R509.				142	Resist
143	Booketer, # "	150	200256-252	-	2520]	143	Boolet
11:14	Hesistor, " "	390K	100156-391	1	R511.			1	144	Resist
145	Resistor, 5%. W.	3.3M	100156-335	1	R536.				145	
146									146	1
147	Wire, Solid Insulate	id.	100215-921	A/R	Jumper J	l. From J	ij to KK.		147	Wire,
					Jumper Ja	2 *	υ 2 V.			
					Jumper Ji	1 . E	P "RR.			1
				1	Jumper J	5. "	F "G.			1
					Jumper Jo	6 . " C	G " HH.	1. 1		1
					Jumper J	7.	н " J.			1
					Jumper J	8. " E	E PF.			†
					Jumper J	9. ,"	D "E.			1
_					Jumper J	19. • 1	LA " CC.			
				1	Jumper J	u. "	w × x.			+
					Jumper J		L " K.		 	+
_	 			1	 					+
_				1						1
	 			1	 					+
-										
										1
_			<u> </u>						_	
1	10.7	MATERI	AL LIST		NAI		ING NO.	REV,		<u> </u>
ı				==	IVIL	200488	029	T		W
DRAW	ASSY.TRANSPORT			าส		/16/71 ··	REET JU 0		DRAI TIT	WING AS
TITI	E 785. 1958 F. 1371	ا مد کلیمدینی	MUDEL NO.		VAIC	S GLANCE			ITEN	
ITFM										

77	l j -	MATERI	AL LIST		ML	200488 - 0	
L	ASSY.TRANSPORT EL	ECTRONICS.			لـــــا		Ju 17
DRAWIN TITLE	PWB. Type P' 151		Dh. Moder No L	10	DATE 11	/19/71 SHEET .3	5 or
ITEM NO.	DRAWING TITL	. E	D#G. NO.	NO, REO.	REM	ARKS ON CKT. D	ESIG.
131	Capacitor, Tantalum.	1.5uf	100136-155	1	C204.		
132							
133	Resistor. 5%. ;w.	750	100156-751	1	R23L.		
134	Resistor. * 3w.	47	100068-470	1	R 2 L8.		
135	Ressistor. * w.	750	100156-751	1	R268.		
136	Resistor. " "	9.1K	100156-912	1	RL21.		
137	Resistor. " "	27K	100156-273	1	RL31.		
138	Resistor. " "	15K	100156-153	1	RL132.		
139	Resistor. " "	300K	100156-304	1	R466.		
140	desister. 1	150	100156-151	1	PL67.		
141	Resistor. " "	330Ķ	100156-334	1	RL68.		
142	Resistor. " "	680K	100156-684	1	R509.		
143	Recietor. " "	250	200256-252		agro-		
155	Resistor. " "	330K	100156-331	1	R511.		
145							
146							
147	Wire, Solid Insulated	1.	100246-924	A/R	Jumper J1	. From JJ to	uck.
					Jumper J2	. * j *	٧.
				Ì	Jumper Ji	. и рр и	RR.
					Jumper J5	. t +7 1	a.
	_				Jumper Jé	. " QG "	ш.
					Jumper J7	H .	J.
					Jumper J8	22 .	FF.
					Jumper J9	. " D "	E.
					Jumper J1	O. " AA "	GG.
Ī				l	Jumper Jl	1. " W "	x
				}	Jumper J3	L #	K.
						- 1	
					I	554 414 7	O. RE
70.7	A 7	MATERI	AL LIST		IN AL	DRAWING P	U. IRE

ITEM	DRAWING TITLE		DHG. NO.	NO. REQ.	REMARKS ON CKT. DESI
NO.					
132					
133	Resistor, 5%. Tw.	750	100156-751	1	R234.
134	Resistor. " 3v.	47	100066-470	1	R248.
135	Resistor. " w.	750	100156-751	1	R268.
136	Resistor. " "	2 7 %	100156-273	1	RL21.
137	Resistor. " "	100K	100156-104	1	RL31.
138	Resistor. " "	12K	100156-123	1	RL32.
139	Resistor. " "	680K	100156-684	1	RL66.
140	Rectatory "	150	100156 151	1	BL67-
141	Resistor. " "	390K	10^156-394	1	RL166.
1/12	Resistor. " "	1.5M	100156-155	1	R509.
243	Resister, A. S.	<u> </u>	- 100154-152	-	7520.
144	Resistor. " "	390K	109156-394	1	R511.
145	Resistor. " "	3.3M	100156-335	1	R536.
146					·
147	Wire, Solid Insulated.		100246-924	A/R	Jumper Jl. From JJ to KK
					Jumper J2. T "V.
-					Jumper J3. " L " M.
					Jumper J5. " F "G.
				<u></u>	Jumper J7. " H " J.
					Jumper JQ. " EE "FF
					Jumper J9. " D * E.
					Jumper J10. * AA " GC
				<u> </u>	Jumper Jll. " W " X.
			,		Jumper J13. " N " P.
					Jumper Jl4. " R "S.
	[

J	ASSY.TRANSPORT ELECTR	ONTCE		 .	VIL 200488 - 014
DRAWI	NG	/G.70	h. MODEL NO	10	DATE 11/18/71 SHEET 39
NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT, DESIG
131					
132					
133	Resistor. 5%, jw.	750	100156-751	1	•B23h.
134	Resistor. " 3w.	47	100068-470	1	R2h8.
135	Resistor, " W.	750	100156-751	1	R268.
136	Resistor. " "	15X	100156~153	1	RL21.
137	desistor. " "	51K	100156-513	1	RL31.
138	Resistor. " "	13K	100156-133	í	RL32.
139	desistor. " "	680K	100156-68),	1	RL166.
140	Resistor, # "	150	200156-151	-	RL67-
141	Resistor. " "	390K	100156-394	ì	RL68.
11;2	desistor. " "	1.5M	100156-155	ì	R509.
143		1/0	100156 151		2510-
144	Registor. " "	390K	100156-394	1	R511.
145	Resistor. " "	3 .3 M	100156-335	1	R536.
11,5					
147	Wire, Solid Insulated.	•	100248-924	A/3	Jumper Jl. From JJ to KK.
				·	Jumper J2. " T " V.
					Jumper J3. * L * M.
					Jumper J5. * F * 4.
					Jumper J7. " H " J.
_		-:]			Jumper J8. " EE " FF.
					Jumper J9. " D " E.
					Jumper J10. * AA * CC.
					Jumper Jal. " W " X.
					Jumper Jl3. " N " P.
					Jumper Jll. ** R * S.
					eg a ve
		1			

7	1	ATERI	ÀL LIST		М		WING N	
1				=	IVIL	2004	38 - 02	9 7
RAWIP	ASSY.TRANSPORT BLD PWB. Type P 137 112	TRONICS	Ch. MODEL NO	16	DATELL	/16/71	SHEET 3	4 of
TEN NO.	DRAWING TITLE		DWG. MO.	NO. REQ.	REA	ARKS ON	CKT. D	ESIG.
131	Capacitor, Tantalum	1.5u2	100136-105	1	czol.			
132					·			
133	Remistor, 5%. iv.	750	100156-751	1	R23L; 。			وبحجيطيت
134	Resistor, " 3w.	47	100066-470	- 1	R248.			
135	Resistor, " w.	750	100156-751	1	R268.			
1,36	Resistor, " "	10K	100156-103	1	RL21.			
137	Resistor, " "	33K	100156-333	1	RL31.			
138	Resistor, " "	15K	100156-253	1	RI 32.			
139	Resistor, " "	300K	100156-304	1	R466.			
1 F0	Resistor, ! "	10K	100256-103	1	1467 -			
141	Resistor, " "	390K	100156-334	1	સ્પે68.			
142	Resistor, " "	680K	100156-68L	1	R509.			
1 <u>1.3</u>	Restator, " "	20x	200256-203	,	9570			-
14h	Resistor, " "	390K	100156-394	1	2511.	1		
145						-		
146								
147	wire, Solic Insulated.		100246-924	A/R	Jumper J	1. From	JJ to	KK.
					Jumper J	2. "	U *	٧.
					Jumper J	i4. "	PP "	rr.
					Jumper d	5. "	F	G.
					Jumper J	16. •	GG •	HH.
					Jumper J	7. *	н *	J.
					Jumper J	18. •	EE .	FF.
					Jumper J	19. *	י מ	B.
					Jumper J	10. •	M .	cc.
-					Jumper J	11. "	A~*	x, .
					Jumper J). "	L "	K.

NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.	
131						
132						
133	Resistor. 5%. gw.	750	130156-751	1	R234.	
134	Resistor. " 3w.	47	100068-470	1	R248.	1
135	Resistor. " ¿w.	750	100156-751	1	R268.	
136	Resistor. " "	33K	100156-333	1	R421.	
137	Resistor, " "	120K	100156-124	1	RL31.	
138	Resistor. " "	12K	100156-123	1	Rù 32.	
139	Resistor. " "	680K	100156-684	1	RL166.	
140	Resistor. I I	150	300156-353		DI.67	
141	Resistor. " "	390K	100156-394	1	RIJ68.	
<u>14</u> 2	Resistor. " "	1.54	199156-155	1	R509.	
143	Resister.	- 250	109156-151	1	8510.	
144	Resistor. " "	390K	100156-394	1	R511.	٠
145	Resistor. " "	3.3M	100156-335	1	R536.	_
U ₄ 6	·					
147	wire, Solid Insulated.		1002118-9211	A/R	Jumper Jl. From JJ to KK.	_
					Jumper J2. * T * V.	
					Jumper J3. " "L " M.	۰
					Jumper J5. " F " G.	
	,				Jumper J7. " H " J.	
	·				Jumper J8. * EE * FF.	
					Jumper J9. " D " E.	
					Jumper J10. " AA " CC.	
					Jumper Jll. " W " X.	_
					Jumper Jl3 * N * P.	٠
					Jumper Jlh. " R "S.	. 1
_						

ITEM NO.	DRAWING TITLE	D#G. NO.	NO. REQ	DATE 11/18/71 SHEET 38 C
	JRAWING TITLE	5#5. NO.	NO. HEU	REMARKS ON CRI. DESIG
131			+	
132	Registor. 5%. 2w. 75	0 100156-751	1	R234.
134		7 100068-470	1	R248.
135	Resistor. " iw. 75		1	R268.
136	desistor. " " 18		1	RL21.
137	Resistor. " " 68		1	āĿ31.
130	Resistor. " " 13		1 .	RL32.
139	Resistor. " " 680	+	1	ાં. છે.
140	Horiston. " " 15	0 10156-151	1	i4.67.
141	Hesistor. 390	K 100156-394	1	R466.
142	:tesistor. " " 1.5	M 100156-155	1	R509.
143	Resistor, H. H. 15	0 100156 151	1	P510.
144	Resistor. " 390	K 100156-39L	1	R511.
145	Register. 1 " 3.3	M 13C156-335	'1	R5 36 .
146				
147	kire, Solid Insulated.	13021,5-921	A/R	Jumper Jl. From JJ to KK.
	1			Jumper J2. " T " V.
				Jumper J3. " L " M.
			1	Jumper J5. " F " G.
				Jumper J7. " H " J.
				Jumper J8. " EE "FF.
				Jumper J9. " D "E.
				Jumper J10. " AA " CC.
		4		Jumper Jll. " W " X.
				Jumper Jl3. " N " P.
				Jumper Jlu. " R "S.

DRAWN	PWB. Type'A' 37 11ps. D/G.	(Ch : MODEL NO	10	DATEN 18/71 SHEET 40 OF
FITEM NO.	DRAWING TITLE	DWG. ND.	NO. REQ.	REMARKS ON CET, DESIG.
131				
132				
133	Resistor. 5%. tw. 750	100156-751	1	R234.
134	Resistor. * 3w. 47	100068-470	1	R21,8.
135	Resistor. " iw. 750	100156-751	1	R268.
136	Resistor. " " 19K	100156-103	1	R421.
137	Resistor. " " 33K	100156-333	1	R431.
138	Resistor. " " 15K	100156-153	1	RL32.
139	Resister " " 300K	100156-304	1	R466.
140	Hosister, " " 10%	100156-103	1	2467.
141	Resistor. " " 390K	100156-394	1	RL68.
1հ2	Resistor. " " 680K	100156-684	1	R509,
143	Reciptor: " 10K	100156-103	1	R510.
بابلا	Resistor. " " 390K	1:015ó-39h	1	R511.
145		`		
146				
147	Wire, Solid Insulated.	100248-924	A/R	Jumper J1. From JJ to KK.
				Jumper J2. " T "V.
				Jumper J3. " L " H.
				Jumper 35. * 7 * Q.
				Jumper J7. * H * J.
				Jumpar J8. * EE * FF.
				Jumper J9. " D " E.
				Jumper JLO. " AA 7 9C.
				Jumper Jll. " W " X.
				Jumper Jl3. " X " P,
				Jumper Jili. " R " 8.

	ATERIAL LIST	ML 200488 - 036	#	MATE	RIAL LIST	===	ML 200168 - 038 T		MATE	RIAL LIST	ML 200488 - 040 7	4 1		MATERIAL LIS	<u> </u>	ML 200488 - 04
ASSY.TRANSPORT ELECT	RONICS	200400 1 030	┵ 1.	ASSY. TRANSPORT FLECTRON	ICS		-1 -33-17	TI W	TRANSPORT ELECTRONI	CS.	200400 - 010 7	┨.┖	ASSY.TRANSPORT EI	LECTRONICS		
TITLE PHE TYPE A LSIDS.	L/1.7Ch. MODEL NO	DATE 1/18/72 SHEET 11 OF	_ '	TITLE PAB. Troe 12 124108. 3/	J. 7ChMUDEL NO.	_14	DATE 11/10/71 SHEET 13. OF	DRAWING PAB.	Type!:! 25ins. E/G.	7Ch. MODEL NO	DATE 11/22/71 SHEET 15 OF	DRAW	PWB. Type P' Lin	ps. 5/0. 7Ch. MODEL NO	o. <u>10</u>	DATELL/22/71 SHEET LT.
TEM DRAWING TITLE	DWG, NO. NO.	, REQ. REMARKS ON CKT. DESIG.	→	TEM DRAWING TITLE	DWG. NO.	NO. REG	Q. REMARKS ON CKT, DESIG.	TEN .	PAWING TITLE	DWG. NO. NO		17.5	DRAWING TITL	. E D#G. NO.	NO. REQ.	
	DIG. NO. NO.	REMARKS ON CKT, DESIG.			uf 100070-106						O. REQ. REMARKS ON CKT. DESIG.					
131					100070-106	 1	C204.	4	r, Tantalum. 1.5m	1 130130-155	1 C204.		Capacitor, Tantalum.	1.541. 100136-15	5 1	C20L.
132				132				132				132				
133 Besistor. 5%. 2w.	750 100156-751	1 R23h.		133		<u> </u>	<u> </u>	133				133				
13: Resistor. " 3w.	h7 100068-470	1 R248.	7 1	134				134		I		134	L			
135 Resistor. " jw.	750 100156-751	1 R268.	1 1	135			·	135				135			. [, .
	9.18 100156-912	1 Rh21.	-	136 Resistor, 5%, 24. 27	7K 100156-273	1	8421.	136 Rusistor	55 v. 15	K 100196-153	1 8421.	136	Resistor. 5%. W.	9.1% 100156-91	2 1	RL21.
137 Resistor.	271 100156-273	1 18431.			₩ 10015c-10k		RL31.	{ 	·				Resistor. " "	27% 100156-27		RL31.
								137 Resistor			1 8431					
138 Resistor. " "		1 Ri 32.			2K 100156-123		Ri ₄ 32.	130 Resistor			1 htt32.		Resistor. " "	15K 100156-15		жь32.
139 Resistor. " "	300K 100156-304	1 R466.			X 100156-684		શ. 66.	. 139 Resistor	. " " 660)	k 100156-664	1 RL66.	139	Resistor. " "	300K 100156-30	4 1	RL66.
1k0 Resistor:	150 100156-151	1 267.		Lio Resister. 15	103156-151		- rhet-	100 modeter		10056-151	1 - N.67 a	<u> 11</u> .0	Becinter. 1 1	150 103156 15	1 1	2671
lil Recistor. " "	330K 100156-33h	1 Ma 68.		Lil Resistor. " " 390	X 100156-354	1	RL6t.	lal Sesistor.	320	100156-394	1 RL68.	11.1	Resistor. " "	330K 100156-33	4 1	ю.68.
1142 Resistor. " "	680K 100156-684	1 1509.	\neg	LL2 desistor. " 1.5	M 100156-155	1	R509.	1h2 Resistor	1,5		1 1509.	11,2	Resistor. " "	680K 100156-68	1	R509.
1h3 Besister.		1 8610-		U.3 Belteten # # 35	0 2003/4-253	1	1820-	1h3 -te-t		2 . 12216	1 #510	143		150 100155 10		BENO
					W 100307 22					100270 272			Resistor. * *	3308 30035		1.7
lik Resistor. " "	330K 100156-33k	1 R511.				1 	H511.	llh Resistor.			1 8511.		mesistor, "	330K 100156-33	1 1	R511.
145				145 Resistor. " "3.3	M 100156-335	1	3536.	145 Resistor	3.3	101256-335	1 R536.	11/5			4	<u> </u>
2h6				ا مینا		<u>L</u>		156		I		11,6				
147 Wire, Solid Insulated.	1002h8-92h	A/R Jumper Jl. From JJ to EK.		17 Wire, Solid Insulated.	100243-724	A/R	Jumper Jl. Frem KK to LL.	147 Are, Soi	in Ing.laten.	100248-924 4	L/R Jumper Jl From KE to LL.	11.7	Wire, Solid Insulated	1. 100248-921	A/R	Jumper Jl. From KK to Li
		Jumper J2. " T " V.	7 (T	Juaper J2. " U "V.			1	Juner J2. " U " V.	1	1		1	Jumper J2. " U " V.
	-	Jumper J3. " L " M.	-1 -		 	1	Jumper Jh. PP RR.	M		 	Jumper Ji. * PP * RR.	1:1			1	Jumper Ji. " PP " RI
			- ∤ }-	- 	+	 		l #		 		∔ ├──┤			+	
<u> </u>		Jumper J5. F = G.	-1 -		+		Jumper J5. F G.	[] - 		+	Jumper 35. " F " G. /	4.				Jumper J5. * F * 0.
		Jumper 37. " H " J.	-4 -				Jumper J6. " GG " HH.	ğ		↓ L	Jumper J6. * G3 * HH.	1			4	Jumper J6. " GG " HE
		Jusper JS. " EE " FF.	ᆚᆫ				Jumper J7. " H " J.	3		<u> </u>	Jumper 17. " H " J.		· · · · · · · · · · · · · · · · · · ·			Jumper J7. " H " J.
		Jumper J9. * D * L.	コL				Jumper J8. EE FF.				Jumper JS. " ME " FF.	1 📖				Jumper J8. " KE " FF
		Jumper JlO. " AA " CC.	7 /				Jumper J9. * D * E.	3			Jumper J9. " D " E.	1				Jumper J9. " D " E.
		Jumper Jll. * W * X.	\dashv \vdash				Jumper JhO. " AA " CC.		· · · · · · · · · · · · · · · · · · ·	†	Jumper JlO. " AA " CC.	1				Jumper J10, " AA " CC
			-I -		+	 	Jumper J11. " W * K.	1.3		 		1			1	Jumper Jll. W " I.
		Jumper J13. " N * P.	$\dashv \vdash$			├	 	[]		 	Jumper Jll. W W X.	▋▐			+	
		Jumper Jll. " R "S.	-1			↓	Jumper J15. " A " C.			 	Jumper-J15. " A " C.	1				Jumper J15. A C.
ĹĹ					1		Jumper J16. " JU " VV.	Ž	·		Jumper J16. " UU " VV.	┛┡┷┩			1	Jumper J16. " UU " VV
3 5						<u> </u>	Jumper J37. " WW " XX.				Jumper J17. * 18 * YY.]	· · · · · · · · · · · · · · · · · · ·	<u> </u>		Jumper J17. " WW " IX
			71 C				Jumper J3. " L " K.				Jumper J3. " L " K.	1 🔲				Jumper J3, " L " K.
· ·			7	ì	1		r :	3				1				
								3				164 I		1	1 .1	l
ASSY. TRANSPORT ELECTE	ATERIAL LIST	ML 200488 - 037	II I	ASSY, MANSPORT ELECTRONICS	IAL LIST	 =	ML DRAVING NO. Red. 200488 - 039 T.		TRANSPORT ELECTRONI		= ML DRAVING NO. R	1 [ASSY.TRANSPORT E	MATERIAL LIST	==	2001.88 - 0h3
ASSI.TRANSPORT ELECTE THE PER Type P 10 ins. S	RONICS SAG. 70h. MODEL NO. 15	ML 2001,88 - 037 1		ASSI. INANSPORT ELECTRONICS THE PRE Type 121 18 108. 5/G.	S JGhMODEL NO	·	DATE 11/13/71 MEET UA OF	TITLE PAB.	TRANSPORT ELECTRONI Type P' 37 ins S/G	CS _7Ch = MODEL NO1	200488 - 041 -	DRAW	ASSY.TRANSPORT EI	LECTRONICS DB. S/G. 7Ch. MODEL NO	11	DATE 11/22/71 SHEET 18
ASSI.TRANSPORT ELECTE FEB. Type P. 101ps. S ITEM NO. DRAWING TITLE	RONICS SAG. 700. MODEL NO. 16	ML 2001/88 - 037 1 DATE 11/18/72 SHEET 1/2 OF	De la compa	ASSI. RANSPORT ELECTRINIC TLE PAR TOP'2' 18 198, 5/9.	S JGhMODEL NO DWG. NO.	NO. REQ.	DATE 11/13/71 MEET 14 OF	ITEM MO.	TRANSPORT ELECTRONI Type P' 37 los S/G	CS 7Gh MODEL NO. 1	DATE 11/22/71 SHEET 160 OF	DRAWN TITL	ASSY.TRANSPORT EI	LECTRONICS DB. S/G. 7Ch . MODEL NO	11	DATE 11/22/71 SHEET 148
ASSI.TRANSPORT ELECTE FEB. Type P 1 Dips. S ITEM DRAWING TITLE 131. Capacitor, Tantalum.	RONTCS S.G. 70h. MODEL NO. 14	ML 2001,88 - 037 1	7 3 3 4 4 5 1 3 5	ANNO ASSI.AMASPORT ELECTRONICS THE FEB. Type'2' 18 ios. 5/0. DRAWING TITLE 1 Capacitor, Tantalum. 10sf	S JGh MODEL NO DWG. HG.	NO. REQ.	DATE 11/13/71 MEET 14 OF	ITEM MO. 131 Capacito	TRANSPORT ELECTRONI Type P' 37 ins S/G	CS 7Gh MODEL NO. 1	DATE 11/22/71 SHEET 160 OF	DRAMIN TITLE MO.	ASSY.TRANSPORT EI	LECTRONICS DB. S/G. 7Ch. MODEL NO	11	DATE 11/22/71 SHEET 18
ASSI.TRANSPORT ELECTE FEB. Type P. 101ps. S ITEM NO. DRAWING TITLE	RONICS SAG. 700. MODEL NO. 16	ML 2001/88 - 037 1 DATE 11/18/72 SHEET 1/2 OF	De la compa	ANNO ASSI.AMASPORT ELECTRONICS THE FEB. Type'2' 18 ios. 5/0. DRAWING TITLE 1 Capacitor, Tantalum. 10sf	S JGhMODEL NO DWG. NO.	NO. REQ.	DATE 11/13/71 MEET 14 OF	ITTLE PMB. ITEM MO. 131 Gapacito 132	TRANSPORT ELECTRONI Type P' 37 los S/G	CS 7Gh MODEL NO. 1	DATE 11/22/71 SHEET 160 OF	DRAMM TITLE ITEM NO. 131 132	ASSY.TRANSPORT EL	LECTRONICS DB. S/G. 7Ch. MODEL NO	11	DATE 11/22/71 SHEET 18
ASSI.TRANSPORT ELECTE FEB. Type P 1 Dips. S ITEM DRAWING TITLE 131. Capacitor, Tantalum.	RONICS SAG. 700. MODEL NO. 16	ML 2001/88 - 037 1 DATE 11/18/72 SHEET 1/2 OF	7 3 3 4 4 5 1 3 5	ANNO ASSI.ARANSPORT ELECTRONICS THE TYPE! 18 ion. 5/0. ORAWING TITLE 1 Capacitor, Tantalum. 10uf	S JGhMODEL NO DWG. NO.	NO. REQ.	DATE 11/13/71 MEET 14 OF	ITEM MO. 131 Capacito	TRANSPORT ELECTRONI Type P' 37 los S/G	CS 7Gh MODEL NO. 1	DATE 11/22/71 SHEET 160 OF	DRAMMO. 171 Mo. 131 132 133	ASSY.TRANSPORT EL	LECTRONICS DB. S/G. 7Ch. MODEL NO	11	DATE 11/22/71 SHEET 18
DEATHER ASSISTANSPORT ELECTE FEB. Type P 1 Dips. S ITEM NO. DRAWING TITLE 131 Capacitor, Tantalum. 132	RONICS SAG. 700. MODEL NO. 16	ML 2001/88 - 037 1 DATE 11/18/72 SHEET 1/2 OF	↑ 3 000 000 000 000 000 000 000 000 000	ANNO ASSI.ARANSPORT ELECTRONICS THE TYPE 12 IS ion. 5/0. ORAWING TITLE 1 Capacitor, Tantalum. 10uf 2	S JGhMODEL NO DWG. NO.	NO. REQ.	DATE 11/13/71 MEET 14 OF	ITTLE PMB. ITEM MO. 131 Gapacito 132	TRANSPORT ELECTRONI Type P' 37 los S/G	CS 7Gh MODEL NO. 1	DATE 11/22/71 SHEET 160 OF	DRAMM TITLE ITEM NO. 131 132	ASSY.TRANSPORT EL	LECTRONICS DB. S/G. 7Ch. MODEL NO	11	DATE 11/22/71 SHEET 18
ASSI.TRANSPORT ELECTION THE FAR. Type Pl 10 ips. S THE NO. DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134	RONICS SAG. 700. MODEL NO. 16	ML 2001/88 - 037 1 DATE 11/18/72 SHEET 1/2 OF	7 3 00 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ANNO ASSI.AMANSPORT ELECTRONICS THE TYPE'?' 18 ion. 5/g. DRAWING TITLE 1 Capacitor, Tantalum. 10af 2	S JGhMODEL NO DWG. NO.	NO. REQ.	DATE 11/13/71 MEET 14 OF	TTITLE PMB. ITEM MO. 131 Gapacito 132 133	TRANSPORT ELECTRONI Type P' 37 los S/G	CS 7Gh MODEL NO. 1	DATE 11/22/71 SHEET 160 OF	DRAMMO. 171 Mo. 131 132 133	ASSY.TRANSPORT ELE PNE. Type'A' 10ig DRAWING TITL	LECTRONICS DB. S/G. 7Ch. MODEL NO	11	DATE 11/22/71 SHEET 18
DRAWING TITES ASSY.TRANSPORT ELECT FMB. Type*P' lOins. S ITEM DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135	RONICS SAL 70h, MODEL NO. 14	PATE 11/18/71 MEET 1/2 OF	5 (15) 131 131 131 131 131	ANNO ASSI.ARANSPORT ELECTRONICS THE TYPE'?' 18 ion. 5/0. DRAWING TITLE 1 Capacitor, Tantalum. 19uf 2 3	S JCh MODEL NO DWG. NO. 100079-136	NO. REQ.	DATE 11/13/71 MEET 14 OF	131 Gapacito 132 133 134 135	TRANSPORT ELECTRONI TYPE'P' 374108.5/G, DRAWING TITLE r, Tantalum. 1.5u	DHG. NO. NO.	DATE 11/22/71 SHEET 160 OF	DRAMING. 131 132 133 131 135	ASSY.TRANSPORT ELE PND. Type'A' 10ir DRAWING TITL	LECTRONICS DB. S./U. 7Ch. MODEL NO.	NO. REO.	DATE 11/22/11 SHEET 16
DRAWING TITES ASSY.TRANSPORT ELECT FMB. Type*P' lDing. S ITEM DRAWING TITE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. aw.	PROMICS SAL 70h, MODEL NO. 16 DWG, NO. NO. 10uf 100070-106	PATE 11/18/71 MEET 1/2 OF	7 3 133 133 133 134 135 135	ANNO ASSI. INANSPORT ELECTRICIC TILE EST. Type'2' 18 ips. 5/g. DRAWING TITLE Capacitor, Tantalum. 1Ouf 2 3 4 5 6 Resistor. 5%. im. 18K	S JChMODEL NO DWG. NO. 100079-136	1 1	DATE 11/13/71 WEET 14 OF	131 Capacito 132 133 134 135 136 Resistor	TRANSPORT ELECTRONI Type P 37 4108.5/G. DRAWING TITLE r, Tantalum. 1.5u	CCS	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136	ASSY.TRANSPORT ELE Php. Type'A' 10is DRAWING TITL desistor. 5%. jw.	DECTRONICS DES. S/U. 7Ch. MODEL NO. E DEC. NO. 33K 120156-333	NO. REQ.	DATE 11/22/T1 SHEET 18 REMARKS ON CKT. DES RILL RIL
ORANGE ASSY.TRANSPORT ELECTIVE PMB. Type*P' lOing. S' ITEM DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 Resistor. 5%. 1w. 137 Recistor. " "	PROMICS SAL 70h, MODEL NO. 18 DWG. MO. NO. 10uf 100070-106 33X 100156-333 120K 199156-124	PATE 11/18/71 MEET 1/2 OF		ANNO ASSI. INANSPORT ELECTRICIC TILE FEB. Type'2' 18 ips. 5/g. DRAWING TITLE Capacitor, Tantalum. 10uf Capacitor, Tantalum. 15uf Resistor. 5%. 2w. 15k Resistor. " 68K	S 7GhMODEL NO DWG. NO 100079-136	1 1	DATE 11/13/71 MEET 14 OF	131 Capacito 132 133 134 135 136 Resistor 137 Resistor	TRANSPORT ELECTRONI Type P 37 4108.5/G. DRAWING TITLE r, Tantalum. 1.5u .5%. w. 10	CCS	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137	ASSY.TRANSPORT ELE Php. Type'A' 10is DRAWING TITL Resistor. 55. jw. Resistor. 7	DECTRONICS DES. S/U. 7Ch. MODEL NO. DEC. NO. 334 120156-333 1204 120156-124	90. REO.	ML 20048 - 043 DATE 11/22/11 SHEET 16 REMARKS ON CKT. DES RI.21. E431.
ASSY.TRANSPORT ELECTING THE PER Type'P' loins. S 17EM DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Resistor. "	DWG. NO. NO. 1001 100070-106 1001 100070-106 100070-10	PATE 11/18/71 SHEET 1/2 OF		ANNO ASSI. MANSPORT ELECTRONICS SER. Type 12' 18 ios. 5/g. DRAWING TITLE Capacitor, Tantalus. 10sf Capacitor, Tantalus. 10sf Resistor. 5%. iv. 18k Resistor. " 68k Resistor. " 13k	DWG. HO. 100079-106 100079-106 100079-106 100079-106 100079-106 100079-109 100079-1000	1 1 1 1 1	DATE 11/13/71 MEET 14 OF	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor	TRANSPORT ELECTRONI Type'P' Tipes, SG, DRAWING TITLE r, Tantalum. 1.5u .5%. av. 10 .33	COS MODEL NO MC OWS. NO NC of. 100136-155 K 100156-103 K 100156-133 K 100156-153	DATE 11/22/71 SHEET 160 OF	DRAMIN 1717L 17EM 17EM 17EM 17EM 17EM 17EM 17EM 17EM	ASY.TRANSPORT ELE Php. Type'A' 10is DRAWING TITL desistor. 5%. jw. desistor. " Resistor. "	DB. S/U. 7Ch. MODEL NO. 8 DNG. NO. 33 120156-333 1204 100156-124 121 100156-123	VO. REO.	ML 20048 - 043 DATE 11/22/T1 SHEET 16 REMARKS ON CKT. DES RI.21. E431. RI.32.
DEALWHIG TITLE PER Type'P' LOIDS. S ITEM DAWNING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Recistor. " " 138 Resistor. " "	DWG. NO. 180 DWG. NO. NO. 1001 100070-106 100070-1	DATE 11/18/72 SMEET 12 OF	133 133 133 133 133 134 134 135 137 137 138 137 138 138 139 139 139 139 139 139 139 139 139 139	ANNO ASSI. MANSPORT ELECTRONICS THE PER TOP 12' 18 10s. 5/G. DRAWING TITLE Capacitor, Tantalum, 10uf Capacitor, Tantalum, 10uf Resistor, SK. 1m. 15K Resistor, " " 66K Resistor, " " 13K Resistor, " " 66K Resistor, " " 66K	S 7ChMODEL NO DWG. NO 100079-136 1000256-163 100156-683 100156-133	1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 139 Resistor	TRANSPORT ELECTRONI TYPE'P' 37 tines.S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. tw. 10 . " 33 . " 15	COS MODEL NO	DATE 11/22/71 SHEET 160 OF	DRAMIN 11/11/11 13/2 13/3 13/6 13/7 13/8 13/9	ASSY.TRANSPORT EL PhE. Type'A' 10is DRAWING TITL desistor. 55. jw. desistor. " Resistor. "	LECTROMICS DB. S/41.7Ch . MODEL NO . C	NO. REO.	ML 20048 - 043 DATE 11/22/11 SHEET 168 REMARKS ON CKT. DES RL 21. RL 21. RL 31. RL 32. RL 66.
DEALWHIG TITLE PER Type'P' LOIDS. S ITEM DAWNING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Recistor. " " 138 Resistor. " "	DWG. NO. NO. 1001 100070-106 1001 100070-106 100070-10	DATE 11/18/72 SMEET 12 OF	133 133 133 133 133 134 134 135 137 137 138 137 138 138 139 139 139 139 139 139 139 139 139 139	ANNO ASSI. MANSPORT ELECTRONICS THE PER TOP 12' 18 10s. 5/G. DRAWING TITLE Capacitor, Tantalum, 10uf Capacitor, Tantalum, 10uf Resistor, SK. 1m. 15K Resistor, " " 66K Resistor, " " 13K Resistor, " " 66K Resistor, " " 66K	DWG. HO. 100079-106 100079-106 100079-106 100079-106 100079-106 100079-109 100079-1000	1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor	TRANSPORT ELECTRONI TYPE'P' 37 tines.S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. tw. 10 . " 33 . " 15	COS MODEL NO MC OWS. NO NC of. 100136-155 K 100156-103 K 100156-133 K 100156-153	DATE 11/22/71 SHEET 160 OF	PRAME 131 132 133 136 137 138 139 140	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL CHARLESTOR. St. jw. desistor. St. jw. desistor. " Resistor. " Resistor. " Resistor. " Resistor. " "	DB. S/U. 7Ch. MODEL NO. 8 DNG. NO. 33 120156-333 1204 100156-124 121 100156-123	NO. REO.	ML 20048 - 043 DATE 11/22/11 SHEET 168 REMARKS ON CKT. DES RL 21. RL 21. RL 31. RL 32. RL 66.
DEALWARD OFFICE ASSY.TRANSPORT ELECT FEB. Type*P* loins. S IYEM DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Recistor. " " 138 Resistor. " " 139 Recistor. " " 140 Recistor. " "	DWG. NO. 180 DWG. NO. NO. 1001 100070-106 100070-1	PATE 11/18/71 SHEET 1/2 OF	132 133 134 135	ANNO ASSI.MANSPORT ELECTRINICA PER Troe!?' 18 ios. 5/G. DRAWING TILE Capacitor, Tantalum. 10uf Capacitor, Tantalum. 10uf Resistor. 5%. iv. 18k Resistor. " 68k Resistor. " 13X Resistor. " 680K Resistor. " 680K Resistor. " 680K	S 7ChMODEL NO DWG. NO 100079-136 1000256-163 100156-683 100156-133	1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 SMEET 14 OF	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 139 Resistor	TRANSPORT ELECTRONI TYPE'P' THINE,S'G, DRAWING TITLE T, Tantalum. 1.5u .5%. iw. 10 . " 33 . " 15	COS MODEL NO MC ONG. NO	DATE 11/22/71 SHEET 160 OF	PRAME 131 132 133 136 136 137 136 139 1140 1141	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL DRAWING TITL desistor. 5%. jw. desistor. " Resistor. " Resistor. " Resistor. " Resistor. " Resistor. " "	LECTROMICS DB. S/41.7Ch . MODEL NO . C	NO. REO.	ML 20048 - 043 DATE 11/22/11 SHEET 16 REMARKS ON CKT. DES RI. 21. RI. 21. RI. 31. RI. 32. RI. 66.
DEALWHICE PER Type'P' LOIDS. S TYPE PER Type'P' LOIDS. S TYPE NO. DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Recistor. " " 138 Resistor. " " 140 Resistor. " " 140 Resistor. " "	DWG. NO. NO. 1001 100070-106 100070-106 100070-106 100070-106 100070-106 100070-106 100070-106 100070-100 100070-100 100070-100 100070-100 100070-100 100070-100 100070-100 100070-100 100070-100 100070-100 100070-100 100070-100	DATE 11/18/71 SMEET 12 OF	133 133 133 134 135 137 139 139 139 139 139 139 139 139 139 139	ANNO ASSI.MANSPORT ELECTRINICA PER Troe!?' 18 ion. 5/G. Capacitor, Tantalum. 10uf Capacitor, Tantalum. 10uf Resistor. 5%. 1w. 15% Resistor. " 68%	100256-163 100256-163 100256-133 100256-683	1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 SMEET 14 OF	131 Capacito 132 133 134 135 136 Resistor 136 Resistor 138 Resistor 138 Resistor	TRANSPORT ELECTRONI TYPE'P' 37 hos.s/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iw. 10 . " 33 . " 15 . " 300	COS MODEL NO MC DNG. NO	DATE 11/22/71 SHEET 16 OF	PRAME 131 132 133 136 136 137 136 139 1140 1141	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL CHARLESTOR. St. jw. desistor. St. jw. desistor. " Resistor. " Resistor. " Resistor. " Resistor. " "	3% 100156-333 120K 100156-124 12K 100156-125 680K 100156-515 390K 102156-39h 1.5% 102156-155	10. NEO.	ML 20068 - 013 DATE 11/22/T1 SHEET 1:8 D. REMARKS ON CKT. DES RL21. Eli31. RL32. RL66. RL66. R509.
DEALWHOO TYLE ASSY.TRANSPORT ELECT FMB. Type P! loins. S ITEM NO. DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Resistor. " " 138 Resistor. " " 140 Resistor. " " 1h0 Resistor. " " 1h1 Resistor. " " 1h2 Resistor. " "	RONICS SAL 7Ch MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-124 12K 100156-123 680K 100156-684 390K 100156-394 1.5M 100156-155	DATE 11/18/71 SHEET 12 OF	133 133 133 133 134 135 135 136 137 137 138 138 139 139 139 139 139 139 140 140 140 140 140 140 140 140 140 140	ASSI. ANALYPORT ELECTRONICS THE PER TOP 12' 18 ion. 5/G. DRAWING TITLE Capacitor, Tantalum. 10uf Capacitor, Tantalum. 10uf Resistor. 5K. im. 15K Resistor. " 66K Resistor. " 66K Resistor. " 66K Resistor. " 390K Resistor. " 390K Resistor. " 1.5M	100070-106 100070-106 100070-106 1000756-163 100156-683 100156-684 100156-394 100156-394	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF REMARKS ON CKT. DESIG. C204. RU21. RU31. RU32. RL66. D147. R468. R509.	176 176	.TRANSPORT ELECTRONI Type'P' 374108.8/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 680	CCS COS. MODEL NO. 1 DIVE. NO. NO. A. 100136-155 K. 100156-103 K. 100156-153 K. 100156-394 K. 100156-394	DATE 11/22/71 SHEET 160 OF	PRAME 131 132 133 136 137 138 139 140 141 142	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL DRAWING TITL desistor. 5%. jw. desistor. " Resistor. " Resistor. " Resistor. " Resistor. " Resistor. " "	3% 100156-333 120K 100156-124 12K 100156-125 680K 100156-515 390K 102156-39h 1.5% 102156-155	10. NEO.	ML 20068 - 013 DATE 11/22/T1 SHEET 1:8 D. REMARKS ON CKT. DES RL21. Eli31. RL32. RL66. RL66. R509.
ASSY.TRANSPORT ELECTION PhB. Type P Ding. S	23K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155	DATE 11/18/72 SHEET 12 OF	133 133 134 135 136 136 136 136 136 136 136 136 136 136	ASSI. INANSPORT ELECTRINICS PER Troe!?' 18 ion. 5/G. Capacitor, Tantalum. 10uf Capacitor, Tantalum. 10uf Resistor. 5%. iw. 15% Resistor. " 66% Resistor. " 66% Resistor. " 560% Resistor. " 560% Resistor. " 390% Resistor. " 1590%	100079-136 100079-136 100079-136 100056-163 100156-683 100156-133 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 200488 -039 T. DATE 11/13/71 MEET 14 OF REMARKS ON CKT. DESIG. C204. RL21. RL31. RL32. RL66. RL66. RL69. RL68. RS09.	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	.TRANSPORT ELECTRONI Type'P' 374108.8/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 550 ." 5680 ." 6800	CCS TOR. MODEL NO. 14 DIVE. NO. 16 1. 100136-155 K 100156-103 K 100156-153 K 100156-391 K 100156-391 K 100156-681 K 100156-681	DATE 11/22/71 SHEET 160 OF	PRAME 131 132 133 134 135 136 137 138 139 140 141 142 143	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL DRAWING TITL Resistor. 55. [W. Resistor. " Resistor.	150156-133 1201 100156-124 121 100156-125 150 100156-139 150 100156-139 150 100156-155 150 100156-155	VO. REO. 1	COLOR - OL3
ASSY.TRANSPORT ELECTION PhB. Type P Ding. S	23K 100156-333 120K 100156-354 100156-354 100156-354 100156-355 100156-354 10	DATE 11/18/72 SHEET 12 OF	133 133 134 135 136 136 144 144 144 144 144 144 144 144 144 14	ASSI.:RANSPORT ELECTRONICS THE PER TOP-12' 18 ion. 5/G. DRAWING TITLE Capacitor, Tantalum. 10uf Capacitor, Tantalum. 10uf Resistor. 5K. iw. 15K Resistor. " 66K Resistor. " 66K Resistor. " 66K Resistor. " 13X Resistor. " 155M Resistor. " 159K Resistor. " 159K	100079-136 100079-136 100079-136 1000256-163 100156-683 100156-133 100156-394 100156-394 100156-394	1 1 1 1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF REMARKS ON CKT. DESIG. C204. RL21. RL31. RL32. RL66. DL63. RL68. R509. R520.	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 139 Resistor 140 Resistor 141 Resistor 141 Resistor 142 Resistor 143 Resistor 144 Resistor	.TRANSPORT ELECTRONI Type'P' 374108.8/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 550 ." 5680 ." 6800	CCS TOR. MODEL NO. 14 DIVE. NO. 16 1. 100136-155 K 100156-103 K 100156-153 K 100156-391 K 100156-391 K 100156-681 K 100156-681	DATE 11/22/71 SHEET 160 OF	PRAME 131 132 133 134 135 136 137 138 139 1100 1111 1112 1112 1113 1114 1114 1114 1114	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " Resistor. " Resi	100156-125 159 100156-139 100156-155 159 100156-155 159 100156-155 159 100156-155 159 100156-155 159 100156-155 159 100156-155 159 100156-155	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	COLOR - OL3
ASSY.TRANSPORT ELECT FEB. Type'P' loins. S ITEM NO. DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Resistor. " " 138 Resistor. " " 140 Resistor. " " 141 Resistor. " " 142 Resistor. " " 143 Resistor. " " 144 Resistor. " " 145 Resistor. " " 146 Resistor. " " 147 Resistor. " " 148 Resistor. " " 149 Resistor. " " 140 Resistor. " " 141 Resistor. " " 145 Resistor. " "	23K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155	DATE 11/18/72 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:RANSPORT ELECTRONICS THE PER Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. im. 15% 6 Resistor. " 68% 6 Resistor. " 68% 7 Resistor. " 68% 9 Resistor. " 13% 9 Resistor. " 15% 1 Racistor. " 15% 1 Racistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390%	100079-136 100079-136 100079-136 100056-163 100156-683 100156-133 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF REMARKS ON CKT. DESIG. C204. RL21. RL31. RL32. RL66. DL63. RL68. R509. R520.	131 Capacito 132 133 134 135 136 Resistor 138 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	.TRANSPORT ELECTRONI Type'P' 374108.8/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 550 ." 5680 ." 6800	CCS TOR. MODEL NO. 14 DIVE. NO. 16 1. 100136-155 K 100156-103 K 100156-153 K 100156-391 K 100156-391 K 100156-681 K 100156-681	DATE 11/22/71 SHEET 160 OF	PRAME 131 132 133 136 136 137 136 139 1140 1142 1143 1145	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL DRAWING TITL Resistor. 55. [W. Resistor. " Resistor.	150156-133 1201 100156-124 121 100156-125 150 100156-139 150 100156-139 150 100156-155 150 100156-155	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	COLOR - OL3
ASSY.TRANSPORT ELECTRING	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 133 133 133 133 133 133 133 133	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF REMARKS ON CKT. DESIG. C204. R121. R431. R432. R466. D147. R468. R509.	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1115 1116	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-395	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 2001.68 - 01.3 DATE 11/22/T1 SHEET 1:8 D. REMARKS ON CKT. DES Ri.21. Ri.31. Ri.32. Ri.66. Ri.67. Ri.68. R509. R511. R536.
ASSY.TRANSPORT ELECT FEB. Type'P' loins. S ITEM NO. DRAWING TITLE 131 Capacitor, Tantalum. 132 133 134: 135 136 Resistor. 5%. iw. 137 Resistor. " " 138 Resistor. " " 140 Resistor. " " 141 Resistor. " " 142 Resistor. " " 143 Resistor. " " 144 Resistor. " " 145 Resistor. " " 146 Resistor. " " 147 Resistor. " " 148 Resistor. " " 149 Resistor. " " 140 Resistor. " " 141 Resistor. " " 145 Resistor. " "	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/72 SHEET 12 OF	133 133 133 133 133 133 133 133 133 133	ASSI.:RANSPORT ELECTRONICS THE PER Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. im. 15% 6 Resistor. " 68% 6 Resistor. " 68% 7 Resistor. " 68% 9 Resistor. " 13% 9 Resistor. " 15% 1 Racistor. " 15% 1 Racistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390%	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF REMARKS ON CKT. DESIG. C204. RL21. RL31. RL32. RL66. DL63. RL68. R509. R520.	131 Capacito 132 133 134 135 136 Resistor 138 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1115 1116	ASSY.TRANSPORT EL PhE. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " Resistor. " Resi	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-395	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	COLOR - OL3
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 133 133 133 133 133 133 133 133	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 MEET 14 OF REMARKS ON CKT. DESIG. C204. R121. R431. R432. R466. D147. R468. R509.	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1115 1116	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-395	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 20048 - 043 DATE 11/22/T1 SHEET 168 REMARKS ON CKT. DES RL21. RL31. RL32. RL66. RL66. R509. 8520. R511. R536. Jumper J1. From JJ, to 128
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 200488 - 039 T. DATE 11/13/71 SMEET MA OF	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1115 1116	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 2001.68 - 01.3
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 200488 - 039 T	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1115 1116	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 2001.68 - 01.3
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. DATE 11/13/71 SMEET 14 OF REMARKS ON CKY. DESIG. ## C204. #	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ML 2001.68 - 01.3
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. DATE 11/13/71 SMEET MA OF REMARKS ON CKY. DEUG. ## C204. ##	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	10 NO. REO. 11 1 11 1 11 1 11 1 11 1 11 1 11 1 11	REMARKS ON CKT. DES REMARKS ON CKT. DES REMARKS ON CKT. DES Right Ri
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. PREMARKS ON CKY. DESIG. ## C204. #	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 16 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	10 NO. REO. 11 1 11 1 11 1 11 1 11 1 11 1 11 1 11	NL 2001.68 - 01.3
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. **PREMARKS ON CKT. DESIG.** **C204.** **REMARKS ON CKT. DESIG.** **C204.** **RL21.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL66.** **DL62.** **RL68.** **RS09.** **SS0.** **SS0.** **Jumper J1. From KK to LL.* **Jumper J2. * U * V.* **Jumper J2. * U * V.* **Jumper J3. * F * G.* **Jumper J4. * PP * HR.* **Jumper J5. * F * G.* **Jumper J7. * H * J.* **Jumper J7. * H * J.* **Jumper J7. * EE * FF.*	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type 'P' 37 ine .S/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 ." 33 ." 15 ." 300 ." 390 ." 390	DING. NO. NO.	DATE 11/22/71 SHEET 16 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	10 NO. REO. 11 1 11 1 11 1 11 1 11 1 11 1 11 1 11	ML 2001.68 - 01.3 DATE 11/22/T1 SHEET 16. REMARKS ON CKT. DES REMARKS ON CKT.
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1594 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. PREMARKS ON CKY. DESIG. ## C204. #	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 16 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	10 NO. REO. 11 1 11 1 11 1 11 1 11 1 11 1 11 1 11	ML 200168 - 013
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SHEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. **PREMARKS ON CKT. DESIG.** **C204.** **REMARKS ON CKT. DESIG.** **C204.** **RL21.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL32.** **RL66.** **DL62.** **RL68.** **RS09.** **SS0.** **SS0.** **Jumper J1. From KK to LL.* **Jumper J2. * U * V.* **Jumper J2. * U * V.* **Jumper J3. * F * G.* **Jumper J4. * PP * HR.* **Jumper J5. * F * G.* **Jumper J7. * H * J.* **Jumper J7. * H * J.* **Jumper J7. * EE * FF.*	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 16 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	10 NO. REO. 11 1 11 1 11 1 11 1 11 1 11 1 11 1 11	ML 200168 - 013
ASSY.TRANSPORT ELECTRING	RONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	ML 2001/88 - 037 1	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. REMARKS ON CKT. DESIG. ## C204. ##	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF 10. REQ : REMARKS ON CEY. DESIG. 1 C2Oh. 1 R131. 1 R132. 1 R166. 1 R166. 1 R166. 1 R509. 1 R511. A/R Jumper J1. From KK to LL. Jumper J2. ** U ** V. Jumper J4. ** PP ** RR. Jumper J5. ** OG ** HH. Jumper J6. ** OG ** HH. Jumper J7. ** H ** J. Jumper J9. ** D ** E. Jumper J9. ** AA ** CC.	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	10 NO. REO. 11 1 11 1 11 1 11 1 11 1 11 1 11 1 11	ML 200168 - 013
ASSY.TRANSPORT ELECTRING	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335	DATE 11/18/71 SMEET 12 OF	133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T REMARKS ON CKY, DESIG. ## 20048. ## 20048. ## 21. ## 21. ## 21. ## 22. ## 22. ## 23. ## 24. ## 24. ## 24. ## 25. ## 26.	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	VO. REO. VO. REO.	ML 200168 - 013
ASSY.TRANSPORT ELECTRING	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335		133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	### 200488 - 039 T. REMARKS ON CKY. DESIG. C204. RL21. RL32. RL32. RL56. RL52. RL66. RL52. RL66. RL59. RL50. Jumper J1. From KK to LL. Jumper J2. " U " V. Jumper J4. " PP " HR. Jumper J5. " GG " HF. Jumper J5. " EE " FF. Jumper J9. " B " E. Jumper J10. " AA " CG. Jumper J11. " W " X. Jumper J15. " A " C.	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	VO. REO. VO. REO.	ML 200168 - 013
ASSY.TRANSPORT ELECTRING	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335		133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	### 200488 - 039 T REMARKS ON CKY, DESIG. ###################################	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	VO. REO. VO. REO.	ML 200468 - 043
ASSY.TRANSPORT ELECTRING	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335		133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. REMARKS ON CKY. DESIG. ## 2004. ##	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	131 132 133 134 135 136 137 138 139 110 1112 1112 1113 1114 1114 1115	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	VO. REO. VO. REO.	ML 200468 - 043
ASSY.TRANSPORT ELECTRING	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335		133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI. MANSPORT ELECTRINICS PER Troe!?' 18 ion. S/G. " DRAWING TITLE 1 Capacitor, Tantalum. 10uf 5 6 Resistor. 5%. iw. 18% 7 Resistor. " 66% 8 Resistor. " 66% 9 Resistor. " 390% 1 Resistor. " 159 1 Resistor. " 390% 2 Resistor. " 390% 2 Resistor. " 390% 3 Resistor. " 390% 5 Sesistor. " 390% 6 Wire, Solid Insulated.	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	### 200488 - 039 T REMARKS ON CKY, DESIG. ###################################	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	PRATE 131 132 133 134 135 136 137 138 139 110 1112 1112 1112 1113 1114 1115 1116	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	VO. REO. VO. REO.	REMARKS ON CKT. DES REMARKS ON CKT. DES RI. 22. RI. 23. RI. 31. RI. 32. RI. 66. RI. 69. RI. 69. RI. 69. RI. 610. RI. 610.
ASSY.TRANSPORT ELECTRING	BONTCS SAL 7Ch. MODEL NO. 18 DWG. NO. NO. 10uf 100070-106 33K 100156-333 120K 100156-333 120K 100156-224 12K 100156-123 680K 100156-123 390K 100156-394 1.5M 100156-155 390K 100156-394 3.3M 100156-335		133 133 134 135 135 135 135 135 135 135 135 135 135	ASSI.:NAMSPORT ELECTRINICS THE FEB. Troe!?' 18 ips. 5/g. " DRAWING TITLE 1 Capacitor, Tantalum, 10uf 2 3 3 4 5 6 Resistor. 5%. iw. 15% 7 Resistor. " 68% 8 Resistor. " 13% 9 Resistor. " 13% 9 Resistor. " 1500 1 Rasistor. " 1500 1 Rasistor. " 390% 2 Resistor. " 1.593 3 Resistor. " 390% 5 Sesistor. " 390% 5 Sesistor. " 390% 6	100070-136 100070-136 100070-136 100056-133 100156-681 100156-391 100156-391 100156-391 100156-391 100156-391	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	## 200488 - 039 T. REMARKS ON CKY. DESIG. ## 2004. ##	131 Capacito 132 133 134 135 136 Resistor 137 Resistor 138 Resistor 140 Resistor 141 Resistor 142 Resistor 143 Resistor 143 Resistor 144 Resistor 145 Resistor	TRANSPORT ELECTRONI Type P 37 ion. 3/G, DRAWING TITLE T, Tantalum. 1.5u .5%. iv. 10 .5%. iv. 10 .5%. iv. 20 .5%. iv. 330 .5%. iv. 3900 .5%. iv. 3900	DING. NO. NO.	DATE 11/22/71 SHEET 160 OF	PRATE 131 132 133 134 135 136 137 138 139 110 1112 1112 1112 1113 1114 1115 1116	ASSY.TRANSPORT EL PhD. Type'A' lois DRAWING TITL DRAWING TITL ASSISTOR. " " Resistor. " " " " " " " " " " " " " " " " " " "	3% 100156-333 1206 100156-124 121 100156-125 6806 100156-165 3906 100156-394 1.5% 100156-35 150 3005 171 3906 100156-396 3.3% 100156-396	VO. REO. VO. REO.	

DRAWING NO. REN	MATERIAL LIST AND DRAWING NO. BE	MATERIAL LIST AND DRAVING NO. PER	MATERIAL LIST DRAWING NO. REV.	MATERIAL LIST AND DRAWING NO. REV.
ML 200488 - 036 I	ML 200488 - 038	ML 200168 - 040 7	MATERIAL LIST ML 200188 - 012 T	ML 2001-88 - Okly T
	DRAWING ASSY. THANSPORT FLECTHONICS	ASSY.TRANSPORT ELECTRONICS	DRAWING ASSY.TRANSPORT ELECTRONICS	ASSI.THANSPORT ELECTRONICS
DATE 1/18/71 SHEET 1 OF	ORANING TITLE PAB. Type 121 123108. S/O. TCh. WODEL NO. 15 DATE 11/16/71 SHEET 13. OF	DRAWING PAB. Type 151 25105. S/G. 7Ch. MODEL NO. 15 DATE 11/22/71 SHEET 15 OF	DRAWING TILE PMB. Type P 151ps. 5/0. 70h. WODEL NO. 10 DATE 1/22/11 SHEET 17 OF	DRAWING TITLE PHE TYDE A 12 102 S/G. 7Ch. MODEL NO. 15 DATE 11/22/71 SHEET NO. OF
REQ. REMARKS ON CKT. DESIG.	NO. DRAWING TITLE DEG. NO. NO. REQ. REMARKS ON CRT. DESIG.	TEM DRAWING TITLE DEG. NO. NO. REQ. REMARKS ON CKT. DESIG.	NO. DRAWING TITLE DIG. NO. REQ. REMARKS ON CKT. DESIG.	ITEM DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.
	131 Capacitor, Tantalum. 10uf 100070-106 1 C20h.	- 131 Capacitor, Tantalum. 1.50f 130130-155 1 C20h.	131 Capacitor, Tantalum. 1.5uf. 120136-155 1 C204.	131
	132	132	132	137
1 8234	133	. 	133	
	I	133	134	133
1 R248.	13.	134		134
1 8268.	135	135	135	135
1 Rh21.	136 Resistor. 5%. 2w. 27K 130156-273 1 3421.	136 dusistor. 5%. iv. 15% 100176-153 1 mu21.	136 Resistor. 5%. w. 9.1K 100156-912 1 Rt.21.	136 Resistor. 5%. (N. 27% 100156-273 1 Resistor. 5%. (N. 27% 100156-273 1 Resistor. 5%. (N. 27% 100156-273 1 Resistor. 5%.)
1 R431.	. 137 Resistor. 100K 100150-10L 1 RL31.	137 Resistor, " * 51K 100156-513 1 RL31	137 desistor. " " 27% 130156-273 1 BL31.	137 Resistor. * * 100K 100156-1CL 1 Rb31.
1 R432.	135 Resistor. 12K 130156-123 1 R432.	130 Resistor. * * 134 100156-133 1 Ht/32.	138 Resistor. " " 15K 109156-153 1 HL32.	136 Resistor. * * 12K 19956-123 1 RL32.
1 B466.	139 Resistor. * 660K 100156-66L 1 RL66.	139 Resistor. " " 687K 170156-684 1 AL66.	139 Resistor. " " 300% 100156-304 1 8466.	739 Resistor. * 680% 100156-66% 1 Rh66.
1 247.	140 Resissor. 1 450 100156 152 1 1467			
	{ ' - - - - - - - - - -	1 1/10 Acceptor 1 1/20 1/20/6/1/21 - 2 - 04/67-		
1 Rt.68.	1 1/1 Resistor. " 390K 100156-394 1 RL6t.	141 Resistor. " " 390K 100156-394 1 R168.	141 Resistor. " 330% 100156-334 1 8468.	12.1 Resistor. " " 330K 100156-394 1 R468.
1 1509.	1.5% 130156-155 1 H509.	162 Resirtor. " " 1.5M 100156-155 1 1809.	142 Resistor. " " 680% 190156-684 1 R509.	12 Resistor. " " 1.5M 100156-155 1 8509.
1 2510+	143 3-64-64-7- 4. H. 350 2003/6-153 2 8/20-	143 Horiston, 1 1 150 100156-151 1 18510.	143 -Resistor, " * 150 100156 151 1 1510.	163 Sepirtor. * * 150 160154.151 1 1610.
1 2511.	144 Resistor. " 390K 100156-394 1 H511.	1 1hh Resistor. " " 390K 100156-39h 1 R511.	144 Resistor. * * 330% 100156-334 1 R511.	114 Resistor. " " 390K 100156-394 1 RS11.
	21.5 Resistor. " " 3.3M 100156-335 1 3536.	145 Recistor. " " 3.3M 107250-335 1 4536.	11/5	11.5 Resistor. " " 3.3M 100156-335 1 8536.
	146	11:6	116	146
/R Jumer Jl. From JJ to EE.	11.7 Wire, Solid insulated. 100243-724 A/R Jumper Jl. From KK to LL.	11/7 dire, Solid for lated. 100246-924 4/8 Jumper Jl From KK to LL.	lh? Fire, Salid Insulated. 1002h8-92h A/R Jumper Jl. From KK to LL.	117 Mare, Solid Insulated. 100218-924 A/R Jumper Jl. From JJ to KK.
Jumper J2. " T "V.	Junger J2. " J "V.			Jumper J2. " T "V.
		Juner J2. " U " V.	Jusper J2. " U " V.	
Jumper J3. " L N.	Jumper Jh. PP RR.	Jumper Ji. " PP " kR.	Jumper Ji. " PP " RR.	Jumper J3. " L " M.
Jumper J5. " F "G.	Jusper 35. * F * G.	Jumper 35. " F " G	Jumper J5. " F " Q.	Juncer J5. " F " G.
Jumper J7. * H * J.	Jumper Jé. * GG * HH.	Junper 36. " 03 " HH.	Jumper J6. " OG " HH.	Jumper J7. " H " J.
Jumper J8. " EE " FF.	Jumper J7. " H " J.	Jumer J?. * H * J.	Jumper J7. * H * J.	Jumper Jô, " EE "FF.
Jumper J9. " D " B.	Jusper Jô. " EÉ " FF.	Jumper JS. " KE "FF.	Junper J8. " EE " FF.	Jumper J9. " D " E.
Jumper JlO. * AA * CG.	Jusper J9. D E.	Junper J9. " D " E.	Jumper J9, " L "E.	Jusper J10. " AA " CC.
Juner Jll. " W " X.	Jusper J10. * AA * CC.			
		Jumper J10. " AA " CC.	Jumper JlO, " AA " CC.	Jumper Jll. " W "X.
Jumper J23. " H " P.	Jumper Jll. " W "X.	Junper Jll. " W'" X.	Jumper Jll. " W " X.	Jumper J13. * N * P.
Jumper Jli. " R "S.	Jusper J15. * A * C.	Jimper-J15. " A " C.	Jumper J15. " A " C.	Jumper Jli. " R "S.
	Jumper J16. " 30 " VV.	Jumper J16. " UV " VV.	Jumper J16. " UU " VV.	
	Jumper Jl?. " We " XX.	Jumper J17. " WW " XX.	Jumper J17. " WW " XX.	
,	Jumper J3. * L * K.	Jumper J3., " L " K,	Junper J3, " L " K.	
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	3.			
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A A A DATE NO DEST	Las Lasarius no las			
ML PRAVING NO. SEE.	MATERIAL LIST ML DRAVING NO. Res.	MATERIAL LIST ML DRATING NO. BEY	MATERIAL LIST ML DRAWING NO. SEEV.	HATERIAL LIST MI DRANING NO. REV.
ML DRAVING NO. 1984.	ML 200488 -039 T	ML 200488 - OLI T.	ML 200488 - 043 T	ML 2004.88 - 045 T
ML 200488 - 037 T	ML 200488 - 039 T	ML 200488 - OLI T.	ASST. THANSPORT RESCRIPTIONS	ML 200488 - 045 T
200488 - 037 T	DEADING ASSI. MANSPORT ELECTRINICS THE PRB. Type P 18 198. 5/9. 7Ch. MODEL NO. 15 DATE 11/13/71 SHEET 14 OF	ASSI. TRANSPORT ELECTRONICS PRAYING ASSI. TRANSPORT ELECTRONICS THE TYPE 17 TAY TO 19 TAY TO 20 TO 15 TO 17 TO 19 TO 1	DRASHG ASST.TRANSPORT ELECTRONICS THE TYPE ASST.TRANSPORT ELECTRONICS THE DATE 11/22/T1 SHEET 16 OF DATE 11/22/T1 SHEET 16 OF	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE FMF. Type A 18 105.5/3. 7CB. MODEL NO. 18 DATE 11/22/71 SHEET 50. OF
ML 200488 - 037 T	DRAWNO ASSI. INAMSPORT SIZOTRONICS TITLE PAB. Type: P1 18 138. S/9. TChMODEL NO. 10 DATE 11/13/71 SHEET LA OF NO. NO. REO. REMARKS ON CET. DESIG.	ASSY. TRANSPORT ELECTRONICS THE TYPE TO THE TITLE DEG. NO. NO. REO. REHARKS ON CKY. DESIG.	DRAWING ASST. TRANSPORT ELECTRONICS TITLE PRE TYPE AND ALL TO THE DWG. NO. NO. RED. REMARKS ON CKT. DESIG.	ML 200488 - 045 T
200488 - 037 T	DEADING ASSI. MANSPORT ELECTRINICS THE PRB. Type P 18 198. 5/9. 7Ch. MODEL NO. 15 DATE 11/13/71 SHEET 14 OF	ASSI. TRANSPORT ELECTRONICS PRAYING ASSI. TRANSPORT ELECTRONICS THE TYPE 17 TAY TO 19 TAY TO 20 TO 15 TO 17 TO 19 TO 1	DRAWING ASST.TRANSPORT ELECTRONICS TITLE PRE TYPE A TOTAL TOTAL DESIG. DRAWING TITLE DWG.NO. NO. RED. REMARKS ON CKT. DESIG. 131	ASST.TRANSPORT ELECTRONICS PRE. Type 'A' 10 ips 5/3, 70h. MODEL NO. 16 DATE 11/22/71 SHEET 50 OF 15 DATE 11/22/71 SHEET 50 DATE 11/22/71 SH
DATE 11/18/71 SHEET 42 OF	DRAWNO ASSI. INAMSPORT SIZOTRONICS TITLE PAB. Type: P1 18 138. S/9. TChMODEL NO. 10 DATE 11/13/71 SHEET LA OF NO. NO. REO. REMARKS ON CET. DESIG.	ASSY. TRANSPORT ELECTRONICS THE TYPE TO THE TITLE DEG. NO. NO. REO. REHARKS ON CKY. DESIG.	DRAWING ASST. TRANSPORT ELECTRONICS TITLE PRE TYPE AND ALL TO THE DWG. NO. NO. RED. REMARKS ON CKT. DESIG.	DRAWING ASSY.TRANSPORT PLECTRONICS OF THE PROPERTY OF THE PRO
DATE 11/18/71 SHEET 42 OF	NL 200488 -039 T	ASSY. TRANSPORT ELECTRONICS THE TYPE P TABLES SO. 70h. MODEL NO. 16 DATE 11/22/71 SHEET 16 OF THE DRAWING TITLE DIG. NO. NO. REO. REMARKS ON CKY. DESIG. 131 Gapacitor, Tantalum. 1.5uf. 100136-155 1 G204.	DRAWING ASST.TRANSPORT ELECTRONICS TITLE PRE TYPE A TOTAL TOTAL DESIG. DRAWING TITLE DWG.NO. NO. RED. REMARKS ON CKT. DESIG. 131	DRAWING ASSI.TRANSPORT ELECTRONICS TITLE PRE- Type A' 18 ide 5/92 7Ch. MODEL NO. 18 DATE 11/22/71 SHEET 50 OF NO. DRAWING TITLE DEG. NO. MO. REO. REMARKS ON CKT. DESIG.
DATE 11/18/77 SHEET 42 OF	NL 200488 -039 T	ASSY.TRANSPORT ELECTRONICS DATE 11/22/71 SHEET 16 OF	DRAWING TITLE DWG. NO. REMARKS ON CKT. DESIG. 131 132	ML 200168 - 045 T
DATE 11/18/71 SHEET 42 OF	VIL 200488 -039 T	ASSY.TEANSPORT ELECTRONICS DATE 11/22/71 SHEET 16 OF THE	DRAWING ASST.TRANSPORT ELECTRONICS TITLE PRE TYPE A LOCADE DWG. NO. NO. RED. REMARKS ON CKT. DESIG. 131 132 133	ML 200168 - 045 T
DATE 11/18/71 SHEET 12 OF	NL 200488 -039 T	ASSY. TRANSPORT ELECTRONICS THE ASSY. TRANSPORT ELECTRONICS DATE 11/22/71 SHEET 16 OF THE DRAWING TITLE DRG. NO. NO. REO REHARKS ON CKY. DESIG. 131 Capacitor, Tantalum. 1.5uf. 100136-155 1 C201. 132 133 134 135	DRAWING ASST.TRANSPORT ELECTROMICS TITLE PRE TYPE A LOCADE DWG. NO. NO. RED. REMARKS ON CKT. DESIG. 131 132 133 134 135	ASSI.TRANSPORT ELECTRONICS PREP. Type A' 10 ide S'G. 7Ch. MODEL NO. 10 DATe 11/22/T1 SHEET 50 OF NO. NO. RED. REMARKS ON CKT. DESIG. 131 132 133 234 135
DATE 11/18/71 SHEET 12 OF	NL 200488 - 039 T	ASSY.TEANSPORT ELECTRONICS DATE 11/22/71 SHEET 160 of	NL 200688 - 043 T	ASSY.TRANSPORT ELECTRONICS
DATE 11/18/71 SHEET 12 OF	No. Section Section	ASSY. TRANSPORT ELECTRONICS THE PAB. Type: Type	ASST.TRANSPORT ELECTROMICS DATE 11/22/71 SHEET 18 OF	ASSI.TRANSPORT ELECTRONICS PUR. 17/10 ASSI.TRANSPORT ELECTRONICS PUR. 17/10 ASSI.TRANSPORT ELECTRONICS PUR. 17/10 ASSI.TRANSPORT ELECTRONICS DATE 11/22/T1 SHEET 50 OF ASSI.TRANSPORT ELECTRONICS DATE 11/22
DATE 11/18/71 SHEET 12 OF	No. Section Section	ASSY.TEANSPORT ELECTRONICS DATE 11/22/71 SHEET 160 of	DRAWING ASST.TRANSPORT ELECTRONICS PMP. Type: A' 10ips. S/G. 7Ch. MODEL NO. 16 DATE 11/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PRE Type 'A' 10 ips 5/3, 70h. MODEL NO. 10 DATE 11/22/T1 SHEET 50 OF Time ORAWING TITLE DEC. NO. NO. REO. REMARKS ON CKT. DESIG. 131 132 133 134 135 136 Resistor. 5%. 2*. 18% 100156-183 1 RL21. 137 Resistor. * 66% 100156-683 1 RL21. 138 Resistor. * 13% 100156-133 1 RL21. 139 Resistor. * 13% 100156-133 1 RL21. 139 Resistor. * 13% 100156-133 1 RL21. 139 RL21 RL2
DATE 11/18/77 SHEET 12 OF	ASSI.:MANSPORT ELECTRINICS TITE FAB. Type'P' 18 12s. S/g. 7Chmodel No. Rec. If the color of the color	ASSY.TEANSPORT ELECTRONICS DATE 11/22/71 SHEET 160 or	ASST.TRANSPORT ELECTRONICS DATE 11/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PMP. Type A' 18 ips 5/3, 7Ch. MODEL NO. 19 OATE 11/22/T1 SHEET 50 OF TITLE PMP. Type A' 18 ips 5/3, 7Ch. MODEL NO. NO. REO. REMARKS ON CKT. DESIG. 131 132 133 134 135 136 Resistor. 5%. w. 18% 100156-183 1 RL21. 137 Resistor. * 66% 100156-683 1 RL31. 138 Resistor. * 15% 100156-13 1 HL32. 139 Resistor. * 560% 100156-684 1 RM65.
DATE 11/18/17 SHEET 12 OF	No. Section Section	ASSY.TEANSPORT ELECTRONICS DATE 11/22/71 SHEET 160 of	DRAWING ASST.TRANSPORT ELECTRONICS PMF. Type A' 10 pa. S/G. 7Ch. MODEL NO. 16 DATE 11/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PREMING PWB. Type'A' 18 ipe_s/G. 7Gh. MODEL NO. 10 DAYE 11/22/T1 SMEET 50 OF
DATE 11/18/17 SHEET 12 OF	ASSI.:MANSPORT ELECTRINICS TITE FAB. Type'P' 18 12s. S/g. 7Chmodel No. Rec. If the color of the color	ASSY.TEANSPORT ELECTRONICS DATE 11/22/71 SHEET 160 or	DRAWING ASST.TRANSPORT ELECTRONICS PMF. Type A' 10 pa. S/G. 7Ch. MODEL NO. 16 DATE 11/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PME. Type'A' 10 ips.5/2. 7Ch. MODEL NO. 10 DATE 11/22/T1 SMEET 50 OF Time
DATE 11/18/72 SHEET 12 OF	ASSI.:MANSPORT ELECTRINICS TITE FAB. Type'P' 18 igs. 5/g, 7Chmodel No. Rec. If Co. DRAWING TITLE DNC. NO. No. Rec. Remarks on CKT. DEMG.	ASSI.TRANSPORT ELECTRONICS PAB. Typo:P! 374ing.S/G. 7Ch. Model No. 15 Date 11/22/T1 SHEET 16 or	ASST.TRANSPORT ELECTRONICS PMP. Tyros'A' 10ips. S/G. 7Ch. Model No. 16 DATE 11/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PMP. Type'A' 18 ipe_s/g. 7Ch. MODEL NO. 16 DATE 11/22/T1 SMEET 50 OF 1/10
DATE 11/18/72 SHEET 12 OF	ASSI. MANSPORT ELECTRANICS TILE PRB. Type P. 18 19s. 5/9, 7Ch. MODEL NO. 15 DRAWING TITLE DNG. NO. NO. RED. REMARKS ON CKT. DESIG. 131 Capacitor, Tentalum. 19uf 100079-136 1 C204. 132 133 134 135 136 Resistor. 5f. iv. 15K 100156-163 1 R421. 137 Resistor. * 66K 100156-683 1 R431. 138 Resistor. * 15K 100156-133 1 R32. 139 Resistor. * 15K 100156-133 1 R32. 139 Resistor. * 390K 100156-394 1 R466. 140 Resistor. * 390K 100156-394 1 R468. 141 Resistor. * 390K 100156-394 1 R468.	ASSI.TRANSPORT ELECTRONICS THE TYPE PI TIMES SOLOTOR NO. 15 DATE 11/22/T1 SHEET 160 OF	DRAWING ASST.TRANSPORT ELECTRONICS PMP. Type: A' 10ips. S/G. 7Ch. MODEL NO. 16 DATE 11/22/T1 SHEET 18 OF	ASSITAMSPORT ELECTRONICS PMP. Type'A' 18 ipe_s/g. 7Gh. MODEL NO. 10 DAYE 11/22/T1 SMEET 50 OF TYPE PMP. Type'A' 18 ipe_s/g. 7Gh. MODEL NO. NO. REO. REMARKS ON CKI. DESIG. 131
DATE 11/18/72 SHEET 12 OF	ASSI.:MANSPORT ELECTRINICS TILE FAB. type P 18 19a. 5/g. 7Chmodel No. 16 DRABING TITLE DNG. NO. NO. REMARKS ON CKT. DEMG. 131 Capacitor, Tentalum. 19uf 100079-136 1 G204. 132 133 134 135 136 Resistor. 5% iv. 15K 100156-183 1 RL21. 137 Resistor. " 66K 100156-683 1 RJ31. 138 Resistor. " 13K 100156-133 1 RJ32. 139 Resistor. " 15K 100156-133 1 RJ32. 139 Resistor. " 15K 100156-133 1 RJ32. 140 Resistor. " 15K 100156-133 1 RJ32. 141 Resistor. " 390K 100156-394 1 Rl68. 142 Resistor. " 390K 100156-394 1 Rl68. 143 Resistor. " 15M 100156-155 1 R509.	ASSI.TRANSPORT ELECTRONICS PAB. Type 1P 37 hins. S/G., 7Ch. Model No. 16 Date 11/22/71 SHEET 1/2 OF	DRAWING ASST.TRANSPORT ELECTRONICS PMP. Type:A' 10ips. S/G. 7Ch. Model No. 16 DATE 11/22/T1 SHEET 18 or	ASST.TRANSPORT ELECTRONICS PMP. Type'A' 18 ipe_s/g. 7Gh. MODEL NO. 15 DATE 11/22/T1 SMEET 50 OF 1/10
DATE 11/18/72 SHEET 12 OF	ASSI. MANSPORT ELECTRINICS THE PRB. Type P 18 13a. 5/6, 7Chmodel No. Rec. PRB. Type P 18 13a. 5/6, 7Chmodel No. Rec. PREMARKS ON CKT. DEMG. 131 Capacitor, Tentalum. 132 133 134 135 136 Resistor. 5f. iv. 137 Resistor. * 66K 100156-163 1 Right. 138 Resistor. * 15K 100156-133 1 Right. 139 Resistor. * 15K 100156-133 1 Right. 139 Resistor. * 15K 100156-133 1 Right. 139 Resistor. * 15K 100156-133 1 Right. 140 Resistor. * 390K 100156-39h 1 Right. 141 Resistor. * 390K 100156-39h 1 Right. 142 Resistor. * 15M 100156-155 1 Right. 143 Resistor. * 390K 100156-39h 1 Right. 144 Resistor. * 390K 100156-39h 1 Right. 145 Resistor. * 390K 100156-39h 1 Right. 146 Resistor. * 390K 100156-39h 1 Right. 148 Resistor. * 390K 100156-39h 1 Right. 148 Resistor. * 390K 100156-39h 1 Right. 148 Resistor. * 390K 100156-39h 1 Right.	ASSI.TRANSPORT ELECTRONICS THE TYPE PI TIMES SOL. TON- MODEL NO. 15 DATE 11/22/T1 SHEET 160 OF THE DRAWING TITLE DEG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Capacitor, Tantalum. 1.5uf. 100136-155 1 C204. 132 133 134 135 136 Resistor. 5%, w. 10K 100156-103 1 Ri.21. 137 Resistor. " 33K 100156-133 1 Ri.31. 138 Resistor. " 15K 100156-153 1 Ri.32. 139 Resistor. " 300K 100156-103 1 Ri.66. 140 Resistor. " 300K 100156-39k 1 Ri.68. 141 Resistor. " 680K 100156-68k 1 R509. 143 Resistor. " 680K 100156-68k 1 R509. 144 Resistor. " 680K 100156-69k 1 R509. 145 Resistor. " 390K 100156-39k 1 R51.	ASST.TRANSPORT ELECTRONICS PAIR. Type: A' 10ips. S/G. 7Ch. Model No. No. REO. REMARKS ON CKT. DESIG.	ASST.TRANSPORT ELECTRONICS PMP. Type A' 18 ips 5/2, 7Ch. MODEL NO. 10 DAYS 11/22/T1 SMEET 50 OF
DATE 11/18/72 SHEET 12 OF	ASSI. MANSPORT ELECTRAICS TILE PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. TILE PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. Remarks on CKT. Design 131 Capacitor, Tentalum. 132	ASSY.TRANSPORT ELECTRONICS THE TYPE PY TAYING S/G, 7Ch. MODEL NO. 15 DATE 11/22/T1 SHEET 16 OF	ASST.TRANSPORT ELECTRONICS PRIC. Type A' 101ps. S/G. 7Ch. MODEL NO. 15 DATE 1/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PMP. Type'A' 18 ips_\$f_3. 7Gh. MODEL NO. 19
DATE 11/18/72 SHEET 12 OF	ASSI. MANSPORT ELECTRONICS THE PRB. Type P. 18 13s. S/0, 7Ch. MODEL NO. 15 DRAWING TITLE DWG. NO. NO. REC. REMARKS ON CKT. DEMG. 131 Capacitor, Tentalum. 132 133 134 135 136 Resistor. 55. 4v. 15K 100156-133 1 RL21. 137 Rebistor. * 68K 100156-683 1 Phill. 138 Resistor. * 13K 100156-133 1 RL32. 139 Resistor. * 15K 100156-133 1 RL32. 139 Resistor. * 15K 100156-133 1 RL32. 139 Resistor. * 15K 100156-133 1 RL32. 140 Resistor. * 15K 100156-135 1 RL32. 15C Resistor. * 15C 100156-13 1 RL66. 16C Resistor. * 390K 100156-39 1 RL66. 16L Resistor. * 390K 100156-39 1 RL68. 16L Resistor. * 390K 100156-39 1 RL68. 16L Resistor. * 390K 100156-39 1 RS09.	ASSY.TRANSPORT ELECTRONICS PAB. Type 1P 37 hins. 5/G., 7Ch. wodel no. 15 Date 11/22/71 sheet 1/2 of	ASST.TRANSPORT ELECTRONICS PRIP. Type A' 101ps, S/G, 7Ch. MODEL NO. 16 DATE 1/22/T1 SHEET 18 OF	ASSITAMSPORT ELECTRONICS PMP. Type'A' 18 ips_\$f_3, 7Gh. MODEL NO. 19
DATE 11/18/72 SHEET 12 OF	ASSI. MANSPORT ELECTRAICS TILE PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. TILE PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. PRB. Type P. 18 13a. S/0. 7Chmodel No. Rec. Remarks on CKT. Design 131 Capacitor, Tentalum. 132	ASSY.TRANSPORT ELECTRONICS THE TYPE PY TAYING S/G, 7Ch. MODEL NO. 15 DATE 11/22/T1 SHEET 16 OF	ASST.TRANSPORT ELECTRONICS PRIC. Type A' 101ps. S/G. 7Ch. MODEL NO. 15 DATE 1/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PMP. Type'A' 18 ips_S/3, 7Gh. MODEL NO. 15 DAYE 11/22/T1 SMEET 50 OF 171 176
DATE 11/18/71 SHEET 12 OF	ASSI. MANSPORT ELECTRONICS THE PRB. Type P. 18 13s. S/0, 7Ch. MODEL NO. 15 DRAWING TITLE DWG. NO. NO. REC. REMARKS ON CKT. DEMG. 131 Capacitor, Tentalum. 132 133 134 135 136 Resistor. 55. 4v. 15K 100156-133 1 RL21. 137 Rebistor. * 68K 100156-683 1 Phill. 138 Resistor. * 13K 100156-133 1 RL32. 139 Resistor. * 15K 100156-133 1 RL32. 139 Resistor. * 15K 100156-133 1 RL32. 139 Resistor. * 15K 100156-133 1 RL32. 140 Resistor. * 15K 100156-135 1 RL32. 15C Resistor. * 15C 100156-13 1 RL66. 16C Resistor. * 390K 100156-39 1 RL66. 16L Resistor. * 390K 100156-39 1 RL68. 16L Resistor. * 390K 100156-39 1 RL68. 16L Resistor. * 390K 100156-39 1 RS09.	ASSY.TRANSPORT ELECTRONICS PAB. Type 1P 37 hins. 5/G., 7Ch. wodel no. 15 Date 11/22/71 sheet 1/2 of	ASST.TRANSPORT ELECTRONICS PATE 11/22/T1 SHEET 16 or	ASST.TRANSPORT ELECTRONICS PMP. Type 'A' 18 ips 5/9, 7Ch. Model No. 19
DATE	ASSI.MANSPORT ELECTRONICS DATE 11/13/71 SHEET MA OF DRAWING TITLE DNG. NO. NO. REG. REMARKS ON CKT. DESIG.	ASSY.TRANSPORT ELECTRONICS THE TYPE PY TAYING S/G, 7Ch. MODEL NO. 15 DATE 11/22/T1 SHEET 16 OF	ASST.TRANSPORT ELECTRONICS PRIC. Type A' 101ps, S/G, 7Ch. MODEL NO. 15 DATE 1/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS PMP. Type 'A' 1d ips S/g. 7Gh. Model No. 16 DATE 11/22/T1 SHEET 50 OF
DATE	ASSI.MANSPORT ELECTRONICS THE PRB. Type P. 18 1398 S/9, 7Chmodel No. Rec. PRB. Type P. 18 1398 S/9, 7Chmodel No. Rec. The Prb. Type P. 18 1398 S/9, 7Chmodel No. Rec. Prb. Type P. 18 1398 S/9, 7Chmodel No. Rec. Remarks on CKT. Design. 131 Capacitor, Tentalum. 132	ASSY.TRANSPORT ELECTRONICS DATE 11/22/T1 SHEET 160 of THE DEC. NO. NO. REO. REMARKS ON CKT. DESIG.	ASST.TRANSPORT ELECTRONICS PRIC. Type 'A' 101ps, S/G, 7Ch. MODEL NO. 15 DATE 11/22/T1 SHEET 18 OF	ASST.TRANSPORT ELECTRONICS FME. Type 'A' 1d ips s/2, 7Gh. Model No. 10 Date 11/22/T1 SMEET 50 of Title PME. Type 'A' 1d ips s/2, 7Gh. Model No. No. Red. REMARKS ON CKT. DESIG. 131
DATE 11/18/71 SHEET 12 OF	ASSI.MANSPORT ELECTRONICS THE PRB. Type P. 18 13a. S/0, 7Chmodel. No. 16 DATE 11/13/71 sheet 14 OF DR. Type P. 18 13a. S/0, 7Chmodel. No. RED. 131 Capacitor, Tentalum. 15uf 100079-136 1 C201. 132 133 134 135 136 Resistor. 5f. 2v. 15K 100156-183 1 Rh21. 137 Remintor. " 68K 100156-683 1 Ph.11. 138 Resistor. " 13K 100156-133 1 Rh32. 139 Resistor. " 66OK 100256-66h 1 Rh66. 1h0 Resistor. " 390K 100156-39h 1 Rh66. 1h1 Resistor. " 390K 100156-39h 1 Rh66. 1h2 Resistor. " 1.5M 100156-39h 1 Rh66. 1h3 Resistor. " 390K 100156-39h 1 Rh66. 1h4 Resistor. " 390K 100156-39h 1 Rh66. 1h5 Resistor. " 390K 100156-39h 1 Rh66. 1h7 Wire, Selic Insulated. 100246-32h 1 R536. 1h6 1h7 Wire, Selic Insulated. 100246-32h A/R Jumper Jl. From EK to LL. Jumper JL. " V. Jumper JL. " PP " RR. Jumper JJ. " PP " RR.	ASSY.TRANSPORT ELECTRONICS DATE 11/22/T1 SHEET 10 0F		ASST.TRANSPORT ELECTRONICS FME. Type 'A' 18 ips. \$7.7 ch. Model No. 10
DATE 11/18/71 SHEET \$2 OF	ASSI.MANSPORT ELECTRONICS THE PRB. Type Property 10 km s. 10 10 10 10 10 10 10 1	ASSY.TRANSPORT ELECTRONICS DATE 11/22/T1 SHEET 160 of	DRAWING TITLE DNC.NO. NO. NO. NO. NO. REMARKS ON CKT. DENG.	ASST.TRANSPORT ELECTRONICS PMP. Type 'A' 18 ips. \$7.7 ch. Model No. 16
DATE 11/18/71 SHEET \$2 OF	ASSI. MANSPORT ELECTRANICS "TILE PRE Type P 18 12s. S/G, 7Gh. MODEL NO. 15 DATE 11/13/71 SHEET MA OF	ASSY.TRANSPORT ELECTRORICS PAB. Type: Tribus. 5/G. 7Ch. Model No. 15 Date 11/22/T1 Smeet 16/G of	DEATHING ASSY.TRANSPORT ELECTRONICS PME. Tyrce'A' lOips, S/G, 7Ch. Model No. 16 Date 11/22/T1 SHEET 18 or	ASST.TRANSPORT ELECTRONICS PME. Type'A' 10 ipe_S/2, 7Ch. MODEL NO. 16 DATE 11/22/T1 SMEET 50 OF Tope
DATE 11/18/71 SHEET \$2 OF	ASSI.MANSPORT ELECTRONICS THE PRB. Type Property 10 km s. 10 10 10 10 10 10 10 1	ASSY.TRANSPORT ELECTRONICS DATE 11/22/T1 SHEET 160 of	DRAWING TITLE DNC.NO. NO. NO. NO. NO. REMARKS ON CKT. DENG.	ASST.TRANSPORT ELECTRONICS PMP. Type 'A' 18 ips. \$7.7 ch. Model No. 16
DATE 11/18/71 SHEET \$2 OF	ASSI. MANSPORT ELECTRANICS "TILE PRE Type P 18 12s. S/G, 7Gh. MODEL NO. 15 DATE 11/13/71 SHEET MA OF	ASSY.TRANSPORT ELECTRORICS PAB. Type: Tribus. 5/G. 7Ch. Model No. 15 Date 11/22/T1 Smeet 16/G of	DEATHING ASSY.TRANSPORT ELECTRONICS PME. Tyrce'A' lOips, S/G, 7Ch. Model No. 16 Date 11/22/T1 SHEET 18 or	ASST.TRANSPORT ELECTRONICS FWE. Type'A' 18 ipe_S/g_ 7Gb. MODEL NO.
DATE 11/18/71 SHEET 12 OF	ASSI. MANSPORT ELECTRANICS TITE FAR. Type P 18 12s. S/G, TCh. MODEL NO. DRAWING TITLE DNC. NO. REMARKS ON CKT. DENG. 132 133 134 135 136 Resistor. Sf. 2m. 138	ASSY.TRANSPORT ELECTRONICS PAB. Type P	DEATHING ASSY.TRANSPORT ELECTRONICS PMP. Tyre'A' lOips, S/G, 7Ch. Model No. No. REO. REMARKS ON CKT. DESIG.	ASST.TRANSPORT ELECTRONICS PME. Type'A' 10 ips.S/2. 7Ch. MODEL NO. 10 DATE 11/22/T1 SMEET 50 OF 176.
### 200488 - 037 The control of th	ASSI.:MANSPORT ELECTRONICS TITE FAR. Type'P' 18 isa. S/G, TChmodel No. Rec. DRAWING TITLE DNG. NO. NO. REC. REMARKS ON CKT. DEMC. 131 Capacitor, Tentalum. 10uf 100070-106 1 G204. 132 133 134 135 136 Resistor. 5%. iw. 18% 100156-183 1 Ri.21. 137 Resistor. " 66% 100156-683 1 Ri.31. 138 Resistor. " 66% 100156-693 1 Ri.32. 139 Resistor. " 66% 100156-133 1 Ri.32. 139 Resistor. " 66% 100156-133 1 Ri.32. 14h Resistor. " 390% 100156-394 1 Ri.66. 1b. Resistor. " 390% 100156-394 1 Ri.68. 1b.2 Resistor. " 390% 100156-394 1 Ri.68. 1b.3 Resistor. " 390% 100156-394 1 Ri.68. 1b.4 Resistor. " 390% 100156-394 1 Ri.68. 1b.5 Resistor. " 390% 100156-394 1 Ri.68. 1b.6 Resistor. " 390% 100156-394 1 Ri.68. 1b.7 Resistor. " 390% 100156-395 1 Ri.69. 1b.8 Resistor. " 390% 100156-395 1 Ri.69. 1b.9 Resistor. " 390% 100156-395 1 Ri.69. 1c. Ri. Ri. Ri. Ri. Ri. Ri. Ri. Ri. Ri. Ri	ASSY. TRANSPORT ELECTRONICS THE TYPE PY 374 Mag. S/G., 7Ch. Model No. 160 Remarks on CKT. Desig. THE DRAWING TITLE DEG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 Gapacitor, Tantalum. 1.5uf. 100136-155 1 C20h. 132 133 134 135 136 137 138 139 139 138 139 138 139 138 139 138 139 138 139 138 139 139 139 139 139 130 1	DEATHING ASSY.TRANSPORT ELECTRONICS PAIR TYPE A' 10ips, SAG. 7Ch. Model No. No. No. No. REMARKS ON CKT. DESIG.	ASSITTAMSPORT ELECTRONICS FWE. Type 'A' 18 ips.5/3, 70h. Model NO. 16 Date 11/22/T1 sheet 50 of 10h
DATE 11/18/71 SHEET 12 OF REO. REMARKS ON CKT. DESIG. C20h. JU21. d3.1. 34.32. Rt.66. Rt.68. R509. 231. R536. 1 Junyar Jl. From KK to LL. Jusper Js. " J" V. Jusper Js. " PP "RR. (*) Jusper Js. " PP "RR. (*) Jusper Js. " G. Jusper Js. " G. Jusper Js. " EE "FF. Jusper Js. " EE "FF. Jusper Js. " EE "FF. Jusper Js. " AA "CC. Jusper Jl. " W " X.	ASSI.:MANSPORT ELECTRONICS DATE 11/13/71 SHEET IN OF	ASSY.TRINSPORT ELECTRONICS DATE 11/22/T1 SHEET 160 OF THE	DEATHING ASSITTANSPORT ELECTRONICS PMP. Type:A' lOips. SAG. 7Ch. Model No.	DRAWNE ASSY.TRANSPORT FLECTRONICS FME. Type A' 18 ips. S/G. 7Ch. Model No. 16 DRAWNE FME. Type A' 18 ips. S/G. 7Ch. Model No. 16 DRAWNE FME. Type A' 18 ips. S/G. 7Ch. Model No. 8CO REMARKS ON CKY. DESIG. 131 132 133 134 135 136 Resistor. \$1. 2N. 18K 100156-183 1 RL21. 137 Resistor. * 6KK 100156-83 1 RL31. 138 Resistor. * 13K 100156-33 1 RL32. 139 Resistor. * 150 100156-33 1 RL63. 110 instance * 150 100156-39 1 RL63. 111 Resistor. * 370K 100156-39 1 RL63. 112 Resistor. * 150 100156-155 1 R509. 113 Resistor. * 150 100156-155 1 R509. 114 Resistor. * 370K 100156-35 1 R509. 115 Resistor. * 370K 100156-35 1 R509. 116 Resistor. * 370K 100156-35 1 R509. 117 Wire, Solid Insulated. 1002Lb-92L A/R Jumper Jl. From JJ to KK. Jumper J2. * T * V. Jumper J3. * L * N. Jumper J3. * F * O. Jumper J7. * H * J. Jumper J1. * N * I.
PML 200488 - 037 The state of	ASST. IMANSPORT RIPOTRANICS PAR. Type*P* 18 isa. S/g. 7Ghmodel No. 16	ASSISTANSPORT ELECTRONICS DATE 11/22/T1 SHEET 160 or DRAWING TITLE DWG. HO. NO. REG REMARKS ON CET. DESIG.	DEATHING ASSY.TRANSPORT ELECTRONICS PAIR TYPE A' 10ips, SAG. 7Ch. Model No. No. No. No. REMARKS ON CKT. DESIG.	ASSITTAMSPORT ELECTRONICS FWE. Type 'A' 1d ips.5/3. 7Ch. Model No. 16 Date 11/22/T1 sheet 50 of 170.
PML 200488 - 037 T	ASSI.NAINSPORT RESTRICTS **TILE PAB. Type P 18 ion. 8/G, 7Chmodel no. 15		DEATHING ASSITTANSPORT ELECTRONICS PMP. Type:A' lOips. SAG. 7Ch. Model No.	ASSI.TRANSPORT FIZOTRONICS FWE. Type A' 18 ips. S/G. 70b. Model No. 16 DRAWING TITLE DRG. NO. NO. REO. REMARKS ON CKT. DESIG. 131 132 133 134 135 136 Resistor. S%. 2w. 18K 100156-183 1 Ri.21. 137 Resistor. " 68K 100156-283 1 Ri.31. 138 Resistor. " 15K 100156-333 1 Ri.32. 139 Resistor. " 15K 100156-331 1 Ri.66. 110 Resistor. " 15W 100156-391 1 Ri.68. 110 Resistor. " 15W 100156-391 1 Ri.69. 111 Resistor. " 15W 100156-391 1 Ri.69. 112 Resistor. " 15W 100156-391 1 Ri.69. 113 Resistor. " 15W 100156-391 1 Ri.69. 114 Resistor. " 370K 100156-391 1 Ri.69. 115 Resistor. " 370K 100156-391 1 Ri.69. 116 Resistor. " 370K 100156-391 1 Ri.69. 117 Wire, Solid Insulated. 1002156-335 1 Ri.36. 118 Resistor. " 370K 100156-391 1 Ri.69. 119 Resistor. " 370K 100156-391 1 Ri.69. 110 Resistor. " 370K 100156-391 1 Ri.69. 111 Resistor. " 370K 100156-391 1 Ri.69. 112 Resistor. " 370K 100156-391 1 Ri.69. 113 Resistor. " 370K 100156-391 1 Ri.69. 114 Resistor. " 370K 100156-391 1 Ri.69. 115 Resistor. " 370K 100156-391 1 Ri.69. 116 Resistor. " 370K 100156-391 1 Ri.69. 117 Wire, Solid Insulated. 1002156-335 1 Ri.36. 118 Resistor. " 370K 100156-391 1 Ri.69. 119 Resistor. " 370K 100156-391 1 Ri.69. 110 Resistor. " 370K 100156-391 1 Ri.69. 111 Ri.69. 112 Resistor. " 370K 100156-391 1 Ri.69. 113 Resistor. " 370K 100156-391 1 Ri.69. 114 Resistor. " 370K 100156-391 1 Ri.69. 115 Resistor. " 370K 100156-391 1 Ri.69. 116 Resistor. " 370K 100156-391 1 Ri.69. 117 Resistor. " 370K 100156-391 1 Ri.69. 118 Resistor. " 370K 100156-391 1 Ri.69. 119 Resistor. " 1 Ri.20. 110 Resistor. " 1 Ri.20. 110 Resistor. " 1 Ri.20. 111 Resistor. " 1 Ri.20. 112 Resistor. " 1 Ri.20. 113 Resistor. " 1 Ri.20. 114 Resistor. " 1 Ri.20. 115 Resistor. " 1 Ri.20. 116 Resistor. " 1 Ri.20. 117 Resistor. " 1 Ri.20. 118 Resistor. " 1 Ri.20. 119 Resistor. " 1 Ri.20. 110 Resistor. " 1 Ri.20. 111 Ri.20. 112 Resistor. " 1 Ri.20. 113 Resistor. " 1 Ri.20. 1
DATE 11/18/71 SHEET 12 OF	ASSI-MANSPORT RIBOTANICS "TALE PRE TYPE IP 18 128.5/G.TCh-MODEL NO. 15 DAYE 11/13/T1 MEET 14 OF		DEATHING ASSITTANSPORT ELECTRONICS PMP. Type:A' lOips. SAG. 7Ch. Model No.	ASSI.TRANSPORT ELECTRONICS FME. Type A' 18 ips. S/G. 7Gb. Model No. 16 DATE 11/22/71 MMET 50 of
PML 200488 - 037 T	ASSI.NAINSPORT RESTRICTS **TILE PAB. Type P 18 ion. 8/G, 7Chmodel no. 15		DEATHING ASSITTANSPORT ELECTRONICS PMP. Type:A' lOips. SAG. 7Ch. Model No.	ASSI.TRANSPORT ELECTRONICS PME. Type A' 18 ips. S/G. 70h. model No. 16 DAYE 11/22/71 MEET 50 of
DATE 11/18/71 SHEET & 2 OF	ASSI-MANSPORT RIBOTANICS "TALE PRE TYPE IP 18 128.5/G.TCh-MODEL NO. 15 DAYE 11/13/T1 MEET 14 OF		DEATHING ASSITTANSPORT ELECTRONICS PMP. Type:A' lOips. SAG. 7Ch. Model No.	DRAWNE ASSI.TRANSPORT ELECTRONICS PME. Type A 18 ips. S.G., 70h. model no. 16 DAYE 11/22/T1 MEET 50 or NO. REMARKS ON CKY. DESIG. 131 132 133 134 135 136 Resistor. SX. W. 18K 100156-183 1 Righ. 137 Resistor. " 66K 100156-683 1 Righ. 138 Resistor. " 15K 100156-33 1 Righ. 139 Resistor. " 15K 100156-50 1 Righ. 110 Resistor. " 100156-50 1 Righ. 111 Resistor. " 100156-50 1 Righ. 112 Resistor. " 100156-50 1 Righ. 113 Resistor. " 100156-50 1 Righ. 114 Resistor. " 100156-55 1 Righ. 115 Resistor. " 100156-35 1 Righ. 116 Resistor. " 150 100156-35 1 Righ. 117 Resistor. " 370K 100156-35 1 Righ. 118 Resistor. " 370K 100156-35 1 Righ. 119 Resistor. " 370K 100156-35 1 Righ. 110 Resistor. " 370K 100156-35 1 Righ. 111 Resistor. " 370K 100156-35 1 Righ. 112 Resistor. " 370K 100156-35 1 Righ. 113 Resistor. " 370K 100156-35 1 Righ. 114 Resistor. " 370K 100156-35 1 Righ. 115 Resistor. " 370K 100156-35 1 Righ. 116 Resistor. " 370K 100156-35 1 Righ. 117 Wire, Solid Insulated. 100218-921 A/R Jumper J1. From JJ to KK. 118 Jumper J2. " T " V. 119 Jumper J3. " L " M. 119 Jumper J3. " L " M. 119 Jumper J3. " L " M. 119 Jumper J3. " D " E. 119 Jumper J1. " M " X.

(9

750 100156-751 1 R23**4.**

47 100068-470 1 R248. 750 100156-751 1 R268.

15K 100156-153 1 R421.

51K 100156-513 1 R431. 13K 100156-133 1 R432.

300K 100156-304 1 R466.

390K 100156-394 1 R468.

680K 100156-684 1 R509.

100248-924 A/R Jumper JI, From JJ to KK.

Jumper J2. / " U " V.

Jumper J4. " PP " RR.

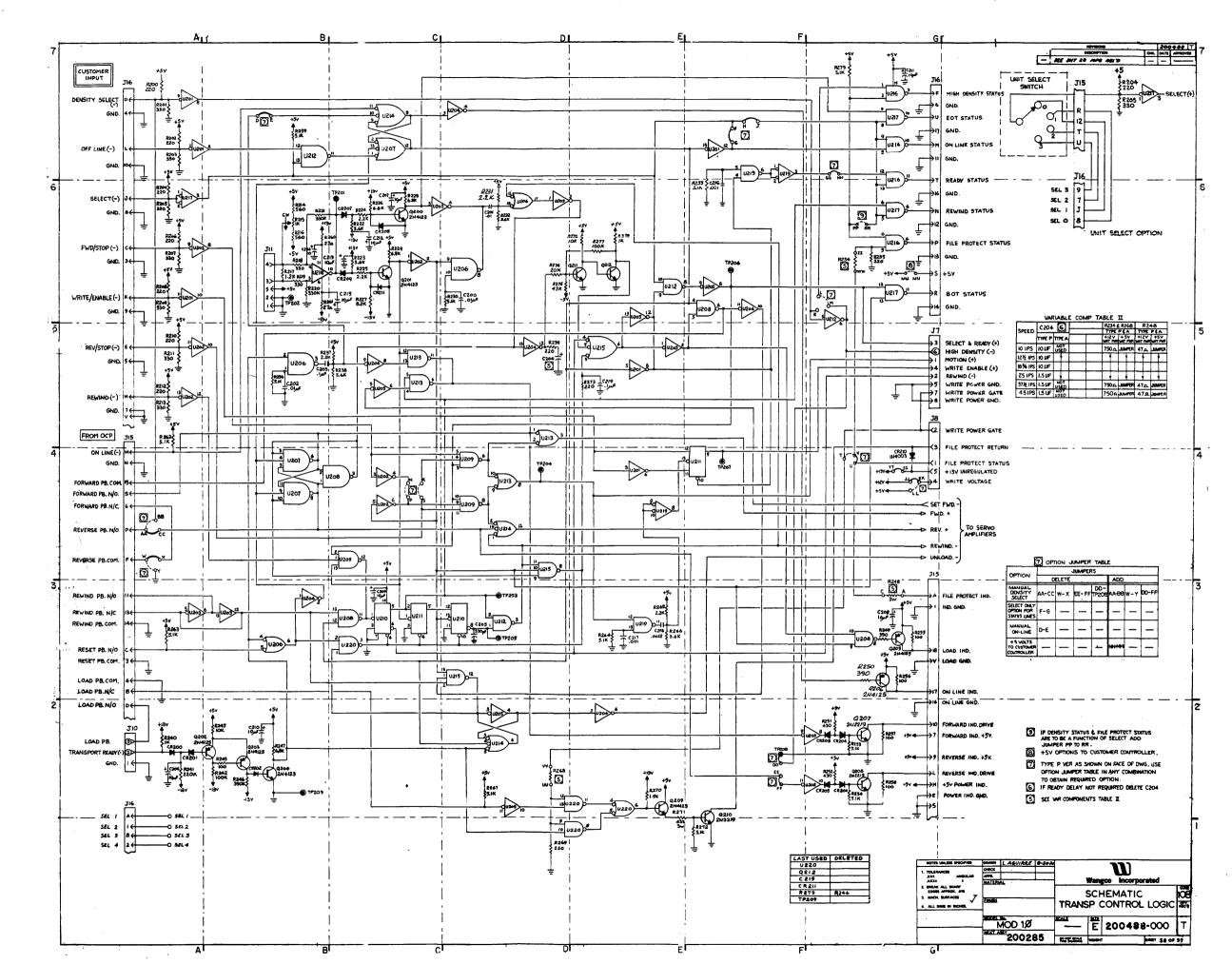
Jumper J5. " F " G.

Jumper J6. " GG " HH. Jumper J7. " H " J. Jumper J8. " EE " FF. Jumper J9. " D " E. Jumper J10. " AA " CC. Jumper Jll. " W " X. Jumper J19. " DD " TP208

ML 200488 - 049 :

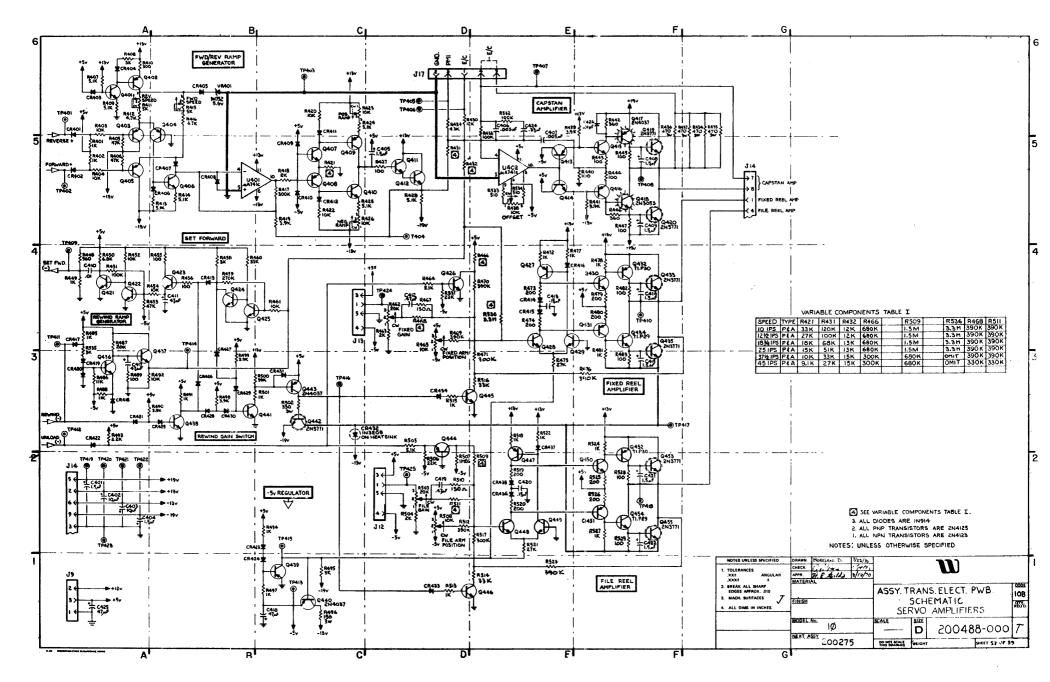
DATE 7-6-72 SHEET 57 OF REMARKS ON CKT. DESIG.

		CODE B - MANUAL DN-LINE	For Dual Guide Swing Arms
MATERIAL LIST AL DRAWING NO	O. REY. MATERIAL LIST ML DRAYING NO.	MATERIAL LIST ML	DRAWING NO. REV. D MATERIAL LIST
200488 - 046	V [44.] 1 200400 04-		200188 - IXX - ASSY, TRANSPORT ELECTRONICS
DEAUTHIC PAB. TYDE'S' 25106, S/C, 70h. MODEL NO. 12 DATE 11/23/71 SHEET 51	OF ASSY. TRANSPORT ELECTRONICS OF TITLE PRE TYPE 12 LSIDS. S/S. 7Ch. MODEL NO. 14 DATE 11/22/71 SHEET. 53 OF	DRAWING ASSI.TRANSPORT ELECTRONICS PRS. MANUAL CM-LINE. MODEL NO. 12/ DATE 11/	23/71 SHEET 55 OF DRAWING PWBTYDE"P"251DS D/G 9 Ch. MODEL NO
ITEM DRAWING TITLE DWG.NO. NO. REQ. REMARKS ON CKT. DE	ITEM	ITEM NO. DRAWING TITLE DWG, NO. NO. REQ. REMAR	RKS ON CKT. DESIG.
13)	131	Use the appropriate sheet	131 Capacitor, Tantalum 1.5uf 100136-155 1 C
132	132	showing the combination of	132 133 Resistor,5%.hw. 750 100156-751 1
133	134	speed; type 'A' or 'P', and 7 or 9 Ch. Then change the	134 Resistor, " 3w. 47 100068-470 1
136	135	first digit of the dash No.	135 Resistor, ** w. 750 100156-751 1
136 Registor. 5%. jw. 15% 100156-153 1 Rh21.	136 Resistor. 5%. tw. 9.1% 100156-912 1 R421.	to letter B.	136 Resistor, " " 15K 100156-153 1
137 Resistor. " " 51% 100156-513 1 Ni-31.	137 Resistor. " " 27% 100156-273 1 起注.	EXAMPLE:- 2001/88 - 506	137 Resistor, " " 51K 100156-513 1
138 Resistor. * 13K 100156-133 1 Rk32.	138 Resistor. " " 15K 10C156-153 1 kl,32.	defines a Type 'P' 15ips D/G.	139 Resistor, " " 300K 100156-304 1
139 Resistor. * 680K 100156-68h 1 2466.	139 Registor. " " 300% 100156-304 1 R466.	9Ch. Transport PwB with the	140
1h0 Resistor. 4 390K 100156-39k 1 R468.	7412 Resistor. " " 330K 100156-334 1 K468.		141 Resistor,5% " 390K 100156-394 1
1h2 Resistor. " " 1.5M 100156-155 1 R509.	142 Resistor. " " 680% 100156-664 1 R509.	Also:-	142 Resistor, " " 680K 100156-684 1
143 Restator. 150 100156-151 1 1510.	14.3 Receiver. 11 150 100156 151 1 1510.	Jumper J9. From D to E. Deflete.	144 Resistor. " " 390K 100156-394 1
1hh Resistor, " 390K 100156-39h 1 R511. 1h5 Resistor, " 33M 100156-335 1 R536.	11th Resister. " " 330K 100156-334 1 R511.	4	145
1h5 Resistor. " 3.3M 100156-335 1 R536.	146		146
147 Wire, Solid Insulated. 100248-924 A/R Jumper Jl. From JJ to Ki			147 Wire, Solid Insulated. 100248-924 A/R
Jumper J2. " T " V	Jumper J2, " T " V.		
Jumper J3. * L * M			
Jumper J5. " F " G Jumper J7. " H " J			
Junper Jô. * EE * F			
Jumper J9. " D " E			
Jumper J10. " AA " C			
Jumper Jll. " W " X			
Jumper Jl3. " N " P Jumper Jl4. " R " S			
July Cumper Car. 2			
		-	
	CODE A - MANUAL SERSITY SELECT.	COME C - 5v. TO CONTROLLER.	
MATERIAL LIST ML DRAVING NO.			DRAWING NO. REV.
ASST TRANSPORT PLEOTRONTOS	MATERIAL LIST ML ORANING NO. 1	MATERIAL LIST ML	200l.88 - XX
ASSY. TRANSPORT ELSOTRONICS THEE PRE TYPE'A' 17210815/3, 7Ch. MODEL NO. 15 DATE 11/22/71 SHEET 52	MATERIAL LIST MATERIAL LIST ML ORANIO NO. 1200188 - XXX 200188 - XXX DAAWNO ASSI.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 120 DATE: 1/23/71 SHEET 54 OF	MATERIAL LIST ML ORANGE ASSY.TRANSPORT ELECTRONICS TITLE PME, SY, to Jontroller, MODEL NO. 30 DATELLE	2001.88 - XXI /23/71 sheet 56 or
ASST.TRANSPORT ELSOTRONICS THE PHE TYPE'A' 17108.5/0, 7Ch. MODEL NO. 10 DATE 11/22/11 SHEET 52 THE DRAWING TITLE DWG. NO. NO. REG. REMARKS ON CET., DES	MATERIAL LIST OF ASSI.TRANSPORT ELECTRONICS TITLE PRE MANIAL DENSITY SELECT. MATERIAL LIST MC DRAWING NO. DATELL/23/71 SHEET 54 OF TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME, 5% to Londroller, MODEL NO. 10 DATELL ITEM DRAWING TITLE DWG. NO. NO. REG. REM.	200l.88 - XX
ASST.TRANSPORT ELSOTRONICS THE THE TYPE TO A TRANSPORT ELSOTRONICS THE TYPE TYPE THE TYPE THE TYPE THE TYPE TYPE THE TYPE TYPE THE TYPE TYPE THE TYPE TYPE TYPE TYPE TYPE TY	MATERIAL LIST MATERIAL LIST ML DRAWING NO. 12001.88 - XXX 2001.88 - XXX 2001.88 - XXX 2001.88 - XXX ASST.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 12 DATE: 11/23/T1 SHEET 51 OF TYPE DRAWING TITLE DWG. MG. NO. REQ. REMARKS ON CKT. DESIG. Use the appropriate sheet	MATERIAL LIST ORANING TITLE PME, 5% to Jontroller, MODEL NO. 10 DATELL ITEM DRAWING TITLE DWG, NO. NO. REG. REM. Use the appropriate sheet	2001;88 - XXI /23/71 sheet 56 or
ASSY, TRANSPORT ELSOTROMICS THE THE TYPE'A' 172108.S/Y, TCR. MODEL NO. 15 DATE 11/22/11 SHEET 52 THE TYPE DWG, NO. NO. REG. REMARKS ON CEY., DES 131 132	MATERIAL LIST ORANIC ASSI.TRANSPORT ELECTRONICS OF TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 10 DATE:11/23/T1 SHEET 51 OF NO. DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. Use the appropriate sheet showing the combination of	MATERIAL LIST ORANNE ASSY.TRANSPORT ELECTRONICS TITLE PME. Sy. to controller. MODEL NO. 10 DATELL ITEM DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of	2001;88 - XXI /23/71 sheet 56 or
ODER THE PRE TYPE A' 178 AGE S/OL TOR MODEL NO. 11 DATE 11/22/11 SHEET 52 THE DRAWING TITLE DWO, NO. NO. REO. REMARKS ON CRY., DES 131 132 133 134	MATERIAL LIST MATERIAL LIST ML DRAWING NO. 12001.88 - XXX 2001.88 - XXX 2001.88 - XXX 2001.88 - XXX ASST.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 12 DATE: 11/23/T1 SHEET 51 OF TYPE DRAWING TITLE DWG. MG. NO. REQ. REMARKS ON CKT. DESIG. Use the appropriate sheet	MATERIAL LIST DRAWING TITLE PAR. 5% to Controller MODEL NO. 10 DATELL TITM DRAWING TITLE DWG. NO. NO. REQ. REM. Use the appropriate sheet showing the combination of speed; type 'fa' or 'F', and 7 or 9 Ch. Then change the	2001;88 - XXI /23/71 sheet 56 or
DRAWING ASSY.TRANSPORT ELSOTRONICS THE PRE TYPE'A' 178109.5/Q.7Ch. MODEL NO. 11 DATE 11/22/71 SHEET 52 TEM NO. DRAWING TITLE DWO. NO. NO. REQ. REMARKS ON CRY., DES 131 132 133 134 135	MATERIAL LIST ORANNO ORANNO NO. 10 ORANNO ASSI.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 10 ORANNO OF MO. NO. REQ. REMARKS ON CKT. DESIG. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No.	MATERIAL LIST ORAMHO ASSY.TRANSPORT ELECTRONICS TITLE PMR. 5% to Controller MODEL NO. 10 DATELL ITEM DRAWING TITLE DWG. NO. NO. REO. REM. Use the appropriate sheet showing the combination of epeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No.	2001;88 - XXI /23/71 sheet 56 or
200488 - Oh7 DERSING ASSI.TRANSPORT ELECTRONICS PER TYPE A' 17340815/Q-7Ch. MODEL NO. 15 DATE 11/22/71 SHEET 52 TEM NO. DRAWING TITLE DWG. NO. NO. REG. REMARKS ON CRY., DES 131 132 133 134 125 136 Resistor. 5%, 4v. 10X 100156-103 1 RL2X.	MATERIAL LIST ORANNO ASSI.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 16 DATE: 1/23/71 SHEET 51 OF IVEN DRAWING TITLE DWG. NO. NO. NEQ. REMARKS ON CKT. DESIG. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No to letter A.	MATERIAL LIST ORANNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. 5%. to Controller MODEL NO. 10 DATELL TEM DRAWING TITLE DWG.NO. NO. REQ. REM. Use the appropriate sheet showing the combination of speed; type 'fa' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C.	2001;88 - XXI /23/71 sheet 56 or
200488 - Oh7 DERSHING ASSI.TRANSPORT ELECTRONICS FIRE TYPE A. 173408.5/Q.7Ch. MODEL NO. 15 DATE 11/22/11 SHEET 52 TEM NO. DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CRY., DES 131 132 133 134 125 136 Resistor. 5%, 4w. 10% 100156-103 1 Rh21. 137 Resistor. " 33% 100156-233 1 Rh31.	MATERIAL LIST ORANNO ASSI.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 16 DATE: 1/23/71 SHEET 51 OF IJEM DRAWING TITLE DWG. NO. NO. NEQ. REMARKS ON CKT. DESIG. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No to letter A EXAMPLE: 200188 - A06	MATERIAL LIST DRAWNG ASSY.TRANSPORT ELECTRONICS MODEL NO. 10 OATELL TYPE PAR. SY. to Controller. MODEL NO. 10 OATELL Type DRAWING TITLE DWG. NO. NO. RED. REM. Use the appropriate sheet showing the combination of speed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200186 - 006	2001;88 - XXI /23/71 sheet 56 or
200488 - Oh7 DERSING ASSI.TRANSPORT ELECTRONICS PER TYPE A' 17340815/Q-7Ch. MODEL NO. 15 DATE 11/22/71 SHEET 52 TEM NO. DRAWING TITLE DWG. NO. NO. REG. REMARKS ON CRY., DES 131 132 133 134 125 136 Resistor. 5%, 4v. 10X 100156-103 1 RL2X.	MATERIAL LIST ORANNO ASSI.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. MODEL NO. 16 DATE: 1/23/71 SHEET 51 OF IVEN DRAWING TITLE DWG. NO. NO. NEQ. REMARKS ON CKT. DESIG. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No to letter A.	MATERIAL LIST ORANNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. 5%. to Controller MODEL NO. 10 DATELL TEM DRAWING TITLE DWG.NO. NO. REQ. REM. Use the appropriate sheet showing the combination of speed; type 'fa' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C.	2001.88 - XXI /23/71 sheet 56 or
200,88 - 0h7 200,	MATERIAL LIST ORANNO ASSI.TRANSPORT ELECTRONICS TITLE PHB. MANUAL DENSITY SELECT. 160. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No. te letter A. EIAMPLE: 200488 - A06 defines a Type 'P' 15ips. D/G.	MATERIAL LIST DRAWNG ASSY.TRANSPORT ELECTRONICS MODEL NO. 10 OATELL TYPE PAR. SY. to Controller. MODEL NO. 10 OATELL Use the appropriate sheet Showing the combination of speed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE: 200186 - 006 defines a Type 'P' 15ips. D/G.	2001;88 - XXI /23/71 sheet 56 or
200,88 - 0h7 200,	MATERIAL LIST OF ASSI.TRANSPORT ELECTRONICS TITLE PRE MANUAL DENSITY SELECT. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No. to letter A. ELAMPLE:- 200488 - A06 defines a Type 'P' 15ips. D/G. 9 Ch. Transport PMB with the Manual Density Select Option.	MATERIAL LIST MATERIAL LIST MASSY.TRANSPORT ELECTRONICS TITLE PME, 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of speed; type 'A' or '?', and 7 or 9 Ch. Then change the first digit of the dash No. tq letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PME with the 5 v. to the Controller Option.	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 2004	MATERIAL LIST MATERIAL LIST MUL 2004:88 - XXX 2004:88 - XXX DATELL/23/T1 SHEET 54 OF MODEL NO. 15 DATELL/23/T1 SHEET 54 OF MODEL NO. 16 DATE	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
200,88 - 0h7 200,	MATERIAL LIST OF ASSI.TRANSPORT ELECTRONICS TITLE PRE MANUAL DENSITY SELECT. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No. to letter A. ELAMPLE:- 200488 - A06 defines a Type 'P' 15ips. D/G. 9 Ch. Transport PMB with the Manual Density Select Option.	MATERIAL LIST MATERIAL LIST MATERIAL LIST MASSY.TRANSPORT ELECTRONICS TITLE PME. 51. to Jontroller. MODEL NO. 12 DATELL THEM DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of speed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:— 200468 — 606 defines a Type 'P' Lipps. D/G. 9Ch. Transport PME with the 5v. to the Controller Option. Also:—	2001;88 - XXI /23/71 sheet 56 or
200468 - 0h7 200468 - 0h7 200468 - 0h7 200468 - 0h7 11/22/71 HEET 52 131 132 133 134 136 137 138 139 1	MATERIAL LIST MATERIAL LIST MUL 2004:88 - XXX 2004:88 - XXX DATELL/23/T1 SHEET 54 OF MODEL NO. 15 DATELL/23/T1 SHEET 54 OF MODEL NO. 16 DATE	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 2004888 - 0h7 200488 - 0h7 2004888 - 0h7 200488 - 0h7 20	MATERIAL LIST MATERIAL LIST MATERIAL LIST MATERIAL LIST MATERIAL LIST MODEL NO. 12000488 - XXI DATEL1/23/71 SHEET 54 OF JUNE PRIS. MANUAL DENSITY SELECT. MODEL NO. NO. REQ. REMARKS ON CKT. DESIG. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No. to letter A. ELAMPLE: 200488 - A06 defines a Type 'P' 15ips. D/0. 9Ch. Transport PSB with the Manual Density Select Option. Also:- Jumper J8. From EE to FF. Jumper J8. D * FF. Jumper J8. D D * FF. Delete. Jumper J10. From AA to CG. Delete.	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 2004888 - 0h7 200488 - 0h7 2004888 - 0h7 200488 - 0h7 20	MATERIAL LIST MATERIAL LIST MATERIAL LIST MATERIAL LIST MODEL NO. 10 200488 - XXI DATELL/23/T1 SHEET 51 OF DELOY. NO. NO. REQ. REMARKS ON CKY, DESIG. Use the appropriate sheet showing the combination of speed; type 'A' or 'P'; and 7 or 9 Ch. Then change the first digit of the dash No. to letter A. EXAMPLE: 200488 - A06 defines a Type 'P' 15ips. D/0. 9 Ch. Transport PMB with the Manual Density Select Option. Also:- Jumper J8. ** DD ** FF. Jumper J8. ** DD ** FF. Jumper J10. ** AAA ** BB. Jumper J10. ** AAA ** BB. Add.	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 2004888 - 0h7 200488 - 0h7 2004888 - 0h7 200488 - 0h7 20	MATERIAL LIST OF SARMING ASSY.TRANSPORT ELECTRONICS THE MODEL NO. 10 DATEL 1/23/71 SHEET 51 OF DATEL 1/23/71 SHEET 51 OF DEC. NO. NO. NO. NO. NO. NO. NO. NO. NO. NO	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 2004888 - 0h7 200488 - 0h7 2004888 - 0h7 200488 - 0h7 20	MATERIAL LIST OF STANNOR ASSI.TRANSPORT ELECTRONICS THE MODEL NO. 16 DATELL/23/71 SHEET 51 OF 2001.88 - XIX OF STANNOR THE PRE MANUAL DENSITY SELECT. MODEL NO. 16 DATELL/23/71 SHEET 51 OF 17E. DWG. NO. NO. NO. NO. NO. NO. NO. NO. NO. NO	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
200888 - 0h7 2008888 - 0h7 200888 - 0h7 2008888 - 0h7 200888 - 0h7 20	MATERIAL LIST MATERI	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 2004	MATERIAL LIST MATERI	MATERIAL LIST ORANING ASSY.TRANSPORT ELECTRONICS TITLE PME. 5% to Jontroller. DRAWING TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'P', and 7 or 9 Ch. Then change the first digit of the dash No. tq.letter C. EXAMPLE: 200188 - 006 defines a Type 'P' 151ps. 1/0. 90h. Transport PWB with the 5 v. to the Controller Option. Also:-	2001;88 - XXI /23/71 sheet 56 or
	MATERIAL LIST MATERI	MATERIAL LIST ORAWNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. SY. to Journalist. Model No. 10 Drawing Title Dwg. No. No. Red. Use the appropriate sheet showing the combination of apeed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PMB with the 5y. to the Controller Option. Also:- Jumper J28. From NN to MM. Add.	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 2004	MATERIAL LIST MATERI	MATERIAL LIST ORAWNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. SY. to Journalist. Model No. 10 Drawing Title Dwg. No. No. Red. Use the appropriate sheet showing the combination of apeed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PMB with the 5y. to the Controller Option. Also:- Jumper J28. From NN to MM. Add.	2001;88 - XXI /23/71 sheet 56 or
200488 - 0h7 200488 - 0h7 200488 - 0h7 200488 - 0h7 11/22/71 HEET 52 131 132 133 134 135 136 136 137 138 139 1	MATERIAL LIST ORAWING NO. 200688 - XIX OF THE MANUAL EMSTTY SELECT. DOC. NO. NO. NO. NO. NO. NO. NO. NO. NO. NO	MATERIAL LIST ORAWNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. SY. to Journalist. Model No. 10 Drawing Title Dwg. No. No. Red. Use the appropriate sheet showing the combination of apeed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PMB with the 5y. to the Controller Option. Also:- Jumper J28. From NN to MM. Add.	2001;88 - XXI /23/71 sheet 56 or
200868 - 0h7 200868 - 2h8 2	MATERIAL LIST ORANGO ASSY.TRANSPORT ELECTRONICS TITLE PRES. MANDAL EMSITY SELECT. DATE:: D	MATERIAL LIST ORAWNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. SY. to Journalist. Model No. 10 Drawing Title Dwg. No. No. Red. Use the appropriate sheet showing the combination of apeed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PMB with the 5y. to the Controller Option. Also:- Jumper J28. From NN to MM. Add.	2001.88 - XXI /23/71 sheet 56 or
200868 - 0h7 2008	MATERIAL LIST ORANGO ASSY.TRANSPORT ELECTRONICS TITLE PRES. MANDAL EMSITY SELECT. DATE:: D	MATERIAL LIST ORAWNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. SY. to Journalist. Model No. 10 Drawing Title Dwg. No. No. Red. Use the appropriate sheet showing the combination of apeed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PMB with the 5y. to the Controller Option. Also:- Jumper J28. From NN to MM. Add.	2001.88 - XXI /23/71 sheet 56 or
200468 - 0h7 200468 - 0h7 200468 - 0h7 200468 - 0h7 11/22/71 HEET 52 131 132 134 136 Resistor. 5%, 2w. 10K 100156-103 1 Right 132 133 134 137 Resistor. " 39K 100156-333 1 Right 132 133 134 135 Resistor. " 39K 100156-333 1 Right 132 133 Resistor. " 39K 100156-30h 1 Right 138 Right 139 Resistor. " 39K 100156-30h 1 Right 146 Right 147 Resistor. " 39K 100156-30h 1 Right 146 Right 147 Resistor. " 39K 100156-39h 1 Right 1 Right 147 Right 14	MATERIAL LIST ORANGO ASSY.TRANSPORT ELECTRONICS TITLE PRES. MANDAL EMSITY SELECT. DATE:: D	MATERIAL LIST ORAWNO ASSY.TRANSPORT ELECTRONICS TITLE PAR. SY. to Journalist. Model No. 10 Drawing Title Dwg. No. No. Red. Use the appropriate sheet showing the combination of apeed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PMB with the 5y. to the Controller Option. Also:- Jumper J28. From NN to MM. Add.	2001;88 - XXI /23/71 sheet 56 or
200868 - 0h7 2008	MATERIAL LIST ORANGO ASSY.TRANSPORT ELECTRONICS TITLE PRES. MANDAL EMSITY SELECT. DATE:: D	MATERIAL LIST DRAWNG ASSY.TRANSPORT ELECTRONICS TITLE PAR. SY. to Journalist. DRAWNG TITLE DWG. NO. NO. REG. REM. Use the appropriate sheet showing the combination of apeed; type 'A' or 'F', and 7 or 9 Ch. Then change the first digit of the dash No. to letter C. EXAMPLE:- 200486 - 006 defines a Type 'P' 15ips. D/G. 90h. Transport PMB with the 5v. to the Controller Option. Also:- Jumper J28. From NN to MM. Add.	2001:88 - XXI /23/71 sheet 56 or

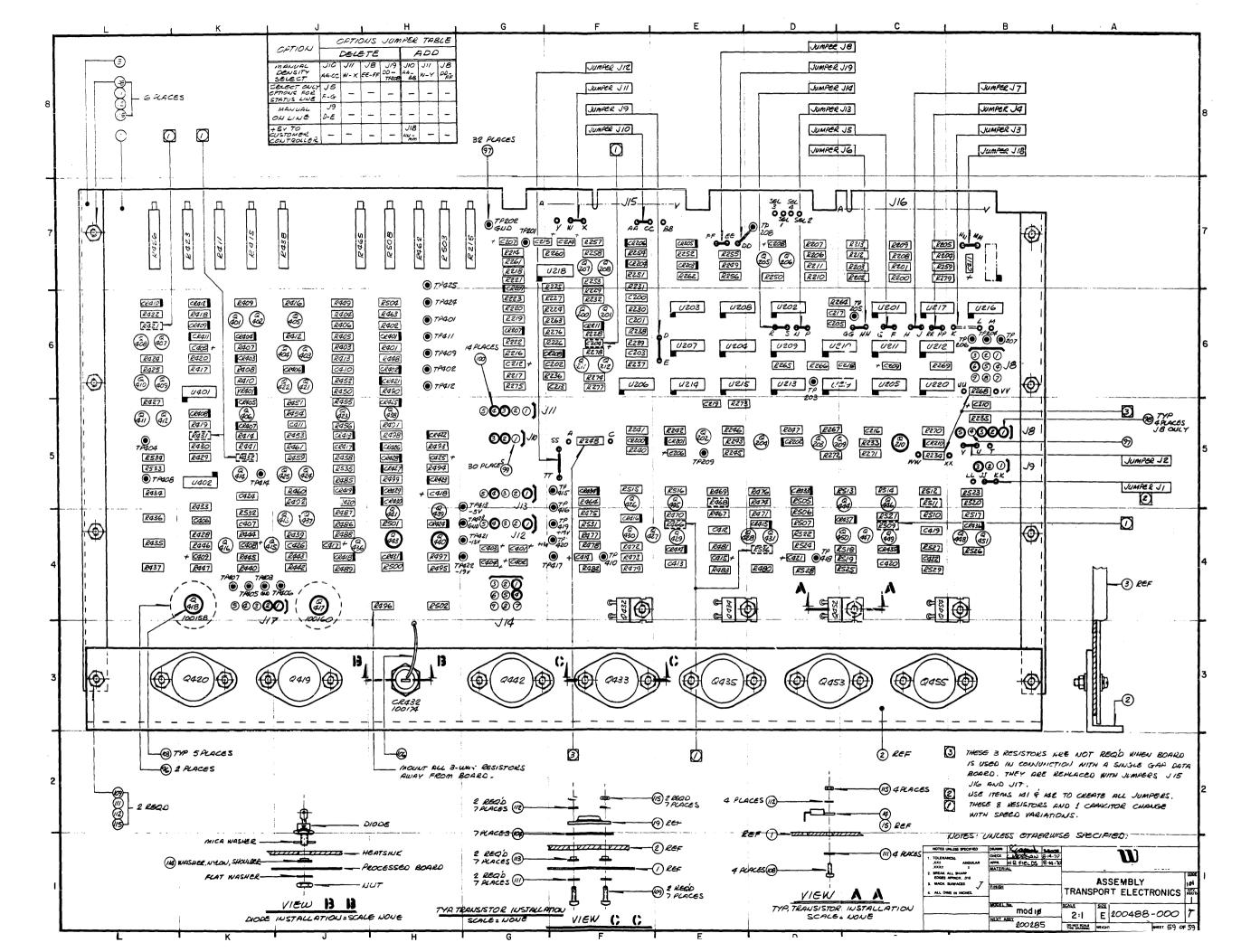


Schematic, Transport Control Logic, PWB

.23



B-24. Schematic, Servo Amplifiers



B-25. Assembly, Transport Electronics. PWB

B-26. Deleted

7	B .	NANGCO.	MATERI	AL LIST		KAI	DRAWING NO.	REV
	1	INCORPORATED			=	IVIL	200632-011	U
	DRAW!	ASSY, TRANSPORT ELE PWB 251PS 9CH TY		MODEL NO	10	DATE 6/2	11/72 SHEET 16 OF	<u>45</u>
	ITFN N	DRAWING TITE	ε	DWG, NO.	NO. REQ.	REMA	IRKS ON CKT. DESIG	
ĺ	136	Capacitor, Tantalum	1.5uf	100136-155	1	C209		
-	137	Capacitor, Polyfilm	.33uf	100128-334	1	C424		
	138	Resistor, 5%, 3W	390	100064-391	1	R266	•	
	139	Resistor, " w	15K	100156-153	1	R421		
	140	Resistor, " "	51K	100156-513	1	R431		
	141	Resistor, " "	13K	100156-133	1	R432		
į	142	Resistor, " "	100K	100156-104	1	R433		
į	143	Resistor, " "	680K	100156-684	1	R466		
	144	Resistor, " "	390K	100156-394	1	R468		
	145	Resistor, " "	1.5M	100156-155	1	R509		
	146	Resistor, " "	390K	100156-394	1	R511		
Ì	147	Resistor, " "	100K	100156-104	1	R532		
	148	Resistor, " "	3,314	100156-335	1	R536		
	149	Resistor, " "	2.2K	100156-222	1	R262		
	150	Resistor, " "	750	100156-751	1	R235		
	151	Resistor, " "	750	100156-751	1	R251		
	152	Resistor, " 🖥	390	100064-391	1	R280		
	153	Resistor, " 3W	47	100068-470	1	R269		
	154	Wire, Solid Insulated		100248-924	A/R	Jumper Jl	. From VV to WW.	
						Jumper J2	. From GG to HH.	
						Jumper J6	. From CC to DD.	
						Jumper J7	. From Y to Z.	
						Jumper J8	. Prom S to T.	
						Jumper J9	. From P to R.	
						Jumper J1	1.From W to X.	
						Jumper J1	4.From G to H.	
		!		1		Jumper Jl	5. Prom NN to PP.	
		Jumpers J3,J4,J5,J	0,J12,			Jumper Jl	6.From U to V.	
		J13,J18,J20 not us	ed			Jumper Jl	7.From D to F.	
Principal and Principal					,	Jumper Jl	9.From A to C.	
-					\vdash			
	155	Rework Instructions		201324	Ref.			

_	70.	7,400		MATER	AL LIST		A 41	DRAWING NO.	REV.
_	 	WANG				=	ML	200632-012	u
112	DRAWII TITL	ASSY.TRANS			_ MODEL NO	10	DATE 8/	31/72 SHEET 17 OF	45
32-01	ITEM NO.	DRAWII	NG TITL	Ε	DWG. NO.	NO. REQ.	252	ARKS ON CKT. DESIG	
200632	136	Capacitor, Ta	ntalus	1.5uf	100136-155	1	C209		
	137	Capacitor, Po	lyfilm	.33uf	100128-334	1	C424		
╛	138	Resistor, 5%,	₹W	390	100064-391	1	R266		
≥	139	Resistor, "	₹#	15K	100156-153	1	R421		
1	140	Resistor, "	"	51K	100156-513	1	R431		
	141	Resistor, "	"	13K	100156-133	1	R432		
į	142	Resistor, "	" .	100K	100156-104	1	R433		
1	143	Resistor, "	"	680K	100156-684	1	R456		
ı	144	Resistor, "	•	390K	100156-394	1	R468		
- 1	145	Resistor, "	"	1.5M	100156-155	1	R509		
ļ	146	Resistor, "	*	390K	100156-394	1	R511		
	147	Resistor, "	11	100K	100156-104	1	R532		
	148	Resistor, "		3.3M	100156-335	1	R536		
	149	Resistor, "		2.2K	100156-222	1	R262	····	
	150	Resistor, "	"	750	100156-751	1	R235		
١	151	Resistor, "	*	750	100156-751	1	R251		
١	152	Resistor, "	₹W	390	100064-391	1	R280		
	153	Resistor, "	31/	47	100068-470	1	R269		
ı	154	Wire, Solid I	nsulated		100248-924	A/R		. From VV to WW.	
ĺ						-		Prom GG to HH.	
ŀ								. Frem CC to DD.	
į								7. From Y to Z.	
Ì					-			From S to T.	
Ì								11.From W to X.	
ļ								4.From G to H.	
		Jumpane TO T	4 75 770					5.From NN to PP.	
		Jumpers J3,J4		,,12,			-	6.From U to V.	
į.		J13,J18 ne	ot used					7.From D to F.	
1						-		9.From A to C.	
ĺ	155	Rework Instru			201324	Ref.	Jumper J2	O.From AAA to BBE	•

155	Rework Instructions	201324	Ref.			
	BASIC DAISY	CHAIN WITH	UNIT SI	ELECT		
7	NANGCO MATERI	AL LIST		MI	DRAWING NO.	REV.
1	INCORPORATED	\		IAIC	200632-015	10
DRAWI TITL	ASSY.TRANSPORT ELECTRONICS PWB 451PS 9CH TYPE 'P'	_ MODEL NO	10	DATE _8/	31/72 SHEET 20 OI	45
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG	
136	Capacitor, Tantalum 1.5uf	100136-155	1	C209		
137	Capacitor, Polyfilm .68uf	100128-684	1	C424		
138	Resistor, 5%, 2W 390	100064-391	1	R266		
139	Resistor, " W 9.1K	100156-912	1	R421		
140	Resistor, " " 27K	100156-273	1	R431		
141	Resistor, " " 15K	100156-153	1	R432		
142	Resistor, " " 43K	100156-433	1	R433		
143	Resistor, " " 300K	100156-304	1	R466		
144	Resistor, " " 330K	100156-334	1	R468		
145	Resistor, " " 680K	100156-684	1	R509		
146	Resistor, " " 330K	100156-334	1	R511		
147	Resistor, " " 43K	100156-433	1	R532		
148						
149	Resistor, " " 2.2K	100156-222	1	R262		
150	Resistor, " " 750	100156-751	1	R235		
151	Resistor, " " 750	100156-751	1	R251		
152	Resistor, " 🖁 👿 390	100064-391	1	R280		
153	Resistor, " 3W 47	100068-470	1	R269	<u> </u>	
154	Wire, Solid Insulated	100248-924	A/R	Jumper J1	. From VV to WW.	
				Jumper J2	. From GG to HH.	
				Jumper J6	. From CC to DD.	
				Jumper J7	. From Y to Z.	
				Jumper J8	. From S to T.	
				Jumper J9	. From P to R.	
				Jumper Jl	1.From ₩ to X.	
				Jumper J1	4.From G to H.	
				Jumper Jl	5.From NN to PP.	
	Jumpers J3,J4,J5,J10,J12,J13,			Jumper Jl	6.From U to V.	
	J18, J20 not used			Jumper Jl	7.From D to F.	
				Jumper Jl	9.From A to C.	
155	Rework Instructions	201324	Ref.			

دا	1	NANGCO -	MATERI	AL LIST		MI	DRAWING NO.	REV
	ı	INCORPORATED					200632-013	Jυ
13	DRAWI	ASSY, TRANSPORT ELEG PWB 37 1PS 9CH T		_ MODEL NO	10	DATE 8/	31/72 SHEET 18 O	<u> 45</u>
200632-0]	ITEM NO.	DRAWING TITL	E	DWG. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG	
900	136	Capacitor, Tantalum	1.5uf	100136-155	1	C209		
"	137	Capacitor, Polyfilm	.68uf	100128-684	1	C424		
וַ	138	Resistor, 5%, 2W	390	100064-391	1	R266		
Σ	139	Resistor, " iw	10K	100156-103	1	R421		
	140	Resistor, " "	33K	100156-333	1	R431		
	141	Resistor, " "	15K	100156-153	1	R432		
	142	Resistor, " "	43K	100156-433	1	R433		
Ī	143	Resistor, " "	300K	100156-304	1	R466		
	144	Resistor, " "	390K	100156-394	1	R468		
	145	Resistor, " "	680K	100156-684	1	R509		
	146	Resistor, " "	390K	100156-394	1	R511		
ĺ	147	Resistor, " "	43K	100156-433	1	R532		
	148							
	149	Resistor, 5%, 1W	2.2K	100156-222	1	R262		
	150	Resistor, " "	750	100156-751	1	R235		
Ī	151	Resistor, " "	750	100156-751	1	R251		
	152	Resistor, " 1W	390	100064-391	1	R280		
	153	Resistor, " 3W	47	100068-470	1	R269		
ı	154	Wire, Solid Insulated	1	100248-924	A/r	Jumper J	l. From VV to WW.	
						Jumper J	2. From GG to HH.	
						Jumper J	6. From CC to DD.	
						Jumper J	7. From Y to Z.	
						Jumper J	8. From S to T.	
						Jumper J	9. From P to R.	
Ì		7				Jumper J	ll.From W to X.	
-						Jumper J	14.From G to H.	
						Jumper J	15.From NN to PP.	
-		Jumpers J3, J4, J5, J10,	J12,J13,			Jumper J	16.From U to V.	
		J18,J20 not used				Jumper J	17.From D to F.	
1						Jumper J	19.From A to C.	
i					-			
- 1	155	Rework Instructions		201324	Ref.			

		BASIC	DAISY CHA	IN WITH UNI	IT SELECT	t.
>	J.	WANGED -	MATERI	AL LIST	-	ML 200632-016 U
	DRAW!	ASSY. TRANSPORT E		S MODEL NO	10	DATE 8/31/72 SHEET 21 OF 45
-01	ITEM NO.	DRAWING TITL	E	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
200632-01	136	Capacitor, Tantalum	1.5uf	100136-155	1	C209
20	137	Capacitor, Polyfilm	.68uf	100128-684	1	C424
IL	138	Resistor, 5%, 2W	390	100064-391	1	R266
<u>Σ</u>	139	Resistor, " 🗽	9.1K	100156-912	1	R421
	140	Resistor, " "	27K	100156-273	1	R431
	141	Resistor, " "	15K	100156-153	1	R432
	142	Resistor, " "	43K	100156-433	1	R433
	143	Resistor, " "	300к	100156-304	1	R466
	144	Resistor, " "	330K	100156-334	1	R468
	145	Resistor, " "	680K	100156-684	1	R509
	146	Resistor, " "	330K	100156-334	1	R511
	147	Resistor, " "	43K	100156-433	1	R532
	148					
	149	Resistor, " "	2.2%	100156-222	1	R262
	150	Resistor, " "	750	100156-751	1	R235
	151	Resistor, " "	750	100156-751	1	R251
	152	Resistor, " ½W	390	100064-391	1	R280
	153	Resistor, " 3W	47	100068-470	1	R269
	154	Wire, Solid Insulated	1	100248-924	A/R	Jumper Jl. From VV to WW.
						Jumper J2. From GG to HH.
						Jumper J6. From CC to DD.
						Jumper J7. From Y to Z.
						Jumper J8. From S to T.
						Jumper J9. From P to R.
						Jumper J11.From W to X.
						Jumper J14.From G to H.
						Jumper J15.From NN to PP.
		Jumpers J3,J4,J5,J10	,J12,			Jumper J16.From U to V.
		J13,J18 not us	ed			Jumper J17.From D to F.
						Jumper J19.From A to C.
						Jumper J20.From AAA to BBB.
	155	Rework Instructions		201324	Ref.	

DRAMIN NO. 1717LE 17EM NO. 136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147	WANGEO = NICORPORATED ASSY. TRANSPORT RIDGE ASSY. TRANSPORT RIDGE DRAWING TITL Capacitor, Tentalum Capacitor, Polyfilm Resistor, " "	1.5uf 1.5uf 1.5uf 390 10K 33K 15K 43K 300K 390K 680K	MODEL NO. DWG. NO. 100136-155 100128-684 100056-391 100156-133 100156-133 100156-334	NO. REQ. 1 1 1 1 1 1 1 1 1 1 1		200632-014 8/31/72 SHEET 9 C
17EM NO. 136 137 138 139 140 141 142 143 144 145 146	DRAWING TITL Capacitor, Tentalum Capacitor, Polyfilm Resistor, 5%, \$\frac{1}{2}V\$ Resistor, " "	1.5uf 1.5uf 1.5uf 390 10K 33K 15K 43K 300K 390K 680K	DWG, MO. 100136-155 100128-684 100064-391 100156-103 100156-333 100156-153 100156-433	NO. REO. 1 1 1 1 1 1 1 1 1 1 1	C209 C424 R266 R421 R431 R432	
136 137 138 139 140 141 142 143 144 145	Capacitor, Tantalum Capacitor, Polyfilm Resistor, 55,jw Resistor, " jw Resistor, " "	1.5uf .68uf 390 10K 33K 15K 43K 300K 390K	100136-155 100128-684 100064-391 100156-103 100156-333 100156-153 100156-433 100156-304	1 1 1 1 1 1 1	C209 C424 R266 R421 R431 R432 R433	ARKS ON CKT. DESIG
137 138 139 140 141 142 143 144 145	Capacitor, Polyfilm Resistor, 5%, \$\frac{1}{2}\text{W} Resistor, " \frac{1}{2}\text{W} Resistor, " "	.68uf 390 10K 33K 15K 43K 300K 390K	100128-684 100064-391 100156-103 100156-333 100156-153 100156-433 100156-304	1 1 1 1 1 1	C424 R266 R421 R431 R432 R433	
138 139 140 141 142 143 144 145	Resistor, 5%, \$\frac{1}{2}V\$ Resistor, " "	390 10K 33K 15K 43K 300K 390K	100064-391 100156-103 100156-333 100156-153 100156-433 100156-304	1 1 1 1 1	R266 R421 R431 R432 R433	
139 140 141 142 143 144 145	Resistor, " "	10K 33K 15K 43K 300K 390K 680K	100156-103 100156-333 100156-153 100156-433 100156-304	1 1 1 1	R421 R431 R432 R433	
140 141 142 143 144 145	Resistor, " "	33K 15K 43K 300K 390K 680K	100156-333 100156-153 100156-433 100156-304	1 1 1 1	R431 R432 R433	
141 142 143 144 145	Resistor, " "	15K 43K 300K 390K 680K	100156-153 100156-433 100156-304	1 1 1	R432 R433	
142 143 144 145	Resistor, " " Resistor, " " Resistor, " " Resistor, " "	43K 300K 390K 680K	100156-433 100156-304	1	R433	
143 144 145 146	Resistor, " " Resistor, " " Resistor, " "	300K 390K 680K	100156-304	1		
144 145 146	Resistor, " "	390K 680K		+	R466	
145 146	Resistor, " "	680K	100156-394			
146	Resistor,			1	R468	
	Resistor, " "		100156-684	1	R509	
147		390K	100156-394	1	R511	
	Resistor, " "	43K	100156-433	<u> </u>	R532	
148						
149	Resistor, 5%, 2W	2.2K	100156-222	1	R262	
150	Resistor, " "	750	100156-751	1	R235	
151	Resistor, " "	750	100156-751	1	R251	
152	Resistor, " w	390	100064-391	1	R280	
153	Resistor, " 3W	47	100068-470	1	R269	
154	Wire, Solid Insulated		100248-924	A/R	Jumper J	l. From VV to WW.
					Jumper J	2. From GG to HH.
					Jumper J	5. From CC to DD.
					Jumper J'	7. From Y to 2.
_					Jumper J	S. From S to T.
					Jumper J	9. From P to R.
					Jumper J	ll.From W to X.
					Jumper J	l4.From G to H.
					Jumper J	15.From NN to PP.
	Jumpers J3,J4,J10,J1	2,J13,			Jumper J	16.From U to V.
	J18 not used.				Jumper J	17.From D to F.
					Jumper J	19.From A to C.
			-		Jumper J	20.From AAA to BB
155	Rework Instructions		201324	Ref.		
	150 151 152 153 154	150 Resistor, " " 151 Resistor, " " 152 Resistor, " " 153 Resistor, " " 154 Wire, Solid Insulated Jumpers J3, J4, J10, J1 J18 not used. 155 Rework Instructions	150 Resistor, " " 750 151 Resistor, " " 750 152 Resistor, " " 390 153 Resistor, " 3W 47 154 Wire, Solid Insulated Jumpers J3,J4,J10,J12,J13, J18 not used.	150 Resistor, " " 750 100156-751 151 Resistor, " " 750 100156-751 152 Resistor, " W 390 100064-391 153 Resistor, " W 47 100068-470 154 Wire, Solid Insulated 100248-924 Jumpers J3,J4,J10,J12,J13, J18 not used.	150 Resistor, " " 750 100156-751 1 151 Resistor, " " 750 100156-751 1 152 Resistor, " W 390 100064-391 1 153 Resistor, " W 390 100064-391 1 154 Wire, Solid Insulated 100248-924 A/R Jumpers J3, J4, J10, J12, J13, J18 not used. 155 Rework Instructions 201324 Ref.	150 Resistor, " " 750 100156-751 1 R235 151 Resistor, " " 750 100156-751 1 R251 152 Resistor, " " 390 100064-391 1 R260 153 Resistor, " 3

	-					
REV.	د	7	WANGEO MATER	RIAL LIST	_	ML DRAVING NO. REV.
		•	ASSY. TRANSPORT ELECTRON	***		<u> </u>
NO.	1	DRAW!	PEB 251PS 9CH. TYPE 'A	MODEL NO.	10	DATE 8/31/72 SHEET 22 OF 45
DRAWING	200632-01	ITEM NO.	DRAWING TITLE	DWG, NO.	NO. REQ.	REMARKS ON CKT. DESIG.
RA	063	136				
٥	8	137	Capacitor, Polyfilm .33	100128-334	1	C424
П	L	138	Resistor, 5%, W 39	100064-391	1	R266
2	Σ	139	Resistor, " W 15	100156-153	1	R431
		140	Resistor, " " 51K	100156-513	1	R431
		141	Resistor, " " 13K	100156-133	1	R432
		142	Resistor, " " 100g	100156-104	1	R433
		143	Resistor, " " 680K	100156-684	1	R466
		144	Resistor, " " 390K	100156-394	1	R468
		145	Resistor, " " 1.5M	100156-155	1	R509
		146	Resistor, " " 390K	100156-394	1	R511
		147	Resistor, " 100K	100156-104	1	R532
		148	Resistor, " " 3.3M	100156-335	1	R536
		149	Resistor, " " 2.2K	100156-222	1	R262
		150	Resistor, " " 750	100156-751	1	R235
		151	Resistor, " " 750	100156-751	1	9251
		152	Resistor, " 🕍 390	100064-391	1	R280
		153	Resistor, " 3W 47	100068-470	1	R269
		154	Wire, Solid Insulated	100248-924	A/R	Jumper Jl. From VV to WW.
						Jumper J2, From GG to FF.
						Jumper J6. From CC to EE.
					I	Jumper J10.From RR to 88.
						Jumper JS, From S to T.
						Jumper J9. From P to R.
						Jumper J12, From K to M.
						Jumper J14.From G to H.
						Jumper J15, From NN to PP.
			Jumpers J3,J4,J5,J7,J11			Jumper J16.From U to V.
			J18,J20 not used.			Jumper J17, From D to F.
						Jumper J19.From A to C.
						Jumper J13, From J to L.
		155	Rework Instructions	201324	Ref.	

BASIC DAISY CHAIN WITH UNIT SELECT WANGED MATERIAL LIST DRAWING NO. REV. ML 200632-018 PWB 251PS 7CH. TYPE 'A' MODEL NO. 10 DATE 8/31/72 SHEET 23 OF 45 ITEM NO. DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 136 137 Capacitor, Polyfilm .33uf 100128-334 1 C424 390 100064-391 1 R266 138 Resistor, 5%, 2W 2 139 Resistor, " 1w 15K 100156-153 1 R421 140 Resistor " 51K 100156-513 1 R431 141 Resistor, " " 13K 100156-133 1 R432 142 Resistor, " " 100K 100156-104 1 R433 143 Resistor, " " 680K 100156-684 1 R466 144 Resistor, " " 390K 100156-394 1 R468 145 Resistor, " " 1.5m 100156-155 1 R509 146 Resistor, " " 390K 100156-394 1 R511 147 Resistor, " " 100K 100156-104 1 R532 148 Resistor, " " 3.3M 100156-335 1 R536 149 Resistor, " " 2,2K 100156-222 1 R262 150 Resistor, " " 750 100156-751 1 R235 151 Resistor, " " 750 100156-751 1 R251 152 Resistor, " 1W 396 -100064-391 1 R280 153 Resistor, " 3W 47 100068-470 1 R269 154 Wire, Solid Insulated 100248-924 A/R Jumper Jl. From VV to WW. Jumper J2. From GG to FF. Jumper J6, From CC to EE. Jumper J10.From RR to SS. Jumper JS. From S to T. Jumper J9. From P to R. Jumper J12. From K to M. Jumper J14. From G to H. Jumper J15. From NN to PP. Jumpers J3,J4,J5,J7,J11. Jumper J16. From U to V. J18. not used. Jumper J17, From D. to F. Jumper J19. From A to C. Jumper J13. From J to L. 155 Rework Instructions 201324 BASIC DAISY CHAIN WITH UNIT SELECT. WANGED MATERIAL LIST ML 200632-021 DRAWING NO. REV. DRAWING PWB 451PS 9CH. TYPE'A' DATE 8/31/72 SHEET 26 OF 45 IYEM NO. DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT, DESIG. Q 136 137 Capacitor, Polyfilm .68uf 100128-684 1 C424 138 Resistor, 5%, ½W
139 Resistor, " ½W 390 100064-391 1 R266 9.1K 100156-912 1 R421 140 Resistor, " " 27K 100156-273 1 R431 141 Resistor, " " 15K 100156-153 1 R432 142 Resistor, " " 43K 100156-433 1 R433

300K 100156-304

680K 100156-684

2.2K 100156-222

750 100156-751

390 100064-391

47 100068-470

330K 100156-334 1 R468

330K 100156-334 1 R511

43K 100156-433 1 R532

750 100156-751 1 R251

1 R466

1 R509

1 R235

1 R280

100248-924 A/R Jumper J1, From VV to WW.

Jumper J2. From GG to FF. Jumper J6, From CC to EE. Jumper J10.From RR to SS. Jumper J8, From S to T. Jumper J9, From P to R. Jumper J12.From K to M. Jumper Jl4.From G to H. Jumper J15.From NN to PP.

Jumper J16.From U to V.

Jumper J17.From D to F. Jumper J19. From A to C. Jumper J13.From J to L.

143 Resistor, " "

144 Resistor, " "

145 Resistor, " "

146 Resistor, " "

147 Resistor, " "

149 Resistor, " "

150 Resistor, " "

151 Resistor, " "

152 Resistor, " 1w

153 Resistor, " 3W

154 Wire, Solid Insulated

Jumpers J3, J4, J5, J7, J11,

155 Rework Instructions

J18,J20 not used.

148

ě	키	1	WANGCO	MATERI	AL LIST	=	ML	DRAWING NO. 200632-022	RE
è	2	DRAWN	ASSY. TRANSPORT ELE		MODEL NO	10	DATE 8/	31/72 SHEET 27 OF	
BING	200632-022	ITEM NO.	DRAWING TIT	LE	DWG. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG	
Ž	8	136							
٩	ĕ	137	Capacitor, Polyfilm	.68uf	100128-684	1	C424		
Ξ	J	138	Resistor, 5%, 3W	390	100064-391	1	R266		
2	Ξ	139	Resistor, " W	9.1K	100156-912	1	R421		
	٦	140	Resistor, " "	27K	100156-273	1	R431		
		141	Resistor, " "	15K	100156-153	1	R432		
	-	142	Resistor, " "	43K	100156-433	1	R433		
		143	Resistor, " "	300K	100156-304	1	R466		
		144	Resistor, " "	330K	100156-334	1	R468		
		145	Resistor, " "	680K	100156-684	1	R509		
	1	146	Resistor, " "	330K 4	100156-334	1	R511		
	ſ	147	Resistor, " "	43K	100156-433	1	R532		
	1	148							
	1	149	Resistor, " "	2.2K	100156-222	1	R262		
	1	150	Resistor, " "	750	100156-751	1	R235		
	1	151	Resistor, " "	750	100156-751	1	R251		
	١	152	Resistor, " ½W	390	100664-361	1	R280		
	Ī	153	Resistor, " 3W	47	100068-470	1	R269		
	-	154	Wire, Solid Insulat	ed	100248-924	A/R	Jumper J	1. From VV to WW	
	1						Jumper J	2. From GG to FF	
							Jumper J	6. From CC to EE.	
	Ì						Jumper J	10.From RR to SS	
	ı						Jumper J	8. From S to T.	
	ı						Jumper J	9. From P to R.	
	ı						Jumper J	12.From K to M.	
	Ì						Jumper J	14.From G to H.	
							Jumper J	15.From NN to PP	
	ı		Jumpers J3,J4,J5,J7	,J11,			Jumper J	16.From U to V.	
	1		J18, not u	sed.			Jumper J	17.From D to F.	
	Ì						Jumper J	19.From A to C.	
	Ì					T	Jumper J	13.From J to L.	

201324

Ref.

Jumper J20. From AAA to BBB.

BASIC DAISY CHAIN WITH UNIT SELECT

390 100064-391 1 R266

10K 100156-103 1 R421

33K 100156-333 1 R431

15K 100156-153 1 R432

43K 100156-433 1 R433

300K 100156-304 1 R466

390K 100156-394 1 R468

680K 100156-684 1 R509

390K 100156-394 1 R511

2.2K 100156-222 1 R262

750 100156-751 1 R235

750 100156-751 1 R251

390 100064-391 1 R280

47 100068-470 1 R269

43K 100156-433 1

201324

Ref.

WANGED MATERIAL LIST

137 Capacitor, Polyfilm .68uf 100128-684

ASSY, TRANSPORT ELECTRONICS

DRAWING TITLE PWB 372IPS 9CH. TYPE 'A'

138 Resistor, 5%, ½w
139 Resistor, " ¿w

140 Resistor, " "

141 Resistor, " "

142 Resistor, " "

143 Resistor, " "

144 Resistor, " "

145 Resistor, " "

146 Resistor, " "

147 Resistor, " "

149 Resistor, " "

151 Resistor, " "

153

Resistor, " "

Resistor, " 1W

Resistor, " 3W

154 Wire, Solid Insulated

Jumpers J3, J4, J5, J7, J11,

155 Rework Instructions

DRAWING TITLE

DRAWING NO. REV.

U

ML 200632-019

MODEL NO. 10 DATE 8/31/72 SHEET 24 OF 45

DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.

R532

100248-924 A/R Jumper Jl. From VV to WW.

Jumper J2. From GG to FF.

Jumper J6. From CC to EE. Jumper J10.From RR to SS.

Jumper JS. From S to T. Jumper J9. From P to R.

Jumper Jl2.From K to M.

Jumper J14. From G to H. Jumper J15.From NN to PP.

Jumper J16.From U to V.

Jumper J17. Prom D to F.

gumper J19.From A to C.

Jumper Jl3.From J to L.

			BASIC DAISY CHAIN	WITH UNIT	SELECT.	
RE.	\supset	7	WANGCO MATERI	AL LIST	_	ML 200632-020 U
H	t		INCORPORATED			100000
ė		DRAWN TITLE	ASSY, TRANSPORT ELECTRONICS PWB 37 1PS 7CH. TYPE 'A'	_ MODEL NO	10	DATE 8/31/72 SHEET 25 OF 45
DRAWING	200632-020	ITEM NO.	DRAWING TITLE	DWG. NO.	NO, REQ.	REMARKS ON CKT. DESIG.
2	632	136				
ľ	200	137	Capacitor, Polyfilm .68uf	100128-684	1	C424
Г		138	Resistor, 5%, ½W 390	100064-391	1	R266
	Σ	139	Resistor, " 🔐 10K	100156-103	1	R421
_		140	Resistor, " " 33K	100156-333	1	R431
		141	Resistor, " " 15K	100156-153	1	R432
		142	Resistor, " " 43K	100156-433	1	R433
		143	Resistor, " " 300K	100156-304	1	R466
		144	Resistor, " " 390K	100156-394	1	R468
		145	Resistor, " " 680K	100156-684	1	R509
		146	Resistor, " " 390K	100156-394	1	R511
		147	Resistor, " " 43K	100156-433	1	R532
		148				
		149	Resistor, " " 2.2K	100156-222	1	R262
		150	Resistor, " " 750	100156-751	1	R235
		151	Resistor, " " 750	300156-751	1	R251
		152	Resistor, " W 390	100064-391	1	R280
		153	Resistor, " 3W 47	100068-470	1	R269
		154	Wire, Solid Insulated	100248-924	A/R	Jumper Jl. From VV to WW.
						Jumper J2, From GG to FF.
						Jumper J6, From CC to EE.
						Jumper J10.From RR to SS.
						Jumper J8. From S to T.
						Jumper J9. From P to R.
			3.00			Jumper J12. From K to M.
						Jumper J14. From G to H.
						Jumper J15. From MN to PP.
			Jumpers J3,J4,J5,J7,J11,			Jumper J16. From U to V.
		<u> </u>	J18, not used.		Ţ	Jumper J17, From D to F.
						Jumper J19. From A to C.
						Jumper J13. From J to L.
		155	Rework Instructions	201324	Ref.	l
						Jumper J20. From AAA to BBB.

BASIC	DAISY	CHAIN	WITHOUT	UNIT	SELECT	

REV.	Э	71	WANGCO _	ATERI	AL LIST	=	ML	DRAWING NO. 200632-023	REV.
٦	Н		ASSY. TRANSPORT ELE	CTRONICS	ı				
2	9	DRAWIN	PWB 251PS 9CH.TY	PE'P'	MODEL NO	10	DATE 4/3	31/72 SHEET 28 0	<u>-45</u>
DRAWING	200632-023	ITEM NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REM.	ARKS ON CKT. DESIG	
A A	063	136	Capacitor, Tantalum	1.5uf	100136-155	1	C209		
	20	137	Capacitor, Polyfilm	.33uf	100128-334	1	C424		
1	_	138	Resistor, 5%, 2W	390	100064-391	1	R266		
1	Σ	139	Resistor, " W	15K	100156-153	1	R421		
		140	Resistor, " "	51K	100156-513	1	R431		
		141	Resistor, " "	13K	100156-133	1	R432		
		142	Resistor, " "	100K	100156-104	1	R433		
	1	143	Resistor, " "	680K	100156-684	1	R466		
		144	Resistor, " "	390K	100156-394	1	R468		
		145	Resistor, " "	1.5M	100156-155	1	R509		
		146	Resistor, " "	390K	100156-394	1	R511		
		147	Resistor, " "	100K	100156-104	1	R532		
		148	Resistor, " "	3.3м	100156-335	1	R536		
		149	Resistor, " "	2.2K	100156-222	1	R262		
		150	Resistor, " "	750	100156-751	ı	R235		
		151	Resistor, " "	750	100156-751	1	R251		
		152	Resistor, " 1W	390	100064-391	1	R280		
		153	Resistor, " 3w	47	100068-470	1	R269		
		154	Wire, Solid Insulated		100248-924	A/R	Jumper .	Jl. From VV to W	7.
							Jumper .	J2. From GG to Hi	ſ.
							Jumper .	16. From CC to Di	
							Jumper .	77. From Y to Z.	
							Jumper .	J8. From S to T.	
							Jumper .	J9. From P to R.	
							Jumper .	Jll.From W to X.	-
							Jumper .	J14.From G to H.	
							Jumper .	J15.From NN to P	P
		П	Jumpers J3,J4,J5,J10,	J12,			Jumper .	Jl6.From U to V.	
			J13,J20 not us	ed			Jumper .	J17.From D to F.	
							Jumper .	J19.From A to C.	
								118.From TT to U	J
		155	Rework Instructions		201324	Ref.	<u> </u>		

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C

			Jumper J2, From GG to AA.	1			L		Sumper 32. From Go to Mr.				1	1	Jumper J2. From GG to HH.
		i	Jumper J6, From CC to DD.				L1		Jumper J6. From CC to DD.				L	ll	Jumper J6. From CC to DD.
			Jumper J7. From Y to Z.	- [Jumper J7, From Y to Z.						Jumper J7. From Y to Z.
			Jumper J8. From S to T.						Jumper J8. From S to T.				[Jumper JS. From S to T.
			Jumper J9. From P to R.						Jumper J9. From P to R.						Jumper J9. From P to R.
			Jumper Jll.From W to X.						Jumper Jll.From W to X.						Jumper Jll.From W to X.
			Jumper Jl4.From G to H.						Jumper J14, From G to H.						Jumper J14.From G to H.
			Jumper J15.From NN to PP.						Jumper J15.From NN to PP.						Jumper J15.From NN to PP.
J3,J4,J5,J10,J12,			Jumper J16.From U to V.			Jumpers J3,J4,J5,J10,J12,			Jumper J16.From U to V.			Jumpers J3, J4, J5, J10, J12,	 	1	Jumper J16.From U to V.
J13, not used.			Jumper J17.From D to F.			J13,J20 not used.			Jumper J17, From D to F.			J13 not used			Jumper J17.From D to F.
			Jumper J19. From A to C.		-				Jumper J19.From A to C.		\vdash		 		Jumper J19.From A to C.
			Jumper J18.From TT to UU.		-				Jumper J18.From TT to UU.		\vdash		†		Jumper J18.From TT to UU.
Instructions	201324	Ref.			155	Rework Instructions	201324	Ref.			155	Rework Instructions	201324	Ref.	
			Jumper J20.From AAA to BBB.	1			· · · · · · · · · · · · · · · · · · ·							1	Jumper J20.From AAA to BBB.
BASIC DAISY CHA:		T SELECT				BASIC DAISY CHAI	IN WITHOUT UNIT	r select	<u>. </u>			BASIC DAISY	CHAIN WITHOUT	UNIT SE	LECT.
ANGCO MATERI	AL LIST		ML DRAWING NO. REV.	ر نے	70.7	WANGCO MATERI	AL LIST		ML 200632-028 LI	ے نے	7	WANGED MATER	IAL LIST		ML 200632-029 1
OIII OMAILE			VIL 200632-027			INCORPORATED		==	200632-028 U		1	INCORPORATED			200632-029
Y.TRANSPORT ELECTRONICS B 451PS 9CH.TYPE 'P'	MODEL NO	10	DATE 8/31/72 SHEET 32 OF 45	فِ ا	DRAWIN	ASSY.TRANSPORT ELECTRONICS PWB 451PS 7CH.TYPE 'P'	MODEL NO	10	DATE 8/31/72 SHEET 33 OF 45	ا فا	DRAWA	ASSY, TRANSPORT ELECTRONICS PWB 251PS 9CH, TYPE 'A'	MODEL NO.	10	DATE 8/31/72 SHEET 34 OF 45
	Ţ	NO. REQ.		2 8 2 8	<u> </u>	DRAWING TITLE	DWG, NO.	NO. REQ.	,	9 8	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	
DRAWING TITLE	DWG. NO.		REMARKS ON CKT. DESIG.	332-	NO.				C209	A W 11	NO. 136	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
tor, Tantalum 1.5uf	100136-155	1	C209	8000	136	Capacitor, Tantalum 1.5uf		1	 	2 8	<u> </u>		 	 i	
tor, Polyfilm .68uf	100128-684	1	C424	بلل إ	137	Capacitor, Polyfilm .68uf	+	1	C424	 - -	137	Capacitor, Polyfilm .33uf	+	1	C424
or, 5%, ½₩ 390	100064-391	1	R266	اٰ	138	Resistor, 5%, 2W 390		1	R266	I	138	Resistor, 5%, 2W 390	+	1	R266
or, " W 9.1K	100156-012	1	R421		139	Resistor, " W 9.1K		1	R421	<u> </u>		Resistor, " 4W 15K	 	1	R421
or, " " 27K	100156-273	1	R431	l	140	Resistor, " " 27K		1	R431		140	Resistor, " " 51K	+	1	R431
or, " " 15K	100156-153	1	R432	l	141	Resistor, " " 15K		1	R432		141	Resistor, " " 13K		1	R432
or, " " 43K or, " " 300K or, " " 330K or, " " 680K	100156-433	1	R433	į	142	Resistor, " " 43K		1	R433	ĺ	142	Resistor, " 100K	100156-104	1	R433
or, " " 300K	100156-304	1	R466		143	Resistor, " " 300K	100156-304	1	R406		143	Resistor, " " 680K	100156-684	1	R466
or, " " 330K	100156-334	1	R468	Ì	144	Resistor, " " 330K	100156-334	1	R468		144	Resistor, " " 390K	·	1	R468
or, " " 680K	100156-684	1	R509	l	145	Resistor, " " 680K	100156-684	1	R509		145	Resistor, " " 1.5m	100156-155	1	R509
or, " " 330K	100156-334	1	R511]	146	Resistor, " " 330K	100156-334	1	R511		146	Resistor, " " 390K	100156-394	1	R511
or, " " 330K	100156-433	1	R532	J	147	Resistor, " " 43K	100156-433	1	R532		147	Resistor, H H 100K	100156-104	1	R532
		Ĺ			148						148	Resistor, " " 3.3M	100156-335	1	R536
or, " " 2.2K	100156-222	1	R262		149	Resistor, " " 2.2K	100156-222	1	R262		149	Resistor, " " 2.2K	100156-222	1	R262
or, " " 750	100156-751	1	R235		150	Resistor, " " 750	100156-751	1	R235		150	Resistor, " " 750	100156-751	1	R235
or, " " 750	100156-751	1	R251]	151	Resistor, " " 750	100156-751	1	R251		151	Resistor, " " 750	100156-751	1	R251
or, " ½W 390	100064-391	1	R280	1	152	Resistor, " ½W 390	100064-391	1	R280	l	152	Resistor, " 1 390	100064-391	1	R280
or, " 3W 47	100068-470	1	R269]	153	Resistor, " 3W 47	100068-470	1	R269	l	153	Resistor, " 3W 47	100068-470	1	R269
Solid Insulated	100248-924	A/R	Jumper Jl. From VV to Ww.].	154	Wire, Solid Insulated	100248-924	A/R	Jumper Jl. From VV to WW.		154	Wire, Solid Insulated	100248-924	A/R	Jumper Jl. From VV to WW.
	1		Jumper J2. From GG to HH.				i i		Jumper J2. From GG to HH.	1					Jumper J2. From GG to FF.
		1	Jumper J6. From CC to DD.	1					Jumper J6. From CC to DD.	1					Jumper J6. From CC to KE.
	1		Jumper J7. From Y to Z.	1					Jumper J7. From Y to Z.	l				1	Jumper J10.From RR to SS.
	 -	†	Jumper JS. From S to T.	1	_		 		Jumper J8. From S to T.	l					Jumper JS. From S to T.
	1		Jumper J9. From P to R.	1	\vdash		†		Jumper J9. From P to R.	1		*****			Jumper J9, From P to R.
	 	 	Jumper Jll.From W to X.	1	<u> </u>		1		Jumper Jll.From W to X.	1		-	 		Jumper J12.From E to M.
	†	1	Jumper J14.From G to H.	1	\vdash		 		Jumper J14.From G to H.	ł			†	1	Jumper J14.From G to H.
	 		Jumper J15.From NN to PP.	1					Jumper J15.From NN to PP.	1			 		Jumper J15.From NN to PP.
rs J3,J4,J5,J10,J12,	 	\top	Jumper J16.From U to V.	1	\vdash	Jumpers J3,J4,J5,J10,J12,			Jumper J16.From U to V.]		Jumpers J3,J4,J5,J7,J11,			Jumper J16, From U to Y.
J13.J20 not used.	1		Jumper J17.From D to F.	1		J13 not used.	 	1	Jumper J17.From D to F.	1		J20 not used,	†	İ	Jumper J17.From D to F.
	†	1	Jumper J19.From A to C.	1					Jumper J19.From A to C.	1			 	1	Jumper J19.From A to C.
	1		Jumper J18.From TT to UU.]			†		Jumper J18.From TT to UU.]					Jumper J18.From TT to UU.
k Instructions	201324	Ref.		I	155	Rework Instructions	201324	Ref.]	155	Rework Instructions	201324	Ref.	
				_		1			Jumper J20.From AAA to BBB.		-	· · · · · · · · · · · · · · · · · · ·			Jumper Jl3.From J to L.
															*

BASIC DAISY CHAIN WITHOUT UNIT SELECT.

DWG. NO. NO. REQ.

390 100064-391 1 R266

10K 190156-103 1 R421

33K 100156-333 1 R431

43K 100156-433 1 R433

390K 100156-394 1 R468

680K 100156-684 1 R509

390K 100156-394 1 R511

750 100156-751 1 R235

47 100068-470 1 R269

100248-924 A/R

15K 100156-153 1

300K 100156-304 1

43K 100156-433 1

2.2K 100156-222 1

750 100156-751 1

390 100064-391

DRAWING NO. REV.

ITEM NO.

138 Resistor, 5%, ½W
139 Resistor, " ¼W

140 Resistor, " "

141 Resistor, " "

142 Resistor, " "

143 Resistor, " "

144 Resistor, " "

145 Resistor, " "

146 Resistor, " "

147 Resistor, " "

149 Resistor, " "

150 Resistor, " "

151 Resistor, " "

152 Resistor, " 1W

153 Resistor, " 3W

154 Wire, Solid Insulated

148

DRAWING TITLE

ML 200632-025 U

MODEL NO. 10 DATE 8/31/72 SHEET 30 OF 45

R432

R466

R251

R280

Jumper Jl. From VV to WW.

Jumper J2. From GG to HH.

WANGED MATERIAL LIST

136 Capacitor, Tantalum 1.5uf 100136-155 1 C209 137 Capacitor, Polyfilm .68uf 100128-684 1 C424

ASSY TRANSPORT ELECTRONICS
DRAWING
TITLE

PWB 3721PS 9CH. TYPE 'P'

ITEM DRAWING TITLE

138 Resistor, 5%, 1W

2 139 Resistor, " ‡W

140 Resistor, " "

141 Resistor, " "

142 Resistor, " "

143 Resistor, " "

144 Resistor, " "

145 Resistor, " "

146 Resistor, " "

147 Resistor, " "

149 Resistor, " "

150 Resistor, " "

151 Resistor, " "

152 Resistor, " ½W

153 Resistor, " 3W

154 Wire, Solid Insulated

148

	ı	- 1		- 1	- 1	1	oumper official and to it.
	ı		Jumpers J3,J4,J5,J10,J12,				Jumper J16.From U to V.
	1		J13, not used.				Jumper J17.From D to F.
	Ì						Jumper J19. From A to C.
	Ī						Jumper J18. From TT to UU.
	ĺ	155	Rework Instructions		201324	Ref.	
	•						Jumper J20.From AAA to BBB.
_	_		BASIC DAISY	CHAI	N WITHOUT UNI	T SELECT	<u>. </u>
REV.	כ	1	NANGCO MAT	ERI	AL LIST		ML 200632-027 13
_	-	4	INCORPORATED	W 1 0 0			200632-027
ě		DRAWII TITL	ASSY.TRANSPORT ELECTRO PWB 451PS 9CH.TYPE 'I		MODEL NO	10	DATE 8/31/72 SHEET 32 OF 45
	22			=			
-	32-	NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
DRAWING	200632-027	136	Capacitor, Tantalum 1.	5uf	100136-155	1	C209
	Ľ	137		8uf	100128-684	1	C424
=	┙	138	Resistor, 5%, 2W	390	100064-391	1	R266
_	≥	139		.lk	100156-012	1	R421
		140	Resistor, " "	27K	100156-273	1	R431
		141	Resistor, " "	15K	100156-153	1	R432
		142	Resistor, " "	43K	100156-433	1	R433
		143	Resistor, " "	300K	100156-304	1	R466
		144	Resistor, " "	330K	100156-334	1	R468
		145	Resistor, " "	80K	100156-684	1	R509
		146	Resistor, " "	330K	100156-334	1	R511
		147	Resistor, " "	43K	100156-433	1	R532
		148				Ī	
		149	Resistor, " "	2.2K	100156-222	1	R262
		150	Resistor, " "	750	100156-751	1	R235
		151	Resistor, " "	750	100156-751	1	R251
		152	Resistor, " ½W	390	100064-391	1	R280
		153	Resistor, " 3W	47	100068-470	1	R269
		154	Wire, Solid Insulated		100248-924	A/R	Jumper Jl. From VV to WW.
		<u> </u>	 		1		Jumper J2. From GG to HH.
							Jumper J6. From CC to DD.
		\vdash					Jumper J7. From Y to Z.
		\vdash			 	†	Jumper J8. From S to T.
		\vdash					Jumper J9. From P to R.
		-	 		 	+	Jumper Jll.From W to X.
		├	 		 		Jumper J14. From G to H.
		├				+	Jumper J15.From NN to PP.
		├-	Jumpers J3,J4,J5,J10,J1	,	 	 	
			Jumpers 33,34,35,310,31	<u>.,</u>	 	 	Jumper J16.From U to V.

BASIC DAISY CHAIN WITHOUT UNIT SELECT.

390 100064-391 1 R266

15K 100156-153 1 R421

51K 100156-513 1 R431

13K 100156-133 1 R432

100K 100156-104 1 R433

680K 100156-684 1 R466

390K 100156-394 1 R468

1.5M 100156-155 1 R509

390K 100156-394 1 R511

100K 100156-104 1 R532

3.3M 100156-335 1 R536

2.2K 100156-222 1 R262

750 100156-751 1 R235

750 100156-751 1 R251

390 100064-391 1 R280

47 100068-470 1 R269

100248-924 A/R Jumper J1. From VV to WW.

Jumper J2. From GG to HH.

DRAWING NO. REV.

ML 200632-024

MODEL NO. 10 DATE 8/31/72 SHEET 29 OF 45

DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.

WANGCO MATERIAL LIST

136 Capacitor, Tantalum 1.5uf 100136-155 1 C209

137 Capacitor, Polyfilm .33uf 100128-334 1 C424

DRAWING TITLE PWB 251PS 7CH, TYPE 'P'

____ 138 Resistor, 5%, 3W 2 139 Resistor, " w

140 Resistor, " "

141 Resistor, " "

142 Resistor, " "

143 Resistor, " "

144 Resistor, " "

145 Resistor, " "

146 Resistor, " "

147 Resistor, " "

148 Resistor, " "

149 Resistor, " "

150 Resistor, " "

151 Resistor, " "

152 Resistor, " ½W

153 Resistor, " 3W

154 Wire, Solid Insulated

155 Rework Instructions

DRAWING TITLE

	- 1					o-per o	J. From P to R.	
	1					Jumper J	ll.From W to X.	
						Jumper J	14.From G to H.	
						Jumper J	15. From NN to PP.	
			Jumpers J3,J4,J5,J10,J12,			Jumper J	16.From U to V.	
			J13 not used			Jumper J	17.From D to F.	
	1					Jumper J	19.From A to C.	
	i					Jumper J	18.From TT to UU.	
		155	Rework Instructions	201324	Ref.			
						Jumper J	20. From AAA to BBE	
			BASIC DAISY	CHAIN WITHOUT	UNIT SE	LECT.		
REV.	\Box	1	WANGEO MATERI	AL LIST		ML	DRAWING NO. 200632-029	REV.
		•	ASSY, TRANSPORT ELECTRONICS					_
ĝ	59	DRAW	PWB 251PS 9CH.TYPE 'A'	MODEL NO	10	DATE 8/	31/72 SHEET 34 OF	<u>45</u>
DRAWING	300632-029	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG.	
N X	900	136						
	-	137	Capacitor, Polyfilm .33uf	100128-334	1	C424		
=	닐	138	Resistor, 5%, 2W 390	100064-391	1	R266		
	≥	139	Resistor, " W 15K	100156-153	1	R421		
		140	Resistor, " " 51K	100156-513	1	R431	···	
		141	Resistor, " " 13K	100156-133	1	R432		
		142	Resistor, " " 100K	100156-104	1	R433		
		143	Resistor, " " 680K	100156-684	1	R466		
		144	Resistor, " " 390K	100156-394	1	R468		
		145	Resistor, " " 1.5m	100156-155	1	R509		
		146	Resistor, " " 390K	100156-394	1	R511		
		147	Resistor, " 100K	100156-104	1	R532		
		148	Resistor, " " 3.3M	100156-335	1	R536		
		149	Resistor, " " 2.2K	100156-222	1	R262		
		150	Resistor, " " 750	100156-751	1	R235		
		151	Resistor, " " 750	100156-751	1	R251		
		152	Resistor, " 🔐 390	100064-391	1	R280		
		153	Resistor, " 3W 47	100068-470	1	R269		
		154	Wire, Solid Insulated	100248-924	A/R	Jumper J	1. From YV to WW.	
						Jumper J	2. From GG to FF.	
	Ì					Jumper J	6. From CC to EE.	
						Jumper J	10.From RR to SS.	
						Jumper J	8. From S to T.	
						Jumper J	9. From P to R.	
	1					Jumper J	12.From K to M.	
						Jumper J	14.From G to H.	
							15.From NN to PP.	
			Jumpers J3,J4,J5,J7,J11,				16.From U to V.	
			J20 not used.				17.From D to F.	
							19.From A to C.	
							18.From TT to UU.	
		155	Rework Instructions	201324	Ref.			
						Jumper .	13.From J to L.	

MATERIAL LIST ML DRAWING NO. REV. 100 DRAWING NO. REV. 200632-026 U.

DRAWING PRE 372 IPS 7CH. TYPE 'P' MODEL NO. 10 DATE 31/72 SHEET 31 or 45

390 100064-391 1 R266

10K 100156-103 1 R421

33K 100156-333 1 R431

15K 100156-153 1 R432

43K 100156-433 1 R433

300K 100156-304 1 R466

390K 100156-394 1 R468

680K 100156-684 1 R509

390K 100156-394 1 R511

2.2K 100156-222 1 R262

750 100156-751 1 R235

750 100156-751 1 R251 390 100064-391 1 R280

47 100068-470 1 R269

100248-924 A/R Jumper Jl. From VV to WW.

Jumper J2. From GG to HH.

43K 100156-433 1 R532

BASIC DAISY CHAIN WITHOUT UNIT SELECT.

| 136 | Capacitor, Tantalum | 1.5uf | 100136-155 | 1 | C209 | | 137 | Capacitor, Polyfilm | .68uf | 100128-684 | 1 | C424 |

DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.

201324

		BASIC DAISY CHAIN	ALLHOUT CALL	SELECT.	
Ы	70.7	TWANGED HATERI	AL LIST		MI BRAVING NO. REV.
П	L	INCORPORATED			IVIL 200632-031 U
П	DRAWIN	ASSY, TRANSPORT ELECTRONICS PMB 37-1PS 9CH, TYPE 'A'	MODEL NO	- 10	DATE 8/31/72 SHEET 36 OF 45
=					
200632-031	17 EM NO.	DRAWING TITLE	DVG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
90	136				
Ž	137	Capacitor, Polyfilm ,68uf	100128-684	1	C424
ᅬ	138	Resistor, 5%, W 390	100064-391	1	R266
≥	139	Resistor, " W 10K	100156-103	<u> </u>	R421
l	140	Resistor, " " 33K	100156-333	1	R431
ı	141	Resistor, " " 15K	100156-153	1	R432
١	142	Resistor, " " 43K	100156-433	1	R433
ı	143	Resistor, " " 300K	100156-304	1	R466
١	144	Resistor, " " 390K	100156-394	1	R468
- 1	145	Resistor, " 680K	100156-684	1	R509
- [146	Resistor, " 390K	100156-394	1	R511
. (147	Resistor, " " 43K	100156-433	1	R532
- [148				
- [149	Resistor, " " 2.2K	100156-222	1	R262
	150	Resistor, " 750	100156-751	1	R235
- [151	Resistor, " 750	100156-751	1	R251
	152	Resistor, " ½₩ 390	100064-391	1	R280
- 1	153	Resistor, " 3V 47	100068-470	1	R269
	154	Wire, Solid Insulated	100248-924	A/R	Jumper Jl. From VV to WW.
					Jumper J2. From GG to FF.
					Jumper J6. From CC to EE.
					Jumper J10.From RR to SS.
					Jumper J8. From S to T.
					Jumper J9. From P to R.
					Junper J12.From K to M.
					Jumper J14.From G to H1
					Jumper J15.From NN to PP.
		Jumpers J3,J4,J5,J7,J11,			Jumper J16.From U to V.
		J20 not used.			Jurper 317.From D to F.
					Jumper J19.From A to C.
					JUMPER JIB FROM IT TO UU JUMPER JIB FROM I TO L
	155	Rework Instructions	201324	Ref.	<u> </u>
_		TTRK .			for "A" blut
1	MANUA	L DENSITY BASIC DAISY C	HAIN WITHOUT	UNIT SEL	ECT. QG-
	-	TWONESS MATERI	AL LIST		DRAWING NO. REV.
7	T,	WANGCO MATERI		=	ML 200632-035 U

T	7	7	ATERI	AL LIST		DRAWING NO.	REV.
	Z.	WANGCO -			=	VIL 200632-035	Ü
	DRAWIN	ASSY. TRANSPORT ELEC PWB 451PS 7CH. TYP		MODEL NO	10	DATE 8/31/72 SHEET 40 OF 4	5
	NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.	
Г	136						
	137	Capacitor, Polyfilm	.68uf	100128-684	1	C424	
L	138	Resistor, 5%, ½₩	390	100064-391	1	R266	
	139	Resistor, " 🕍	9.1K	100156-912	1	R421	
Т	140	Resistor, " "	27K	100156-273	1	R431	
Γ	141	Resistor, " "	15K	100156-153	1	R432	
Γ	142	Resistor, " "	43K	100156-433	1	R433	
Γ	143	Resistor, " "	300K	100156-304	1	R466	
r	144	Resistor, " "	330K	100156-334	1	R468	
T	145	Resistor, " "	680K	100156-684	1	R509	
r	146	Resistor, " "	330K	100156-334	1	R511	
r	147	Resistor, " "	43K	100156-433	1	R532	
r	148						
T	149	Resistor, " "	2.2K	100156-222	1	R262	
r	150	Resistor, " "	750	100156-751	1	R235	
t	151	Resistor, " "	750	100156-751	1	R251	
r	152	Resistor, " 1W	390	100064-391	1	R280	
i	153	Resistor, " 3W	47	100068-470	ì	R269	
r	154	Wire, Solid Insulated	l	100248-924	A/R	Jumper Jl. From VV to WW.	
t						Jumper J2, From GG to FF.	
r						Jumper J6. From CC to EE.	
t						Jumper J10.From RR to SS.	
t						Jumper J8. From S to T.	
t						Jumper J9. From P to R.	
t						Jumper J12.From K to M.,	,
ł						Jumper J14.From G to H.,	7
ł					X	Jumper J15, From MM to PP.	N
t		Jumpers J3, J4, J5, J7, J	11,			Jumper J16.From U to V.	
t		J20 not use			X		احر
t					X	Jumper J19.From A to B.	4 -
t						Jumper J18.From TT to UU. Jumper J13.From J to L.	
t	155	Rework Instructions		201350	Ref.		

_	, ,		BASIC DAISY CHAI	N WITHOUT CNI	SELECT	·
Š	2	T	WANGED MATERI	AL LIST	=	ML 200632-032 (1
Н	Н	1	INCORPORATED			200632-032
ĝ	332	DRAWIN TITLE	ASSY.TRANSPORT ELECTRONICS PWB 3711PS 7CH.TYPE 'A'	MODEL NO	10	DATE 8/31/72 SHEET 37 OF 45
ž	35-(NO.	DRAWING TITLE	DWG, NO.	NO. REQ.	REMARKS ON CKT. DESIG.
RAWING	200632-032	136				
ľ	["]	137	Capacitor, Polyfilm .68uf	100128-684	1	C424
Γ.		138	Resistor, 5%, W 390	100064-391	1	R266
12	Σ	139	Resistor, " w 10K	100156-103	1	R421
_		140	Resistor, " " 33K	100156-333	1	R431
		141	Resistor, " " 15K	100156-153	1	R432
		142	Resistor, " " 43K	100156-433	1	R433
		143	Resistor, " " 300K	100156-304	1	R466
		144	Resistor, "" 390K	100156-394	1	R468
		145	Resistor;" " 680K	100156-684	1	R509
		146	Resistor, " " 390K	100156-394	1	R511
		147	Resistor, " " 43K	100156-433	1	R532
		148				
		149	Resistor, " " 2.2K	100156-222	1	R262
		150	Resistor, " " 750	100156-751	1	R235
		151	Resistor, " " 750	100156-751	1	R251
		152	Resistor, " ½W 390	100064-391	1	R280
		158	Resistor, " 3W 47	100068-470	1	R269
		154	Wire, Solid Insulated	100248-924	A/R	Jumper Jl. From VV to WW.
						Jumper J2. From GG to FF.
						Jumper J6. From CC to EE.
						Jumper J10.From RR to SS.
		,				Jumper J8. From S to T.
						Jumper J9. From P to R.
						Jumper J12.From K to M.
						Jumper J14.From G to H.
						Jumper J15.From NN to PP.
			Jumpers J3,J4,J5,J7,J11,			Jumper J16.From U to V.
			not used.			Jumper J17.From D to F.
						Jumper J19.From A to C.
						Jumper J13.From J to L. Jumper J18.From TT to UU.
		155	Rework Instructions	201324	Ref.	
						Jumper J20. From AAA to BBB.

BASIC DAISY CHAIN WITHOUT UNIT SELECT.

_	MATU	T DESSITY BASIC DAISY	CHVIN ALLHOIL	'YIT SEI	ECT.
2	1	WANGCO HATER		==	ML 200632-037 U
37	CRAW!	ASSY. TRANSPORT ELECTRONIC FOR 45 IPS 7CH. TVPE 'A'	WODELNO.	10	DATE 8/30/73 SHEET 42 0.45
200632-03		DRAWING TITLE	2-3, NO.	NO. 950	REWARNS ON CKT, CISIG.
063	136				
2 0	137	Capacitor, Polyfilm .684	100128-684	1	C424
	138	Resistor, 5%, W 39	100064-391	1	R266
Σ	139	Resistor, " iv 9.1	100156-912	1	R421
	140	Resistor, " " 27	100156-273	1	R431
	141	Resistor, " " 15	100156-153	1	R432
	142	Resistor, " " 43	100156-433	1	R433
	143	Resistor, " " 300	100156-304	1	R466
	144	Resistor, " " 330	100156-334	1	R468
	145	Resistor, " " 6801	100156-684	1	R509
	146	Resistor, " " 330	100156-334	1	R511
	147	Resistor, " " 431	100156-433	1	R532
	148				
	149	Resistor, " " 2.2	100156-222	1	R262
	150	Resistor, " " 750	100156-751	1	R235
	151	Resistor, " 750	100156-751	1	R251
	152	Resistor, " w 390	100064-391	1	£280
	153	Resistor, " 34 4	100068-470	1	R269
	154	Wire, Solid Insulated	100248-924	A./R	Jumper Jl. From VV to WW.
					Jumper J2. From GG to FF.
					Jumper J6. From CC to EE.
					Jumper J10.From RR to SS.
					Jumper J8. From S to T.
					Jumper J9, From P to R.
٧.					Jumper Jl2.From K to M.
					Jumper J14.From G to H.
	1				Juner 315, From MY to PP.
		Jumpers J3,J4,J5,J11			Jumper 316.From t to V.
ν I	-	J20 not used			Jurper J17.From D to E.
					Jumper 319.Free A to B.
					Junior Markey Tr to UK. Survey 112. From J to L.
	155	Revork Instructions	201424	Ref.	SOT Y MORE TO E

BASIC DAISY CHAIN WITHOUT UNIT SELECT.

\supset	7	WANGCO _	ATERI	AL LIST	_	М	DRAVING NO.	REV.
_	1	INCORPORATED				LAIL	200632-093	U
	DRAWII	ASSY.TRANSPORT ELECT		_ MODEL NO	10	DATE 8/	31/72 SHEET 38 0	45
33	ITEM	Allega magazine	Louisian Constitution	·				
200632-033	NO.	ORAWING TITLE		DWG. NO.	NO. REQ.	REM	ARKS ON CKT. DESIG	
9063	136							
×	137	Capacitor, Polyfilm	.68uf	100128-684	1	C424		
7	138	Resistor, 5%, W	390	100064-391	1	R266	· · · · · · · · · · · · · · · · · · ·	
<u>≥</u>	139	Resistor, " ¼W	9.1K	100156-912	1	R421		
	140	Resistor, " "	27K	100156-273	1	R431		
	141	Resistor, " "	15K	100156-153	1	R432	 	
	142	Resistor, " "	43K	100156-433	1	R433		
	143	Resistor, " "	300K	100156-304	1	R466		
	144	Resistor, " "	330K	100156-334	1	R468		
	145	Resistor, " "	680K	100156-684	1	R509		
	146	Resistor, " "	330K	100156-334	1	R511		
	147	Resistor, " "	43K	100156-433	1	R532		
	148							
	149	Resistor, " "	2.2K	100156-222	1	R262		
	150	Resistor, " "	750	100156-751	1	R235		
	151	Resistor, " "	750	100156-751	1	R251		
	152	Resistor, " ½W	390	100064-391	1	R280		
	153	Resistor, " 3W	47	100068-470	1	R269		
	154	Wire, Solid Insulated		100248-924	A/R	Jumper 3	11. From VV to WW	. Or
	$\overline{}$				145	Jumper J	. From GG to FF.	- (6
	4	FOR DIVA DON	of Ch	1175	->	Jumper 3	6. From CC to DE	7
	_	7079 E 07	-y-	Z		Эломрет (10. From RR to SS	·
					-		8. From S to T.	0/
		7 x 1/3 , 70	5]}	-20			9. From P to R.	-7/
					-	Jumper 3	12.From K to M.	
					1	,	114.From G to H.	£°+′
	<u> </u>						115.From NN to PP	مهم ه
		Jumpers J3,J4,J5,J7,J	11,	 			116. From U to V.	3/6
	<u> </u>	J20 not used.		 	 		117.From D to F.	25
	 	Jeo not used.		 	 		119.From A to C.	57
	<u> </u>			 			118.From TT to UU	
	155	Rework Instructions		201324	Ref.	1		
		I INCHOLE THE CLUCK TORS		201023			J13. Prom J to L.	

* This Sumper was NOT Change Because of 7 TRK DUAL DENSITY OPTION is ADDED -

al

4)

4

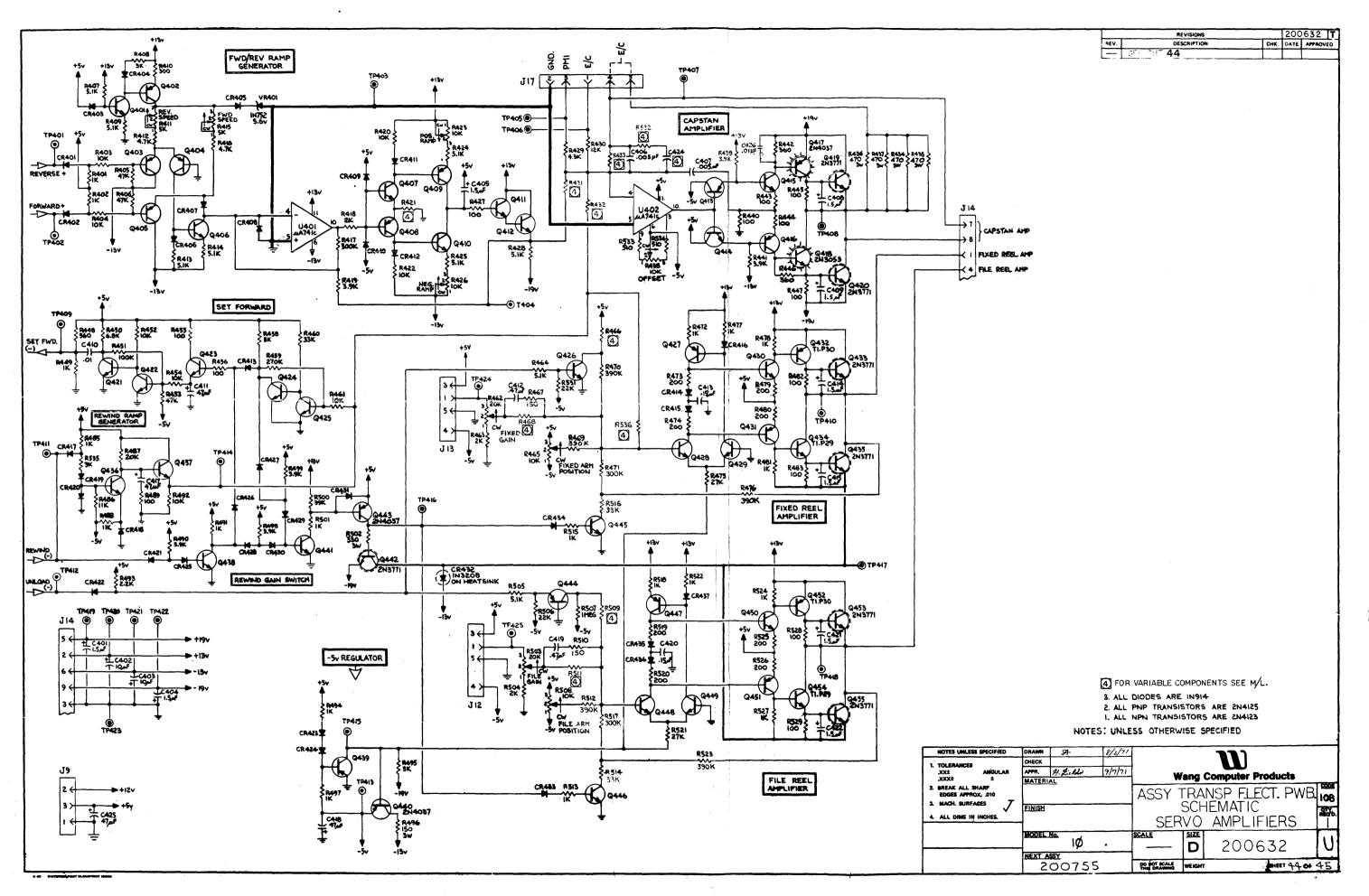
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Ele

NOT USED WITH A DO INTERFACE

27

B-28. Schematic, Transport Control Logic



B-29. Schematic, Servo Amplifiers

B-30. Assembly, Transport Electronics

7	MATER	IAL LIST		ML DRAWING NO. REV. 200347 - 0000 J
U	ASSY. DATA ELECTRONICS			200347 - 0000
TITL	PWB. BASIC BOARD.	MODEL NO.	15	DATE 4/8/71 SHEET 1 OF 10
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIGJ
1	Board, Processed.	200254	1	
2	Brecket, Support.	200462-001	1	
3	Bracket, Support.	200462-002	1	
4		1		
5	I.C.Hex. Inverter.	100084	3	U1.2.29.
6	I.C.Quad.2 Input Nand.	100085	1	V31.
?	I.C.Quad.2 Input Power.	100086	5	U23.24.25.26.30.
8	I.C.10 Input Named.	100087	1	U27.
9	I.C.Dual Flip-Flop.	100088	5	U18.19.20.21.22.
10	I.C.Monostable.	100090	1	U28.
11	1.C.Dual Flip-Flop.	100095	5	U3.4.5.6.7.
12	I.C.Operational Amplifier.	100167.	10	U8.9.10.11.12.13.14.
				U15.16.17.
13				
171	Transistor. NPN. 2Ni,123	100080	50	Q2.3.4.6.7. Q103-903.
,				\$104-904. Q106-906.
				0107-907. 0108-908.
15	Transistor. PNP. 2N4125	100081	29	Q1.5. Q101-901.
				0102-902. 0105-905.
16				
17	Diode, Signel. 18914	100091	117	CR101-901. CR103-903.
				CR105-905. CR106-906.
				CR107-907. CR108-908.
				CR109-909. CR110-910.
				CR111-911. CR112-912.
				CR113-913.CR114-914. CR115-915.
18	Capacitor, Ceramic. 10pf.	100073-100	9	C107-907.
19	Capacitor, Mica. 68pf.	100243-68	1	C8.
20	Capacitor, Mylar0015uf	100165-152	1	C6.
21	Capacitor, Polyfilm0015uf	100225-152	11	c7.
22	Capacitor, Polyfilm47uf	100128-474	1	C1.
23		•		
J.	, MATERI	AL LIST	_	DRAWING NO. REV,
ı	AU DESCRIPTION OF THE PROPERTY			200347 - 0000 J
DRAW!	ASSY. DATA ELECTRONICS PWB. BASIC BOARD.	_ MODEL NO	1,6	DATE 4/8/71 SHEET 2 OF 10
				on the state of th

DWG. NO.

10uf 100070-106

75 100156-750 9 R131-931.

5K 100069-502 9 F111-911.

20K 100069-203 1 R28.

91 100156-910 1 R39.

2.7 100156-2R7 2 Rh1.h3.

309 100155-240 1 R11.

634 100155-270 1 R12.

1K 100155-289 1 R13.

180 100156-181 1 R38.

1K 10006h-102 1 R14.

1K 100156-102 3 R8.24.34.

220 100156-221 13 R1.4.15.17. R101-901.

330 100156-331 15 R2.5.9.16.18. .ho.

470 100156-471 11 \$222.37.B121-921. 511 100155-261 1 R10.

240 100156-241 19 R23. R105-905. R106-906.

R102-902.

1.5K 100156-152 45 R123-923.R103-903.R104-904.

R129-929. R130-930.

DRAWING TITLE

28

30 Capacitor, "

32 Resistor. 5%. aw.

Na Resistor, "

35 Resistor. 5%. tw.

36 Resistor, 5%. w.

37 Resistor. " "

38 Resistor. " "

39 Resistor. 15. " 40 Resistor. 5%. "

41 Resistor. 5%. iw.

42 Resistor. 15. "

43 Resistor. " "

hh Resistor. " "

45 Resistor. 5%. tw. 46 Resistor. 5%. dw.

47 Resistor. 5%. jw.

48 Resistor. " tw.

49

50

33 Resistor, Variable.

25 Capacitor, Polyfilm. .0047uf 350158-472

26 Capacitor, Ceramic. 820pf 100073-821 27 Capacitor, Polyfilm. .Oluf 100188-103

29 Gapacitor, Tantalum. 1.5uf 100136-155

24 Capacitor, Ceramic .0033uf 100157-332 1 C4.

C106-906.

C103-903.

Chl.

REMARKS ON CKT. DESIG.

.2.3.9.10.11.12.13.14.15. C16.17.18.19. 21.22.23.24. 025.26.27.28.29.30.31.32.33. C34.35.36.37.38.39.40.

1	MATER	IAL LIST		ML 200347 - 0000 J J
DRAWII TITLI		MODEL NO	1ø	DATE 1/8/71 SHEET 3 OF 10
ITEM NO.	DRAWING TITLE	D4G. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
51	Resistor. 1%. 2w. 1.62K	100155-309	18	H107-907. R108-908.
52	Resistor. " " 1.96K	190155-317	1	R31.
53	Resistor. 5%. " 2.7K	100156-272	29	R3.6.7.19.20.21.26.30.
				R32.33.46.
				. R128-928. R126-926.
54	Resistor. 5%. w. 1.8K	100156-132	9	ส118-918.
55	Resistor. " " 2.2K	100156-222	ò	R116=916.
56	Resistor. " ." L.7K	100156-472	20	R35.14. R1204920. R125-925.
57	Resistor. " " 6.8K	100156-682	14	R25.27.29.36.
58	Resistor. " " 8.2K	100156-822	9	R113-913.
59	Resistor. 1%. 1w. 10K	100155-385	18	R111-911. R115-915.
60	Resistor. 5%. " 12K	100156-123	18	R117-917. R119-919.
61	Resistor. " # 27K	100156-273	9	R109-909-
62	Resistor. 1%. " 34.8K	100155-437	9	R112-912.
63		1		
6lı	Resistor. 5%. aw. 100K	100156-104	18	R12L-92h. R127-927.
65	Resistor. " " lMeg.	100156-105	9	R122-922.
66		T		
67	Wire, Insulated.	100053-022	A/R	
68				
69	Artwork, Master.	200253	Ref.	
70,	Specification, Test.	200436	Ref.	
71	Procedure, Test. Test Station	2001;38	Ref.	
72				
73	Connector, Head.	100137	1	J2.
74	Pin, Connector. Male.	100098	53	
75	Connector.	100010-004	1	Jų.
76	Connector.	100010-009	1	77.
77	Pin, Connector.	100021-005	5	
78	Pin, Connector.	100021-003	4	
79				
60	Strap, Cable.	100031-003	1	

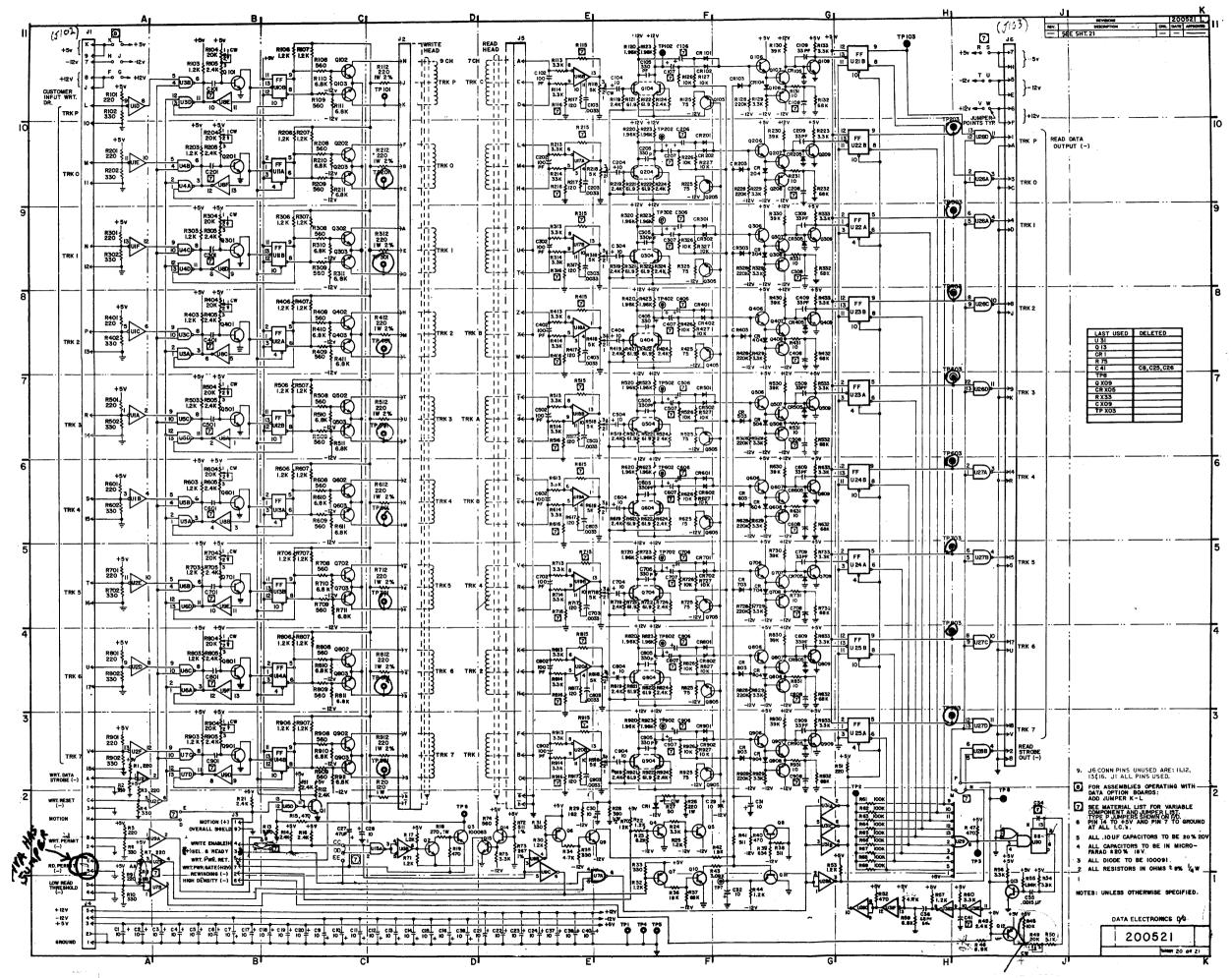
79		<u> </u>	<u> </u>	
60	Strap, Cable.	100031-003	1	
1	MATE	RIAL LIST		DRAWING NO. REV
I	N -			VIL 200347 - 0000 J
DRA#II TI*LI	ASSY. DATA ELECTRONICS PWH. BASIC BOARD.	MODEL NO	10	DATE 4/8/71 SHEET 4 OF 10
TEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
81				
82			L	
83				
84	Screw, Pan Head.	100036-206	3	4-40 x 3/8"
85	Screw, Pan Head.	100036-210	1	4-40 x 5/8"
86 57	Washer, Int. Tooth Lock.	100059-200	4	No.l.
57 88	Washer, Flat.	10001,7-200		No.i.
92	Washer, Flat Mylon.	1,0050-600	1.	17040
90	Nut, Hex.	100043-200	1	4-40.
	nev, nexa	12000,7200	 	
		<u> </u>		<u> </u>
		-	-	
		+		
		+		
		+	-	
		+	 	
			 	

ML 200347 - 0000 , J	1	MATE	RIAL LIST		ML 200347 - 001 J		
DATE 1/8/71 SHEET 3 OF 10	DRAW!	ASSY. DATA ELECTRONICS OF TWB.Type P. 12sips. S/G.	MODEL NO.	15	DATE 4/9/71 SHEET 5 OF 10	DRAW TITE	ING A
REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.	ITEM NO.	T
107-907. R108-908.	. 113	Capacitor, Mylar01	uf 100165-103	1 1	cs.	113	Capac
31.	114	Capacitor, Tantalum. 22	uf 100168-226	9	C101-901.	1114	Capac
3.6.7.19.20.21.26.30.	115		pf 100073-680	1 9	C102-902.	115	Capac:
32.33.46.	116	Capacitor, Polyfilm01		8	G104-904.	116	Capac
. R128-928, R126-926.	117	Capacitor, Mylar0068	uf 120165-682	9	C105 - 905.	117	Capaci
118-918.	118			 -		118	1
116-916.	119			1		119	1
35.14. R120±920. R125-925.	120	Resistor. 5%. aw. 12	K 1,0156-123	1	ત્યાર્ક.	120	Resist
25,27,29,36.	121	desistor, 15. ". 178		9	8119-910.	121	Resist
113-913.	122	110020001; 200	100255-505	+		122	†
114-914. R115-915.	123			+-		123	
117-917. R119-919.	124	wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From A to B.	124	Wire,
109-909-	1	Party Colla Michigan	100240-724	1 1/1	Jumper J2. Not used.		1
112-912.	\vdash			+-	Jumper J3. From F to H.		_
	-		+	 	outper op. 113M 1 of H.		+
124-924. R127-927.	-			 			
122-922.	-			+			\vdash
	\vdash		+	+			
	 			+		/ 	
			+	-		ı	+
	. —		+	+		∤ ├ ──	
	-			+		 	
				-		⋰├ ──	
	-		+			<i>i</i> ├──	+
?.	-		+	+			
						l	-
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J.	•	MATERI	AL LIST	_	ML 200347 - 003
DRAWIN	ASSY. DATA ELECTR	NONICS			
					DATE 4/8/71 SHEET 7 OF 10
NO.	DRAWING TITL		DWG. NO.	NO, REQ.	
113	Capacitor, Mylar.		100165-472	1	c5 .
114	Capacitor, Tantalum.		100070-475	9	C1C1-901.
115	Capacitor, Ceramic.		100073-101	9	C102-902.
116	Capacitor, Polyfilm.	.0033uf	100188-332	9	0104-904.
117	Capacitor, Mylar.	.0022uf	100165-222	9	C105-905.
118					·
119				<u>L</u>	
120	Resiston. 5%. 4w.	6.8K	100156-682	1	RLIS.
121	Resistor. 1%. "	68.1K	100155-465	•	R110-910.
122					
123					
124	Wire, Solid Insulated	i.	100248-924	A/R	Jumper Jl. From A to B.
				1	Jumper J2. Not used.
				<u> </u>	Jumper J3. From F to H.
				 	
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				نـــــــــــــــــــــــــــــــــــــ	

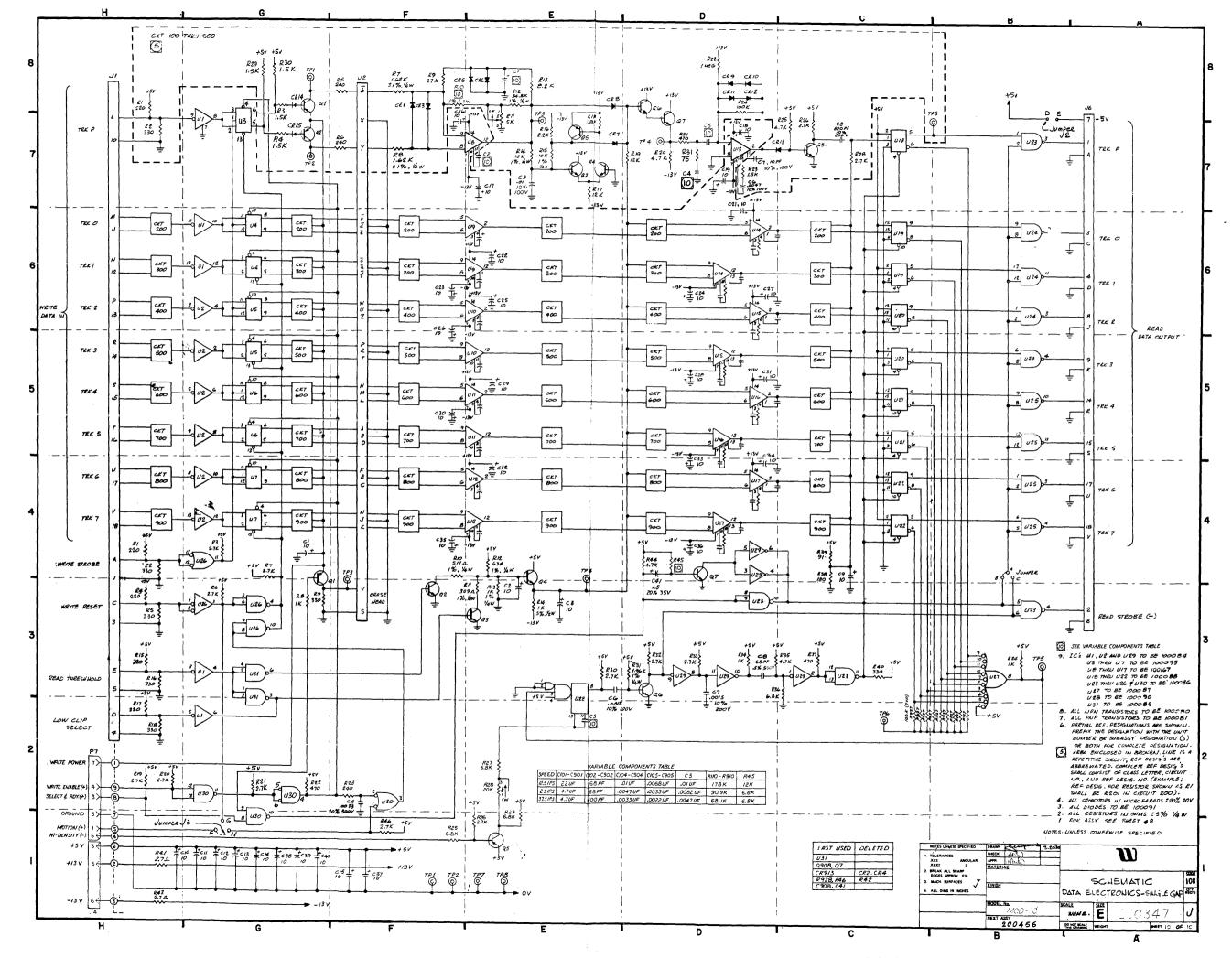
L	A CON DIMA ELEGANIA	ONTOS		-	VIL 200347 - 002 J
TITLE	ASSY. DATA ELECTR PWB.Type P. 251ps		_ MODEL NO	1.0	DATE 4/8/71 SHEET 6 OF 10
TEM NO.	DRAWING TITL	E	DWG, NO.	NO. REQ.	REMARKS ON CKT. DESIG.
13	Capacitor, Wlar.	.0082uf	100165-822	1	C5.
14	Capacitor, Tantalum.	4.7uf	120070-175	9	C101-901.
15	Capacitor, Ceramic.	68p f	100073-680	9	C102-90?.
16	Capacitor, Polyfilm.	.0047uf	100188-472	9	C104-904.
17	Capacitor, Mylar.	.0033uf	100165-332	9	c105-905.
13					
19			1	1	
20	Resistor. 5%. iw.	6.8K	100156- 6 82	1	RUS.
.21	Resistor. 15. "	90.9K	100155-477	9	R110-910.
22					
23					<u>>.</u>
24	Wire, Solid Insulate	d.	100248-924	A/R	Jumper Jl. Fr m A to B.
					Jumper J2. Not used.
					Jumper J3. From F to H.
				·	
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I	MATERI	AL LIST		IVIL 200347 ← 004. J
TITL	ASSY. DATA ELECTRONICS PWB. Type 'P' L5ips. S/G.	_ MODEL NO	10	DATE 6/30/71 SHEET 8 OF 10
TEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
113	Capacitor, Mylar001/7uf	100165-472	1	c5.
114	Capacitor, Tantalum. 4.7uf	100070-475	9	C101-901.
125	Capacitor, Ceramic. 100pf	100073-101	9	C102-902
16	Capacitor, Polyfilm0022uf	100188-222	9	C104-904.
17	Capacitor, Mylar0018uf	100165-182	9	C105-905.
18				
19				
20	Resistor. 5%. gw. 6.8K	100156-682	1	R45.
21	Resistor. 1%. " 51.1K	100155-453	9	R110-910.
22				
23				
L24	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From A to B.
				Jumper J2. Not used.
				Jumper J3. From F to H.
				¥ .
				
_				

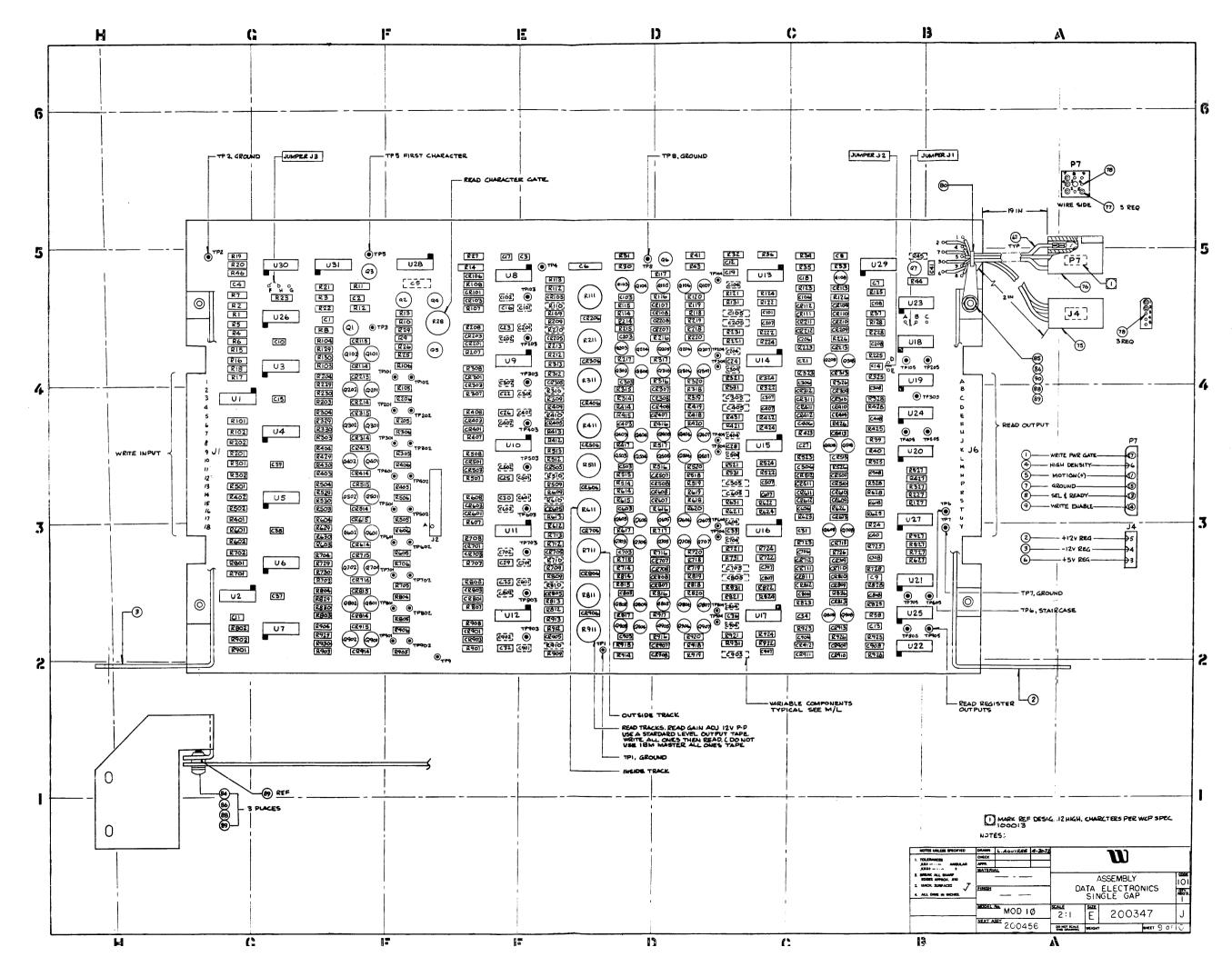


PWB Gap Dual ectronics, 田田 ta Da ematic, Sch

31



32. Schematic, Data Electronics, Single Gap, PWB



B-33. Assembly, Data Electronics, Single Gap, PWB

77	۸ ۲	ATERIA	L LIST	_	ML DRAWING NO.	REV.
U	U ==	7.00 GLB		_		
DRAWN C	ASSY. DATA ELECTRON PASIC BOARD. DUAL G	AP.	MODEL NO	16	DATE 3/2/71/ SHEET 2	r <u>21</u>
ITEM NO.	DRAWING TITLE		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESH	
27	Capacitor, Tantalum.	10uf.	100070-106	41	C1.2.3.4.5.6.7.9.10.11.12	
\neg					C14.15.16.17.18.19.20.21.	
					C24.28.29.30.31.32.37.38.	39.40.
					C10/-904.	
28	Capacitor, Tantalum.	47uf.	100070-176	1	C27.	
29						
30	Resistor, Variable.	50	100069-500	1	327.	
31	Resistor, *	5K	100069-502	9	R118-918.	
32	Resistor,	20K	100069-203	10	R49. R104-904.	
33						
34	Resistor, 5%. aw.	10	100156-100	9	R131-931.	
35	Resistor. 15. "	61.9	100155-173	18	R121-921. R122-922.	
36	Resistor. " "	75	100155-181	9	R125-925.	
37	Resistor. 5%. "	120	100156-121	9	R117-917.	
38	Resistor. " lw.	120	100067-121	1	R20.	
39	Resistor. 11. W.	162	100155-213	1	R29.	
40	Resistor. 51. "	220	100156-221	15	R1.3.5.7.9.51. R101-901.	
h1.	Resistor. 2%. lw.	220	100142-221	10	R26. R112-912.	
h2	Resistor. 15. in.	267	100155-234	1	R73.	
43	Resistor. 5%. lw.	270	100067-271	1	R18.	
lılı.	Resistor. " aw.	330	100156-331	17	R2.4.6.13.31.33.35.10.	
H					R102-902.	
45	Resistor. 5%. 2w.	390	100064-391	1	R28.	
46	Resistor. " w.	470	100156-471	5	R15.19.40.47.52.	
167	Resistor. 15 "	511	100155-261	3	R38.41.72.	
1.8	Resistor. 5% "	560	100156-561	19	R74. R108-908. R109-909	·
49	Resistor. 15 "	634	100155-270	1	R39.	
50	†					
51	Registor. 5%. tw.	1.2K	100156-122	37	R17.22.25.30.32.44.53.5	7.70.
۳	 				R71. R103-903. R106-906	
52	†				R107-907.	
53						

ITEM NO.	DRAWING TITL		DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG
5h	Resistor, 15. w.	1.96Kn		20	RL2.55.R120-920. R123-923.
55	Resistor. 5%. "	2°4KU	100156-242	33	R11.12.14.16.21.45.
					R105-905.R119-919.R124-921
56	Resistor. 15. w.	3.09K n	100155-336	1	Rh3.
57	Resistor. 5%. "	3.3Kn	100156-332	41	R24.54.56.60.75.8113-913.
					R114-914.R129-929.R133-93
58					
59	Resistor. 5%. tw.	4.7Kn	100156-472	2	R34.58.
60	Resistor. " "	5.1Kn	100156-512	1	R50.
61	Resistor. " "	6.8Kn	100156-682	20	R46.59. R110-910. R111-91
62	Resistor. " "	8,2Kn	100156-822	1	R23.
63	Resistor. " "	10K U	100156-103	19	R48;R126-926.R127-937.
64					
65	Resistor. " "	18K Ω	100156-183	1	R36.
66	Resistor. " "	39K Ω	100156-393	9	R130-930.
67	Resistor. * *	68K D	100156-683	10	R37.R132-932.
68	Resistor. " "	100K D	100156-104	9	R61.62.63.64.65.66.67.68.
60	Resistor. " "	220KΩ	100156-224	9	R128-928.
70				 	
71					
72					
73	Connector, Head.	Male.	100137	2	J2. J5.
74	Connector. 9 pin.		100247-001	1	3 3. · ·
75	Connector, 5 pin.		100257-005	1	ياز.
96	Pin, Male.		100098	33	Test Points.
77				1	
78				 	
79					
80	Screw, Pan Head.		100036-206	6	L - 40 x 3/8"
81	Washer, Flat.		100047-200	6	No.4.
82	Washer, Int. Tooth	Lock.	100059-200	6	No.4.
63					
	<u> </u>			· · · · · ·	<u> </u>
-		MATERI	AL LIST		DRAWING NO.
	•	MAILKI	AL L131		ML 290528-00000

MATERIAL LIST

DRAWING NO. REV. 200521-00000 M		1	MATERI					
		A 1	MAIEKI	AL LIST	==	ML	DRAWING NO.	M
	Ditam 717L	ASSY. DATA BLECTR			326	DATE 34	₹ SHEET 5 0	
REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE		DWG, NO.	NO. REQ.		ARKS ON CKT. DESIG	
2.55.R120-920. R123-923.	116	Capacitor, Mylar.	.015uf	100165-153	1	C34.		
1.12.14.16.21.45.	117	Capacitor, POLYFILM	OOIS UF		1	Cl.1.		
05-905.R119-919.R124-924.	118	Capacitor, Poly.	.0033uf		9	C101-901	•	
3.	119	Capaciter, Tantalum.	luf	100136-105	18	C106-906	. C107-907.	
4.54.56.60.75.8113-913.	120	Capacitor, Polyfilm.	.47af	100128-h7h	9	C108-908		
14-914.R129-929.R133-933.	121							
	122						<u> </u>	
ų.58.	123	Recistor. 5%. 2w.	750K A	100156-754	18	R115-915	. R116-916.	
io.	124							
6.59. K110-910. R111-911.	125	<u> </u>						
13.	126			,				
8;R126-926.R127-937.	127	Wire, Solid Barry Insu	lated.	1002118-9211	A/R	Jumper J.	1. From A to C	
	128	tils , i ter .		2 724			2. From M to M	
6.	1						3. From AA to BB	
130-930.						· · · · · · · · · · · · · · · · · · ·	9. Not used.	
37.R132-932.						Jumper J.	the figure of the state of the	
1.62.63.64.65.66.67.68.69.							11. From CC to D	D.
28-928.				,				
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2. J5.	}							
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est Points.	├ ─				1			
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- 40 x 3/8"	l				†			
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ř		7	MATERI	AL LIST	_	ML 2005210023. M
Н			ASSY. DATA ELECTRONICS PWB		_	200521-:0073. M
-		DRAWIN	17-22.9 IPS. TYPE P. D/GAP		16	DATE 3/2/71 SHEET 7 OF 2/
		ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
		116	Capacitor, Pely0082mf	100077-822	1	C3k.
_	1	117	Capacitor, POLY.ic .comsuf	100225-152	1	di1.
4		118	Capacitor, Poly0022uf	100077-222	9	C101-901.
4		119	Capacitor, Tantalma, .68uf	100136-684	3,8	C106-906. C107-907.
_		120	Capacitor, Polyfilm33uf	100128-334	9	C108-908.
_		121				
		122				
		123	Resistor, 5%, tw. 560KA	100156-564	18	M15-915. H16-916.
		124				·
		125				
	٠	126				· · · ·
		127	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From A to C
		128	the line	1 NO204-19	ΓT	Jumper J2. From M to N
	1					Jumper J3. From AA to BB.
	1					Jumper J9. Not used.
						Jumper J10. " "
	4					Jumper Jll. From CC to DD.
	*15.7					
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. 1						L at DOLKING NO BOX

7	MATERIA	L LIST	=	ML 200521-00000 //				
DRAWN	DRAWING ASST, DATA BLECTROHICS PAB. THE RASIG BOARD, DUAL GAP. MODEL NO. 15 DATE 1/2/11 SHEET 1 OF.							
ITEM NG.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.				
1	Beard, Processed.	200167	1					
2	Bracket, Mounting.	200016	2					
3								
l,	I.C.Hex. Inverter.	100081;	5	V1.2.6.9.31.				
5	I.C.Quad. 2 Input Nand.	100085	6	Ս3.45.6.7. 1 5.				
6	I.C.Quad. 2 Input Power.	100086	3	U26.27.28.				
7	I.C.10 Input Nand.	100087	1	U29.				
8	I.C. Dual Flip-Flep.	100088	10	U10,11.12.13.14.21.				
				U22.23.2l25.				
9	I.C.Operational Amplifier.	100089	5	U16.17.18.19.20.				
10	I.C.Monostable.	100090	1	U 30.				
77	.,							
22	Transistor. NPM. 2N4123	100080	72	Q1.2.5.8.9.11.13.14.15.				
				Q101-901. Q102-902.				
				Q103-903. Q105-905.				
7				Q106-906. Q107-907. Q109-909.				
ນ	Transistor, PNP. 2Mil25	100081	114	Q4.6.7.10.12. Q108-908.				
1 4								
15	Transister, Dual MPW, TD101.	100062	9	Q104-904.				
16	Transister, PMP. MPS-U51.	100083	1	ಭ.				
C.7								
18	Diede, Signal. 1N914.	100091	46	CR1.CR101-901. 102-902.				
				CR103-903. 104-904.				
				CR105-905.				
19								
20	Capaciter, Ceramic. 33pf	100073-330	9	C109-909.				
21	Capacitor, MICA 68pf	100243-630	1	G36.				
22	Capaciter, CERAMIC 100pf	100073-101	9	C102-902.				
25	Capacitor, 330pf	100073-331	9	C105-905.				
24	Capacitor, Poly0015uf	100077-152	1	C35.				
25	Capacitor, Ceramic0033mf	100073-332	9	C103-903.				
26								

I				1VIL 200528-00000 M
TITL	ASSY. DATA RIECTRONICS PM BASIC BOARD, DUAL GAP.	B. MODEL NO.	30	DATE #2/71 SHEET & OF 21
TEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
H.	Mat, Hex.	100043-200	6	ir = 40
5				
6			<u> </u>	
7	Artwork, Master.	200366	Ref.	
8	Wire, Solid Insulated.	1002i ₁ 8-92i ₁	A/R	Jumper Ji. From VV to WW.
			<u> </u>	Jumper J5. " TT " UU.
		·	<u> </u>	Jumper J6. " HH " JJ.
	THESE JUMPERS ARE TO BE			Jumper J7. " FF " OG.
	USED ON ALL VERSIONS			Jumper J8. " XX " YY.
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ASST. DATA RECTRONICS FMS. ASST. DATA RECTRONICS FMS. 13-16.9 IPS. TITE F. D/OAF. MODEL NO. 19 DATE \$\frac{12}{1712} \] SENANCE OF CELL NO. NO. REO. REMARKS ON CKT. DESIG. REMARKS ON CKT. DESIG. 116 Capacitor, Pely0093uf 100077-382 1 Chl. 117 Capacitor, Poly0033uf 100077-312 9 Chl901. 119 Capacitor, Palyfilm68uf 100136-68u 18 Ch06-906. Ch07-907. 120 Capacitor, Palyfilm	-				The second secon
December ASST. DATA RECOTRONICS FIRS. MODEL NO. 15	J.	MATERI	AL LIST		IN A I
13-16.9 IPS. TIFE P. D/OAP. MODEL NO. 18		ASST. DATA PURCEPONICS PM	R		1//
116 Capacitor, Pely0082uf 100077-822 1 C34. 117 Capacitor, Foly0075uf 100225-152 1 Chl. 118 Capacitor, Poly0033uf 100077-332 9 C101-901. 119 Capaciter, Tentalum60uf 100136-68h 18 C106-906. C107-907. 120 Capacitor, Pelyfilm47uf 100128-47h 9 C108-908. 121		13-16.9 IPS. TIPE P. D/GA	MODEL NO.	12	DATE \$\frac{12}{71} SHEET 6 OF 21
117 Capasitor, FOLY.:	NO.	DRAWING TITLE	DWG, NO.	NO. REO.	REMARKS ON CKT. DESIG.
118 Capacitor, Poly0039uf 100077-332 9 C101-901. 119 Capacitor, Tentalum66uf 100136-68h 18 C106-906. C107-907. 120 Capacitor, PelyfilmhTuf 100128-47h 9 C108-908. 121 122 123 Recistor. 5%. 1w. 560Kn 100156-56h 18 E115-915. E116-916. 124 125 126 127 Wire, Solid Insulated. 100248-92h A/R Jumper Jl. From A to C 128 1 1 1	116	Capacitor, Paly0082uf	100077-822	1	C34.
119 Capaciter, Tantalum66ur 100136-68h 18 C106-906. C107-907. 120 Capaciter, PelyfilmhTuf 100128-h7h 9 C108-908. 121 122 123 Recistor. 5%. 1w. 560Kn 100156-56h 18 El15-915. El16-916. 124 125 126 127 Wire, Solid Insulated. 100248-92h A/R Jumper Jl. From A to C 128 1 1 1 Jumper J2. From M to N Jumper J3. From AA to BB. Jumper J10. " "	117	Capacitor, FOLY.in	100225-152	I	C).1.
120 Capacitor, Palyfilm. JaTuf 100128-JaTu 9 C108-908. 121	118	Capacitor, Poly0033uf	100077-332	9	C101-901.
121 122 123 Recistor, 5%, [w. 560Kn 100156-594 18 E115-915, R116-916, 124 125 126 127 Wire, Solid Insulated. 100248-924 A/R Jumper J1. From A to C 128 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	119	Capaciter, Tantalum68uf	100136-684	1.8	C106-906. C107-907.
122 Recistor. 5%. [w. 560Kn 100156-564 18 E115-915. E116-916. 124	120	Capacitor, Pelyfilm	100128-474	9	C108-908.
123 Recistor. 5%. 1w. 560Kn 100156-564 18 E115-915. E116-916. 124	121				,
124 125 126 127 127 128 129	122				
125 126 127 Wire, Solid Insulated. 100248-924 A/R Jumper Jl. From A to C 128 1 1 1 Jumper Jl. From M to N Jumper Jl. From AA to BB. Jumper Jl. Not used. Jumper Jl. "	123	Recistor, 5%. ju. 560Kr	100156-564	1.8	E115-915. E116-916.
126 127 Wire, Solid Insulated. 1002h8-92h A/R Jumper Jl. From A to C 128 1 1	124				
127 Mire, Solid Insulated. 100248-924 A/R Jumper Jl. From A to C 126 1 1	125				
126 1 . 10	126				
Jumper J3. From AA to BB. Jumper J9. Not used. Jumper J10. " "	127	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From A to C
	126	1, 4,	3 12.0- 31	1.7	Jumper J2. From M to M
Jumper J10, "					Jumper J3. From AA to BB.
				1	Jumper J9. Not used.
Jumper Jll. From CC to DD.					Jumper J10. " "
					Jumper Jll. From CC to DD.
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7	MATERI	AL LIST	_	MI DRAWING NO.	ť
L	ASSY DATA RECTRONICS FWB.			VIL 200521-004	4
DRAWN	23-29.9 IPS. TIPE P. D/GAI	MODEL NO	Ŋ	DATE 3/2/71/ SHEET 8 0	ء ۽
ITEM NO.	DRAWING TITLE	DWG. ND.	NO. REQ.	REMARKS ON CKT. DESIG	
116	Capacitor, Poly0082uf	100077-822	1	03k.	
117	Capacitor, POLY.10OOFSUF	100225-152	1	di.	
128	Capacitor, Pely0015uf	100077-152	9	0101-901.	
119	Capacitor, Tantalum	10013 6- 474	18	0106-906, C107-907.	
120	Capacitor, Polyfilm27uf	100128-274	9	C108-908.	
121					
122					
123	Resister, 5%. jw. 330KA	100156-334	18	H15-915. H16-916.	
12h					
125					
126					
127	Wire, Solid Insulated.	با92/4-92/	A/R	Jumper Jl. From A to C	
128	Patra Mara	3 93.4 92		Jumper J2. From M to N	
				Jumper J3. From AA to BB	
				Jumper J9. Not used.	
				Jumper JlO. " "	
				Jumper Jll. From CC to D	D.
			T		

1	MATERI	AL LIST	=	ML DRAWING NO. REV. 200521-1047.		1	MATER	IAL LIST		ML 200521-1009
DRAW	ASSI. DATA ELECTRONICS PAR 10-12.9 IPS. TIPE A. D/GAI	MODEL NO.	14	DATE 3/2/71 SHEET 11 OF 2/		DRAM	ASSI. DATA RECTRONICS PO 17-22-9 IPS. TIPS A. DATA	P. MODEL NO.	<u> 1</u>	DATE 3/2/17 SHEET 13
ITEM NO.	DRAWING TITLE	DWG. NO.	NO, REQ.	REMARKS ON CKT. DESIG.	1	ITEM NO.	DRAWING TITLE	DWG, NO.	NO. REQ	REMARKS ON CKT. DE
116	Capacitor, Mylar015uf	100165-153	1	C34.	Ι.	116	Capacitor, Poly0062u	100077-822	1	C34.
117			┖			117		1		
118	Capacitor, Poly0033uf		9	C101-901.	1 '	118	Capacitor, Poly0022u	100077-222	9	C101-901.
119	Capacitor, Tantalum. luf	100136-105	18	C106-906. C107-907.	l	119	Capacitor, Tantalum60u	100136-684	18	C106-906, C107-907.
120	Capacitor, Polyfilm	100128-ի7հ	9	C108-908.	1 '	120	Capacitor, Polyfilm33m	1.00128-33k	9	C108-908.
121			↓	<u> </u>	1	121				
122	Resistor. 5%. tw. 330A	100156-331	1 2	7,98.	1	122	Resistor. 5% in. 330/	100156-331	1	R8.
123	Resistor. * * 750KA	100156-754	18	K115-915. R116-916.	1	123	Resistor. " 560Kf	100156-564	18	R115-915. R116-916.
164			↓		1	124			T	
125			<u> </u>		4	125				
126					1	126	/	, ;		
127	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From B to C	1	127	Wire, Selid Insulated.	100218-924	A/R	Jumper Jl. From B to C
128	his , colon.	1 42 - 1	14_	Jumper J2. From M to P	-	128	jo., J1 :	11 -23/ 3/2	1.4	Jumper J2, Frem K to P
		·	┴──	Jumper J3. Not used.	4					Jumper J3. Not used.
				Jumper J9. "	1				1	Jumper J9. " "
			1	Jumper J10. " "	4 1				1	Jumper JlO. " "
			↓	Jumper Jll. From DD to EE.	4				1	Jumper Jll. From DD to
			↓		4					
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J.	MATERI	AL LIST	==	ML 200521-008 M	1	7	NATER	AL LIST		DRAWING NO.
-	ASSY. DATA ELECTRONICS PWB.			1/1		L				VIL 200522-1250
DRAW	13-16.9 IPS. TIPE A. D/GAP		16	DATE 3/2/71 SHEET 12 OF 21		PRAME	ASSI, DATA ELECTRONICS PAG 23-29,9 1FB, TIPE A. DEGA	MODEL NO.	¥	DATE 1/2/71 SHEET 14
HO.	DRAWING TITLE	DWG, NO.	NO. REQ.	REMARKS ON CKT. DESIG.		ITEM NO.	DRAWING TITLE	DWG, NO.	NO. REQ.	REMARKS ON CKT. DE
116	Capacitor, Poly0052uf	100077-822	1	G34.	1 /	116	Capacitor, Poly0082uf	100077-822	1	C3h.
117					l	117		T		
118	Capacitor, Pely0033mf	100077-332	9	C101-901.	Ιt	118	Capacitor, Poly0015uf	100077-152	9	C101-901.
119	Capacitor, Tantalna60uf	100136-684	18	C106-906. C107-907.		119		100136-474	16	C106-906 C107-907
1.20	Capacitor, Polyfilm h7uf	100128-674	9	C108-908.		120		100128-973	9	C108-908.
					i i l		taparate j . out . sant m	1	<u> </u>	7000

121

12h

126

122 Resistor, 5%, tw.

123 Resistor. "

127 Wire, Selid Insulated.

128 | i'ir , is/li

330n 100156-331

560KA 100156-564 18 R115-915. R116-916.

100258-921 A/R Jumper Jl. From B to C

•	 	l L	<u> </u>								
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	A AL DRAWING NO. REV.	_			سسند						
	ML 200521-008 //	1	AATERI		= .	ML 200521-2355) //	1	MATER	IAL LIST	==	ML
_	DATE \$2/71 SHEET 12 OF 21	***	ASSI, DATA ELECTRONICS PAR 23-29,9 1FS, TYPE A. IN GAI	MODEL NO.	¥,	DATE 12/71 SHEET 14 OF 21	DRAW	ASSI, DATA ELECTRONICS PW 10-45 IPS. TIPE A. D/GAP.	B. MODEL NO.		DATE .
	REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG, NO.	NO. REQ.	REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	RE
	C3h.	116	Capacitor, Poly0082uf	100077-822	1	C34.	116	Capaciter, Poly00h7mf	100077-472	1	E94.
_		117					117				· ·
_	C101-901.	118	Capacitor, Poly0015uf	100077-152	9	C101-901.	118	Capacitor, Poly. ,001uf	100077-102	9	C101-90
_	C106-906, C107-907.	119	Capacitor, Tantalum. 47uf	100136-474	16	C106-906 C107-907	119	Cupacitor, Tantalum22uf	100136-224	18	C106-90
	C108-908.	120	Capacitor, Polyfilm. 27ef	100128-971	9	C108-908.	120	Capacitor, Polyfilm15uf	100126-154	9	03,08-90
		121					121		 		
	R8.	122	Resistor. 5%. jw. 330fl	100156-331	1	R8.	122	Beststor, 5%, two 330 ft	100156-331	1	R6.
	R115-915. R116-916.	1023	Resistor. " 330Kn	100156-334	1.6	R115-915. R116-916.	123		100156-334	18	R115-91
		124					124		1		
		125					1.05		<u> </u>		
	- '	126					126		 		
	Jumper Jl. From B to C	127	Wire, Solid Insulated.	100248-924	A/R	Jumper Rema Jl. From B to C	127	Wire, Solid Earslated.	10021-8-921	A/R	Jumper
	Jumper J2. From H to P	126	His offer	13 722 192	1	Jumper J2. From M to P.	126	ntime, collect	100230-028	1	Jumper
	Jumper J3. Not used.					Jumper J3, Not used.	-		1	- ^ ` 	Jumper
	Jumper J9. " "				1	Jumper J9. "	-		 		Jumper
	Jumper JlO. " "					Jumper JlO. * *	-		 		Jumper
	Jumper Jll. From DD to KE.	—			N.	Jumper Jll. From DD to EE.	-		 		Jumper
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117 118 Gepeniter, Pely061nf 100077-102 9 C10 119 Gepeniter, Fely33nf 100136-33h 28 C10 120 Gepeniter, Polyfilm18nf 100128-18h 9 C10 121 122 Resistor. 5% ½w. 330 ft 100156-33h 1 28. 123 Resistor. " 3305 ft 100156-33h 28 E11 12h 125 126 127 Wire, Solid Resulated. 100258-92h A/R Jun Jun Jun Jun Jun Jun Jun Jun	100077-202 9 C101-901. 100136-334 18 C106-906, C107-907, 100128-184 9 C208-908, 100156-331 1 28. 100156-334 18 F115-915, K116-916,
118 Cspaciter, Pelye .001nf 100077-202 9 C10 119 Capacitor, Tentalum33nf 100135-33h 18 C10 120 Cspaciter, Pelyfilm18nf 100128-18h 9 C20 121 122 Resistor, % 1m. 330fn 100156-331 1 R8. 123 Resistor. " 330mn 100156-33h 18 R11 12h 125 126 127 Wire, Solid Eswaleted. 1002h8-92h A/R Jun 128 Jun 129 Jun 120	100136-334 18 C106-906, C107-907, 100128-184 9 C108-908, 100156-331 1 28. 100156-334 28 K115-915, K116-916, 100248-924 A/R Jusper J1. From B to C Jusper J2. From M to P Jusper J3. Not used, Jusper J9. " Jusper J10. " Jusper J11. From ED to EE.
119 Capacitor, Tantalum33mf 100136-33h 28 C10 120 Capacitor, Pelyfilm18mf 100128-18h 9 C20 121 122 Resistor, 5%. \(\frac{1}{2} \), 330fl 100156-33h 1 R8. 123 Resistor. " 330Kl 100156-33h 28 R11 12h	100136-334 18 C106-906, C107-907, 100128-184 9 C108-908, 100156-331 1 E8. 100156-334 28 K115-915, K116-916, 100248-924 A/R Jusper J1. From B to C Jusper J2. From M to F Jusper J3. Not used, Jusper J10. " Jusper J10. " Jusper J11. From ED to EE.
120 Capaciter, Polyfilm, 18st 100128-184 9 C20 121 122 Resistor, 5%, ½w. 330fl. 100156-331 1 R8. 123 Resistor, " " 330fl. 100156-334 28 R11 124 125 126 127 Wire, Solid Esselsted. 100248-924 A/K June 128	100128-184 9 C108-908, 100156-331 1 28. 100156-334 18 R115-915. R116-916. 100218-924 A/R Jumper J1. From B to C 100218-924 Jumper J2. From M to P Jumper J3. Not used, Jumper J9. " Jumper J10. " Jumper J11. From ED to EE.
121 122 Resistor, 5%, \frac{1}{2}. 330ft. 100156-331 1 26. 123 Resistor, * * 330Eft. 100156-331 28 211 125 126 127 Wire, Solid Emmlated. 100258-925 A/R Jun 128	100156-331 1 E5. 100156-331 18 E115-915. E116-916. 100258-924 A/E Jumper Jl. From B to G 1 00258-924
122 Resistor, 5%, 2m. 330ft, 100156-331 1 28. 123 Resistor, " " 330ft, 100156-331 28 E11 12h 125 126 127 Wire, Solid Essulated. 1002h8-92h A/R Just 128	100156-33h 18 E115-915, E116-916, 1002h8-92h A/R Jumper J1, From B to G 1003-922 4/4 Jumper J2, From M to F Jumper J3, Not used. Jumper J9, " Jumper J10, " Jumper J11, From ED to EE.
123 Resistor, " " 330En, 100156-334 28 Ell 12h 125 126 127 Wire, Solid Esseleted. 100248-924 A/R Just 128	100156-33h 18 E115-915, E116-916, 1002h8-92h A/R Jumper J1, From B to G 1003-922 4/4 Jumper J2, From M to F Jumper J3, Not used. Jumper J9, " Jumper J10, " Jumper J11, From ED to EE.
12h	1002h8-92h A/R Jumper Jl. From B to G 1003-322
125 126 127 Wire, Solid Emminted. 1002h8-92h A/R Jun 128 Arg r dov. 1000-922 A/R Jun Jun Jun Jun	Jamper J2, From M to F Jumper J3, Not used, Jumper J9, " " Jumper J10, " " Jumper J11, From DD to EE, "
126 127 Mire, Solid Expelated. 1002h8-92h A/R Jun 128 127 Jun 129 128 Jun 129 Ju	Jumper J2. From M to P Jumper J3. Not used, Jumper J9. " " Jumper J10. " " Jumper J11. From DD to EE. "
127 Wire, Solid Esmalated. 100248-924 A/E June 128	Jumper J2. From M to P Jumper J3. Not used, Jumper J9. " " Jumper J10. " " Jumper J11. From DD to EE. "
128	Jumper J2. From M to P Jumper J3. Not used, Jumper J9. " " Jumper J10. " " Jumper J11. From DD to EE. "
Jun	Jumper J3. Not used. Jumper J9. " Jumper J10. " Jumper J11. From DD to EE.
Jun Jun	Jumper J9. " Jumper J10. " Jumper J11. From DD to EE.
Jun	Jumper Jll. " Jumper Jll. From DD to EE.
	Ausper Jll. From DD to EE.

119 Capacitor. Tantalum. .22af 100136-22h 18 G106-906. G107-907. 120 Capacitor, Palyfilm. .15uf 100128-15u 9 0108-908.

DEADNO ASST. MET MASCHONICS PAB.

DEADNO ASST. MET MASCHONICS PAB.

DEADNO ASST. MET MASCH AND ASST. MASCH AND

.001nf 100077-102 9 C101-901.

330Kn 100156-334 18 F115-915. R116-916.

1002ks 92k A/R Jumper J1. From B to C

Jumper J2, From M to P

Jumper J3. Not used.

Jumper J9. " "

Jumper J10.

Jumper Jll. From DD to EE.

DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.

ML DRAWING NO. REV.	I	MATER	IAL LIST	==	ML 200521-013 M	7	TAM.
DATE 3/2/73 SHEET 35 OF 21	DRAWIT TITL	ASSY.DATA ELECTRONICS PWB 23-29.9 IPS. TIPE 'A' D/O		1,6	DATE 12/11/71 SHEET 17 OF 21	DRAW	WANGCO ASSI. DATA ELECTRONIC 30-39-91PS. TYPE 'A'
REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT, DESIG.	TEM NO.	DRAWING TITLE
C3h.	116	Capacitor, Poly0082uf	100077-822	1	C3h.	116	
	117					117	Capacitor, Pely00
C101-901.	118	Capacitor, Poly0015uf	100077-152	9	C101-901.	118	Capacitor, Pely0
C106-906_ C107-907.	119	Capacitor, Tantalum 17uf	100136-474	9	C106-906.	119	Capacitor, Pely0
C108-908.	120	Capacitor, Tantalum	100136-474	9	C107-907.	120	Capacitor. *
	121	Capacitor, Polyfilm27uf	100128-274	9	C106-908.	121	
R8.	122		1			122	Capacitor, Polyfilm
F115-915. F116-916.	123	Resistor, 5%. zw. 330	100156-331	1	R8.		Darker of 1
	16h	Resistor, " " 330K	100156-334	9	R115-915.	123	
	125	Resistor, " " 330K	100156-334	9	R116-916.	-	
	126	,				125	Resistor. " 3
Jumper Jl. From B to G	127					126	ļ
Jumper J2, From M to P	128				- E	127	
Jumper J3. Not used.	129	Wire, Solid Insulated.	100218-924	A/R	Jumper Jl. From B to C.	128	
Jumper J9.			1		Jumper J2. " M to P	129	Wire, Solid Insulated.
Jumper JlO. " "					Jumper J10. = R t S.	· 	
Jumper Jll. From DD to EE.					Jumper J3. Not used.	-	
					Jumper J9. "	1 -	
					Jumper Jll. From DD to EE.	-	
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ML DRAVING NO. 1816	I	MATERI	AL LIST	->	ML DRAWING NO. REV. 200521-014- M		

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I	ASSY, DATA PAROTRONI	TERI	l.	===	ML DRAWING NO. REV. M
PANI	lo-15 IPS. TIPS A. I	/OUP.	MODEL NO.	. 19	DATE 1/2/71 SHEET 10 OF 2/.
ITEM NO.	PRAWING TITLE		DWG, NO.	NO. REQ.	REMARKS ON CKT, DESIG.
116		_	100077-472	1	CN.
711			100225-152	1.	C41. \
118		_	100077-102	9	C101-901.
119	Copesitor, Tantalum.		100136-22h	18	C106-906. C107-907.
120	Capacitor, Polyfilm.	-Mar	100128-154	9	C108-908.
121		<u></u>			
122		30 h	100156-331	1	R8.
23	Registor.	30km	100156-334	18	R115-915. R116-916.
124		_			
145					
8			7,000 8,000		· · · · · · · · · · · · · · · · · · ·
127	Wire, Solid Insulated.		100248-924	***	Jumper J1. From B to C
128				A/R /	Jumper J2. From M to N
-		\dashv			Jumper J3. Not used.
					
-		+-		-	Jumper J10. Jumper J11. From DD to EE.
		+			Jumper SII. From ID to ES.
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cutout AA to BB :

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ASSY, DATA ELECTRONICS PMB.
23-29,9 IPS, TYPE 'A' D/O. MODEL NO. 10

Capacitor, Tantalum. .h7uf 100136-474

Resistor, 5%. Tw.

Resistor, " "

Resistor, " "

Wire, Solid Insulated.

116 Capacitor, Poly. .0082nf 100077-822 1 C34.

MATERIAL LIST

Capacitor, Poly. .0015uf 100077-152 9 C101-901.

Capacitor, Tantalum. .47uf 100136-474 9 C106-906.

Capacitor, Polyfilm. .27uf 100128-274 9 C108-908.

NO. DRAWING TITLE DWG, NO. NO. REQ. REMARKS ON CKT. DESIG.

330 100156-331 1 Rö.

330K 100156-33h 9 R115-915. 330K 100156-33h 9 R116-916.

DRAWING NO. REV.

DATE 12/14/71 SHEET 17 OF 21

9 | 0107-907.

1002L8-92L A/R Jumper Jl. From B to C.

Jumper J2. " M to P. .

Jumper JlO. * Rt S.

Jumper J3. Not used.

Jumper J9. " "

Jumper J11. From DD to EE.

1	MATERI		==	ML 200521 - 015 M
•	WANGED ASSY. DATA ELECTRORICS BA	В		
DRAWE	30-39.91PS. TYPE 'A' D/GA	P. MODEL NO.	10	DATE 10/1/72 SHEET 19 OF 21
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
116	Capacitor, Pely0047uf	100077-472	1	C34.
117				-
118	Capacitor, Pely00luf	100077-102	9	C101-901.
119	Capacitor, Tantalum33uf	100136-334	9	C106-906.
120	Capacitor, " .33uf	100136-334	9	C107-907.
121	Capacitor, Polyfilm18uf	100128-184	9	C108-908.
122				·*/
123	Resistor, 5%. 2w. 330	100156-331	1	R6.
124	Resistor. " 330K	100156-334	9	R115-915.
125	Resistor. " 330K	100156-334	9	R116-916.
126				
127				
128				
129	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From B to G.
				Jumper J2. * M * P.
				Jumper J3. Not used.
				Jumper J9. " "
				Jumper J10. From R to S.
				Jumper Jll. " DD " ES.
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M- or-28-

MATERIAL LIST

ITEM DRAWING TITLE DWG. NO. REO. REMARKS ON CKT. DESIG.

ASST. DATA ELECTRONICS PAB.
SPANNING 30-39.9 IPS. TYPE A. D.GAP. MODEL NO. 14

116 Cepesiter, Poly. _00k7af 100077-k72 1 C3h.

ML DRAWING NO. REV.

DATE 3/2/71 SHEET 15 OF 21

ML 200521-2029 M

MODEL NO. M DATE 12/11 SHEET 13 OF 21

MATERIAL LIST

119 Capacitor, Tantalum. .68uf 100136-68h 18 C106-906. C107-907.

MATERIAL LIST

123 Resistor. 330Kh 100156-334 18 R115-915. R116-916.

116 Capacitor, Poly. .0082uf 100077-822 1 C3h.

122 Resistor. 5%- tw. 330A 100156-331 1 R8.

 118
 Capacitor, Fely...
 .0015mf
 100077-152
 9
 C101-901.

 119
 Capacitor, Tantalum...
 .h7mf
 100136-k7k
 16
 C106-906...
 C107-907...

 120
 Capacitor, Pelyfilm...
 .27mf
 100128-47%
 9
 C108-908...

ASST. DATA ELECTRONICS PUB.
TITLE 23-29.9 IPS. TIPE A. IPGAP. MODEL NO. 15 DATE 1/2/71 SHEET 14 OF 21

ITEM DRAWING TITLE DEG. NO. REG. REMARKS ON CKT. DESIG.

116 Capacitor, Poly. .0082uf 100077-822 1 C34.

118 Capacitor, Poly. .0022nf 100077-222 9 Ch01-901.

120 Capacitor, Polyfilm. .33mf 100128-33k 9 G108-908.

DRAWING TITLE DWG. NO. NO. REQ. REMARKS ON CKT. DESIG.

330A 100156-331 1 R8.

560KA 100156-564 18 R115-915. R116-916.

1002h8-92h A/R Jumper Jl. From B to C

Jumper J2, From H to P

Jumper Jll. From DD to ES.

ML 200521-4350 //

10021,8-92h A/R Jumper Keess Jl. From B to C

Jumper J2. From M to P.
Jumper J3, Not ased.
Jumper J9. " "
Jumper J10. " "

Jumper Jll. From DD to EE.

Jumper J3. Not used.

Jumper 39. " "

Jumper JlO. " "

ASST. DATA ELECTRONICS PEB.

ITEM NO.

327

121

124

126

121

124 125 126

127 Wire, Solid Insulated.

122 Besister, 5%, ju.

123 Resistor. " "

127 Wire, Selid Insulated.

128 - in , i...1 :

DRAWN	ASST. DATA ELECTRONICS PO	B. MODEL NO.	20	DATE \$/2/71 SHEET 19 OF -2
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
176	Capaciter, Poly0047a		1	CN.
227		F 100225-152	1	C41.
118	Capacitor, Poly00lui		9	C101-901.
119	Copacitor. Tantalum27ui	100136-224	18	C106-906, C107-907.
120	Capacitor, Polyfilm15ui	100128-154	9	C108-908.
121				
122	Resistor, 5%, jw. 330ft	100156-331	1	R8.
123	Registor. " 330Kn	100156-334	18	R115-915. R116-916.
124				
145				
126				
127	Wire, Solid Insulated.	100218-921	-4/3>	Jumper Jl. From B to C
128			A/R	Jumper J2. From M to N
			>>>>	Jumper J3. Not used. ~
				Jumper J9. "
		L		Jumper J10. " i o
		1		Jumper Jil. From DD to EE.
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REMARKS ON CKT, DESIG.
C1.2.3.4.5.6.7.9.10.11.12.13.
014.15.16.17.18.19.20.21.22.23.
C24.28.29.30.31.32.37.38.39.40.
C10) -994.
G27.
327.
R118-918.
RL19. R104-904.
P3 23 . 023
R131-931. R121-921. R122-922.
R125-925.
2117-917.
R20.
R29.
EL.3.5.7.9.51. EL01-901.
R26. R112-912.
R73,
R18.
R2.4.6.13.31.33.35.10.
R102-902.
R28.
R15.19.40.47.52.
R38.41.72.
R74. R108-908. R109-909.
R39.
R17.22.25.30.32.44.53.57.70.
R71. R103-903. R106-906.
R107-907.
DRAWING NO. REV
ML 200521-00000 M
2/9/71 1 2/
_ DATE 3/2/11 SHEET 1 OF 2/
REMARKS ON CKT. DESIG.
REMARKS ON CKT. DESIG.
REMARKS ON CKT. DESIG.
U1.2,5.9.31.
U1.2,8.9,31. U3.4,5,6.7,15.
U1.2.6.9.31. U3.4.5.6.7.15. U26.27.28.
U1.2,6.9.31. 33.4.5.6.7.15. U26.27.28. U29.
U1.2.8.9.31. 33.4.5.6.7.15. U26.27.28. U29. U10.11.12.13.14.21.
U1.2,6.9,31. U3.4,5.6.7.15. U26.27.26. U29. U10.11.12.13.14.21. U22.23.24.25.
U1.2.8.9.31. 33.4.5.6.7.15. U26.27.28. U29. U10.11.12.13.14.21.
U1.2,8.9,31. U3.4,5.6.7.15. U26.27.28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19.20.
U1.2,8.9,31. U3.4,5.6.7.15. U26.27.28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19.20.
U1.2.5.9.31. 33.4.5.6.7.15. U26.27.28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19.20.
U1.2.6.9.31. 33.h.5.6.7.15. U26.27.28. U29. U10.11.12.13.1h.21. U22.23.2h.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.1h.15. Q101-901. Q102-902.
U1.2,5.9.31. 33.h.5.6.7.15. U26.27.28. U29. U10.11.12.13.1h.21. U22.23.2h.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.1h.15.
U1.2.5.9.31. 33.4.5.6.7.15. U26.27.28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.14.15. Q101-901. Q102-902. Q103-903. Q105-905.
U1.2.6.9.31. 33.h.5.6.7.15. U26.27.28. U29. U10.11.12.13.1h.21. U22.23.2h.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.1h.15. Q101-901. Q102-902. Q103-903. Q105-905. Q106-906. Q107-907. Q109-909.
U1.2.6.9.31. 33.h.5.6.7.15. U26.27.28. U29. U10.11.12.13.1h.21. U22.23.2h.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.1h.15. Q101-901. Q102-902. Q103-903. Q105-905. Q106-906. Q107-907. Q109-909.
U1.2.6.9.31. 33.h.5.6.7.15. U26.27.28. U29. U10.11.12.13.1h.21. U22.23.2h.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.1h.15. Q101-901. Q102-902. Q103-903. Q105-905. Q106-906. Q107-907. Q109-909. Qh.6.7.10.12. Q108-908.
U1.2.6.9.31. U3.4.5.6.7.15. U26.27.28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19.20. U30. G1.2.5.8.9.11.13.14.15. Q101-901. Q102-902. Q105-903. Q105-905. Q106-906. Q107-907. Q109-909. Q1.6.7.10.12. Q108-908.
U1.2,8.9,31. U3.4,5.6.7,15. U26.27,28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.14.15. Q101-901. Q102-902. Q103-903. Q105-905. Q106-906. Q107-907. Q109-909. Q1.6.7.10.12. Q108-908. Q104-904. Q3.
U1.2,8.9,31. U3.4,5.6.7,15. U26.27,28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19,20. U30. Q1.2,5.8.9.11.13.14.15. Q101-901. Q102-902. Q103-903. Q105-905. Q1.6-7.10.12. Q108-908. Q1.4-904. Q3. CR1.CR101-901. 102-902. CR103-903. 104-904.
U1.2,8.9,31. U3.4,5.6.7,15. U26.27,28. U29. U10.11.12.13.14.21. U22.23.24.25. U16.17.18.19.20. U30. Q1.2.5.8.9.11.13.14.15. Q101-901. Q102-902. Q103-903. Q105-905. Q106-906. Q107-907. Q109-909. Q1.6.7.10.12. Q108-908. Q104-904. Q3.

C109-909. C36. C102-902. C105-905. C35. C103-903.

DRAWING NO. REV.

200521 = 00000 M

DATE 3/2/T1/ SHEET 2 OF 21

REMARKS ON CKT. DESIG.

TITLE			MODEL NO		
EM O.	DRAWING TIT		DWG. NO.	NO. REQ.	
4	Resistor. 15. jw.		100155-317	20	RL2.55.RL20-920. RL23-923. RL1.12.LL.16.21.L5.
5	Resistor. 5%. "	5°fKU	100150=242	33	R105-905,R119-919,R124-924.
_	D-4-A 26 l	3.09Kn	100155-336	1	Rh3.
6	Resistor. 15. 2w.	3.381	100156-332	11	R2i, 5i, 56, 60, 75, R113-913.
' 	ASSISTOR. JA. "	11200	100100-006		R114-914.R129-929.R133-933.
.					1111-721-127-727-737-7376
8	Resistor. 5%. iw.	4.7Kn	100156-472	2	R34.58.
<u>, </u>	Resistor. "	5.1Kn	100156-512	1	R50.
1	Resistor. "	6.8Kn	100156-682	20	R16.59. R110-910. R111-911.
2	Resistor. "	8.2Kn	100156-822	1	R23.
3	Resistor. " "	1010	100156-103	19	R48:R126-926.R127-927.
4					
5	Resistor. " "	18K N	100156-183	1	R36.
6	Resistor. " "	39K n	100156-393	9	R130-930.
7	Resistor. " "	68K ℧	100156-683	10	R37.R132-932.
8	Resistor. " "	10 0 K Ω	100156-104	9	R61.62.63.64.65.66.67.68.69.
Ç.	Resistor. " "	550KU	100156-224	9	R128-928。
o'					
1					
2					
3	Connector, Head.	Male.	100137	2	J2. J5.
h	Cornector. 9 pin.		100247-001	1	J3. ·
5	Connector, 5 pin.		100247-005	1	نان
6	Pin, Male.		100098	33	Test Points.
7 .					
8					
9	Samuel Par Hand		100036-206	6	4 - 40 x 3/8*
30	Screw, Pan Head. Washer, Flat.		100036-206	6	No.h.
2	Washer, Int. Tooth	Lock.	100059-200	6	No.4.
3			2009/ 200	1	

T	\ } =	MATERI	AL LIST	=	ML	2005236-7023	MEV.
DRAWN	ASSY. DATA RIECTS 10-12.9 IPS. TYPE	ONICS PWE P. D/GAI	MODEL NO	26	DATE 3	178 SHEET 5 OF	-
ITEM NO.	DRAWING TITL	E	DWG, NO.	NO. REQ.	REM	ARKS ON CKT. DESIG.	
116	Capacitor, Mylar.	.015uf	100165-153	1	C34.		
117	Capacitor, POLYFILM	.005vF	100225-152	1	CL1.		
118	Capacitor, Poly.	.0033af	100077-332	9	C101-901	•	
119	Capaciter, Tantalum.	luf	100136-105	18	C106-906	. C107-907.	
120	Capacitor, Polyfilm.	.ù7uf	100128-474	9	C108-908	•	
121							
122							
123	Recistor. 5%. 1w.	750KA	100156-754	18	R115-915	. R116-916.	
124							
125							
126							
127	Wire, Solid Smoot Ins	ulated.	10021,6-921,	A/R	Jumper J	1. From A to C	
128	estry 7 dwar.		والسواء والا	1./	Jumper J	2. From M to M	
					Jumper J	3. From AA to BB	
					Jumper J	9. Not used.	
					Jumper J		
					Jumper J	11. From CC to DD	
			•				
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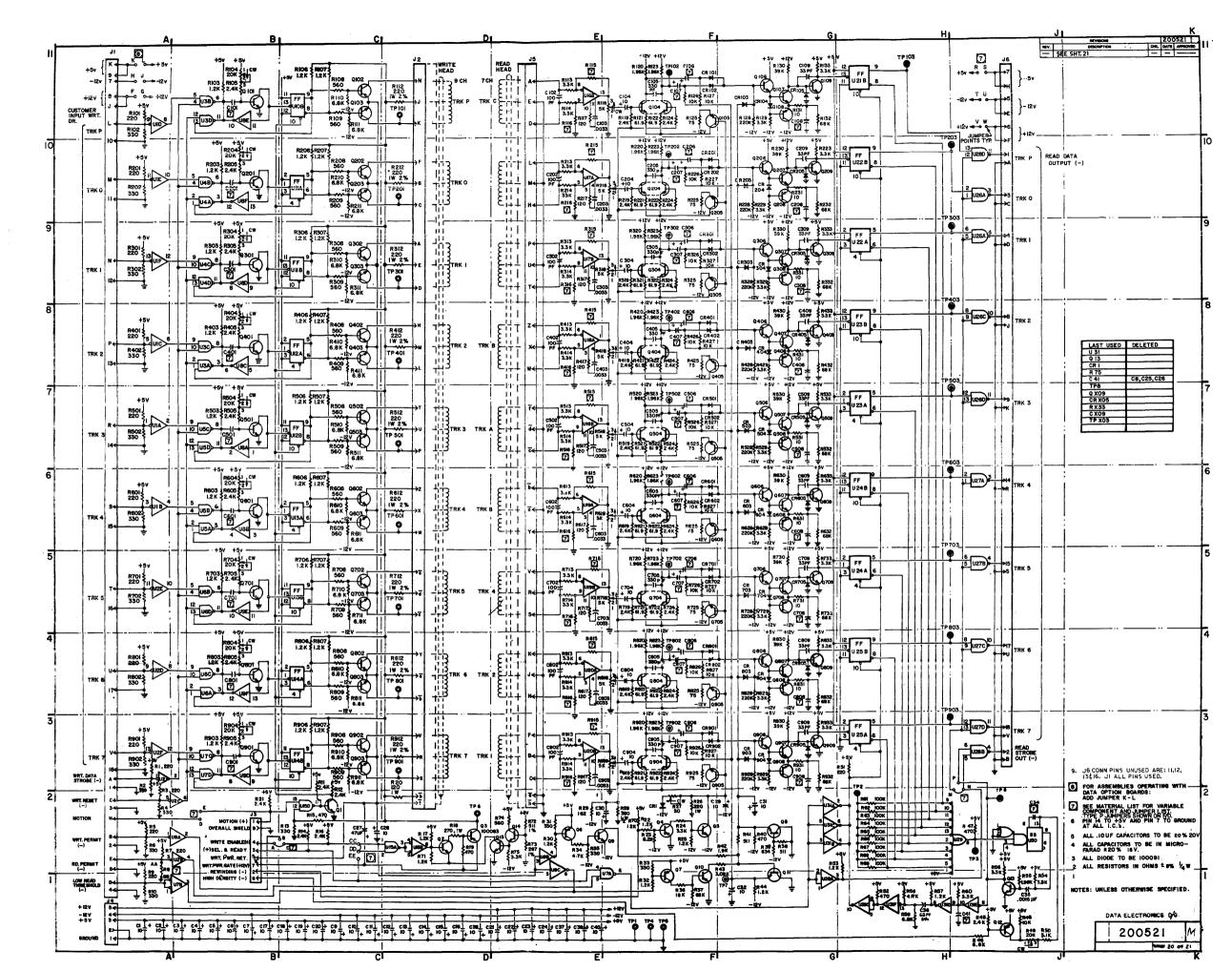
4	7	MATERI	AL LIST		ML DRAWING NO. REV.
1	DRAWI TITL	ASSY. DATA ELECTRONICS PAR 17-22.9 IPS. TYPE P. D/GAP.		16	DATE 3/2/71 SHEET 7 OF 2/
]	ITEM MO.	DRAWING TITLE	DAC' NO'	NO. REQ.	ŘEMAŘKŠ ON ČKY. DESIG.
]	116	Capacitor, Pely0082af	100077-822	1	C3k.
L	117	Capaciter, POLY.:	100225-152	1	CL1.
_	118	Capaciter, Poly0022mf	100077-222	9	C101-901.
1	119	Capacitor, Tantalma68uf	100136-684	1,8	C106-906. C107-907.
Ĺ	120	Capacitor, Polyfilm33mf	100128-334	9	C108-908.
┛	121				
	122				
	123	Resistor. 5%, tw, 560KA	100156-564	18	R115-915. R116-916.
]	124				
J	125				
] ·	126				
] :	127	Wire, Solid Insulated.	100248-924	A/R	Jumper Jl. From A to C
ال	128	e Logic Ros	1 11275-17	/	Jumper J2. From M to M
1.					Jumper J3. From AA to BB.
]					Jumper J9. Not used.
]					Jumper JlO. " "
]					Jumper Jll. From CC to DD.
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1764 1764 116 117 118 119	Capacitor, Poly	DWG, NO.	NO. REQ.	DATE 3/2/71 SHEET 9 OF REMARKS ON CKT. DESIG.
116 117 118 119	Capacitor, Poly00k7uf	100077-472		REMARKS ON CKT. DESIG.
117 118 119	Capacitor, POLY			
118 119			1	C54.
119	Capacitor, Poly001mf	100825-152	1	Chl.
		100077-102	9	C101-901.
120	Capacitor, Tantalum33uf	100136-334	1.6	C106-906- C107-907-
	Capacitor, Polyfilm, .l8uf	100128-184	9	C108-908.
121				
122				
123	Resister. 5%. 2w. 350Kf	100156-334	18	R115-915. R116-916.
12h				
125				
126				
127	Wire, Solid Insulated.	10021-8-921	A/R	Jumper Jl. From A to C
126	is, Stow	121, 120-100	1.	Jumper J2. From M to N
				Jumper J3. From AA to EB.
\neg				Jumper J9. Not used.
				Jumper JlO. "
		1		Jumper Jll. From CC to DD
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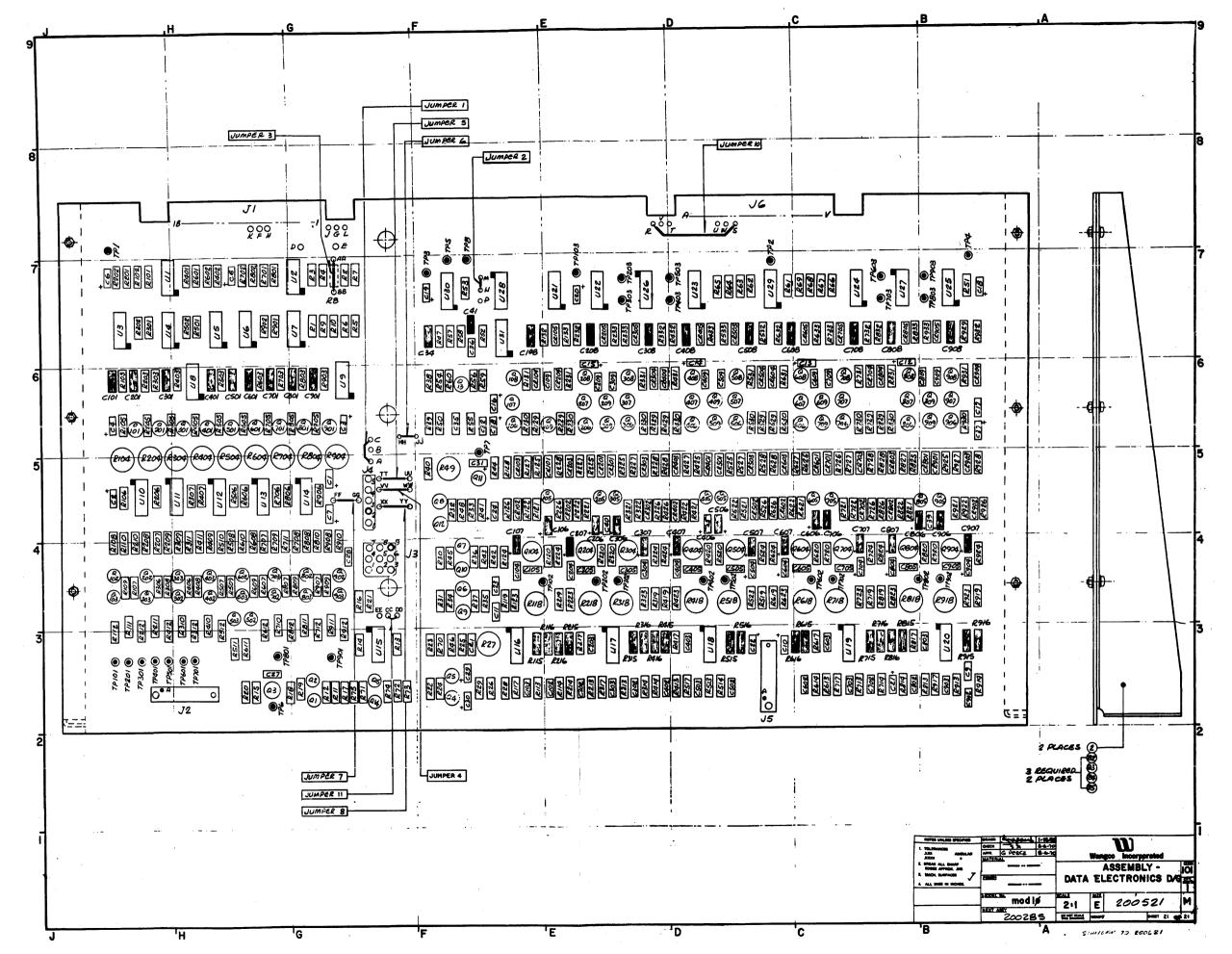
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F	Ì	MATERI	AL LIST		ML DRAWING NO. REV. 200528-00000 M	1	.	AL LIST	=	ML DRAWING NO. REV.
ŀ	PATE	ASSI. DATA ELECTRONICS PAB. BASIC BOARD, DUAL GAP.	. MODEL NO	3 3	DATE #2/73 SHEET & OF 21	PRA	ASSI. DATA ELECTRONICS PAR 13-16.9 IPS. TIPE P. D/OAT	MODEL NO.	12	DATE \$2/71 SHEET 6 OF 21
	TEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.	IT EA	. DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
8	Ĩ.	Met, Hexo	100043-200	6	ir = 40.	116	Capacitor, Pely0082uf	100077-822	1	,C3i4.
8	5			<u> </u>		117	Capacitor, FOLY.12	100225-152	1	라 1.
[8	6					118	Capacitor, Poly0033uf	100077-332	9	C101-901.
8	7	Artwerk, Master.	200366	Ref.		119		100136-684	1.8	C106-906. C107-907.
[8	8	Wire, Solid Insulated.	10021,8-921,	A/R	Jumper Jh. From WV to WW.	120	Capacitor, Palyfilm47uf	100128-474	9	C108-908.
Γ					Jumper J5. " TT " UU.	121				
Γ			·	Ī	Jumper J6. " HH " JJ.	122				
Г		THESE JUMPERS ARE TO BE			Jumper J7. " FF " OG.	123	Resistor. 5%. jw. 560Kn	100156-564	1,8	R115-915. R116-916.
	-	. MISO ON ALL VERSIONS		1	Jumper J8. " XX " YY.	124				
						125				
٢						126				
\vdash			٠.			127	Wire, Solid Insulated.	10021,8-921,	A/R	Jumper Jl. From A to C
Г						126	1 , 1 .	71.14 20 21	1.7	Jumper J2. From M to N
Γ				T						Jumper J3. From AA to BB.
									T	Jumper J9. Not used.
۲										Jumper J10. " "
Τ										Jumper Jll. From CG to DD.
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Γ							T			
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T	•	MATERI	AL LIST		ML 200521-PRIM
DRAWN	ASSY DATA ELECTRO 23-29.9 IPS. TIPE	NICS PMB. P. D/GAI	MODEL NO.	Ŋ	DATE 3/2/71/ SHEET 8 OF
ITEM NO.	DRAWING TITLE	E	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
116	Capaciter, Pely.	.0082af	100077-822	1	03h.
117	Capacitor, POLY.io.	.oól€u€	106225-152	1	Q.1.
128	Capacitor, Pely.	.0015uf	100077-152	9	0102-901.
119	Capacitor, Tantalum.	.di7af	100136-474	18	0106-906. 0107-907.
120	Capacitor, Polyfilm.	.27uf	100128-274	9	C108-908.
121					
122					
123	Resister, 5%. iw.	330EA	100156-334	1.8	B115-915. B116-916.
124					
125					
126					
127	Wire, Solid Insulated	١.	100248-924	A/R	Jumper Jl. From A to C
126	e diny malans		1 mg. = 02	7	Jumper J2. From M to M
					Jumper J3. From AA to BB
\neg					Jumper J9. Not used.
					Jumper JlO. " "
					Jumper Jll. From CC to DD
$\neg \neg$					
					<u> </u>
\neg					
\neg					
$\neg \uparrow$					

	<u> </u>			1
				1
_				DRAWING NO.
I	MATE!	HAL LIST	=	ML 200521-006
DRAWR	ASSI. DATA RECTRONICS P	MODEL NO.	Ŋ	DATE \$2/71 SHEET 10 OF
ITEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
116	Capacitor, Poly0047a	100077-472	1	C34.
117	Capacitor, POLY00158	100225-152	1	CL1.
118	Capacitor, Poly001u	100077-102	9	C101-901.
119	Capacitor, Tantalum, .22u	100136-224	18	C106-906. C107-907.
120	Capacitor, Polyfilm15u	100128-154	9	C108-908.
121				
122				
123	Resistor. 5%. iw. 330K	100156-334	38	R115-915. R116-916.
124	15 15 15 15			·
125				
126				
127	Wire, Solid Insulated.	10021.8-921.	A/R	Jumper Jl. From A to C
128	,	1 8 - "	1	Jumper J2. From M to H
				Jumper J3. From AA to BB
				Jumper J9. Not used.
				Jumper JlO. " "
		.1		Jumper Jll. From CC to DD.
				•
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i				



B-35. Schematic, Data Electronics, Dual Gap, PWB



B-36. Assembly, Data Electronics, Dual Gap, PWB

	and the second second	<u> </u>		
J.	MATERI	AL LIST		ML 201142 - 000 D
•	WANGCO			201142-000 5
IIIC	ASSY, DATA ELECTRONICS PWB	MODEL NO.	11	DATE 3-30-72 SHEET 1 OF 36
NO.	DRAWING TITLE .	D45, NO.	NO. REQ	REMARKS ON CKT, DESIG.
1	BOARD, PROCESSED	201141	1	
2	ARTWORK, MASTER	201140	REF	
3	TEST PROCEDURE	200287	REF	
4	I.C. HEX INVERTER	100084	5	UI,2,8,9,31
5	I.C. QUAD 2 INPUT NAND	100085	6	U3, 4, 5, 6, 7, 15
6	I.C. QUAD 2 INPUT POWER	100086	4	U 26, 27, 28, 32
7	I.C. IO INPUT NAND	100087	ı	U29
8	I.C. DUAL FLIP FLOP	100088	10	U10, II, I2, I3, I4, 21, 22, 23, 24
				U25
9	I.C. OPERATIONAL AMPLIFIER	100089	5	VI6, 17, 18, 19, 20
10	I.C. MONOSTABLE	100090	1	U3 0
11				
12	TRANSISTOR, NPN 2N4123	100080	72	Q1,2,8,5,9,11,13,14,15.
	·			Q101-901 Q102-902 Q103-903
				Q105-905 Q106-906 Q107-90
				Q109-909
13	TRANSISTOR, PNP 2N4125	100081	14	Q4,6,7, 10,12, Q108-908
14	TRANSISTOR, DUAL NPN TDIOI	100082	9	Q104 - 904
15	TRANSISTOR, PNP MPS-U51	100083	1	Q3
16				
17				
18	DIODE, SIGNAL IN914	100091	. 46	CRI CRIOI-901 CRI02-902
				CR103-903 CR104-904
				CR105-905
19	DIODE, RECTIFIER IN4003	100127	1	CR2
20				
21	CAPACITOR, CERAMIC 33PF	100073-330	9	C109 - 909
22	CAPACITOR, MICA 68PF	100243-680	1	C 36
23	CAPACITOR, CERAMIC 100 PF	100073-101	9	C102 - 902
24	CAPACITOR, " 220 PF	100073-221	9	C 105 - 905
25	CAPACITOR, POLYFILM .OOISUF	100077-152	1	C35

I	WANGCO-	ATERI	AL LIST	=	ML 201142 - 000
DRASS	ASSY., DATA ELECTRONIC	S, PW	MODEL NO.	ii.	DATE 3-30-73 SHEET 3 OF 34
ITEM NO.	DRAWING TITLE		DNG. NO.	HO. REQ.	REMARKS ON CKT. DESIG.
55	RESISTOR 1% 1/4W	634	100155 - 270	ī	R39
56					
57	RESISTOR 5% 1/4W	LZK	100156 - 122	37	R17, 22, 25, 30, 32, 44, 53, 57, 70, 7
					R 103-903 RI06-906 RI07-90
	DECIETOR 18 MAIN	1.564	100155 717	20	D42 44 D120 420 D127 42
58	RESISTOR 1% 1/4W		100155 - 317		R42,55 RI20-920 RI23-92
59	RESISTOR 5%	2.4K	100156-242	33	RII,12,14,16,21,45
					RI05-905 RII9-919 RI24-9
60	RESISTOR 1% 1/4W		100155-336	1	R 43
61	RESISTOR 5%	3.3K	100156-332	41	R24, 54, 56, 60,75 R113-91
					RII4-914 RI29-929 RI33-93
62	RESISTOR 5% I/4W	4.7K	100156-472	2	R34,58
63	RESISTOR " "	5.1K	100156-512	2	R48,50
64	RESISTOR "	6.8K	100156-682	20	R46,59 RIIO-910 RIII-911
65	RESISTOR " "	8.2K	100156-822	1	R23
66	RESISTOR " "	10 K	100156-103	18	R 126 -926 R 127 - 927
67					
68	RESISTOR 5% 1/4W	18K	100156-183	1	R36.
69	RESISTOR " "	39K	100156-393	9	R 130 - 930
70					
71	RESISTOR 5% 1/4W	68K	100156-683	10	R37, R132 - 932
72	RESISTOR	юк	100156-104	9	R 61,62,63,64,65,66, 67,68,69
73	RESISTOR 5% 1/4W	220K	100156-224	9	R128 - 928
74					
75	CONNECTOR, 9 PIN		100247-001	15	J3
76	CONNECTOR, 5 PIN		100247-005	1	J4
77	PIN, MALE		100098	33	TEST POINTS
78	CONNECTOR, HEAD		100137	2	J2, J5 *

J.		AL LIST	-	ML 201142-001
DRASS	ASSY., DATA ELECTRONICS, PW 75 IPS TYPE "P" DG 9 TRK	B .		
TITL	75 IPS TYPE "P" DG 9 TRK	MODEL HO	!!	Oute 2-13-73 SHEET 5 OF 36
17EM NO.	DRAWING TITLE	D=G, HO.	NG. REQ.	REMARKS ON CRT. DESIG.
81	CAPACITOR, MYLAR .0022UF	100165-222	1	C34
82	CAPACITOR, POLYESTER .0015 UF	100225-152	1	C41
83	CAPACITOR POLYSTYRENE SIOPF	100077-511	9	C101 - 901
84	CAPACITOR, TANTALUM . 15UF	100136-154	9	C106-906
85	CAPACITOR, TANTALUM .ISUF	100136-154	9	CIO7 - 907
86	CAPACITOR, POLYFILM .082UF	100078-823	9	C108 - 908
87				
88				
89	RESISTOR 5% 1/4W. ISOK	100156-154	9	R115 - 915
90	RESISTOR 5% 1/4W ISOK	100156-154	9	R116 - 916
91				
92				
93	SCREW, CAPTIVE	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C
				JUMPER J2 " M " N
				JUMPER J3 " AA " BB
				JUMPER J9 NOT USED
	·		,	JUMPER JIO " "
				JUMPER JII FROM CC TO DD
				JUMPER JI2 " GG " HH
				
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1	MATER	IAL LIST	=	ML 201142-003
PART	ASSY, CATA ELECTRONICS, PW	K MODEL NO.	н	DATE 2-13-73 SHEET 7 OF
17 Em NC.	DRAWING TITLE	0 = G. NO.	NO. 8EJ.	REMARKS ON CKT. DESIG.
18	CAPACITOR, POLYSTYRENE .0047UF	100077-472	1	C34
82 .	CAPACITOR, POLYESTER .0015UF	100225-152	1	C41
83	CAPACITOR, POLYSTYRENE .OOJUF	100077-102	9	CIOI - 901
84	CAPACITOR, TANTALUM .22 UF	100136-224	9	C106 - 906
85	CAPACITOR, TANTALUM .22 UF	100136- 224	9	CIO7 - 907
86	CAPACITOR, POLYFILM .15 UF	100128 - 154	9	C108 - 908
87		i		
88				
89	RESISTOR 5% 1/4W 330 K	100156-7334	9	RII5 - 915
90	RESISTOR 5% 1/4W 330 K	100156 - 334	9	R116-916
91				
92				
93	SCREW, CAPTIVE	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C
				JUMPER J2, " M " N
				JUMPER J3 " AA " BE
				JUMPER J9 NOT USED
			,	JUMPER JIO " "
				JUMPER JII FROM CC TO D
				JUMPER JI2 " GG " H
				:
	A La Company			
i			ì	

J.	T . : ==	ATERI	AL LIST	=	ML 201142-000 D
DRAWI	WANGCO	s pwn	_ MODEL NO	11	DATE 3-30-73 SHEET 2 OF 36
1754					
MQ.	DRAWING TITLE		D=G, NO.	NO. REQ	REMARKS ON CKT, DESIG.
26	CAPACITOR, CERAMIC .	0033UF	100073-322	9	C103 - 903
27					
28				-	C104-904
29	CAPACITOR, TANTALUM			<u> </u>	
30	CAPACITOR, "	10 UF	100070-106	32	C1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13
					C14, 15, 16, 17, 18, 19, 20, 21, 22, 23
_					C24,28,29,30,31,32,37,38,39,4
				ļ	
31					
32					
33				<u> </u>	
34	RESISTOR, VARIABLE	50			R27
35	RESISTOR.	5K		9	RII8 - 918
36	RESISTOR, "	20K	100069-203	10	R49, R104 - 904
37					
38	RESISTOR 5% 1/4 W	10	100156 - 100	9	RI31 - 931
39	RESISTOR 1% "	61.9		18	R121-921 R122-922
40	RESISTOR	75	100155-181	9	R125-925
41	RESISTOR 5%	150	100156-121	9	R117 - 917
42	WE313 TON 1 W	120		1	R20
43	RESISTOR 1% 1/4 W	162	100155-213		R29
44					
45	RESISTOR 5% I/4W	220	100156-221		R 51
46	RESISTOR 2% IW	220	100142-221	10	R26 R112 - 912
47	RESISTOR 1% 1/4W	267	100155-234	1	R73
48	RESISTOR, 5% IW	270			RIS
49	RESISTOR 5% 1/4W	330	100156-331	4	R 13, 31, 33, 35
50	RESISTOR 5% 1/2 W	390	100064-391		R 28
51			100:00 000	<u> </u>	212 12 12 12 12
52	RESISTOR 5% 1/4W	470		5	R15, 19, 40, 47, 52
53	RESISTOR 1% "	511	100155-261	19	R38, 41, 72 R74, RIOS-908 RIO9-909

A		AL LIST	=	ML 201142 - 000
DRAW	WANGED HEASSY, DATA ELECTRONICS, PWB	MODEL NO.	Ħ	DATE 6-20-72 SHEET 4 OF
ITEM NO.	DRAWING TITLE	DwG. NO.	NO. REQ.	
81		 	 	
82	- 		 	
83	 	 	 	
84		 	 	
85			 	
86			 	
87				
88				
89				
90				
91				
92				
93				
94		·		
95				
96	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER J4 FROM V TO W
				JUMPER J5 " T " U
				JUMPER J6. " H " J JUMPER J7 " F " G
-	THESE ARE PERMANENT			JUMPER J7 " F " G JUMPER JB " X " Y
	JUMPERS THAT MUST BE		-	TOMPEN TO X
	INSTALLED ON ALL BOARDS.			······································
	.,.,			
		l	1	

DRAG	ASSY., DATA ELECTRONICS, PW	B MODEL NO	11	DATE 2-13-73 SHEET 6 OF 3
17.5± NO.	DRAWING TITLE	P=G, NO.	NO. REQ	REMARKS ON CAT. DESIG.
81	CAPACITOR, MYLAR .0022UF	100165-222	1	C34
82				
83	CAPACITOR, POLYSTYRENE SIOPF	100077-511	9	CIOI 901
84	CAPACITOR, TANTALUM .15UF	100136-154	9	C106 - 906
85	CAPACITOR, TANTALUM .15UF	100136-154	9	C107 - 907
86	CAPACITOR, POLYFILM .082UF	100078-823	9	C108 - 908
87				
88				
89	RESISTOR 5 % 1/4W 150K	100156-154	9	RII5 - 915
90	RESISTOR 5% 1/4W 150K	100156-154	9	R116-916
91				
92				
93	SCREW, CAPTIVE .	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C
				JUMPER J2 " M " P
				JUMPER J3 NOT USED
	'			JUMPER J9 " "
			,	JUMPER JIO " "
				JUMPER JII FROM DO TO EE
				JUMPER JIZ " GG " HE
	•			
				•
-				

J.	MATERI	AL LIST		ML 201142-004
TITL	ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE "A" DG 9TR	B K MODEL NO	11	DATE 2-13-73 SHEET 8 OF 36
171.w No.	DRAWING TITLE	. D=G. NO.	NO. REQ.	REMARKS ON CRT. DESIG.
81	CAPACITOR, POLYSTYRENE .0047UF	100077-472	ī	Ç34
82	·			
83	CAPACITOR, POLYSTYRENE . 001 UF	100077-102	9	CI01 901
84	CAPACITOR, TANTALUM .22 UF	100136-224	9	C106-906
85	CAPACITOR, TANTALUM .22 UF	100136- 224	9	CIO7 - 907
86	CAPACITOR, POLYFILM .15 UF	100128~154	9	CI08 - 908
87				
88				
89	RESISTOR 5 % 1/4W 330K	100156-334	9	RII5 - 915
90	RESISTOR 5% 1/4W . 330K	100156-334	9	R116 - 916
91				
92				
93	SCREW, CAPTIVE	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C
				JUMPER J2 " M " P
				JUMPER J3 NOT USED
				JUMPER J9 " "
				JUMPER JIO " "
				JUMPER JII FROM DO TO EE
				JUMPER JI2 " GG " HH
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				·····
				·
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4	i .	i	i	

New "P" TYPE MODIFES IN MODIO DATIVE"

1	MATERI	AL LIST		MI DRANING NO. REV.
ı	WANGED		_	IVIL 201142-005 D
DPANS TeTL	ASSY., DATA ELECTRONICS, PW "G 30-39.9 IPS TYPE "P" DG 9T	B RK HODEL NO	11	DATE 2-13-73 MEET 9 OF 36
175M	DRAWING TITLE	D+G. HO.	NO. REQ.	REMARKS ON CKT. DESIG.
91	CAPACITOR, POLYSTYRENE .0047UF	100077-472	ı	C34
82	CAPACITOR, POLYESTER .0015 UF	100225-152	1	C4I
83	CAPACITOR, POLYSTYRENE . OOI UF	100077-102	9	C101 - 901
84	CAPACITOR, TANTALUM .33UF	100136-334	9	C106-906 ·
85	CAPACITOR, TANTALUM .33UF	100136-334	9	CIO7 - 907
86	CAPACITOR, POLYFILM . 18 UF	100128-184	9	CI08 - 908
87				
88	·			
89	RESISTOR 5% 1/4W 330K	100156-334	9	RII5 - 915
90	RESISTOR 5% 1/4W 330 K	100156-334	9	R116 - 916
91				
92				
93	SCREW, CAPTIVE	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C
				JUMPER J2 " M " N
				JUMPER J3 " AA " BB
	s s _e to			JUMPER J9 NOT USED
			,	JUMPER JIO " "
				JUMPER JII FROM CC TO DD
				JUMPER JI2 " GG " HH
	The state of the state of			
		•		
			i	

•	ASST., DATA ELECTRONICS, PW	В		201142-007
	ASST., DATA ELECTRONICS, PW 23-29.9 IPS TYPE "P" DUAL GA 9 TRK	P MODEL NO.	11	- PATE 2-13-73 SHEET 11 OF 36
Ng.	DRAWING TITLE	DeG, NO.	NO. REQ	REMARKS ON CKT. DESIG.
ВІ	CAPACITOR POLYSTYRENE.0082UF	100077-822	1	C34
82	CAPACITOR, POLYESTER .0015 UF	100225-152	1	C41
83	CAPACITOR, POLYSTYRENÉ DOISUF	100077-152	9	C101 - 901
84	CAPACITOR, TANTALUM .47 UF	100136-474	9	C106-906
85	CAPACITOR, TANTALUM . 47UF	100136-474	9	CIO7 - 907
86	CAPACITOR, POLYFILM .27 UF	100078 - 274	9	CIO8 - 908
87				
88				
89	RESISTOR 5% 1/4W 330K	100156-334	9	R115 - 915
90	RESISTOR 5% 1/4W 330K	100156-334	9	RI 16 - 916
91				
92		·		
93	SCREW, CAPTIVE	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C
				JUMPER J2 " M " N
	,			JUMPER J3 " AA " 88
				JUMPER J9 NOT USED
				JUMPER JIO " "
				JUMPER JII FROM DD TO EE
				JUMPER JI2 " GG " HH
]				
		•		

1	MATERI		=	ML 201142-009
•	WANGED ASSY., DATA ELECTRONICS, PW 10-45 IPS TYPE "P" DG 9TRK	·B		
		MODEL NO	11	DATE 2-13-73 MEET 13 OF 3
175M	SRAWING TITLE	* D+S, NO.	NO. REG.	REMARKS ON CKT, DESIG.
81	CAFACITOR, POLYSTYRENE.0047UF	100077-472	1	C34
82	CAPACITOR, POLYESTER .0015 UF	100225-152	1 '	C41
83	CAPACITOR, POLYSTYRENE .001UF	100077-102	. 9	CIOI - 901
84	CAPACITOR, TANTALUM . 22UF	100136-224	9	C106 - 906
85	CAPACITOR, TANTALUM .22UF	100136-224	9	C107 - 907
86	CAPACITOR, POLYFILM . 15 UF	100078-154	9	CI08 - 908
87				
88				
89	RESISTOR 5 % 1/4W 330 K	100156-334	9	R115 - 915
90	RESISTOR 5% 1/4W 330 K	100156-334	9	RI16-916
91				
92				
93				
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C
				JUMPER J2 " M " N
				JUMPER J3 " AA " BB
	•			JUMPER J9 NOT USED
				JUMPER JIO " "
				JUMPER JII FROM CC TO DO
	•			JUMPER JI2 " GG " HH
95				•
96				
97				
98				
99				
100	BRACKET, MOUNTING	200016	2	
101	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"
102	WASHER, FLAT	100047-200	6	NO. 2
103	WASHER, INT. TOOTH LOCK	100059-200	\$	NO. 2
104	NUT, HEX	100043-200	6	2 - 56
_				

J.	MATERI	AL LIST	_	М	DRASING NO.	ngv.	-
ı	WANGCO			IVIL	201142-011	10	-
TITL	ASSY. DATA ELECTRONICS, PW 30-39.9 IPS TYPE "P" DG 9TRK	. MODEL NO	11	_ DATE 2-1	3-73 SHEET 15 OF	36	٩
5.	DRAWING TITLE	* 045. NO.	NO. REJ.	REMA	RKS ON CKT. DESIG.		1
11	CAPACITOR, POLYSTYRENE .0047 UF	100077-472	1	C34			.8
2	CAPACITOR, POLYFILM .0015UF	100225-152	1	C41			8
3	CAPACITOR, POLYSTYRENE .001 UF	100077-102	9	CIOI 90			В
4	CAPACITOR, TANTALUM .33 UF	100136-334	9	C106-90	5		8
5	CAPACITOR, TANTALUM .33UF	100136-334	9	CIO7 - 90	7		8
6	CAPACITOR, POLYFILM .18 UF	100128 - 184	9	C108 - 90	9		8
7							8
8							e
9	RESISTOR 5 % 1/4W 330K	100156-334	9	RII5 - 915	5		8
a	RESISTOR 5% 1/4W 330K	100156-334	9	RI 16 - 91	5		9
1							9
2							9
3							9
4	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER	JI FROM A TO C		9
				JUMPER	J2 " M " M		
Ш				JUMPER	J3 " AA " BI	3	
				JUMPER			<u> </u>
1				JUMPER	JIO " "		<u> </u>
1				JUMPER	JII FROM CC TO	00	L
Ц				JUMPER	J12 " GG " I	HH	<u> </u>
4							95
5							96
-						_	97
쁴							98
9							99
- 11	BRACKET, MOUNTING	200016	2				100
-	SCREW, PAN HEAD	100036-206	6	2-56 X 3	3/8"		10
-	WASHER, FLAT	100047-200	6	NO, 2			10
-	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2			10
4	NUT, HEX	100043-200	6	2 - 56			10
					· · · · · · · · · · · · · · · · · · ·		<u> </u>

1	MATERI	AL LIST	-	ML 201142-006 D
4	WANGED MICE BY	R		201142-000 0
	ASSY, DATA ELECTRONICS, PW 30-39.9 IPS TYPE "A" DUAL GAP 9 TRK	MODEL NO.	11	PATE 2-13-73 SHEET 10 OF 36
111 M NÇ.	DRAWING TITLE	. DeG. NO.	NO, REQ	REMARKS ON CAT, DESIG.
81	CAPACITOR , POLYSTYRENE .0047	100077-472	- 1	C34
82				
83	CAPACITOR, POLYSTYRENE .001 UF	100077-102	9	C101 - 901
84	CAPACITOR, TANTALUM .33UF	100136-334	9	C106-906
85	CAPACITOR, TANTALUM .33UF	100136-334	9	CIO7 - 907
86	CAPACITOR, POLYFILM	100128-184	9	CI08 - 908
87	4 4 7 4			
88				
89	RESISTOR 5 % 1/4W 330K	100156-334	9	RII5 - 915
90	RESISTOR 5% 1/4W 330 K	100156-334	9	RI 16 - 916
91				
92				
93	SCREW, CAPTIVE	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C
				JUMPER J2 " M " P
				JUMPER J3 NOT USED
	·			JUMPER J9 " "
				JUMPER JIO " "
٠.				JUMPER JII FROM DD TO EE
				JUMPER JI2 " GG " HH
		,		
				

I		AL LIST	=	ML 201142-008 D
I FL	ASY. DATA ELECTRONICS, PW 23-29.9 IPS TYPE A DG STRI	B MODEL NO	11	DATE 2-13-73 SHEET 12 OF 36
i.*	DRAWING TITLE	- 0-5. NO.	10. REQ.	REMARKS ON CKT. DESIG.
1	CAPACITOR, POLYSTYRENE.0082UF	100077-822		C34
2				
3	CAPACITOR, POLYSTYRENE .0015UF	100077-152	9	C101 - 901
4	CAPACITOR, TANTALUM .47UF	100136-474	9	C106-906
5	CAPACITOR, TANTALUM .47UF	100136-474	9	CIO7 - 907
6	CAPACITOR, POLYFILM .27UF	100078-274	•	CIO8 - 908
7				
8				•
9	RESISTOR 5 % 1/4W 330 K	100156-334	9	RII5 - 915
0	RESISTOR 5% 1/4W 330K	100156-334	9	R116-916
1			-	
2				
3	SCREW, CAPTIVE	100262	5	
4	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C
				JUMPER J2 " M " P
				JUMPER J3 NOT USED
				JUMPER J9
				JUMPER JIO " "
		***************************************		JUMPER JII FROM DD TO EE
	Y			JUMPER JIZ " GG " HH
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_				
				** . * . *. * . * . * . * . * . * . * .
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				1

J.		AL LIST	=	ML 201142-010 D
	WANGED			7 201142 010 13
•	ASSY, DATA ELECTRONICS, PW.	MODEL NO.	11	DATE 2-13-73 SHEET 14 OF 36
HC.	DRAWING TITLE	* 0+6, 40.	ND. REQ	REMARKS ON CRT. DESIG.
81	CAPACITOR, POLYSTYRENE .0047 UF	100077-472	1	C34
82				
83	CAPACITOR, POLYSTYRENE .001UF	100077-102	9	CIOI - 901
84	CAPACITOR, TANTALUM .22UF	100136-224	9	C106 - 906
85	CAPACITOR, TANTALUM .22UF	100136-224	9	CIO7 - 907
86	CAPACITOR, POLYFILM .15 UF	100128 - 154	9	CIO8 - 908
87.				
88				-
89	RESISTOR 5 % 1/4W .330K	100156-334	9	R115 - 915
90	RESISTOR 5% 1/4W 330K	100156-334	. 9	RI 16 - 916
91				
92				
93			1	1000 E 10 E 100
94	WIRE, SOLID INSULATED	100248-924	AZA	JUMPER JI FROM B TO C
			Ŋ	JUMPER J2 " M "
		(1	JUMPER JS NOT USED
			***	JUMPER J9 " "
			1	JUMPER JIO " "
				JUMPER JII FROM DD TO EE
			ं	JUMPER JIZ " 66 " HH
95				
96				
97				
98				
99				
100	BRACKET, MOUNTING	200016	2	
101	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"
102	WASHER, FLAT	100047-200	6	NO. 2
103	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2
104	NUT, HEX	100043-200	6	2 - 56

	<u> </u>				
3	MATERI	AL LIST		MI DRANING NO. REV.	77
1	WANGED		=	1VIL 201142-012 D	U
67A	ASSY., DATA ELECTRONICS, PW 30-39-9 IPS TYPE "A" D6 9TRI	B MODEL NO	11	DATE 2-13-73 SHEET 16 DE 36	Dear no.
125.	SRAWING TITLE	- D+G, NO.	NO. REQ.	REMARKS ON CKT. DESIG.	ITEM NO.
81	CAPACITOR, POLYSTYRENE .0047UF	100077-472	1	¢34	81 (
82					82
83	CAPACITOR, POLYSTYRENE .OOIUF	100077-102	9	CIQI - 901	83 (
84	CAPACITOR, TANTALUA .33UF	100136-334	9	c106 - 906	84 (
85	CAPACITOR, TANDLUM .33 UF	100136-334	9	CIO7 - 907	85 (
86	CAPACITOR POSSILLE IS UF	100128-184	9	C108 - 908	86 (
87	100.04				87
188	5° h				88
1 9	RESISTOR 5 % 1/4W 330K	100156-334	9	R115 - 915	89 1
90	RESISTOR 5% 1/4W 330K	100156-334	9	RI 16 - 916	90 1
91					91
92					92
93					93
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C	94
				JUMPER J2 " M " P	
	-			JUMPER J3 NOT USED	
				JUMPER J9 " "	
	1			JUMPER JIO " "	
				JUMPER JII FROM DD TO EE	
				JUMPER JI2 " GG " HH	
95					95
96	•				96
97					97
98					98
99					99
100	BRACKET, MOUNTING	200016	2		100 E
101	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"	101 !
102	WASHER, FLAT	100047-200	6	NO. 2	102
103	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2	103
104	NUT, HEX	100043-200	6	2 - 56	104
	• • • • • • • • • • • • • • • • • • • •				

-	AL LIST	=	ML 201142-005 D	I		AL LIST	-	ML 201142-007 D
TI	K MODEL HO	11	DATE 2-13-73 SHEET 9 OF 36		ASST., DATA ELECTRONICS, PW. 23-29.9 IPS TYPE "P" DUAL GA	P MODEL NO.	11	DATE 2-13-73 SHEET 11 OF 36
1	DIG. NO.	NG. REQ.	REMARKS ON CET. DESIG.	ITEM NO.	DRAWING TITLE	. Des. NO.	40. REQ	REMARKS ON CRT. DESIG.
I	100077-472	1	C34	81	CAPACITOR POLYSTYRENE.0082UF	100077-822	ı	C34
	100225-152	_	C4I	82	CAPACITOR, POLYESTER .0015 UF	100225-152	1	C41
	100077-102	9	C101 - 901	.83	CAPACITOR, POLYSTYRENE DOISUF	100077-152	9	CIO! - 901
	100136-334	9	C106 - 906 ·	84	CAPACITOR, TANTALUM .47 UF	100136-474	9	C106-906
,	00136-334	9	C107 - 907	85	CAPACITOR, TANTALUM .47UF	100136-474	9	CIO7 - 907
iO	0128-184	9	CIOB - 908	86	CAPACITOR, POLYFILM 27 UF	100078 - 274	9	CIO8 - 908
				87				
				88				
io	0156-334	9	R115 - 915	89	RESISTOR 5% 1/4W 330K	100/56-334	9	RI15 - 915
11	00156 - 334	9	R116 - 916	.90	RESISTOR 5% 1/4W 330K	100156-334	9	RI 16 - 916
		-		91				
_				92				
1002	262	5		93	SCREW, CAPTIVE	100262	5	
1002	48-924	A/R	JUMPER JI FROM A TO C	94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C
			JUMPER J2 " M " N					JUMPER J2 " M " N
	\dashv		JUMPER J3 " AA " BB	-				JUMPER J3 " AA " BB
	-		JUMPER J9 NOT USED					JUMPER J9 NOT USED
			JUMPER JIO " "	<u> </u>				JUMPER JIO " "
			JUMPER JII FROM CC TO DD	-				JUMPER JII FROM DD TO EE
			JUMPER JI2 " GG " HH	-				JUMPER JI2 " GG " HH
				-				
				-				
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3.	AATERI	AL LIST		ML 201142-009 D	78.	AATE	HAL
ı	WANGCO	_	_	[VIL 201142-009 D	1	WANGED	
TITL	ASSY., DATA ELECTRONICS. PW 40-45 IPS TYPE "P" DG 9TRK	S . MODEL NO	11	DATE 2-13-73 SHEET 13 OF 36	DRAM	ASSY. DATA ELECTRONICS, P. 30-39.9 IPS TYPE "P" DG 9TR	₩8 K
17 EM 100.	DRAWING TITLE	* D+G, ND.	NO. REQ.	REMARKS ON CKT. DESIG.	ITE*	DRAWING TITLE	1 - 1
81	CAFACITOR, POLYSTYRENE. 0047UF	100077-472	1	C34	81	CAPACITOR, POLYSTYRENE .0047 L	F 100
82	CAPACITOR, POLYESTER .0015 UF	100225-152	1	C41	82	CAPACITOR, POLYFILM .00151	F 100
93	CAPACITOR POLYSTYRENE .001UF	100077-102	. 9	C101 - 901	93	CAPACITOR, POLYSTYRENE .001 U	F 100
84	CAPACITOR, TANTALUM . 22UF	100136-224	9	C106 - 906	84	CAPACITOR, TANTALUM .33 U	F 100
85	CAPACITOR, TANTALUM .22UF	100136-224	9	CIO7 - 907	85	CAPACITOR, TANTALUM .33U	F 100
86	CAPACITOR, POLYFILM . 15 UF	100078-154	9	CIO8 - 908	86	CAPACITOR, POLYFILM .18 U	100
87					87		\top
88					88		1
89	RESISTOR 5 % 1/4W 330 K	100156-334	9	RII5 - 915	89	RESISTOR 5 % 1/4W 3301	(100
90	RESISTOR 5% 1/4W 330K	100156-334	9	R116-916	90	RESISTOR 5% 1/4W 3301	100
1					91		+
92					92		+
93					93		+-
4	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C	94	WIRE, SOLID INSULATED	100
				JUMPER J2 " M " N			+
				JUMPER J3 " AA " BB			+
				JUMPER J9 NOT USED			1
				JUMPER JIO " "			
\neg				JUMPER JII FROM CC TO DD			1
\neg				JUMPER JI2 " GG " HH			\top
5					95		1
6					96		1
97					97		1
98					98		1
99					99		1
00	BRACKET, MOUNTING	200016	2		100	BRACKET, MOUNTING	200
\rightarrow	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"		SCREW, PAN HEAD	100
102	WASHER, FLAT	100047-200	6	NO. 2	-	WASHER, FLAT	100
103	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2		WASHER, INT. TOOTH LOCK	100
104		100043-200	6	2 - 56		NUT, HEX	100

1.5	J	WANGCO MATERI		 .	ML 201142-011 D	Ī	WANGED		=	ML 201142-013
		ASSY. DATA ELECTRONICS, PW C 30-39.9 IPS TYPE "P" DG 9TRK	B MODEL NO	11			ASSY., DATA ELECTRONICS, PW 23-29.9 IPS TYPE "P" DG 9 TRK	B	11	DATE 2-13-73 SHEET 17 DE
2 CAMACITOR, POLYFILM .0015UF 100225-152 1 C41 31 CAPACITOR, POLYFILM .0015UF 100225-152 1 C41 32 CAPACITOR, POLYFILM .0010F 10077-102 9 C101-901 33 CAPACITOR, POLYFILM .0010F 10077-102 9 C101-901 45 CAPACITOR, POLYFILM .0010F 10077-102 9 C101-907 46 CAPACITOR, POLYFILM .18UF 100128-184 9 C107-907 46 CAPACITOR, POLYFILM .18UF 100128-184 9 C107-907 47 CAPACITOR, POLYFILM .18UF 100128-184 9 C107-907 48 RESISTOR 5% 1/4W 330K 100155-334 9 R115-915 49 RESISTOR 5% 1/4W 330K 100155-334 9 R115-915 40 RESISTOR 5% 1/4W 330K 100155-334 9 R115-915 4 RESISTOR 5%	NO.	DRANING TITLE	* D#4. NO.	NO. REJ.	REMARKS ON CKT. DESIG.	NO.	DRAWING TITLE	* DeG, NO.	NO. REQ.	REMARKS ON CET. DESIG.
S CAPACITOR, POLYSTYRENE 0.00 UF 100077-102 9 C101-901 84 CAPACITOR, TANTALUM 33 UF 100156-334 9 C106-906 85 CAPACITOR, TANTALUM 33 UF 100156-334 9 C106-908 86 CAPACITOR, TANTALUM 33 UF 100156-334 9 C106-908 86 CAPACITOR, TANTALUM 33 UF 100156-334 9 C107-907 86 CAPACITOR, POLYFILM 18 UF 100128-184 9 C108-908 87 CAPACITOR, POLYFILM 18 UF 100128-184 9 C108-908 88 CAPACITOR, POLYFILM 18 UF 100128-184 9 C108-908 89 RESISTOR 5 % 1/4 W 33 OK 100156-334 9 R115-915 89 RESISTOR 5 % 1/4 W 33 OK 100156-334 9 R116-916 90 RESISTOR 5 % 1/4 W 33 OK 100156-334 9 R116-916 91 UFFER 10	81	CAPACITOR, POLYSTYRENE .0047 UF	100077-472	1	C34	81	CAPACITOR, POLYST TRENE .0082 UF	100077-822	1.	C34
94 CAPACITOR, TANTALUM .33 UF 100156-334 9 C106-906 85 CAPACITOR, TANTALUM .33 UF 100156-334 9 C107-907 86 CAPACITOR, TANTALUM .33 UF 100128-184 9 C108-908 87 CAPACITOR, POLYFILM .18 UF 100128-184 9 C108-908 88 CAPACITOR, POLYFILM .27 UF 100156-374 9 C108-908 89 RESISTOR 5% '/4W 330K 100156-334 9 R115-915 90 RESISTOR 5% '/4W 330K 100156-334 9 R115-915 91 UMPER JS	82	CAPACITOR, POLYFILM .0015UF	100225-152	1	C41	82	CAPACITOR, POLYESTER .0015 UF	100225-152	1	C41
85 CAPACITOR, TANTALUM .33UF 100136-334 9 C107-907 86 CAPACITOR, POLYFILM .18UF 100128-184 9 C108-908 87 7 88 8 8 9 8 8 9 8 8 1 9 8 115-915 8 8 8 8 9 8 115-915 8 9 8 115-915 8 9 8 115-915 8 9 8 115-915 8 9 8 115-915 8 9 8 115-915 8 9 8 115-915 8 9 8 115-915 8 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 8 115-915 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	93	CAPACITOR, POLYSTYRENE .001 UF	100077-102	9	CIOI - 901	83	CAPACITOR, POLYSTYRENE .ODISUF	100077-152	9	Ci0i - 901
86 CAPACITGR, POLYFILM 18 UF 100128 - 184 9 CIO8 - 908	84	CAPACITOR, TANTALUM .33 UF	100136-334	9	C106-906	84	CAPACITOR, TANTALUM .47 UF	100136-474	9	C106-906
85 CAPACITOR, POLYFILM	85	CAPACITOR, TANTALUM .33UF	100136-334	9	CIO7 - 907	85	CAPACITOR, TANTALUM .47 UF	100136-474	9	CIO7 - 907
88 RESISTOR 5 % '/4W 330K 100155-334 9 R115-915 90 RESISTOR 5 % '/4W 330K 100155-334 9 R115-916 91 91 92 92 94 95 95 95 95 95 95 95 95 95 95 95 95 95	86	CAPACITOR, POLYFILM .18 UF	100128 - 184	9	C108 - 908	85	CAPACITOR, POLYFILM _27 UF	100078-274	9	
88	87					87				
90 RESISTOR 5% 1/4W 330K 100156-334 9 R116-916 91 92 93 94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J10" " JUMPER J	88					88				
90 RESISTOR 5% 1/4W 330K 100156-334 9 R116-916 91 92 93 94 WIRE, SOLID INSULATED 100248-924 A/R JUNPER JI FROM A TO C JUNPER J2 " M " N JUNPER J3 " AA " BB JUNPER J10 " " JUNPER J10 " " JUNPER J10 " " JUNPER J10 " " JUNPER J11 FROM CC TO DD JUNPER J12 " GG " HH 95 96 97 98 99 90 00 07 08ACKET, MOUNTING 200016 2 100 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 101 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 102 WASHER, FLAT 100047-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 104 NUT, HEX 100043-200 6 2-56 105 WASHER, INT. TOOTH LOCK 100043-200 6 2-56 106 NO. 2 107 108 WASHER, INT. TOOTH LOCK 100043-200 6 2-56 100 NOT, HEX 100043-200 6 2-56	89	RESISTOR 5 % 1/4W 330K	100155-334	9	R115 - 915	89	RESISTOR 5% 1/4W 330K	100156~334	9	R115 - 915
91 92 93 94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER JI FROM A TO C 1 JUMPER J2 " M " N 2 JUMPER J3 " AA " BB 3 JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM CC TO DD 4 JUMPER J10 " " JUMPER J11 FROM CC TO DD 5 JUMPER J12 " G6 " HH 5 JUMPER J12 " G6 " HH 6 JUMPER J12 " G6 " HH 7 JUMPER J12 " G6 " HH 8 JUMPER J12 " M" I 9 JUMPER J1 " M" I 9 JUMPER J2 " M" I 9 JUMPER J3 "	90	RESISTOR 5% 1/4W 330K	100156-334	9	R116-916	90				
92 93 94 WIRE, SOLID INSULATED IOO248-924 A/R JUMPER JI FROM A TO C 94 WIRE, SOLID INSULATED IOO248-924 A/R JUMPER JI FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J3 " NOT USED JUMPER J10 " " JUMPER J12 " GG " HH S5 S6 S6 S6 S6 S6 S6 S6	91					91				
94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER JI FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J10 " " JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM CC TO DD JUMPER J12 " GG " HH 95 " " " " " " " " " " " " " " " " " " "	92					92				
JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J10 " " JUMPER J10 "	93					93				
JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J10 " " JUMPER J2 " M " I JUMPER J10 " " 94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM A TO C	94	WIRE. SOLID INSULATED	100248-924	A/R	JUMPER JU FROM A TO C	
JUMPER J3 " AA " BB JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM CC TO DD JUMPER J12 " GG " HH 95 98 99 99 99 99 99 99 99 99 99 99 99 99	-				JUMPER J2 " M " N	-				
JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM CC TO DD JUMPER J12 " G6 " HM 95 97 98 99 90 BRACKET, MOUNTING 200616 2 100 SCREW, PAN HEAD 100036-206 6 2-36 X 3/8" 101 SCREW, PAN HEAD 100047-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100043-200 6 2-56 104 NUT, HEX 100043-200 6 2-56						-				
JUMPER JID " " JUMPER JID " " JUMPER JID " " JUMPER JII FROM CC TO DD JUMPER JI2 " 66 " HH 95 96 97 97 97 98 99 99 90 BRACKET, MOUNTING 20066 2 101 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 102 WASHER, INT. TOOTH LOCK 100043-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100043-200 6 2-56 104 NUT, HEX 100043-200 6 2-56 104 NUT, HEX 100043-200 6 2-56 104 NUT, HEX 100043-200 6 2-56	-					-1				
JUMPER JII FROM CC TO DD JUMPER JIZ " GG " HH 95 96 97 97 97 98 98 99 99 99	_					-				
JUMPER JI2 " GG " HH 95 JUMPER JI2 " GG " HH 95 96 96 97 7 97 7 98 98 99 99	_					-				
95 96 97 97 97 97 97 98 98 99 99 99 99 99 99 99 99 99 99 99	-					-	1. A. A. W. S			
96 97 97 97 97 98 98 99 99 99 99 99 99 99 99 99 99 99	95					5				JOMPER JIZ GG H
97 98 99 99 90 99 99 100 BRACKET, MOUNTING 20016 2 100 BRACKET, MOUNTING 20016 2 101 SCREW, PAN HEAD 10036-206 6 2-56 X 3/8" 101 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 101 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 102 WASHER, FLAT 100047-200 6 NO. 2 102 WASHER, FLAT 100047-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 104 NUT, HEX 100043-200 6 2-56						-				
98 99 90 99 90 99 90 90 90 90 90 90 90 90	_					-+				
99 99 100 BRACKET, MOUNTING 200616 2 100 BRACKET, MOUNTING 200016 2 101 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 101 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 102 WASHER, FLAT 100047-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 104 NUT, HEX 100043-200 6 2-56 104 NUT, HEX 100043-200	-			-		-				
00 BRACKET, MOUNTING 20016 2 100 BRACKET, MOUNTING 20016 2 100 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 101 SCREW, PAN HEAD 100036-206 6 2-56 X 3/8" 102 WASHER, FLAT 100047-200 6 NO. 2 102 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 104 NUT, HEX 100043-200 6 2-56	-					-+				
101 SCREW, PAN HEAD 100036-206 6 2-56 x 3/8" 101 SCREW, PAN HEAD 100036-206 6 2-56 x 3/8" 102 WASHER, FLAT 100047-200 6 NO. 2 102 WASHER, FLAT 100047-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 104 NUT, HEX 100043-200 6 2-56 104 NUT, HEX 100043-200 104 NUT, HEX 100043-2		PRACKET HOUNTING	200016			-+				
102 WASHER, FLAT 100047-200 6 NO. 2 102 WASHER, FLAT 100047-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 104 NUT, HEX 100043-200 6 2-56 104 NUT, HEX 100043-200 6 2-56						_				
103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 103 WASHER, INT. TOOTH LOCK 100059-200 6 NO. 2 104 NUT, HEX 100043-200 6 2-56 104 NUT, HEX 100043-200 6 2-56	-									
104 NUT, HEX 100043-200 6 2-56 104 NUT, HEX 100043-200 6 2-56						-+				
	-	MALI MEX	100043-200	-	2-36	,4	NUI, HEX	100043-200	6	2 - 56
	-1		i	 		-1		<u> </u>		

IAL LIST		AI DWAWING HO. MEY.
		ML 201142-006 D
P. MODEL NO.	11	PATE 2-13-73 SHEET 10 OF 36
. Dec. 60.	NO. REQ	REMARKS ON CKT, DESIG.
N 100077-472	- 1.	C34
T		a file of the second
100077-102	9	ciól – 901
100136-334	9	C106-906
100136~334	9	CIO7 - 907
100128-184	9	CI06 - 906
100		
T		
100156-334	9	RII5 - 915
100156-334	9	RI 16 - 916
T		
100262	5	
100248-924	A/R	JUMPER JI FROM B TO C
		JUMPER J2 " M " P
I		JUMPER J3 NOT USED
		JUMPER J9 " "
		JUMPER JIO " "
		JUMPER JII FROM DD TO EE
		JUMPER J12 " GG " HH
1		
<u> </u>		
-		
		•

B.	MATERI	AL LIST		MI DEADING NO. DEV.
	WANGED	_		141 201142-008 D
	ASSY. DATA ELECTRONICS, PW. 7° 23-29.9 IPS TYPE A DG 9TRI	MODEL NO	11	DATE 2-13-73 SHEET 12 OF 36
11.	SRAWING TITLE	. Dec. NO.	10. REQ.	REMARKS ON CKT. DESIG.
ВІ	CAPACITOR, POLYSTYRENE.0082UF	100077-822		C34
B2				
83	CAPACITOR, POLYSTYRENE .COISUF	100077-152	9	C101 - 901
84	CAPACITOR, TANTALUM .47UF	100136-474	9	C106-906
85	CAPACITOR, TANTALUM .47UF	100136-474	9	CIO7 - 907
86	CAPACITOR, POLYFILM .27UF	100078-274	9	CIO8 - 908
87				
88				•
89	RESISTOR 5 % 1/4W 330 K	100156-334	9	R115 - 915
90	RESISTOR 5% 1/4W 330K	100156-334	9	RI 16 - 916
91				
92				
93	SCREW, CAPTIVE	100262	5	
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C
				JUMPER J2 " M " P
				JUMPER J3 NOT USED
				JUMPER J9 " "
_				JUMPER JID
				JUMPER JII FROM DD TO EE
				JUMPER JIZ " GG " HH
_				
_				
_				
	1		L	<u> </u>

J.	MATERI	AL LIST		ML 20142 = 010
•	ASSY, DATA ELECTRONICS, PW.	B MODEL NO	11	DATE 2-13-73 SHEET 14 OF 3
ITEM	DRAWING TITLE	* DeG, NO.	NP. REQ	REMARKS ON CKT. DESIG.
81	CAPACITOR, POLYSTYRENE.0047UF	100077-472		C34
82				
83	CAPACITOR, POLYSTYRENE .001 UF	100077-102	9	C101 - 901
84	CAPACITOR, TANTALUM .22UF	100136-224	9	C106-906
85	CAPACITOR, TANTALUM .22UF	100136-224	9	CIO7 - 907
96	CAPACITOR, POLYFILM .15 UF	100128 - 154	9	CIO8 - 908
87.				
88				
89	RESISTOR 5% 1/4W .330K	100156-334	9	R115 - 915
90	RESISTOR 5% 1/4W 330K	100156-334	9	R116-916
91				
92	•			
93				
94	WIRE, SOLID INSULATED	100248-924	AZR	JUMPER JI FROM B TO C
			>	JUMPER J2 " M "
			->	JUMPER JS NOT USED
				JUMPER J9 " "
				JUMPER JIO " "
				JUMPER JII FROM DD TO EE
				JUMPER JIZ " 66 " HH
95	! 			
96				
97				
98				
99				
100	BRACKET, MOUNTING	200016	2	
101	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"
102	WASHER, FLAT	100047-200	6	NO. 2
103	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2
104	NUT, HEX	100043-200	6	2 - 56

81 82 65 84 85 86 87 99 99 99 99 99 99 99 99 99 99 99 99 99	ASY, DATA ELECTRONICS, PW SO-39.9 IPS TYPE A DG 9TR DRAWING TITLE CAPACITOR, POLYSTYRENE .OOHUF CAPACITOR, TANTAL 33 UF CAPACITOR, TANTAL 35 UF CAPACITOR, TANTAL 35 UF CAPACITOR, TANTAL 35 UF CAPACITOR, TANTAL 35 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	100077-472 100077-102 100136-334 100136-334 100128-184	NO. REQ.	OATE 2-13-73 SHEET 16 PM REMARKS ON CKT. DEMG. 634 CIOI - 901 CIO6 - 906 CIO7 - 907 CIO8 - 908
81 82 63 84 85 86 87 90 91 92	CAPACITOR, POLYSTYRENE. 0047UF CAPACITOR, POLYSTYRENE. 001UF CAPACITOR, TANTALUM33 UF CAPACITOR, TANTALUM33 UF CAPACITOR OF CAPA	100077-472 100077-102 100136-334 100136-334 100128-184	9 9	######################################
82 83 84 85 86 87 90 91 92 93	CAPACITOR, FOLYSTYRENE .OOIUF CAPACITOR, TANTALUA .33 UF CAPACITOR OF ALL .18 UF RESISTOR 5 % 1/4 W .330K	100077-102 100136-334 100136-334 100128-184	9	CIOI - 901 CIO6 - 906 CIO7 - 907
85 86 87 88 89 90 91 92 93	CAPACITOR, TANTALUM .33 UF CAPACITOR OF CAPA	100136-334 100136-334 100128-184 100156-334	9	C106 - 906 C107 - 907
84 85 86 87 88 90 91 92 93	CAPACITOR, TANTALUM .33 UF CAPACITOR OF CAPA	100136-334 100136-334 100128-184 100156-334	9	C106 - 906 C107 - 907
85 86 87 88 90 91 92 93	CAPACITOR, TAMPAL	100136-334 100128-184 100156-334	9	CIO7 - 907
86 88 90 91 92 93	CAPACITOR DO 18 UF	100128-184	9	
88 99 90 91 92 93	RESISTOR 5 % 1/4W 330K	100156-334		C108 - 908
90 91 92 93	RESISTOR 5 % 1/4W 330K			
90 91 92 93				
90 91 92 93				
91 92 93	RESISTOR 5% 1/4W 330K		9	RII5 - 915
92 93		100156-334	9	RI 16 - 916
93	1			
-				
94				•
	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C
				JUMPER J2 " M " P
				JUMPER J3 NOT USED
				JUMPER J9 " "
				JUMPER JIO " "
				JUMPER JII FROM DO TO E
-				JUMPER JI2 " GG " H
95				
96				
97				
98				
99				
100	BRACKET, MOUNTING	200016	2	
101	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"
102	WASHER, FLAT	100047-200	6	NO, 2
103		100059-200	6	NO. 2
104	NUT, HEX	100043-200	6	2 - 56

	MATERI	AL LIST		AAI DRATING NO.
. 1	WANGED			IVIL 201142-014
DOA-	ASSY., DATA ELECTRONICS, PW 23-29-9 IPS TYPE A DG 9TRK	MODEL NO.	11	DATE 2-13-73 SHEET 18 0
HTEM NO.	DRAWING TITLE	54G, NO.	10. REQ	REMARKS ON CAT. DESIG
81	CAPACITOR ,POLYSTYRENE .0062UF	100077-822	T	C34
82				
83	CAPACITOR, POLYSTYRENE .0015UF	100077-152	9	C101 - 901
84	CAPACITOR, TANTALUM .47UF	100136-474		C106 - 906
85	CAPACITOR, TANTALUM .47UF	100136-474	9	CI07 - 907
86	CAPACITOR, POLYFILM .27 UF	100128-274	9	C108 - 908
87				
88				
89	RESISTOR 5% 1/4W 330K	100156-334	9	R115 - 915
90	RESISTOR 5% 1/4W 330K	100156 -334	9	R116-916
91			1	
92				
93				
94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO
	100			JUMPER J2 " M "
	2 -			JUMPER JS NOT USED
				JUMPER 49 " "
				JUMPER JIO " "
				JUMPER JII FROM DD TO
				JUMPER JI2 " GG "
95				
96				
97				,
98				
99				
100	BRACKET, MOUNTING	200016	2	
101	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"
102	WASHER, FLAT	100047-200	6	NO. 2
103	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2
104	MUT, HEX	100043-200	6	2 - 56
	4 / 44. ,	1		

MATERIAL LIST DRAWING NO. MATERIAL LIST ML 201142-018 D DRAWING NO. REV DRAWING NO. RET WANGCO

DRAWING 40-45 IPS TYPE 'A" DG 7 TEK MATERIAL LIST WANGCO
DRAWING ASSY., DATA ELECTRONICS, PWB
TITLE 75 IPS TYPE "A" DG 9TRK MODEL NO. II 201142-016 201142 - 020 D DRAMING ASSY., DATA ELECTRONICS, PWB
TITLE 75 IPS TYPE "A" DG 77 TRK MODEL NO. 11 DATE 2-13-73 SHEET 19 OF 36 DATE 2-13-73 SHEET 21 OF 36 DATE 2-13-73 SHEET 23 OF 36 DRAWING TITLE . DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. DRAWING TITLE - DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. DRAWING TITLE - DBG. NO. NO. REQ. REMARKS ON CKT. DESIG. 81 CAPACITOR, MYLAR .0022UF 100165-222 1 C34 81 CAPACITOR, MYLAR .0022UF 100165-222 1 C34 81 CAPACITOR POLYSTEAME 00474F 100077-472 1 C34 82 CAPACITOR, POLYESTER .0015UF 100225-152 | C41 82 82 83 CAPACITOR, POLYSTYRENE 510PF 100077-511 9 C101-901 83 CAPACITOR, POLYSTYRENE SIOPF 100077-511 9 CI01-901 83 CAPACITOR, POLYSTYRENE . 00/4F 100077-102 9 0101 - 901 84 CAPACITOR, TANTALUM .15UF 100136-154 9 C106-906 84 CAPACITOR, TANTALUM .15UF 100136-154 9 C106-906 84 CAPACITOR, TANTALUM . 22 UF 100136-724 9 C106-906 85 CAPACITOR, TANTALUM .15UF 100136-154 9 C107-907 85 CAPACITOR, TANTALUM .15UF 100136-154 9 C107-907 85 CAPACITOR, TANTALUM .27 47 100136 - 224 9 C107 - 907 86 CAPACITOR, POLYFILM .082UF 100078-823 9 C108 - 908 86 CAPACITOR, POLYFILM .082UF 100078-823 9 C108 - 908 86 CAPACITOR, POLYFILM ./5 UF | 100128-154 9 C108 - 908 87 87 87 88 88 89 RESISTOR 5% 1/4W 150K 100156-154 9 R115-915 89 RESISTOR 5% 1/4W 150K 100156-154 9 89 RESISTOR 5% 1/4W 370K 100156-334 9 RII5 - 915 90 RESISTOR 5% 1/4W 150K 100156-154 9 R116-916 90 RESISTOR 5% 1/4W 150K 100156-154 9 R116-916 90 RESISTOR 5% 1/4W 330K 100156-334 9 R116-916 91 91 91 92 93 SCREW, CAPTIVE 100262 5 93 SCREW, CAPTIVE 100262 5 93 SCREW, CAPTIVE 100262 94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER JI FROM B TO C 94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER JI FROM B TO C 100248-924 A/R JUMPER JI FROM B TO C 94 WIRE, SOLID INSULATED JUMPER J2 " M " N JUMPER J2 " M " P JUMPER J2 " M " P JUMPER J3 NOT USED JUMPER J3 NOT USED JUMPER J3 NOT USED JUMPER J9 " JUMPER J9 " " JUMPER J9 " " JUMPER JIO " " JUMPER JIO " " JUMPER JIO " JUMPER JII FROM DD TO EE JUMPER JII FROM DD TO EE JUMPER JII FROM DD TO EE JUMPER JI2 " GG " HH JUMPER JI2 " FF " GG JUMPER JI2 " # " GG MANGED
ASSY, DATA ELECTRONICS, PWB
DRAWING 75 IPS TYPE P' DG 7 TRK
MODEL NO. II MATERIAL LIST

WANGED

DRAWING 30-39-9 IPS TYPE P DG 7TEK MODEL NO. 11 DRAWING NO. REV DRAWING NO. REV. DRAWING NO. REV. ML 201142-017 D MATERIAL LIST 201142 D 201142-019 D DRAWING ASSY., DATA ELECTRONICS, PWB DATE 2-13-73 SHEET 20 OF 36 DATE 2-13-73 SHEET 22 OF 36 DATE 2-13-73 SHEET ___ OF 36 DRAWING TITLE - DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. - DAG. NO. NO. REQ. - DWG. NO. NO. REQ. REMARKS ON CKT. DESIG. 81 CAPACITOR, POLYSTONANO OCATUF 100077-472 1 C34 81 CAPACITOR, MYLAR .0022UF 100165-222 1 C34 81 CAPACITOR, POLYSTYRENE .0047UF 100077-472 1 C34 82 CAPACITOR, POLYESTER .0015UF 100225-152 1 C41 82 CAPACITOR, POLYESTER .0015 UF 100225-152 1 C41 82 CAPACITOR, POLYESTER .0015 UF 100225-152 1 C41 83 CAPACITOR, POLYSTYRENE 510PF 100077-51! 9 C101-901 83 CAPACITOR, POLYSTYRENE -001UF 100077-102 9 C101-901 83 CAPACITOR, POLYSTYRENE -0014F 100077-102 9 CIOI - 901 84 CAPACITOR, TANTALUM .15UF 100136-154 9 C106-906 84 CAPACITOR, TANTALUM .22 UF 100136-224 9 C106-906 84 CAPACITOR, TANTALUM .33 UF 100136 -334 9 C106-906 85 CAPACITOR, TANTALUM . 33 UF 100136-334 9 C107-907 85 CAPACITOR, TANTALUM .15UF 100136-154 9 C107-907 85 CAPACITOR, TANTALUM .22UF 100136-224 9 C107-907 86 CAPACITOR, POLYFILM .082UF 100078-823 9 C108 - 908 86 CAPACITOR, POLYFILM .15UF 100128-154 9 C108-908 86 CAPACITOR, POLYFILM . 18 UF 100078 - 184 9 C108 - 908 87 88 89 RESISTOR 5% 1/4W 150K 100156-154 9 R115-915 89 RESISTOR 5 % 1/4W 330 K 100156-334 9 R115 - 915 89 RESISTOR 5% 1/4W 330K 100156 334 9 R115 - 915 90 RESISTOR 5% 1/4W 150K 100156-154 9 R116-916 90 RESISTOR 5% 1/4W 330K 100156-39 9 RI16-916 90 RESISTOR 5% 1/4W 330 K 100156-334 9 R116-916 91 91 91 92 93 SCREW, CAPTIVE 93 SCREW, CAPTIVE 93 SCREW, CAPTIVE 100262 100262 5 100262 94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER JI FROM A TO C 94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER JI FROM A TO C 94 WIRE, SOLID INSULATED 100248-924 A/R JUMPER JI FROM B TO C JUMPER J2 " M " N JUMPER J2 " M " N JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J3 " AA " BB JUMPER J9 NOT USED JUMPER J9 NOT USED JUMPER J9 NOT USED JUMPER JIO " JUMPER JIO " " JUMPER JIO " JUMPER JII FROM CC TO DD JUMPER JII FROM CC TO DD JUMPER JII FROM CC TO DD JUMPER JI2 " FF " GG JUMPER JI2 " FF " GG JUMPER JI2 " FF "

UNSTROBED DATA

37. Material List, Data Electronics, Dual Gap, Pub

Material List, Data Electronics, Dual Gap, PWB (page 4 of 5)

B-37.

ž	77	TA NATER	AL LIST		DRAWING NO. REV.	112	E) NATERI	AL LIST		DRAWING NO. REV.	13	MATERI	AL LIST		DRAWING NO. REV.
١	U_{\parallel}	WANGED WANGED	/B		DRAWING NO. REV. 201142-022 D	11 ()				ML DRAWING NO. REV. 201142 - 024 D	$\mid \mathcal{U} \mid$	MATERI WANGCO ASSY. DATA ELECTRONICS. PWI 40-45 IPS TYPE A DA 771	в	=	VIL 201142-026 D
DRAWING NO.		" 30-34.9 IPS TYPE "A* D6 7 T	EK MODEL NO.		DATE 2-13-73 SHEET 25 OF 36	DRAW	13-29.9 IPS TYPE "A" DG 77	RK MODEL NO	<u>!!</u>	DATE 2-13-73 SHEET 27 OF 36	DRAWN	40-45 IPS TYPE "A" DG 771	MODEL NO	11	DATE 2-13-73 SHEET 29 OF 36
	NO.	DRAWING TITLE	- DWG. NO.	NO. REQ	1	ITEM NO.	DRAWING TITLE	. DWG. NO.	NO. REQ.	REMARKS ON CKT, DESIG.	ITEM NO.	DRAWING TITLE		NO. REQ.	REMARKS ON CKT. DESIG.
8	81	CAPACITOR POLYSTENENE, 0047	100077-472		C34		CAPACITOR, Polystowne .008ZUF	V00077-822	1	C34		CAPACITOR, POLYSTORENE, DO 974F	100077-472		C34
		CAPACITOR, POLYSTYRENE OO IUF	100077-102	9	CIOI - 901	82	CAPACITOR, POLYSTYRENE . Oas UF	100077-152	9	CIOI - 901	82	CAPACITOR, POLYSTYRENE -0014F	100077-102	9	CIOI - 901
Ξ	—		100136-334	+	CI06-906		CAPACITOR, TANTALUM . 47 UF		9	C106-906		CAPACITOR, TANTALUM .ZZUF			CI06-906
	85	CAPACITOR, TANTALUM . 33UF	100136-334	9	CIO7 - 907		CAPACITOR, TANTALUM _47 UF		9	C107 - 907		CAPACITOR, TANTALUM -27 UF		9	CIO7 - 907
		CAPACITOR, POLYFILM . 18 UF	100128-184	9	CI08 - 908	86	CAPACITOR, POLYFILM . 27 UF	100128-274	9	C108 - 908	86	CAPACITOR, POLYFILM .15 UF	100128-154	9	CI08 - 908
	87			 		87					87				ļ
	88	RESISTOR 5% 1/4W 330K	100150 224	 _ _	Bur our	88		100150 774		2005	88		100110 720		DUE OIE
			100156-334		RII5 - 915 RII6 - 916	-	RESISTOR 5% 1/4W 330 K RESISTOR 5% 1/4W 330 K			RII5 - 915 RII6 - 916		RESISTOR 5% 1/4W 330K RESISTOR 5% 1/4W 330K	100156-334	9	R115 - 915 R116 - 916
	91			 		91	7,0 10 10 10 10 10 10 10 10 10 10 10 10 10	100100 334			91	RESISTOR S 10 174W 770K	100.00 // 1	-	
	92					92					92				
- 1		SCREW, CAPTIVE	100262	5			SCREW, CAPTIVE	100262	5	_	93				
-	94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C	94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C	94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER JI FROM B TO C
ł				 -	JUMPER J2 " M " P JUMPER J3 NOT USED	-				JUMPER J2 " M " P JUMPER J3 NOT USED	<u> </u>				JUMPER J2 " M " P
1					JUMPER J9 " "	-				JUMPER J9 " "	-				JUMPER J9 " "
ŀ					JUMPER JIO " "					JUMPER JIO " "	-		 		JUMPER JIO " "
					JUMPER JII FROM DD TO EE					JUMPER JII FROM DD TO EE					JUMPER JII FROM DD TO EE
- 1	_				JUMPER JI2 " FF " GG					JUMPER JI2 " FF " GG					JUMPER JI2 " FF " GG
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ľ						-					97				
											99				
											-	BRACKET, MOUNTING	200016	2	
1											101	SCREW, PAN HEAD	100036-206		2-56 X 3/8"
}	- 					<u> </u>						WASHER, FLAT	100047-200	+	NO. 2
ŀ						-						WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2 2-56
t						-		-:			104	NUT, HEX	100043-200	 °	2-30
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اخ	-									1 1 7 1					
=	1	MATERI	AL LIST		ML DRAWING NO. REV.	\mathcal{U} Π		AL LIST		ML 201142-025 D	$\mathcal{I}\mathcal{I}$	MATERIA	AL LIST	=	ML 201142-027 D
2	A	WANGED WANGED	AL LIST		10/11					IVAI I	DRAWIN	MATERIA WANGCO ASSY DATA ELECTRONICS, PWE 32,35,5, INS. TOPS: P. OS. TIRL	B	=	ML 201142-027 D
O NO.		WANGCO ASSY. DATA ELECTRONICS. PW No 23-29.9 IPS TYPE "P" DG	B MODEL NO.	11	10/1	 	ASSY., DATA ELECTRONICS, PW.	B EK MODEL NO	<u> </u>	ML 201142-025 b		WANGCO ASSY. DATA ELECTRONICS, PWB 6 30-35.9 IPS TYPE "P" DG 11K			
AWING NO. RE	ITEM NO.	MANGCO ASSY, DATA ELECTRONICS, PW 23-24-9 IPS TYPE "P" OF	B MODEL NO.	II NO. REQ	OATE 2-13-73 SHEET 26 OF 36 REMARKS ON CKT. DESIG.	ITEM NO.	MANGED ASSY., DATA ELECTRONICS, PW. ASSY., DATA ELECTRONICS, PW. 40-45 IPS 7496 P. D. 779	B ER MODEL NO - DWG. NO.	II NO. REQ.	O1142-025 b DATE 2-13-73 SMEET 28 OF 36 REMARKS ON CKT. DESIG.	ITEM NO.	DRAWING TITLE	* DWG. NO.	NO. REQ.	REMARKS ON CKT. DESIG.
DRAWING NO. RE	ITEM NO.	WANGED ASSY, DATA ELECTRONICS, PW 23-24-9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR FAYSTBELSE - COSSUE	B 778K MODEL NO DWG. NO. 100077-822	NO. REQ	DATE 2-13-73 SHEET ZG OF 36 REMARKS ON CKT. DESIG. C34	ITEM NO.	ASSY, DATA ELECTRONICS, PW ASSY, DATA ELECTRONICS, PW ELECTRONICS, PW D6 771 DRAWING TITLE CAPACITOR, PAYSTRIGUE, 00476	B 2K MODEL NO - DWG. NO. F /00077-472	II NO. REQ.	ML 201142-025 b	ITEM NO.		* DWG. NO.	NO. REQ.	
DRAWING NO. RE	1TEM NO. 81	MANGED ASSY, DATA ELECTRONICS, PW 23-24-9 IPS TYPE "P" OF	B 7 TRK MODEL NO. - DWG, NO. - 1000 77-822	NO. REQ	DATE 2-13-73 SHEET 26 OF 36 REMARKS ON CKT. DESIG. C34 C41	81 82	MANGED ASSY., DATA ELECTRONICS, PW. ASSY., DATA ELECTRONICS, PW. 40-45 IPS 7496 P. D. 779	B MODEL NO DNG. NO F /00077-472	NO, REQ.	ML 201142-0Z5 b DATE 2-13-73 SHEET 28 OF 36 REHARKS ON CKT. DESIG.	1TEM NO. 81	DRAWING TITLE CAPACITOR, POLYSTERENE . 8047 up	- DWG, NO. 100077-472 100225-152	NO. REQ.	REMARKS ON CKT. DESIG.
	81 82 83	WANGED ASSY, DATA ELECTRONICS, PW C 23 - 24.9 IPS TYPE "P" DG DRAWING TITLE CAPACITOR FMYSTDECUS .0082UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .0055UF	B 778K MODEL NO DWG. NO 1000 77-822 100225-152	NO. REQ	DATE 2-13-73 SHEET 26 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901	81 82 83	ASY, DATA ELECTRONICS, PW ASSY, DATA ELECTRONICS, PW GO-45 IPS 1796 PP D6 771 DRAWING TITLE CAPACITOR, POLYSTAGAR .004744 CAPACITOR, POLYESTER .0015UF	DWG. NO DWG. NO DWG. NO 100077-472 100225-152 100077-102	II NO, REQ. I I 9	VIL 201142-0Z5 D	81 82 83 84	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYSTYRENE .0015 UF CAPACITOR, TANTALUM .33 UF	- DWG. NO. /00077-472 100225-152 100077-102 100136-334	I I 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C106 - 906
	81 82 83 84 85	DRAWING TITLE CAPACITOR PAYSTDEELE .COSSUF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF	B 778K MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474	NO. REQ	DATE 2-13-73 SHEET 26 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901	81 82 83 84 85	ASSY, DATA ELECTRONICS, PW CAPACITOR, POLYSTOREME .0014F CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W	B MODEL NO DNG. NO. F /00077-472 100225-152 100077-102 100136-224	II NO. REO. 1 1 9 9	VIL 201142-0Z5 b	81 82 83 84 85	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0016 UF CAPACITOR, POLYSTYRENE .0014 CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334	NO. REQ. 1 1 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C106 - 906 C107 - 907
	81 82 83 84 85 86	DRAWING TITLE CAPACITOR PHYSTEREMS	B 778K MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474	NO. REQ	DATE 2-13-73 SHEET 24 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906	81 82 83 84 85 86	ASY., DATA ELECTRONICS, PW. ASSY., DATA ELECTRONICS, PW. ASY., DATA ELECTRONICS,	B MODEL NO DNG. NO. F /00077-472 100225-152 100077-102 100136-224	II NO. REO. 1 1 9 9	VIL 201142-0Z5 b	81 82 83 84 85 86	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYSTYRENE .0015 UF CAPACITOR, TANTALUM .33 UF	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334	NO. REQ. 1 1 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C106 - 906
	81 82 83 84 85 86	DRAWING TITLE CAPACITOR PAYSTDEELE .COSSUF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF	B 778K MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474	NO. REQ	DATE 2-13-73 SHEET 24 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907	81 82 83 84 85 86 87	ASSY, DATA ELECTRONICS, PW CAPACITOR, POLYSTOREME .0014F CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W	B MODEL NO DNG. NO. F /00077-472 100225-152 100077-102 100136-224	II NO. REO. 1 1 9 9	VIL 201142-0Z5 b	81 82 83 84 85	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0016 UF CAPACITOR, POLYSTYRENE .0014 CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334	NO. REQ. 1 1 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C106 - 906 C107 - 907
	81 82 83 84 85 86 87	DRAWING TITLE CAPACITOR PAYSTBOOMS. POLYESTER	B 7/7K MODEL NO. - DWG. NO. 100277-922 100225-152 100077-152 100136-474 100136-474 100128-274		DATE 2-13-73 SHEET 24 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908	81 82 83 84 85 86 87	ASSY, DATA ELECTRONICS, PW CAPACITOR, POLYSTOREME .0014F CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .22 W	B	II NO. REQ. 1 1 9 9 9 9 9	VIL 201142-0Z5 b	81 82 83 84 85 86 87 88	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0016 UF CAPACITOR, POLYSTYRENE .0014 CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF	- DMG, NO. 1000277-472 100225-152 100077-102 100136-334 100136-334 100078-184	NO. REQ. 1 1 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C106 - 906 C107 - 907
	81 82 83 84 85 86 87 88	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' DG DRAWING TITLE CAPACITOR FMYSTDELLE .COS2UF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, POLYSTYRENE .COS2UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF CAPACITOR, POLYFILM .27 UF RESISTOR 5 % 1/4 W 330 K	B 778K MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474		DATE 2-13-73 SHEET 24 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907	81 82 83 84 85 86 87 88	ASSY, DATA ELECTRONICS, PW AND COMMING TITLE CAPACITOR, PAYSTARGUE. 00474 CAPACITOR, POLYSTER 0015 UF CAPACITOR, POLYSTYRENE 0010 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .21 UF CAPACITOR, POLYFILM .15 UF	BRA MODEL NO. — - PNG. NO PNG. NO 100277-472 100225-152 100277-102 100136-224 100136-224 100136-334	NO. REO. i 9 9 9	NL 201142-0Z5 b	81 82 83 84 85 86 87 88 89	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYSTYRENE .0014 CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184	NO. REQ. 1 1 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C106 - 906 C107 - 907 C108 - 908
	81 82 83 84 85 86 87 88	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' DG DRAWING TITLE CAPACITOR FMYSTDELLE .COS2UF CAPACITOR, POLYESTER .OOIS UF CAPACITOR, POLYSTYRENE .COS2UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF CAPACITOR, POLYFILM .27 UF RESISTOR 5 % 1/4 W 330 K	B 77K MODEL NO. - DWG, NO. 10025-152 100277-322 100277-152 100136-474 100136-474 100136-334		NL 201142 - 023 D	81 82 83 84 85 86 87 88 89 90	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE 'P' DG 771 DRAWING TITLE CAPACITOR, POLYSTEREME. 004744 CAPACITOR, POLYSTER ODI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4W 330 K	BRA MODEL NO. — - PNG. NO PNG. NO 100277-472 100225-152 100277-102 100136-224 100136-224 100136-334	NO. REO. i 9 9 9	NL 201142-0Z5 b	81 82 83 84 85 86 87 88 89 90	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .18 UF RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184	NO. REQ. 1 1 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C108 - 906 C107 - 907 C108 - 908
	81 82 83 84 85 86 87 88 89 90 91	WANGED ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF CAPACITOR, POLYFILM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K	B 77KK MODEL NO. - DWG, NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		NL 201142 - 023 D	81 82 83 84 85 86 87 88 89 90 91	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE 'P' DG 771 DRAWING TITLE CAPACITOR, POLYSTEREME. 004744 CAPACITOR, POLYSTEREME. 0015UF CAPACITOR, POLYSTEREME. 001UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4W 330 K	BRA MODEL NO. — - PNG. NO PNG. NO 100277-472 100225-152 100277-102 100136-224 100136-224 100136-334	NO. REO. i 9 9 9	NL 201142-0Z5 b	81 82 83 84 85 86 87 88 89 90 91	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .18 UF RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184	NO. REQ. 1 1 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 – 901 C108 – 906 C107 – 907 C108 – 908
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		NL 201142-023 D	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-025 b	81 82 83 84 85 86 87 88 89 90 91 92	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .18 UF RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. 1 1 9 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 – 901 C108 – 906 C107 – 907 C108 – 908
	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF CAPACITOR, POLYFILM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K	B 77KK MODEL NO. - DWG, NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		NL 201142-023 D	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE 'P' DG 771 DRAWING TITLE CAPACITOR, POLYSTEREME. 004744 CAPACITOR, POLYSTEREME. 0015UF CAPACITOR, POLYSTEREME. 001UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4W 330 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	NL 201142-0Z5 b	81 82 83 84 85 86 87 88 89 90 91 92	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. 1 1 9 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101 - 901 C106 - 906 C107 - 907 C108 - 908 R115 - 915 R116 - 916
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		NL 201142-023 D	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-025 b	81 82 83 84 85 86 87 88 89 90 91 92	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. 1 1 9 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		NL 201142-023 D	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-0Z5 b	81 82 83 84 85 86 87 88 89 90 91 92	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. I I 9 9 9 9 9 9 A/R	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA ~ EB JUMPER J9 NOT USED
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		NL 201142-023 D	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-0Z5 b	81 82 83 84 85 86 87 88 89 90 91 92	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. I I 9 9 9 9 9 9 A/R	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J9 NOT USED JUMPER J1 O" "
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-0Z\$ D	81 82 83 84 85 86 87 88 89 90 91 92	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. I I 9 9 9 9 9 9 A/R	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " E8 JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM C TO DO
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 82 83 84 85 86 87 88 89 90 91 92 93 94	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-0Z5 b	81 82 83 84 85 86 87 88 89 90 91 92	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. I I 9 9 9 9 9 9 A/R	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA ~ EB JUMPER J9 NOT USED JUMPER J1 O" "
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 82 83 84 85 86 87 88 89 90 91 92 93 94	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-0Z\$ D	81 82 83 84 85 86 87 88 89 90 91 92 93 94	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. I I 9 9 9 9 9 9 A/R	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " E8 JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM C TO DO
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 82 83 84 85 86 87 88 89 90 91 92 93 94	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-0Z\$ D	81 82 83 84 85 86 87 88 89 90 91 92 93 94	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. I I 9 9 9 9 9 9 A/R	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " E8 JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM C TO DO
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 82 83 84 85 86 87 88 89 90 91 92 93 94	WANGED ASY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 771 DRAWING TITLE CAPACITOR, POLYSTEREAR .004741 CAPACITOR, POLYSTERE OOI UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .25 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K	BER MODEL NO DNG. NO DNG077-472 100225-152 100077-102 100136-224 100136-224 100136-334 100156-334	NO. REO. 1 9 9 9 9 9	VIL 201142-0Z\$ D	81 82 83 84 85 86 87 88 89 90 91 92 93 94	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K	- D#G, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334	NO. REQ. I I 9 9 9 9 9 9 A/R	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " E8 JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM C TO DO
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 82 83 84 85 86 87 88 89 90 91 92 93 94	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE 'P' DG 771 DRAWING TITLE CAPACITOR, POLYSTEREME. 004744 CAPACITOR, POLYSTER OBLUF CAPACITOR, POLYSTRENE DOLUF CAPACITOR, TANTALUM .22 W CAPACITOR, TANTALUM .21 W CAPACITOR, POLYFILM .15 W RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED	BRA MODEL NO. — DNG. NO. F 100077-472 100225-152 100136-224 100136-224 100156-334 100156-334	I	VIL 201142-0Z\$ D	81 81 82 83 84 85 86 87 88 89 90 91 92 93 94	DRAWING TITLE CAPACITOR, POLYFILM .0015UF CAPACITOR, POLYFILM .0015UF CAPACITOR, POLYSTYRENE .0016UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5% '/4W 330 K RESISTOR 5% '/4W 330 K WIRE, SOLID INSULATED	10025-152 10027-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334 100156-334	NO. REQ I I I I 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " E8 JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM C TO DO
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 770 DRAWING TITLE CAPACITOR, POLYSTEPSEE .004764 CAPACITOR, POLYSTEPSEE .004764 CAPACITOR, POLYSTERE .001UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING	BRA MODEL NO. — - DNG. NO F 100077-472 100225-152 100077-102 100136-224 100136-224 100156-334 100156-334 100156-334 100156-334	II	VIL 201142-025 b	81 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING	- DPG, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-354 100156-354 100248-924 100248-924	NO. REQ. I I I I 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " B8 JUMPER J9 NOT USON JUMPER J10 " " JUMPER J11 FROM CC TO DO JUMPER J12 " FF " GG
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 770 DRAWING TITLE CAPACITOR, POLYSTEPESE .00476, CAPACITOR, POLYSTEPESE .00476, CAPACITOR, FOLYSTYRENE .201UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD	BRA MODEL NO DNG. NO JONG. NO J	II	VIL 201142-025 b	81 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD	10025-152 10027-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334 100156-334	NO. REQ I I I I 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " E8 JUMPER J9 NOT USED JUMPER J10 " " JUMPER J10 " " JUMPER J11 FROM C TO DO
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 77 DRAWING TITLE CAPACITOR, POLYSTERESAE. 004744 CAPACITOR, POLYSTERE 0014F CAPACITOR, TANTALUM .22 W CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4W 330 K WIRE, SOLID INSULATED	BRA MODEL NO. — - DNG. NO F 100077-472 100225-152 100077-102 100136-224 100136-224 100156-334 100156-334 100156-334 100156-334	II	VIL 201142-025 b	116	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING	- DPG, NO. 100077-472 100225-152 100077-102 100136-334 100136-334 100136-334 100156-336 100156-356 100156-356 100156-356 100156-356 100156-356 100156-356 100156-356 100156-356 100156-	NO. REG. I I 9 9 9 9 9 A/R 2 6 6	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " E8 JUMPER J9 NOT USED JUMPER J11 FROM CC TO DO JUMPER J12 " FF " GG
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' OG DRAWING TITLE CAPACITOR PMYSTBULUS .0082 UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE .005 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 770 DRAWING TITLE CAPACITOR, POLYSTEPESE .00476, CAPACITOR, POLYSTEPESE .00476, CAPACITOR, FOLYSTYRENE .201UF CAPACITOR, TANTALUM .22 UF CAPACITOR, TANTALUM .22 UF CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD	BEAN MODEL NO DNG. NO DNG. NO JOOO 77-472 100225-152 100077-102 100136-224 100136-234 100156-334 100156-334 100156-334 100156-336 100036-206 100036-206 100047-200	II	VIL 201142-025 b	176 176	CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0016 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD WASHER, FLAT	10025-152 10027-472 100225-152 100077-102 100136-334 100136-334 100078-184 100156-334 100156-334 100156-334 100156-334 100156-334 100156-334 100156-334	NO. REG. I I I 9 9 9 9 9 9 A/R A/R 2 6 6 6	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " EB JUMPER J10 " " JUMPER J11 FROM C TO DO JUMPER J12 " FF " GG JUMPER J12 " FF " GG
	81 82 83 84 85 86 87 88 89 90 91 92	ASY, DATA ELECTRONICS, PW C 23 - 24.9 /PS TYPE 'P' DG DRAWING TITLE CAPACITOR PMYSTBULUS COSSUM CAPACITOR, POLYESTER COSSUM CAPACITOR, TANTALUM 47 UF CAPACITOR, TANTALUM 47 UF CAPACITOR, TANTALUM 27 UF RESISTOR 5% 1/4W 330 K RESISTOR 5% 1/4W 330 K SCREW, CAPTIVE	B 77KK MODEL NO. - DWG. NO. 100277-822 100225-152 100077-152 100136-474 100136-474 100156-334		N	81 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101	WANGED ASSY, DATA ELECTRONICS, PW 40-45 IPS TYPE PP DG 779 DRAWING TITLE CAPACITOR, POLYSTEREAR .004744 CAPACITOR, POLYSTEREAR .0015UF CAPACITOR, POLYSTERE .0010F CAPACITOR, TANTALUM .22 W CAPACITOR, POLYFILM .15 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 530 K WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD WASHER, FLAT WASHER, INT. TOOTH LOCK	DOC NO.	II	VIL 201142-025 b	176 176	DRAWING TITLE CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .0015 UF CAPACITOR, POLYFILM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, TANTALUM .33 UF CAPACITOR, POLYFILM .18 UF RESISTOR 5 % 1/4W 330 K RESISTOR 5 % 1/4W 330 K WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD WASHER, FLAT WASHER, INT. TOOTH LOCK	100248-924 100036-206 100036-206 100036-206	NO. REG. I I I 9 9 9 9 9 9 A/R A/R 2 6 6 6	REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM A TO C JUMPER J2 " M " N JUMPER J3 " AA " BB JUMPER J0 " " JUMPER J1 FROM C TO DO JUMPER J12 " FF " GG 2-56 X 3/8" NO. 2

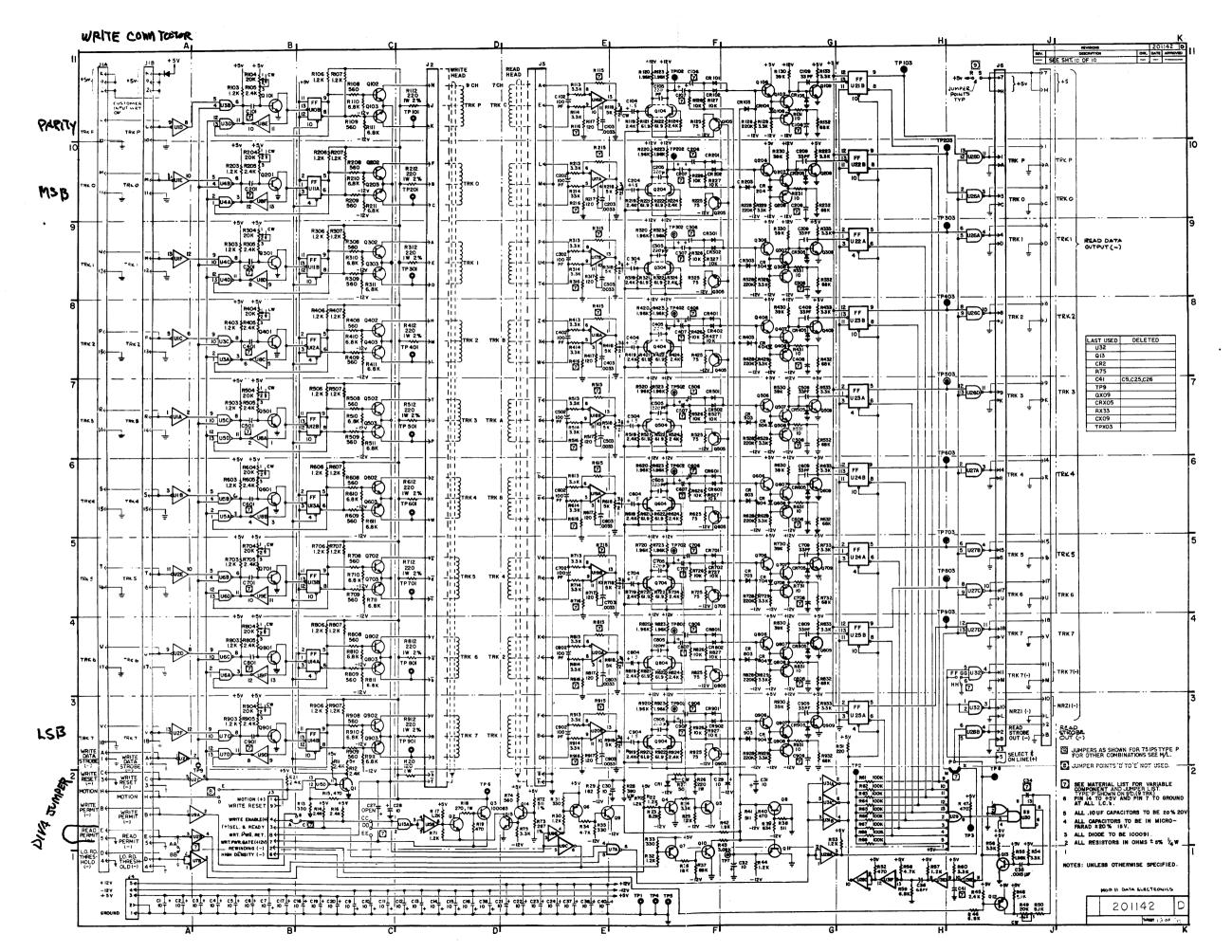
REV.	F		IAL LIST		ML 201142- 028	<u>~11</u>	\overline{g}		AL LIST	=	ML DRAWING NO. REV.
	1 6	WANGED ASSY DATA ELECTRONICS, PI 100 30-34.9 TYPE 'A' DG 7TR	٧B		201142- 828	ᅫ	U	WANGED	·B		DATE 2-13-73 SHEET 33 OF 36
. NO.	TIT	30-39.9 TYPE A DG 7TR	K MODEL NO.	<u> </u>	DATE 2-13-73 SHEET 31 OF.	<u>36</u> °	TITLE	C Z3-Z9.91PS TYPE A DG 711	EK MODEL NO.	11	DATE 2-13-73 SHEET 33 OF 36
N N	NO.	DRAWING TITLE	- DwG. NO.	NO. REQ	REMARKS ON CKT. DESIG.		TEM NO.	DRAWING TITLE	DWG. NO.	NO. REQ	REMARKS ON CKT. DESIG.
DRAWING	81	CAPACITOR, ANY STOREME 0047	100077-472	1	C34		ві	CAPACITOR POLYSTELENE ,0082 W	100077-822	1	C34
۲.	82		100000 600	 	0.01	—ı+	82			<u> </u>	2001 2001
₹	83	CAPACITOR, POLYSTYRENE .0000 CAPACITOR, TANTALUM .33 UI		+	CIOI - 901	—1⊢	83	CAPACITOR, POLYSTYRENE . 00154		9	C101 - 901
_	85	CAPACITOR, TANTALUM .33 UF	+		C107 - 907		84 85	CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF	 	3	CIO7 = 907
	86		100128-184	9	C108 - 908	 -	86	CAPACITOR, POLYFILM .27 UF			C108 - 908
	87					-	87				
	88	<u> </u>	 				88				
	89	RESISTOR 5% 1/4W 330K	100156-334	9	R115 - 915		89	RESISTOR 5% 1/4W 330 K	100156-334	9	R115 - 915
	90	RESISTOR 5% 1/4W 330K	100156-334	9	R116-916		90	RESISTOR 5% 1/4W 330 K	100156-334	9	RI16 - 916
	91						91				
	92			├			92		ļ	ļ	
	93	WIRE, SOLID INSULATED	100248-924	A/R	HIMPER II FROM R TO O	 -	93		100040 004	1.0	JUMPER JI FROM B TO C
	1 34	WIRE, SOLID INSOLATED	100246-924	A/R	JUMPER JI FROM B TO C	-	94	WIRE, SOLID INSULATED	100248-924	A/R	JUMPER J2 " M " P
	<u> </u>		 		JUMPER J3 NOT USED				 		JUMPER J3 NOT USED
	\vdash		İ	 	JUMPER J9 " "	一十				 	JUMPER J9 " "
					JUMPER JIO " "	ᅱᅡ	_				JUMPER JIO " "
,					JUMPER JII FROM DD TO E						JUMPER JII FROM DD TO EE
					JUMPER JI2 " FF " C	6					JUMPER JI2 " FF " GG
	95		ļ	L			95				
	96					 1	96		<u> </u>	<u> </u>	
	97						97		 		
	99					⊣ ⊢	98		ļ		
	100	BRACKET, MOUNTING	200016	2		\neg \vdash	99	BRACKET, MOUNTING	200016	2	<u> </u>
	101	SCREW, PAN HEAD	100036-206	6	2-56 X 3/8"			SCREW, PAN HEAD	100036-206		2-56 X 3/8"
	102	WASHER, FLAT	100047-200	6	NO. 2			WASHER, FLAT	100047-200		NO. 2
	103	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2	╗┢	03	WASHER, INT. TOOTH LOCK	100059-200	6	NO. 2
	104	NUT, HEX	100043-200	6	2 - 56		04	NUT, HEX	100043-200	6	2 - 56
			-			$\dashv \vdash$			ļ	ļ	
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•											
<u>.</u>	77	MATERI	AL LIST		DRAWING NO.	EV.			OBED DATA		
REV.	\mathcal{I}	111	AL LIST		M 201142 479		7.61				ML DRAWING NO. REV.
NO. REV.	DRAWN TITLE	111		- - 11	M 201142 479		g.			=	ML DRAWING NO. REV. 201142-032 D
NG NO. REV.		WANGED ASSY, DATA ELECTRONICS, PW 23-29-91PS TYPE "P" DG 7TE	B MODEL NO.		OATE 2-13-73 SHEET 32 OF		Q Y			=	ML DRAWING NO. REV. 201142-032 D DATE 2-13-73 SHEET 34 OF 36
RAWING NO. REV.	DRAWN THE	111	B MODEL NO	II NO. REQ.	M 201142 479	6 PT	EM O.	MATERI WANGCO ASSY, DATA ELECTRONICS, PWI TO IPS TYPE A DG TIRK DRAWING TITLE	AL LIST B MODEL NO DWG. NO.		ML DRAWING NO. REV. 201142-032 D DATE 2-13-73 SHEET 34 OF 36 REMARKS ON CKT. DESIG.
DRAWING NO. REV.	ITEM NO.	ASY., DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG 7TK	B 2K MODEL NO - DWG. NO. 100165-822	NO. REQ.	OATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG.	D 7	EM O.	MATERI. WANGCO ASSY, DATA ELECTRONICS, PWI 75 IPS TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF	B MODEL NO DWG. NO. 100165-222	NO. REQ.	ML 201142-032 D DATE 2-13-73 SHEET 34 OF 36 REMARKS ON CKT. DESIG. C34
DRAWING NO. REV.	81 82 83	ASY. DATA ELECTRONICS, PW 23-29-9 IPS TYPE "P" DG 7TR DRAWING TITLE CAPACITOR, POLYSTERME DOSCUP CAPACITOR, POLYSTYRENE .0015 UF CAPACITOR, POLYSTYRENE .0015 WF	B MODEL NO DWG, NO. 100165-822 100225-152 100077-152	NO. REQ.	ML 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG.	6 Pr 117.4 8 8	EM 0. 1	ASSY, DATA ELECTRONICS, PWI TS IPS TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015UF	B MODEL NO DWG. NO. 100165-222 100225-152	NO. REQ.	ML 201142-032 D DATE 2-13-73 SHEET 34 OF 36 REMARKS ON CKT. DESIG. C34 C41
ML DRAWING NO. REV.	81 82 83 84	WANGED ASY, DATA ELECTRONICS, PW 23-29-9 IPS TYPE 'P' DG 7TK DRAWING TITLE CAPACITOR, POLYSTERME -0082 UP CAPACITOR, POLYSTER .0015 UF CAPACITOR, POLYSTYRENE .0015 WF CAPACITOR, POLYSTYRENE .0015 WF CAPACITOR, TANTALUM .42 UP	B 22 MODEL NO - DWG, NO. 100165-822 100225-152 100077-152 100136-474	NO. REQ.	ML 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41	D 7 6 P 7 1 M M M M M M M M M	EM 0. 1	ASSY, DATA ELECTRONICS, PWI TO IPS TYPE A DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF	B MODEL NO DWG. NO 100165-222 100225-152 100077-511	NO. REQ.	ML 201142-032 D DATE 2-13-73 SHEET 34 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901
ML DRAWING NO. REV.	81 82 83 84 85	WANGED ASY. DATA ELECTRONICS, PW 23-29-9 IP ELECTRONICS, PW 23-29-9 IP ELECTRONICS, PW CAPACITOR, POLYSTERME DOSZUE CAPACITOR, POLYSTERNE .0015UF CAPACITOR, POLYSTYRENE .0015W CAPACITOR, TANTALUM .47UE CAPACITOR, TANTALUM .47UE	B MODEL NO DWG, NO 100165-822 100225-152 100077-152 100136-474 100136-474	1 1 9 9	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907	6 PR 11 MM 8 8 8 8 8 8	EM 0. 1 2 3 4	ASSY, DATA ELECTRONICS, PWI TS IPS TYPE A DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154	NO. REQ.	ML 201142-032 D DATE 2-13-73 SHEET 34 OF 36 REMARKS ON CKT. DESIG. C34 C41
ML DRAWING NO. REV.	81 82 83 84 85	WANGED ASY, DATA ELECTRONICS, PW 23-29-9 IPS TYPE 'P' DG 7TK DRAWING TITLE CAPACITOR, POLYSTERME -0082 UP CAPACITOR, POLYSTER .0015 UF CAPACITOR, POLYSTYRENE .0015 WF CAPACITOR, POLYSTYRENE .0015 WF CAPACITOR, TANTALUM .42 UP	B MODEL NO DWG, NO 100165-822 100225-152 100077-152 100136-474 100136-474	I I 9 9	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906	D 7 6 DR 7 1 1 1 1 1 1 1 1 1	EM 0. 1	ASSY., DATA ELECTRONICS, PWI TO IPS TYPE A DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 15UF	B MODEL NO DWG. NO. 100165-222 100225-152 100077-511 100136-154	NO. REQ.	NL 201142-032 D
ML DRAWING NO. REV.	81 82 83 84 85 86 87	ASY. DATA ELECTRONICS, PW ASY. DATA ELECTRONICS, PW C23-29-9 IP ELECTRONICS, PW C23-29-9 IP ELECTRONICS, PW CAPACITOR, POLYSTERME DOSZUE CAPACITOR, POLYSTYRENE .0015UF CAPACITOR, POLYSTYRENE .0015W CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .47 UF	B MODEL NO DWG, NO 100165-822 100225-152 100077-152 100136-474 100136-474	1 1 9 9	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907	D 76 DR 76	EM 0. 1	ASSY, DATA ELECTRONICS, PWI TS IPS TYPE A DG TIRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 15UF	B MODEL NO DWG. NO. 100165-222 100225-152 100077-511 100136-154	1 1 9 9	NL 201142-032 D
ML DRAWING NO. REV.	81 82 83 84 85 86 87	WANGED ASY. DATA ELECTRONICS, PW 23-29-91PS TYPE "P" DG 7TK DRAWING TITLE CAPACITOR, POLYSTEREME DOSZUE CAPACITOR, POLYSTERE .0015 UF CAPACITOR, POLYSTYRENE .0015 YE CAPACITOR, TANTALUM .47 UF CAPACITOR, TANTALUM .27 UF	B MODEL NO DWG, NO 100165-822 100225-152 100077-152 100136-474 100136-474 100136-274	9 9 9	ML 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908	D 766 DRT 117 NI 118	EM 0. 1 2 3 4 4 15 6 6	ASSY., DATA ELECTRONICS, PWI TO IPS TYPE A DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 15UF	B MODEL NO DWG. NO. 100165-222 100225-152 100077-511 100136-154	1 1 9 9	NL 201142-032 D
ML DRAVING NO. REV.	81 82 83 84 85 86 87 88	WANGED ASY, DATA ELECTRONICS, PW 23-29-91PS TYPE "P" DG TTE CAPACITOR, POLYSTERME _0082WF CAPACITOR, POLYSTERME _0015WF CAPACITOR, POLYSTYRENE _0015WF CAPACITOR, TANTALUM _47WF CAPACITOR, TANTALUM _27 UF CAPACITOR, POLYFILM _27 UF RESISTOR 5 % 1/4 W 330K	B MODEL NO DWG, NO. 100165-822 100225-152 100077-152 100136-474 100136-474	9 9 9	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907	D 766 087 117 118 11	EM 00.	ASSY, DATA ELECTRONICS, PWI TS IPS TYPE A DG TIRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 15UF CAPACITOR, POLYFILM 082UF	B MODEL NO DWG. NO. 100165-222 100225-152 100077-511 100136-154	NO. REQ.	NL 201142-032 D
ML DRAVING NO. REV.	81 82 83 84 85 86 87 88	WANGED ASY, DATA ELECTRONICS, PW 23-29-91PS TYPE "P" DG TTE CAPACITOR, POLYSTERME _0082WF CAPACITOR, POLYSTERME _0015WF CAPACITOR, POLYSTYRENE _0015WF CAPACITOR, TANTALUM _47WF CAPACITOR, TANTALUM _27 UF CAPACITOR, POLYFILM _27 UF RESISTOR 5 % 1/4 W 330K	B	9 9 9 9 9 9	ML 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908	D 7 6 08 7 7 7 7 7 7 7 7 7	EM 0. 1 1 2 2 3 3 4 4 1 5 5 6 6 1 7 1 8 8 1 9 1 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	ASSY, DATA ELECTRONICS, PWI TS IPS TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 15UF CAPACITOR, POLYFILM 082UF RESISTOR 5 % 1/4 W 150 K	B MODEL NO DWG. NO 100165-222 100225-152 100077-511 100136-154 100078-823	NO. REQ.	ML 201142-032 D
ML DRAVING NO. REV.	81 82 83 84 85 86 87 88 89	WANGED ASY, DATA ELECTRONICS, PW 23-29-91PS TYPE "P" DG TTE CAPACITOR, POLYSTERME _0082WF CAPACITOR, POLYSTERME _0015WF CAPACITOR, POLYSTYRENE _0015WF CAPACITOR, TANTALUM _47WF CAPACITOR, TANTALUM _27 UF CAPACITOR, POLYFILM _27 UF RESISTOR 5 % 1/4 W 330K	B	9 9 9 9 9 9	ML 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908	D 7 6 08 7 1 1 1 1 1 1 1 1 1	EM	ASSY, DATA ELECTRONICS, PWI TS IPS TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 15UF CAPACITOR, POLYFILM 082UF RESISTOR 5 % 1/4 W 150 K	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100078-823	NO. REQ.	NL 201142-032 D
ML DRAWING NO. REV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC CONSUMP CAPACITOR, POLYSTONIC CONSUMP CAPACITOR, POLYSTYRENE CONSUMP CAPACITOR, TANTALUM 47-04 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT, DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916	D 7 6 08 7 7 8 8 8 8 8 8 8	EM	MATERI. WANGCO ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF CAPACITOR, POLYFILM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100178-823	NO. REQ.	NL 201142-032 D
ML DRAWING NO. REV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-91P5 TYPE 'P' DG TTE CAPACITOR, PLYSTERME DOSSUF CAPACITOR, POLYSTERME DOSSUF CAPACITOR, POLYSTYRENE DOSSUF CAPACITOR, TANTALUM 47-WF CAPACITOR, TANTALUM 47-WF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4W 330K RESISTOR 5 % 1/4W 330K	B MODEL NO DWG. NO 100165-822 100255-152 100077-152 100136-474 100136-474 100136-334 100156-30666 100156-3066666666666666666666666666666666666	NO. REQ.	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916	D 08 08 08 08 08 08 08 0	EM CO. 1 2 2 3 3 4 4 15 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	NO. REQ.	ML 201142-032 D DATE 2-13-73 SHEET 34 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916
ML DRAVING NO. REV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC CONSUMP CAPACITOR, POLYSTONIC CONSUMP CAPACITOR, POLYSTYRENE CONSUMP CAPACITOR, TANTALUM 47-04 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029	D 08 08 08 08 08 08 08 0	EM CO. 1 2 2 3 3 4 4 15 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI. WANGCO ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF CAPACITOR, POLYFILM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100178-823	9 9 9 9 9 5	ML 201142-032 D
ML DRAVING NO. REV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC CONSUMP CAPACITOR, POLYSTONIC CONSUMP CAPACITOR, POLYSTYRENE CONSUMP CAPACITOR, TANTALUM 47-04 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029	D 08 08 08 08 08 08 08 0	EM CO. 1 2 2 3 3 4 4 15 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D DATE 2-13-73 SHEET 34 OF 36 REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916
ML GRAVING NO. REV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC CONSUMP CAPACITOR, POLYSTONIC CONSUMP CAPACITOR, POLYSTYRENE CONSUMP CAPACITOR, TANTALUM 47-04 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029	D 08 08 08 08 08 08 08 0	EM CO. 1 2 2 3 3 4 4 15 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DRAWING NO. REV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC CONSUMP CAPACITOR, POLYSTONIC CONSUMP CAPACITOR, POLYSTYRENE CONSUMP CAPACITOR, TANTALUM 47-04 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029	B	EM CO. 1 2 2 3 3 4 4 15 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DRAWING HO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC CONSUMP CAPACITOR, POLYSTONIC CONSUMP CAPACITOR, POLYSTYRENE CONSUMP CAPACITOR, TANTALUM 47-04 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 15 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DWG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DRAWING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC CONSUMP CAPACITOR, POLYSTONIC CONSUMP CAPACITOR, POLYSTYRENE CONSUMP CAPACITOR, TANTALUM 47-04 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, POLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM R TO C JUMPER J2 " M " N JUMPER J3 " RR ^ 8 B JUMPER J3 " RR ^ 8 B JUMPER J9 NOT USED JUMPER J1 FROM C TO D	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 15 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DERWING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC DOSSUM CAPACITOR, POLYSTONIC DOSSUM CAPACITOR, POLYSTYRENE DOSSUM CAPACITOR, TANTALUM 4714 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF RESISTOR 5 % 1/4 W 330K RESISTOR 5 % 1/4 W 330K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM R TO C JUMPER J2 " M " N JUMPER J3 " RR ^ 8 B JUMPER J3 " RR ^ 8 B JUMPER J9 NOT USED JUMPER J1 FROM C TO D	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DEAVING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC DOSSUM CAPACITOR, POLYSTONIC DOSSUM CAPACITOR, POLYSTYRENE DOSSUM CAPACITOR, TANTALUM 4714 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF RESISTOR 5 % 1/4 W 330K RESISTOR 5 % 1/4 W 330K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM R TO C JUMPER J2 " M " N JUMPER J3 " RR ^ 8 B JUMPER J3 " RR ^ 8 B JUMPER J9 NOT USED JUMPER J1 FROM C TO D	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DEANING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96	WANGED ASY, DATA ELECTRONICS, PW 23-29-9195 TYPE "P" DG TTE CAPACITOR, PLYSTONIC DOSSUM CAPACITOR, POLYSTONIC DOSSUM CAPACITOR, POLYSTYRENE DOSSUM CAPACITOR, TANTALUM 4714 CAPACITOR, TANTALUM 27 UF CAPACITOR, TANTALUM 27 UF RESISTOR 5 % 1/4 W 330K RESISTOR 5 % 1/4 W 330K SCREW, CAPTIVE	B MODEL NO DWG. NO 100165-822 100225-152 100077-152 1000136-474 100136-474 100156-334 100156-334 100156-334	NO. REQ.	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM R TO C JUMPER J2 " M " N JUMPER J3 " RR ^ 8 B JUMPER J3 " RR ^ 8 B JUMPER J9 NOT USED JUMPER J1 FROM C TO D	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DEAVING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97	WANGED ASY, DATA ELECTRONICS, PW 23-24-91PS TYPE 'P' DG TTE CAPACITOR, POLYSTEEME DOSSUE CAPACITOR, POLYSTEEME DOSSUE CAPACITOR, FOLYSTYRENE DOSSUE CAPACITOR, TANTALUM 47 UF CAPACITOR, TANTALUM 27 UF RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE WIRE, SOLID INSULATED	BE MODEL NO DWG, NO IOO165-822 IOO225-152 IOO136-474 IOO136-474 IOO156-334 IOO156-334 IOO156-334 IOO262 IOO248-924	NO. REQ. 1 9 9 9 9 9 A/R	VIL 201142-029 DATE 2-13-73 SHEET 32 OF REMARKS ON CKT. DESIG. C34 C41 C101-901 C106-906 C107-907 C108-908 R115-915 R116-916 JUMPER J1 FROM R TO C JUMPER J2 " M " N JUMPER J3 " RR ^ 8 B JUMPER J3 " RR ^ 8 B JUMPER J9 NOT USED JUMPER J1 FROM C TO D	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DRAWING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97	WANGED ASY, DATA ELECTRONICS, PW C23-24-91PS TYPE "P" DG TTE CAPACITOR, POLYSTEEMS DOSSUE CAPACITOR, POLYSTEEMS DOSSUE CAPACITOR, FOLYSTYRENE DOSSUE CAPACITOR, FOLYSTYRENE DOSSUE CAPACITOR, TANTALUM 47 UF CAPACITOR, TANTALUM 27 UF CAPACITOR, FOLYFILM 27 UF RESISTOR 5 % 1/4 W 330 K RESISTOR 5 % 1/4 W 330 K SCREW, CAPTIVE WIRE, SOLID INSULATED BRACKET, MOUNTING	BE MODEL NO	NO. REQ. 1 9 9 9 9 9 A/R	VIL 201142-029	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DRAWING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98	WANGED ASY, DATA ELECTRONICS, PW C33-29-91P5 TYPE "P" DG TTE CAPACITOR, PLYSTERME DOSSUF CAPACITOR, POLYSTERME DOSSUF CAPACITOR, FOLYSTYRENE DOSSUF CAPACITOR, TANTALUM 47-W CAPACITOR, TANTALUM 47-W CAPACITOR, TANTALUM 30-W RESISTOR 5% 1/4W 330-W SCREW, CAPTIVE WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD	BEX MODEL NO DWG. NO 100165-822 10025-152 10027-152 100136-474 100136-474 100156-334 100156-334 100156-334 100156-334 100156-336-206 100036-206	NO. REQ. 1 9 9 9 9 9 A/R 2 6	VIL 201142-029	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DRAWING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	WANGED ASY, DATA ELECTRONICS, PW C33-29-91P5 TYPE "P" DG TTE CAPACITOR, PLYSTERME DOSSUF CAPACITOR, POLYSTERME DOSSUF CAPACITOR, FOLYSTYRENE DOSSUF CAPACITOR, TANTALUM 47-W CAPACITOR, TANTALUM 47-W CAPACITOR, TANTALUM 330-W RESISTOR 5% 1/4W 330-W SCREW, CAPTIVE WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD WASHER, FLAT	BEX MODEL NO DWG. NO 100165-822 10025-152 100077-152 100136-474 100136-474 100156-334 100156-334 100156-334 100156-334 100156-336-206 100036-206 100047-200	NO. REQ. 1 9 9 9 9 9 A/R 2 6 6	VIL 201142-029	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DRAWING NO. BEV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	WANGED ASY, DATA ELECTRONICS, PW C23-29-91P5 TYPE "P" DG TTE CAPACITOR, PLYSTERME DOSSUP CAPACITOR, POLYESTER DOSSUP CAPACITOR, FOLYSTYRENE DOSSUP CAPACITOR, TANTALUM 47-W CAPACITOR, TANTALUM 27 UF RESISTOR 5% 1/4W 330K RESISTOR 5% 1/4W 330K SCREW, CAPTIVE WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD WASHER, FLAT WASHER, INT. TOOTH LOCK	BEX MODEL NO DWG. NO 100165-822 10025-152 10027-152 100136-474 100136-474 100156-334 100156-334 100156-334 100156-334 100156-336-206 100036-206	NO. REQ. 1 9 9 9 9 9 A/R 2 6	VIL 201142-029	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D
ML DERAING NO. REV.	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101	WANGED ASY, DATA ELECTRONICS, PW C33-29-91P5 TYPE "P" DG TTE CAPACITOR, PLYSTERME DOSSUF CAPACITOR, POLYSTERME DOSSUF CAPACITOR, FOLYSTYRENE DOSSUF CAPACITOR, TANTALUM 47-W CAPACITOR, TANTALUM 47-W CAPACITOR, TANTALUM 330-W RESISTOR 5% 1/4W 330-W SCREW, CAPTIVE WIRE, SOLID INSULATED BRACKET, MOUNTING SCREW, PAN HEAD WASHER, FLAT	BEX MODEL NO DWG. NO 100165-822 100225-152 100077-152 100136-474 100136-474 100156-334 100156-334 100156-334 100262 100248-924 100036-206 100036-206 100047-200 100059	NO. REQ. 1 9 9 9 9 9 A/R 2 6 6	VIL 201142-029	D 08 11 11 12 12 12 12 12 1	EM CO. 1 2 2 3 3 4 4 1 5 5 16 6 17 7 18 8 19 10 0 11 1 12 2 13 3 1 1 1 1 1 1 1 1 1 1 1 1	MATERI WANGED ASSY, DATA ELECTRONICS, PWI 75 TYPE "A" DG 7TRK DRAWING TITLE CAPACITOR, MYLAR .0022UF CAPACITOR, POLYESTER .0015 UF CAPACITOR, POLYSTYRENE 510PF CAPACITOR, TANTALUM 15UF CAPACITOR, TANTALUM 082UF RESISTOR 5% 1/4W 150K RESISTOR 5% 1/4W 150K SCREW, CAPTIVE	B MODEL NO DMG, NO 100165-222 100225-152 100077-511 100136-154 100136-154 100156-154	9 9 9 9 9 5	ML 201142-032 D

UNSTROBED DATA ML DRAWING NO. REV. 20142-033 D MATERIAL LIST

WANGED

DRAWING OP-45 IPS TYPE 7" 9CH DG

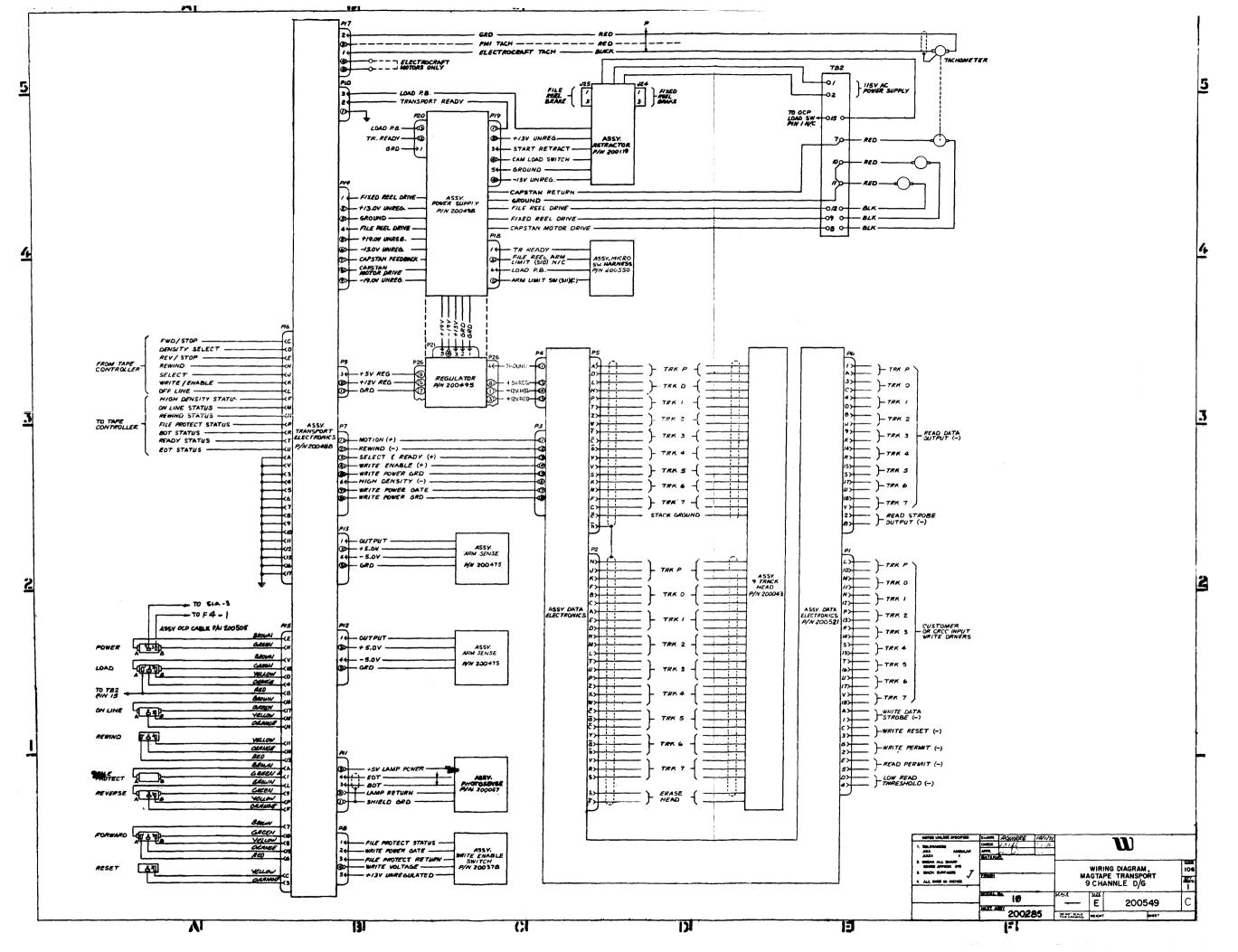
MODEL NO. II DATE 2-13-73 SHEET 35 OF 36 82 CAPACITOR, POLYESTER .0015 UF 100225-152 1 C41 83 CAPACITOR, POLYSTYRENE .0010F 100077-102 9 C101-901 84 CAPACITOR, TANTALUM .22 UF 100136-224 9 C106-906 85 CAPACITOR, TANTALUM .22 UF 100136-224 9 C107-907 86 CAPACITOR, POLYFILM _/5 UF 100128-154 9 C108 - 908 87 89 RESISTOR 5% 1/4W 330 K 100156-334 9 R115-915 90 RESISTOR 5% 1/4W 330 K 100156-334 9 R116-916 92 93 SCREW, CAPTIVE 100262 5 100248-924 A/R JUMPER JI FROM B TO C 94 WIRE, SOLID INSULATED JUMPER J2 " M " N JUMPER J3 NOT USED JUMPER J9 " " JUMPER JIO " " JUMPER JII FROM DD TO EE JUMPER JI2 " GG " HH



B-38. Schematic, Data Electronics, Dual Gap, PWB

B-39. Assembly, Data Electronics, Dual Gap, PWB

Gap Ø Single Tape Magnetic Diagram ring 40,



-41. Wiring Diagram Magnetic Tape Transport, Dual Gap