

REMEX

TECHNICAL MANUAL

FLEXIBLE DISK SYSTEMS

MODELS: REMEX 20, REMEX 40
REMEX 24, REMEX 48

**Peripheral
Products**

Ex-Cell-O Corporation

TECHNICAL MANUAL

FLEXIBLE DISK SYSTEMS

MODELS: REMEX 20, REMEX 40
REMEX 24, REMEX 48

IMPORTANT INFORMATION

Changes to the equipment which are made between manual printings are listed in an addendum at the rear of the manual. As a convenience, a list of change pages is given as the last page in the manual. It is recommended that each of these pages be marked "Refer to Addendum" so that these changes can be identified.

EX-CELL-O CORPORATION

REMEX

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FOR YOUR SAFETY

Before undertaking any maintenance procedure, whether it be a specific troubleshooting or maintenance procedure described herein or an exploratory procedure aimed at determining whether there has been a malfunction, read the applicable section of this manual and note carefully the

WARNING

and

CAUTION

contained therein.

The equipment described in this manual contains voltages hazardous to human life and safety and may contain mechanical components capable of inflicting personal injury. The cautionary and warning notes are included in this manual to alert operator and maintenance personnel to the electrical and mechanical hazards and thus prevent personal injury and damage to equipment.

WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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SECTION I

GENERAL DESCRIPTION

1.1 EQUIPMENT DESCRIPTION

The REMEX 20, 40, 24 and 48 are slim line packages which contain two diskette drives, a DC power supply and the appropriate cabinet and mounting hardware. The power supply is identical in all models and is covered in this manual. The REMEX 20 contains two RFD2000 or RFD2001 drives, the REMEX 40 contains two RFD4000 or RFD4001 drives, the REMEX 24 contains two REMEX RFS2400 drives and the REMEX 48 contains two RFS4800 drives. The drives are completely described in their separate manuals which are shipped with the corresponding system.

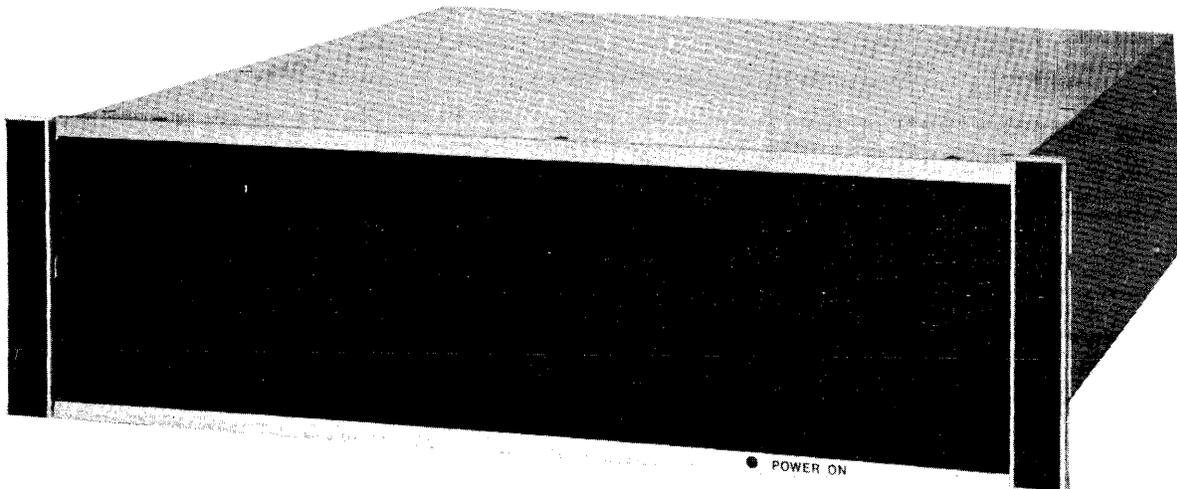


Figure 1-1. Remex 40 System. The appearance of the 20, 24 and 48 is nearly identical.

1.2

SPECIFICATIONS

The specifications are as follows:

Drive: See appropriate drive manual

DC Power: +5 VDC \pm 0.25V @ 4 amps

Output +24VDC \pm 1.0V @ 1.8 amps

-12VDC \pm 2.0V unregulated @ 0.3 amps

AC Power: 100, 115 VAC \pm 10%; 50, 60 Hz \pm 0.5 Hz @ 2.0 Amps, Max.

Input or 220, 240 VAC \pm 10%; 50 Hz \pm 0.5 Hz @ 1.0 Amps, Max.

Air Flow

Requirements: An internal fan provides air flow over the power supply heat sinks and drive motors. Entrance air is from the rear and exits on the left hand side. Two inches of access to these areas must be provided when equipment is mounted in a rack or cabinet.

Size: Height: 5.22 inches
Width at Panel: 19 inches
Width behind Panel: 17.22 inches
Depth: 21.32 inches
See Figure 1-2, Installation Drawing

Environmental: Temperature - Operating: 40° to 115°F with media
Non-Operating: -30° to 155°F without media
Humidity - Operating: 20% to 80% (without condensation)
Non-Operating: 5% to 98% (without condensation)

1.3

EQUIPMENT SUPPLIED

The kit of parts shipped with the various systems are listed in Table 1-1.

Table 1-1. Kit of Parts Supplied.

<u>Item</u>	REMEX <u>Part No.</u>	Quantity			
		<u>20</u>	<u>24</u>	<u>40</u>	<u>48</u>
Bracket, Chassis Support	114186-001	2	2	2	2
Bracket, Chassis Support	114324-001	2	2	2	2
Bracket, Chassis Support	114324-002	2	2	2	2
Cord, Power, AC	708000-110	1	1	1	1
Fuse, 2A, F101 (115VAC only)	705715-121	1	1	1	1
Fuse, 1A, F101 (230VAC only)	705716-003	1	1	1	1
Fuse Carrier (115VAC only)	705750-121	1	1	1	1
Fuse Carrier (230VAC only)	705750-122	1	1	1	1
Manual, RFD400X/RFD200X	112670-103	1	-	1	-
Manual, RFS2400/4800	112670-109	-	1	-	1
Manual, Power Supply	112670-108	1	1	1	1
Nut, Hex 10-32	713501-016	8	8	8	8
Screw, BHM 10-32 x 3/8	709031-806	16	16	16	16
Washer, Flat, No. 10	713521-308	8	8	8	8
Washer, Lock, No. 10	713541-306	8	8	8	8

1.4

MODEL NUMBER DESIGNATION AND SYSTEM CONFIGURATIONS

The model number system is used for product identification. It includes a basic model series number which is followed by a virgule (/) and then a six digit number and finally a three digit dash number. The model number is used to code and identify a particular combination of options used in a given product line. This number is printed on the serial tag and is located on one of the rear surfaces. Those digits to the left are the basic model series of the product line (REMEX 40, 20, 48, 24). The six digits to the right and the three dash dash numbers give the top assembly number of the product. The three digit dash number is unique for any particular combination of options and configurations used in the basic assembly. Tables 1-2 through 1-5 list the various model numbers and a description of the system configurations for the REMEX 40, 20, 48 and 24, respectively. Consult the various drive manuals for the differences in the drives.

Table 1-2. REMEX 40 Configurations

Model Number	Description
REMEX 40/814175-001	Dual RFD4000 Drives, 100-115VAC, 50Hz
REMEX 40/814175-002	Dual RFD4000 Drives, 115VAC, 60Hz
REMEX 40/814175-003	Dual RFD4000 Drives, 220VAC, 50Hz
REMEX 40/814175-004	Dual RFD4001 Drives, 100-115VAC, 50Hz
REMEX 40/814175-005	Dual RFD4001 Drives, 115VAC, 60Hz
REMEX 40/814175-006	Dual RFD4001 Drives, 220VAC, 50Hz
REMEX 40/814288-001	Single RFD4000 Drive, 100-115VAC, 50Hz
REMEX 40/814288-002	Single RFD4000 Drive, 115VAC, 60Hz
REMEX 40/814288-003	Single RFD4000 Drive, 220VAC, 50Hz
REMEX 40/814288-004	Dual RFD4000 Drives, 100-115VAC, 50Hz
REMEX 40/814288-005	Dual RFD4000 Drives, 115VAC, 60Hz
REMEX 40/814288-006	Dual RFD4000 Drives, 220VAC, 50Hz
REMEX 40/814288-007	Single RFD4001 Drive, 100-115VAC, 50Hz
REMEX 40/814288-008	Single RFD4001 Drive, 115VAC, 60Hz
REMEX 40/814288-009	Single RFD4001 Drive, 220VAC, 50Hz
REMEX 40/814288-010	Dual RFD4001 Drives, 100-115VAC, 50Hz
REMEX 40/814288-011	Dual RFD4001 Drives, 115VAC, 60Hz
REMEX 40/814288-012	Dual RFD4001 Drives, 220VAC, 50Hz

Table 1-3. REMEX 20 Configurations

Model Number	Description
REMEX 20/814284-001	Single RFD2000 Drive, 100-115VAC, 50Hz
REMEX 20/814284-002	Single RFD2000 Drive, 115VAC, 60Hz
REMEX 20/814284-003	Single RFD2000 Drive, 220VAC, 50Hz
REMEX 20/814284-004	Dual RFD2000 Drive, 100-115VAC, 50Hz
REMEX 20/814284-005	Dual RFD2000 Drive, 115VAC, 60Hz
REMEX 20/814284-006	Dual RFD2000 Drive, 220VAC, 50Hz
REMEX 20/814284-007	Single RFD2001 Drive, 100-115VAC, 50Hz
REMEX 20/814284-008	Single RFD2001 Drive, 115VAC, 60Hz
REMEX 20/814284-009	Single RFD2001 Drive, 220VAC, 50Hz
REMEX 20/814284-010	Dual RFD2001 Drives, 100-115VAC, 50Hz
REMEX 20/814284-011	Dual RFD2001 Drives, 115VAC, 60Hz
REMEX 20/814284-012	Dual RFD2001 Drives, 220VAC, 50Hz

Table 1-4. REMEX 48 Configurations

Model Number	Description
REMEX 48/814290-001	Single RFS4810 Drive, 100-115VAC, 50Hz
REMEX 48/814290-002	Single RFS4810 Drive, 115VAC, 60Hz
REMEX 48/814290-003	Single RFS4810 Drive, 220VAC, 50Hz
REMEX 48/814290-010	RFS4810 and RFS4820 Drives, 100-115VAC, 50Hz
REMEX 48/814290-011	RFS4810 and RFS4820 Drives, 115VAC, 60Hz
REMEX 48/814290-012	RFS4810 and RFS4820 Drives, 220VAC, 50Hz
REMEX 48/814290-013	Single RFS4820 Drive, 100-115VAC, 50Hz
REMEX 48/814290-014	Single RFS4820 Drive, 115VAC, 60Hz
REMEX 48/814290-015	Single RFS4820 Drive, 220VAC, 50Hz
REMEX 48/814290-016	Dual RFS4820 Drives, 100-115VAC, 50Hz
REMEX 48/814290-017	Dual RFS4820 Drives, 115VAC, 60Hz
REMEX 48/814290-018	Dual RFS4820 Drives, 220VAC, 50Hz

Table 1-5. REMEX 24 Configurations

Model Number	Description
REMEX 24/814286-001	Single RFS2410 Drive, 100-115VAC, 50Hz
REMEX 24/814286-002	Single RFS2410 Drive, 115VAC, 60Hz
REMEX 24/814286-003	Single RFS2410 Drive, 220VAC, 50Hz
REMEX 24/814286-010	RFS2410 and RFS2420 Drives, 100-115VAC, 50Hz
REMEX 24/814286-011	RFS2410 and RFS2420 Drives, 115VAC, 60Hz
REMEX 24/814286-012	RFS2410 and RFS2420 Drives, 220VAC, 50Hz
REMEX 24/814286-013	Single RFS2420 Drive, 100-115VAC, 50Hz
REMEX 24/814286-014	Single RFS2420 Drive, 115VAC, 60Hz
REMEX 24/814286-015	Single RFS2420 Drive, 220VAC, 50Hz
REMEX 24/814286-016	Dual RFS2420 Drives, 100-115VAC, 50Hz
REMEX 24/814286-017	Dual RFS2420 Drives, 115VAC, 60Hz
REMEX 24/814286-018	Dual RFS2420 Drives, 220VAC, 50Hz

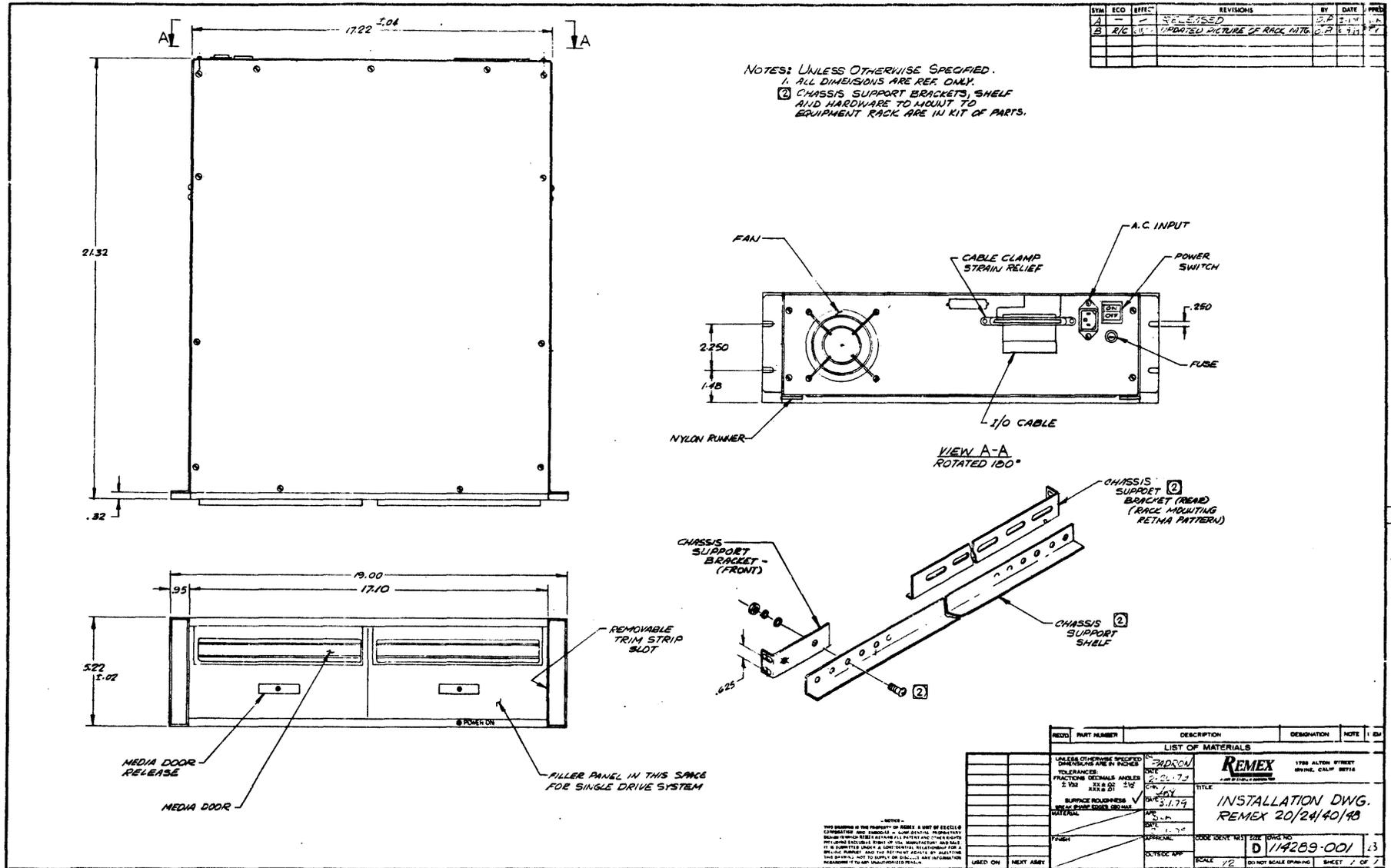


Figure 1-2. Installation Drawing, REMEX 20/814284, REMEX 40/814288, REMEX 48/814290 and REMEX 24/814286.

114289-001/B

SECTION II

INSTALLATION AND INTERFACE

2.1 UNPACKING

To provide the most protection during transit, specially designed and reinforced packing cartons are used to ship the REMEX System. When removing the system from the carton, lift the system with both hands under it. Never lift or attempt to carry the system by any covers, drive doors or other delicate parts. Carefully inspect the unit for any apparent damage as soon as it is removed from the carton. In the event the equipment has been damaged as a result of shipping, the carrier and REMEX must be notified as soon as possible.

CAUTION

It is important that during unpacking, installation and operation that the read/write heads do not come in contact with stray magnetic fields.

2.2 MOUNTING

The system is designed to operate in a horizontal mode; however, the system will operate standing on either side. Mounting hardware and brackets are provided in the kit of parts. The bracket mounting is shown in Figure 1-2. It is important that the air flow requirements given in Section 1.2 be followed during mounting and operation and that no obstruction occurs in the air flow path.

2.3 INITIAL ADJUSTMENTS

Each system has been accurately adjusted and aligned before leaving the factory. No adjustment or calibration should be required prior to installation or use. Drive A has the line terminator removed and a shorting plug has been removed from U-U and installed at U-4 on the circuit card. This gives a Unit Ready on pin 4 of the output connector. Drive B retains the line terminator and has the shorting plug removed from U-U and installed at U-6. This gives a Unit Ready output on pin 6 of the output connector. In addition, drive A has a shorting plug on DS1 which selects it as drive 1 or pin 26 and drive B has its shorting plug on DS2 which selects it as drive 2 on pin 28. See Sections 2 and 3 of the drive manual for interface signal details.

2.4 POWER AND SYSTEM CONNECTIONS

AC power is applied to FL101 at the rear of the system via the supplied power cord. See Figure 2-1 for rear view. It is also necessary to install the fuse F101 and fuse carrier supplied in the kit of parts. The power switch S101 is also located at the rear of the unit and must be placed in the ON position before operating the system. REMEX 20 and 40 units are provided with a daisy chained 50-wire flat ribbon cable and connector. REMEX 24 and 48 units are provided with a 34-wire flat ribbon cable and connector. A connector is also provided (REMEX 24 and 48 only) for connection of an expansion chassis (if used). Refer to Section 2.4 in the drive manuals for the signal interface descriptions for the particular drive being used.

CAUTION

Always consult the serial number tag for proper voltage and frequency to be used. Failure to do so could result in damage to the unit. It is not recommended that the power supply or drives be changed in the field to accept a voltage or frequency other than that listed on the serial number tag. See Tables 1-2 through 1-5 for model number explanations and the required voltage and frequency.

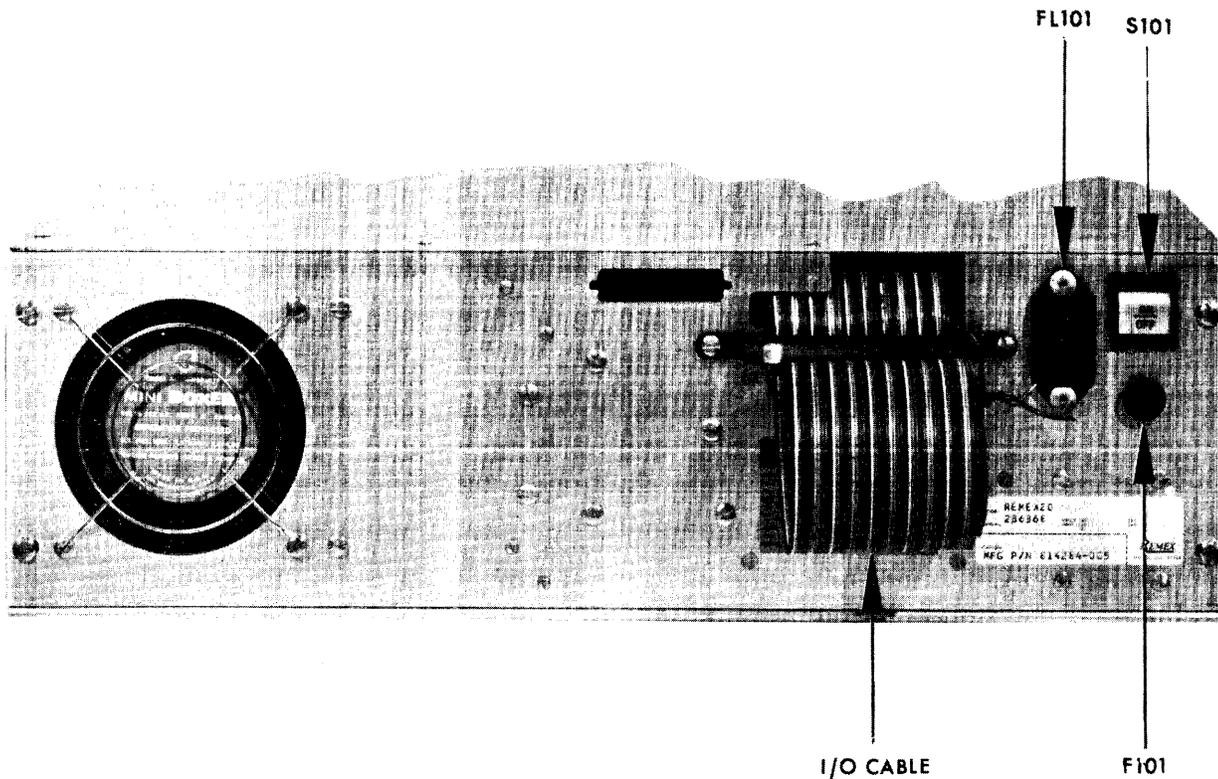


Figure 2-1. Rear View of REMEX 20/814284.
The rear view of REMEX 40/814288,
48/814290 and 24/814286 is identical.

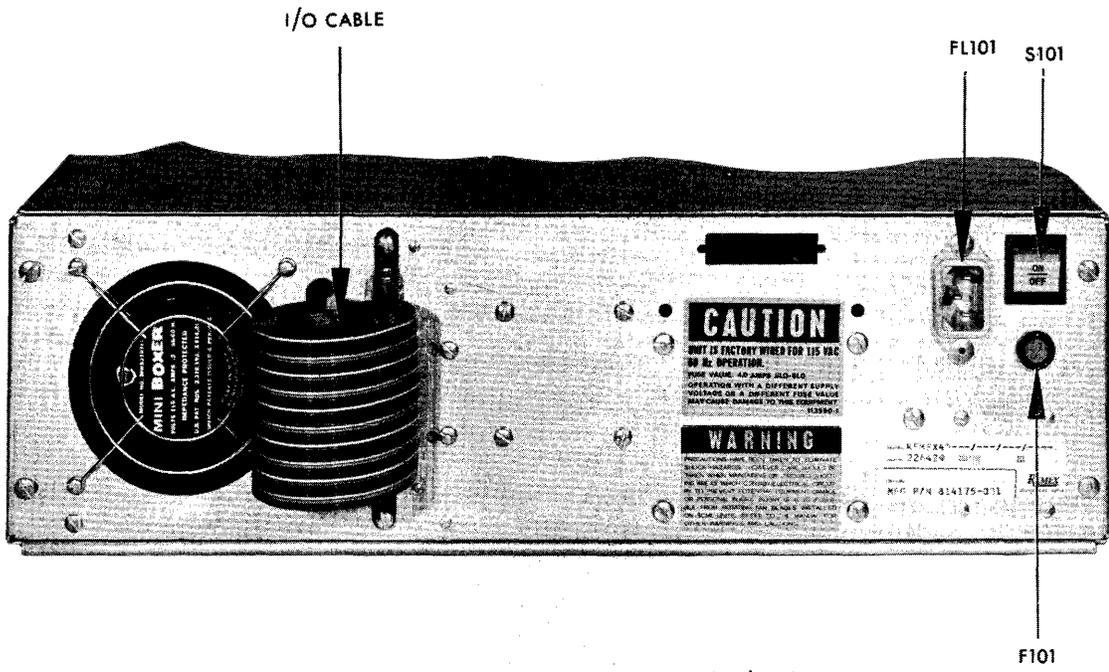


Figure 2-2. Rear View of REMEX 40/114175.

SECTION III

OPERATING INSTRUCTIONS

3.1 OPERATOR CONTROLS

The system operates under control of a computer or microprocessor except for loading and unloading diskettes. A power ON-OFF switch is provided on the rear panel. An indicator in the door opening button indicates when a drive is busy. The button is also mechanically interlocked to prevent opening of the door when the drive is selected. Drive A is defined as the drive on the operator's left and drive B is on the right.

3.2 DRIVE OPERATION

The loading and unloading of diskettes and the various modes of operation for each of the drives is contained in Section 3 of the particular drive manual.

SECTION IV

THEORY OF OPERATION

4.1 FLEXIBLE DISK DRIVES

The theory of operation for the drives is discussed in Section 4 of the various drive manuals.

4.2 POWER SUPPLY DESCRIPTION

Figure 8-1 gives the system schematic and Figure 8-2 gives the schematic for the 114191-001 Power Supply Card. Note 8 on Figure 8-1 gives the wiring changes for 240, 220, and 100 VAC operation. The drawing shows the system for 115VAC operation. These wiring differences apply only to TB101 and are external to the Power Supply Card. Changes must also be made to the drives to operate on a different voltage and frequency. It is not recommended that any voltage and frequency changes be made in the field as several modifications must be made to the drives.

The +5V supply consists of a +5V voltage regulator, Z101, mounted external to the card and an over voltage protection circuit on the card consisting of Q1 and Z1. Bridge, BR101, rectifies the 10 VRMS from T101 and C101 provides filtering (See Figure 8-1). This voltage (DC) is applied to J2-3 on the circuit card and then routed out J1-1 (See Figure 8-2) to the +5V regulator, Z101. A voltage divider composed of R2 and R3 (See Figure 8-2) applies a voltage out J1-4 to Z101-3 which is proportional to the +5V output. This allows an exact adjustment of the +5V voltage.

The R1 OUT output voltage from Z101-2 is then applied to the Z1-Q1 protection circuit. R4 and R5 form a voltage divider network working off of the +5V output. R5 is adjusted such that during normal operation the proportional voltage drop across R4 is not large enough to cause Zener CR5 to enter its breakdown region. With CR5 reverse biased the base and emitter of Q3 are essentially at the same potential resulting in Q1 being in the off state. When the +5VDC output reaches the overvoltage level (approximately +6.2VDC), the drop across R4 is sufficient to cause CR5 to enter breakdown and begin to conduct. As CR5 conducts, a voltage drop is developed across R6. When this drop becomes large enough, the base-emitter junction of Q1 is forward biased causing Q1 to conduct. The collector current of Q1 flows through the divider network of R7 and R8. When the voltage drop across R8 reaches the firing point of the gate of Z1, Z1 turns on and clamps the output of the +5VDC output. This condition persists until the AC to the supply is cycled from off to on to remove the gate voltage at Z1.

The +24VDC supply is similar to the +5V but without the SCR protection. Bridge, BR102, rectifies the 26 VRMS from T101 and C102 provides the filtering (See Figure 8-1). The resulting voltage (DC2) is applied to J2-4 on the

circuit card and then routed out J1-2 to the +24V regulator Z102 (mounted on the chassis). Voltage divider R9 and R10 supplies the proportional voltage to Z102-3. There is no adjustment of this voltage.

The -12VDC supply uses CR1-CR4 (See Figure 8-2) to rectify the 11VRMS from T101 and C3 for filtering. This voltage is unregulated.

SECTION V

MAINTENANCE

5.1 GENERAL

The REMEX Diskette Drive System has been designed to keep maintenance as simple and infrequent as possible. Table 5-1 lists the maintenance equipment required for the various procedures. Also refer to Section 5 of the particular drive manual for maintenance procedures and instructions on the drive.

Table 5-1. Maintenance Equipment Required

<u>Item</u>	<u>Quantity</u>
* Dual Track Oscilloscope DC to 10 MHz	1
* Voltmeter, Digital 0-0.1 mA, 0-100 mVdc, 0-10M ohm, 0-100Vdc, 100K impedance or greater	1
* 1.6 ohm, 25W Resistor	1
* 14 ohm, 100W Resistor	1
* 40 ohm, 10W, Resistor	1
* Variac, 5 amp load	1

*These items not available from REMEX

5.2 MAINTENANCE PROCEDURES

Under normal circumstances preventive maintenance is not required for the system. See Section 5 of the particular drive manual. The power supply voltages should be checked every six months and the +5V supply adjusted as required.

The air filter should be inspected every ninety days (or more often if not installed in a computer room environment). Vacuum the filter as necessary to remove dust. Do not use compressed air as the diskette may become contaminated.

5.3 ADJUSTMENT, POWER SUPPLY

5.3.1 +5Vdc POWER SUPPLY ADJUSTMENT

- a. Connect a Variac between the system and AC power source. Adjust Variac to 0V. Disconnect P3/J3 and P4/J4.

- b. Adjust the following potentiometers on the power supply card:
R5 fully CCW; R3 fully CCW.
- c. Connect a Digital Voltmeter from J3-5 (0V) to J3-1 (+5V).
Set the meter to 10 volt scale.
- d. Adjust the AC line voltage gradually up to 117 VRMS while
watching the DVM come up to $+5.0 \pm 1.0$ volts.
- e. Adjust R3 CW until the meter indicates $+6.5$ volts ± 0.05 volts.
- f. Adjust R5 CW gradually until the voltage drops. Turn off power.
- g. Adjust R3 fully CCW.
- h. Turn on power and observe the meter to read $+5.0\text{Vdc}$ $-0.5/0.2\text{Vdc}$.
If the +5 volts fails to come on, turn off AC power and check
the line fuse. If fuse is blown, replace and return to step g.
- i. Turn off AC power and connect a 1.6 ohm, 25 watt resistor
between J4-1 and J4-7.

NOTE

Pins J3-1 and J4-1 and -2 (+5V) are tied internally as
well as J3-5 and J4-7 and -9 (0V).

- j. Connect scope probe to J4-2 and the ground lead to J4-9. Set
scope to 10 mv scale, AC coupling.
- k. Turn on AC power.
- l. Adjust R3 CW until the meter reads $+5.10 \pm .05$ Vdc.
- m. Observe less than 50 mv p/p AC ripple on the scope.
- n. Adjust the Variac to 105 VRMS and observe the meter which
should be $+5.10 \pm 0.1$ Vdc.
- o. Adjust the Variac to 128 VRMS and observe the meter which
should be $+5.10 \pm 0.1\text{Vdc}$.
- p. Adjust the Variac to 117 VRMS. Remove AC power.
- q. Disconnect the 1.6 ohm, 25 watt resistor from J4-1 and J4-7.
- r. Reconnect P3/J3 and P4/J4.

5.3.2 +24 Vdc POWER TEST

Although there is no adjustment for the +24 Vdc power supply the following
test should be performed when suspecting a power supply malfunction.

- a. Turn off AC power and disconnect P3/J3 and P4/J4.
- b. Connect a Variac between the system and AC power source.
Turn on power and adjust the Variac to 117 VAC.
- c. Turn AC power off.
- d. Connect a Digital Voltmeter between J3-3 (+24) and J3-5 (0V).
- e. Turn on AC power and observe that the meter reads $+24 \pm 1.0$ Vdc.

- f. Turn off AC power. Connect a 14 ohm, 100 watt resistor from J4-3 to J4-7. Connect an oscilloscope probe to J4-4 and the ground lead to J4-9.

NOTE

Pins J3-3 and J4-3 and 4 (+24V) are tied internally as well as J3-5 and J4-7 and 9 (0V).

- g. Turn on AC power and observe the meter which should read $+24.0 \pm 1.0$ Vdc.
- h. Observe less than 100 mv p/p AC ripple on the scope.
- i. Adjust the Variac to 105 VRMS and observe less than ± 100 mv change in the meter reading.
- j. Adjust the Variac to 128 VRMS and observe less than ± 100 mv change in the meter reading.
- k. Turn off AC power, remove the resistor, scope, meter and Variac.
- l. Reconnect P3/J3 and P4/J4.

5.3.3 -12 Vdc POWER TEST

Although there is no adjustment for the -12 Vdc power supply, the following test should be performed when suspecting a power supply malfunction:

- a. Turn off AC power and disconnect P3/J3 and P4/J4.
- b. Connect a Variac between the system and AC power source. Turn on AC power and adjust the Variac to 117 VAC.
- c. Turn AC power off.
- d. Connect a Digital Voltmeter between J3-5 (0V) and J3-4 (-12V).
- e. Turn on AC power and observe the meter which should read -12.0 Vdc unregulated.
- f. Turn off AC power and connect a 40 ohm, 10 watt resistor from J4-5 to J4-7. Connect a scope probe to J4-6 and the ground lead to J4-9.

NOTE

Pins J3-4 and J4-5 and 6 (-12V) are tied internally as well as J3-5 and J4-7 and 9 (0V).

- g. Turn on AC power and observe the meter which should read -12.0 ± 2.0 Vdc.
- h. Observe less than 2V p/p on the scope.
- i. Set the Variac for 105 VRMS and observe a maximum change of $\pm 1.0V$ in the meter reading.
- j. Set the Variac for 128 VRMS and observe a maximum change of $\pm 1.0V$ in the meter reading.

- k. Turn off AC power. Disconnect the resistor, the scope, the meter and the Variac.
1. Reconnect P3/J3 and P4/J4.

Table 5-2. Power Supply Specification

Parameter	Supply/Specification		
	<u>+5</u>	<u>+24</u>	<u>+12</u>
Nominal Voltage	+5.2V	+24.0V	-12.0V
Adjustment Range	5.0/7.5	N/A	N/A
Tolerance	<u>+50</u> mV	<u>+1V</u>	<u>+2.0V</u>
Regulation			
Line (<u>+10%</u>)	10 mV	10 mV	Unregulated
Load	100 mV	100 mV	Unregulated
Current Rating	4.0A	1.80A	300 mA
Over Voltage Trip	6.2V	N/A	N/A
A.C. Ripple (Full Load) Max.	50 mV p/p	100 mV p/p	2V p/p

SECTION VI

PART REPLACEMENT

6.1 GENERAL

REMEX maintains service facilities at its manufacturing location and at service centers in major population areas for repair or replacement of components for their products. It is recommended that one of these centers be contacted for assistance in case of equipment malfunction. For the location of service facilities in any area, contact REMEX at the address listed on the title page of the manual. Please direct inquiries to the attention of the Service Department.

Replacement procedures for the drives are described in Section 6 of the respective drive manuals.

WARNING

Before performing any maintenance or troubleshooting procedures on the disk system, disconnect the AC power cord. When it is necessary to make tests on the system with power applied, avoid touching AC power circuits in areas around FL101, F101, S101, TB101 and T101 and the power supply card. Potentially dangerous line voltage is applied to components within the drives. If adjustment must be performed with power applied, these points must be located and avoided. Refer to the drive manual for other potentially dangerous points. Always remove power before disconnecting internal plugs and removing cards.

6.2 COVER REMOVAL

These covers provide access to the various sections of the system. The bottom cover is attached by means of eight 8-32 x 1/4 BH screws. Removal of the bottom cover provides access to the component side of the drive circuit cards. The removal of the top front cover provides access to the top of the drives and their interface connectors. The removal of the top rear cover provides access to the power supply section and the Power Supply Card. The interface connectors for the drives may also be reached through this opening.

6.3

POWER SUPPLY CARD REMOVAL

The following procedure is recommended when removing the Power Supply Card:

- a. Remove all power to the unit by disconnecting the AC power cord.
- b. Remove the top rear cover. See Section 6.2.
- c. Unplug P1/J1, P2/J2 and P4/J4.
- d. Remove the four 4-40 x 1/4 BH screws which hold the card to the chassis and spacers. The card is now free for removal.
- e. Replacement is the reverse of steps d, c, b and then a.

6.4

TRANSFORMER REPLACEMENT

When replacing the transformer, it is recommended that the entire 114207-001 assembly be replaced as complete assembly.

The following procedure is recommended:

- a. Remove all power to the unit by disconnecting the AC power cord.
- b. Remove the top rear cover. See Section 6.2.
- c. Disconnect the following wires:

From T101 Color	Location	From T101 Color	Location
Black/Yellow	TB101-A1	Blue	BR101-1
Black/Red	TB101-A5	Green	BR101-2
Black/White	TB101-B1	Orange	BR102-1
Black	TB101-C4	Yellow	BR102-2
Gray	TB101-D5		

- d. Disconnect P2/J2 and the following wires coming from P2: Brown (P2-1), Red (P2-2).
- e. From the rear of the unit, remove the four 8-32 x 1/2 BH screws which hold the transformer to the chassis.
- f. The transformer is now free for removal.
- g. Replacement is the reverse of steps e, d, c, b and then a.

SECTION VII

PARTS LIST

7.1 GENERAL

Tables 7-2 through 7-6 list the electronic and mechanical parts used on the various versions of the REMEX 20, 40, 24 and 48. Table 7-1 lists the recommended spare parts for these models. Standard hardware items are not listed. Indented items are part of the assembly under which they are indented and the quantity of the indented item is per each assembly. Refer to Section 7 of the respective drive manuals for the parts list used on the drive.

Reference designations refer to the parts illustrated in Figures 7-1 through 7- . The reference designations include a figure number and a part designation number which appears on that figure to indicate the location of the part. For example a "7-1;12" appearing in the reference designation column indicates that the item listed in the description column is identified as item 12 in Figure 7-1. All electronic components are identified by letter-number combinations (such as S101 and T101) in the Reference Designation column and mechanical parts are identified by number. Reference designations contained in parenthesis are associated or function with the parenthetical item. These items are generally individual items and not part of an assembly but for reference are related back to the main item. All items are available from Spares Order Desk, REMEX, 1733 Alton Street, P.O. Box C-19533, Irvine, CA 92713.

7.2 KIT OF PARTS

The kit of parts contains items used for installation and maintenance and is shipped with the unit. These items are listed in Table 1-1.

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-1. Recommended Spare Parts.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Fuse, 2A, 115VAC operation, Bussman AGC	705715-121	1	F101
Fuse, 1A, 230VAC operation, Bussman GMA	705716-003	1	F101
Printed Circuit Card Assembly, Power Supply	114191-001	1	PC1
Rectifier, Bridge, MDA2501	704005-143	2	BR101, BR102
Switch, Power, ON-OFF, C & K L21Z3X36	715063-111	1	S101
<p>Also refer to the appropriate drive manual for recommended spare parts.</p>			

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-2. Parts List, REMEX 40/114175-XXX.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Top Assembly, REMEX 40/114175-001	114175-001	1	Ref.
Top Assembly, REMEX 40/114175-002	114175-002	1	Ref.
Top Assembly, REMEX 40/114175-003	114175-003	1	Ref.
Top Assembly, REMEX 40/114175-004	114175-004	1	Ref.
Top Assembly, REMEX 40/114175-005	114175-005	1	Ref.
Top Assembly, REMEX 40/114175-006	114175-006	1	Ref.
. The following subassemblies are identical for each of the above assemblies except as specifically noted.			
. Cabinet Assembly	114200-001	1	Ref.
. . Cap Trim, Southco 98-13-701-33	715043-003	4	7-3;1
. . Clamp, Cable Support, Richco KKC-5	715040-163	2	7-1;2
. . Cover, Bottom	114190-001	1	7-1;3
. . Cover, Top Front	114198-001	1	7-3;6
. . Deflector, Air	114195-001	1	7-1;4
. . Plate, Side, Chassis, Left	114197-002	1	7-3;3
. . Plate, Side, Chassis, Right	114197-001	1	7-3;4
. . Power Supply Assembly	114180-001	1	Ref;7-2
. . . Base, Cable, Clamp, Panduit Corp.	715040-160	1	7-1;16
FCBI-S10			
. . . Bezel, Black, C&K B7888-2	715063-201	1	(S101)
. . . Bracket, Capacitor, Sangamo 115058-06	715045-106	2	(C101,C102)
. . . Bracket, Heat Sink	114196-001	1	7-2;1
. . . Cable Assembly, A.C. Drive A	114206-001	1	(P101)
. . . . Connector, 3 pin, Amp 1-480700-0	706500-343	1	7-2;P101
. . . . Contact, Commoning, Molex 05-02-0048	706530-171	2	(TB101)
. . . . Contact, Female, Amp 350550-1	706530-176	3	(P101)
. . . . Lug, Amp 31888	715005-102	1	(E101)
. . . Cable Assembly, A.C. Drive B	114206-002	1	7-2;(P102)
. . . The subassemblies for 114206-002 are identical to 114206-001.			
. . . Cap, ON-OFF Switch, White, C&K 7922-1	715063-329	1	(S101)
. . . Capacitor, 8.7 μ f, 25V, GE 86F139M	702310-118	1	7-2;C101
. . . Capacitor, 3.9 μ f, 50V, Electrolytic, Mepco 91C504C392	702315-117	1	7-2;C102
. . . Chassis	114194-001	1	7-2;2
. . . Connector, 3 pin, male, Molex R(03-06-1032)	706510-298	1	7-2;J7
. . . Connector, Power Distribution, Molex 07-01-7051	706520-116	7	7-2;TB101
. . . Contact, Connector, Female, Molex 02-06-1103	706530-156	2	(J7)
. . . Contact, Molex 05-02-0048	706530-171	10	(TB101)
. . . Decal	113044-002	1	(TB101)

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-2. Parts List, REMEX 40/114175-XXX (Cont.)

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
. . Power Supply Assembly (Continued)			
. . . Fan Assembly	114147-001	1	(M101,P7)
. . . . Connector, 3 pin, Female, Molex P1(03-06-2032)	706500-264	1	7-2;P7
. . . . Contact, Connector, Male, Molex 02-06-21037	706530-157	2	(P7)
. . . . Fan, IMC 65-175-3	716002-118	1	7-2;M101
. . . Filter, RFl, Corcom 6EF1-E1	702250-111	1	7-1;FL101
. . . Fuseholder, Schurter 031-1673	705750-120	1	(F101)
. . . Guard, Finger, Fan, IMC 65-175-3	716002-126	1	(M101)
. . . Heat Sink Assembly	114179-001	1	
. . . . Capacitor, 1 μ f, 50V, Ceramic, Sprague 7C023105D8500E	702131-105	2	7-2;C103,C104
. . . . Connector, 8 pin, orange, Molex 09-50-7081	706510-223	1	7-2;P1
. . . . Contact, Connector, Female, Molex 08-50-0106	706530-137	7	(P1)
. . . . Heat Sink	114176-001	1	7-2;3
. . . . Insulator, Thermalloy 56-03-2AP	715019-115	1	(Z101)
. . . . Insulator, Thermalloy 56-03-40	715019-125	1	(Z102)
. . . . Key, Polarizing, Molex 15-04-0219	706540-149	1	(P1)
. . . . Voltage Regulator, Fairchild μ A78H05KC	704520-147	1	7-2;Z101
. . . . Voltage Regulator, Fairchild μ A78HGKC	704520-148	1	7-2;Z102
. . . Insulator Cap, G.E. 614A527P21	715019-124	1	(FL101)
. . . Lug, Amp 31888	715005-102	1	7-2;E101
. . . Lug, Capacitor, Amp 31887	715005-110	4	(C101,C102)
. . . Printed Circuit Card Assembly, Power Supply See Table 7-6 components.	114191-001	1	7-2;PC1
. . . Rectifier, Bridge, MDA2501	704005-143	2	7-2;BR101,BR102
. . . Resistor, 0.1 ohm, 10W	70115R-100	1	7-2;R101
. . . Resistor, 0.1 ohm, 5W	70116R-100	1	7-2;R102
. . . Spacer, Hex, 4.50 inches long, Amatom 8245-A-0440-1B	715030-238	2	(PC1)
. . . Switch, Power, ON-OFF, C&K L21Z3X36	715063-111	1	7-2;S101
. . . Terminal, Amp 61454-1	715005-137	4	(S101)
. . . Terminal, Amp 2-350804-2	715005-145	4	(BR101,BR102)
. . . Transformer Assembly	114207-001	1	7-2;(T101)
. . . . Except for the items listed below, it is recommended that this item be replaced as a complete assembly.			
. . . . Connector, 6 pin, Green, Molex 09-50-7061	706510-222	1	7-2;P2

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-2. Parts List, REMEX 40/114175-XXX (Cont.)

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
. . . Transformer Assembly (continued)			
. . . . Contact, Connector, Female, Molex 08-50-0106	706530-137	6	(P2)
. . Retainer, Trimstrip, Southco 98-70-240-13	715043-002	4	7-3;2
. . Runner, Chassis	114188-001	2	7-1;8
. . Support Bar, Chassis	114189-001	1	7-1;9
. . Trimstrip	114210-001	2	7-3;5
. Cable Assembly, D.C. Power	114145-001	1	(P4,P5A,P5B)
. . Connector, 10 pin, White, Molex 09-50-7101	706510-319	1	7-1;P4
. . Connector, 6 pin, White, Amp 1-480270-0	706510-325	2	7-1;P5A,P5B
. . Contact, Female, Molex 08-50-0106	706530-137	10	(P4)
. . Contact, Female,AMP 75374-002	706530-180	10	(P5A,P5B)
. Cable Assembly, I/O	114144-001	1	7-1;P1A,P1B
. . It is recommended that this item be replaced as a complete assembly.			
. Cover, Top, Rear	114199-001	1	7-3;7
. Cable Tie	715040-161	1	7-1;15
. Decal, Identification	716018-113	1	7-1;11
. Decal, Warning	110884-001	1	7-1;12
. Drive Assembly, REMEX 40/114175-001 Only	114090-001	2	7-1;13
. Drive Assembly, REMEX 40/114175-002 Only	114090-002	2	7-1;13
. Drive Assembly, REMEX 40/114175-003 Only	114090-003	2	7-1;13
. Drive Assembly, REMEX 40/114175-004 Only	114090-004	2	
. Drive Assembly, REMEX 40/114175-005 Only	114090-005	2	
. Drive Assembly, REMEX 40/114175-006 Only	114090-006	2	
. Fuse, 2A, REMEX 40/114175-001,-002, -004, and -005 Only, Bussman AGC	705715-121	1	7-1;F101
. Fuse, 1A, REMEX 40/114175-003 and -006 Only, Bussman GMA	705716-003	1	7-1;F101
. Fuse Carrier, REMEX 40/114175-001,-002,-004, and -005 Only, Schurter 031-1666	705750-121	1	(F101)
. Fuse Carrier, REMEX 40/114175-003 and -006 only, Schurter 031-1663	705750-122	1	(F101)
. Kit of Parts, REMEX 40/114175-001, -002, -004 and -005 only. See Table 1-1 for contents.	114242-001	1	
. Kit of Parts, REMEX 40/114175-003 and -006 only. See Table 1-1 for contents.	114242-002	1	
. Plate, Cable Clamp, Panduit FCPI3	715040-159	1	7-1;14
. Trim Bar, Bottom	114187-002	1	7-3;8
. Trim Bar, Top	114187-001	1	7-3;9

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-3. Parts List, REMEX 40/814288-XXX.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Top Assembly, REMEX 40/814288-001	814288-001	1	Ref.
Top Assembly, REMEX 40/814288-002	814288-002	1	Ref.
Top Assembly, REMEX 40/814288-003	814288-003	1	Ref.
Top Assembly, REMEX 40/814288-004	814288-004	1	Ref.
Top Assembly, REMEX 40/814288-005	814288-005	1	Ref.
Top Assembly, REMEX 40/814288-006	814288-006	1	Ref.
Top Assembly, REMEX 40/814288-007	814288-007	1	Ref.
Top Assembly, REMEX 40/814288-008	814288-008	1	Ref.
Top Assembly, REMEX 40/814288-009	814288-009	1	Ref.
Top Assembly, REMEX 40/814288-010	814288-010	1	Ref.
Top Assembly, REMEX 40/814288-011	814288-011	1	Ref.
Top Assembly, REMEX 40/814288-012	814288-012	1	Ref.
. The subassemblies for each unit are identical except as specifically noted by dash number.			
. Cabinet Assembly	114276-001	1	
. . See Table 7-7 for complete assembly.			
. Cable Assembly, D.C. Power	114145-001	1	(P4, P5A, P5B)
. . Connector, 10 pin, white, Molex 09-50-7101	706510-319	1	7-4;P4
. . Connector, 6 pin, white, Amp 1-480270-0	706510-325	2	7-4;P5A, P5B
. . Contact, Connector, Molex 08-50-0106	706530-137	10	(P4)
. . Contact, Connector, Molex 350550-1	706530-176	10	(P5A, P5B)
. Cable Assembly, Floppy Drive Card	114144-001	1	7-4: (P1A, P1B)
. . Order as a complete assembly.			
. Clamp, Cable, Base, Panduit Corp.FCB13-S10C29	715040-160	1	7-4;1
. Clamp, Cable, Plate, Panduit Corp.FCPI3	715040-159	1	7-4;2
. Cover, Top	114275-001	1	7-6;1
. Decal, Identification	716018-113	1	7-4;4
. Decal, Warning	110884-001	1	7-4;5
. Drive Assembly -001,004 only	814256-001	1 (2)	7-4;6
. Drive Assembly -002,005 only	814256-002	1 (2)	7-4;6
. Drive Assembly -003,006 only	814256-003	1 (2)	7-4;6
. Drive Assembly -007,010 only	814256-004	1 (2)	7-4;6
. Drive Assembly -008,011 only	814256-005	1 (2)	7-4;6
. Drive Assembly -009,012 only	814256-006	1 (2)	7-4;6
. . Refer to individual drive manuals for subassemblies.			
. Kit of Parts, -001, 002, 004, 005, 007, 008, 010, 011 only. See Table 1-1 for contents.	114242-001	1	Ref.
. Kit of Parts, -003, 006, 009, 012 Only See Table 1-1 for contents.	114242-002	1	Ref.
. Panel, Filler, -001, 002, 003, 007, 008, 009	114215-001	1	
. Trim Bar, Top	114285-001	1	7-6;2

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-4. Parts List, REMEX 20/814284-XXX.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Top Assembly, REMEX 20/814284-001	814284-001	1	Ref.
Top Assembly, REMEX 20/814284-002	814284-002	1	Ref.
Top Assembly, REMEX 20/814284-003	814284-003	1	Ref.
Top Assembly, REMEX 20/814284-004	814284-004	1	Ref.
Top Assembly, REMEX 20/814284-005	814284-005	1	Ref.
Top Assembly, REMEX 20/814284-006	814284-006	1	Ref.
Top Assembly, REMEX 20/814284-007	814284-007	1	Ref.
Top Assembly, REMEX 20/814284-008	814284-008	1	Ref.
Top Assembly, REMEX 20/814284-009	814284-009	1	Ref.
Top Assembly, REMEX 20/814284-010	814284-010	1	Ref.
Top Assembly, REMEX 20/814284-011	814284-011	1	Ref.
Top Assembly, REMEX 20/814284-012	814284-012	1	Ref.
. The subassemblies for each unit are identical except as specifically noted by dash number.			
. Cabinet Assembly	114276-001	1	
. . See Table 7-7 for complete assembly.			
. Cable Assembly, D.C. Power	114145-001	1	(P4, P5A, P5B)
. . Connector, 10 pin, white, Molex 09-50-7101	706510-319	1	7-4; P4
. . Connector, 6 pin, white, Amp 1-480270-0	706510-325	2	7-4; P5A, P5B
. . Contact, Connector, Molex 08-50-0106	706530-137	10	(P4)
. . Contact, Connector, Molex 350550-1	706530-176	10	(P5A, P5B)
. Cable Assembly, Floppy Drive Card	114144-001	1	7-4; (P1A, P1B)
. . Order as a complete assembly.			
. Clamp, Cable, Base, Panduit Corp. FCBI3-S10-C20	715040-160	1	7-4; 1
. Clamp, Cable, Plate, Panduit Corp. FCPI3	715040-159	1	7-4; 2
. Cover, Top	114275-001	1	7-6; 1
. Decal, Identification	716018-113	1	7-4; 4
. Decal, Warning	110884-001	1	7-4; 5
. Drive Assembly, -001, 004 Only	814258-001	1 (2)	7-4; 6
. Drive Assembly, -002, 005 Only	814258-002	1 (2)	7-4; 6
. Drive Assembly, -003, 006 Only	814258-003	1 (2)	7-4; 6
. Drive Assembly, -007, 010 Only	814258-004	1 (2)	7-4; 6
. Drive Assembly, -008, 011 Only	814258-005	1 (2)	7-4; 6
. Drive Assembly, -009, 012 Only	814258-006	1 (2)	7-4; 6
. . Refer to individual drive manuals for subassemblies.			
. Kit of Parts, -001, 002, 004, 005, 007, 008, 010, 011. See Table 1-1 for contents.	114242-003	1	Ref.
. Kit of Parts, -003, 006, 009, 012	114242-004	1	Ref.
. . See Table 1-1 for contents.			
. Panel, Filler, -001, 002, 003, 007, 008, 009	114215-001	1	
. Trim Bar, Top	114285-001	1	7-6; 2

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-5. Parts List, REMEX 48/814290-XXX.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Top Assembly, REMEX 48/814290-001	814290-001	1	Ref.
Top Assembly, REMEX 48/814290-002	814290-002	1	Ref.
Top Assembly, REMEX 48/814290-003	814290-003	1	Ref.
Top Assembly, REMEX 48/814290-010	814290-010	1	Ref.
Top Assembly, REMEX 48/814290-011	814290-011	1	Ref.
Top Assembly, REMEX 48/814290-012	814290-012	1	Ref.
Top Assembly, REMEX 48/814290-013	814290-013	1	Ref.
Top Assembly, REMEX 48/814290-014	814290-014	1	Ref.
Top Assembly, REMEX 48/814290-015	814290-015	1	Ref.
Top Assembly, REMEX 48/814290-016	814290-016	1	Ref.
Top Assembly, REMEX 48/814290-017	814290-017	1	Ref.
Top Assembly, REMEX 48/814290-018	814290-018	1	Ref.
. The subassemblies for each unit are identical except as specifically noted by dash number.			
. Cabinet Assembly	114276-001	1	
. . See Table 7-7 for complete assembly.			
. Cable Assembly, D.C. Power	114204-001	1	(P4, P5A, P5B)
. . Connector, 10 pin, White, Molex 09-50-7101	706510-319	1	7-4;P4
. . Connector, 6 pin, White, Molex 09-50-7061	706510-277	2	7-4;P5A, P5B
. . Contact, Connector, Molex 08-50-0106	706530-137	20	(P4, P5A, P5B)
. . Key, Polarizing	706540-149	2	(P5A, P5B)
. Cable Assembly, Expander, -013, -014, -015, -016, -017, -018 Only	114146-001	1	P2A, P2B, P103
. . Order as a complete assembly.			
. Cable Assembly, I/O -001, 002, 003, 010, 011, 012 Only	114205-001	1	P1
. . Order as a complete assembly.			
. Cable Assembly, Master	114177-001	1	P2A, P2B, J103
. . Order as a complete assembly.			
. Clamp, Cable, Base, Panduit Corp. FCBI3-S10-C20	715040-160	1	7-4;1
. Clamp, Cable, Plate, Panduit Corp. FCPI3	715040-159	1	7-4;2
. Cover, Top	114275-001	1	7-6;1
. Decal, Identification	716018-113	1	7-4;4
. Decal, Warning	110884-001	1	7-4;5
. Drive Assembly, -001, 010 Only	814235-001	1	7-4;6
. Drive Assembly, -002, 011 Only	814235-002	1	7-4;6
. Drive Assembly, -003, 012 Only	814235-003	1	7-4;6

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-5. Parts List, REMEX 48/814290-XXX (Continued).

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
. Drive Assembly, -010, 013, 016	814236-001	1 (2)	7-4;6
. Drive Assembly, -011, 014, 017	814236-002	1 (2)	7-4;6
. Drive Assembly, -012, 015, 018	814236-003	1 (2)	7-4;6
. Kit of Parts, -001, 002, 010, 011, 013, 014, 016, 017. See Table 1-1 for contents.	114242-005	1	Ref.
. Kit of Parts, -003, 012, 015,018. See Table 1-1 for contents.	114242-006	1	Ref.
. Panel, Filler	114215-001	1	
. Trim Bar, Top	114285-001	1	7-6;2

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-6. Parts List, REMEX 24/814286-XXX.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Top Assembly, REMEX 24/814286-001	814286-001	1	Ref.
Top Assembly, REMEX 24/814286-002	814286-002	1	Ref.
Top Assembly, REMEX 24/814286-003	814286-003	1	Ref.
Top Assembly, REMEX 24/814286-010	814286-010	1	Ref.
Top Assembly, REMEX 24/814286-011	814286-011	1	Ref.
Top Assembly, REMEX 24/814286-012	814286-012	1	Ref.
Top Assembly, REMEX 24/814286-013	814286-013	1	Ref.
Top Assembly, REMEX 24/814286-014	814286-014	1	Ref.
Top Assembly, REMEX 24/814286-015	814286-015	1	Ref.
Top Assembly, REMEX 24/814286-016	814286-016	1	Ref.
Top Assembly, REMEX 24/814286-017	814286-017	1	Ref.
Top Assembly, REMEX 24/814286-018	814286-018	1	Ref.
. The subassemblies for each unit are identical except as specifically noted by dash number.			
. Cabinet Assembly	114276-001	1	
. . See Table 7-7 for complete assembly.			
. Cable Assembly, D.C. Power	114204-001	1	(P4, P5A, P5B)
. . Connector, 10 pin, white, Molex 09-50-7101	706510-319	1	7-4;P4
. . Connector, 6 pin, white, Molex 09-50-7061	706510-277	2	7-4;P5A, P5B
. . Contact, Connector, Molex 08-50-0106	706530-137	20	(P4, P5A, P5B)
. . Key, Polarizing	706540-149	2	(P5A, P5B)
. Cable Assembly, Expander, -013, -014, -015, -016, -017, -018 Only	114146-001	1	P2A, P2B, P103
. . Order as a complete assembly.			
. Cable Assembly, I/O -001, 002, 003, 010, 011, 012 Only	114205-001	1	7-4;P1
. . Order as a complete assembly.			
. Cable Assembly, Master	114177-001	1	P2A, P2B, J103
. . Order as a complete assembly.			
. Clamp, Cable, Base, Panduit Corp. FCBI3-S10-C20	715040-160	1	7-4;1
. Clamp, Cable, Plate, Panduit Corp. FCPI3	715040-159	1	7-4;2
. Cover, Top	114275-001	1	7-6;1
. Decal, Identification	716018-113	1	7-4;4
. Decal, Warning	110884-001	1	7-4;5
. Drive Assembly, -001, 010 Only	814230-001	1	7-4;6
. Drive Assembly, -002, 011 Only	814230-002	1	7-4;6
. Drive Assembly, -003, 012 Only	814230-003	1	7-4;6

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-6. Parts List, REMEX 24/814286-XXX (Continued).

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
. Drive Assembly, -010, 013, 016	814231-001	1 (2)	7-4;6
. Drive Assembly, -011, 014, 017	814231-002	1 (2)	7-4;6
. Drive Assembly, -012, 015, 018	814231-003	1 (2)	7-4;6
. Kit of Parts, -001, 002, 010, 011, 013, 014, 016, 017. See Table 1-1 for contents.	114242-005	1	Ref.
. Kit of Parts, -003, 012, 015, 018. See Table 1-1 for contents.	114242-006	1	Ref.
. Panel, Filler	114215-001	1	
. Trim Bar, Top	114285-001	1	7-6;2

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-7. Cabinet Assembly 114276-001.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Cabinet Assembly	114276-001	1	Ref.
. Cap, Trim, Southco 98-13-701-33	715043-003	1	7-6;3
. Cover, Bottom	114281-001	1	7-4;9
. Plate, Side, Chassis, Left	114283-002	1	7-4;11
. Plate, Side, Chassis, Right	114283-001	1	7-4;12
. Power Supply Assembly	114280-001	1	Ref.Fig. 7-5
. . Bezel, Black, C & K B7888-2	715063-201	1	(S101)
. . Bracket, Capacitor	715045-106	2	7-5;1
. . Cable Assembly, A.C. Drive A	114206-001	1	(P101)
. . . Connector, 3 pin, Amp 1-480700-0	706500-343	1	7-4;P101
. . . Contact, Commoning, Molex 05-02-0048	706530-171	2	(TB101)
. . . Contact, Female, Amp 350550-1	706530-176	3	(P101)
. . . Lug, Amp 31888	715005-102	1	(E101)
. . Cable Assembly, A.C. Drive B	114206-002	1	7-4;(P102)
. . . The subassemblies for 114206-002 are identical to 114206-001.			
. . Cap, ON-OFF, Switch, White, C & K 7922-1	715063-329	1	(S101)
. . Cap, Insulator, General Elec. 614A527P21	715019-124	1	(FL101)
. . Capacitor, 8.7 μ f, 25V, GE 86F139M	702310-118	1	7-5;C101
. . Capacitor, 3.9 μ f, 50V, Electrolytic Mepco 91C504C392	702315-117	1	7-5;C102
. . Clamp, Cable, Weckesser 3/16-4	715040-110	2	
. . Connector, Power Distribution, Molex 07-01-7051	706520-116	7	7-5;TB101
. . Contact, Connector, Molex 05-02-0048	706530-171	10	(TB101)
. . Fan Assembly	113960-002	1	7-5;M101
. . . Bracket, Fan Support	113959-001	1	
. . . Contact, Molex 05-02-0048	706530-171	2	(TB101)
. . . Fan, IMC 65-175-3	716002-118	1	7-5;M101
. . Filter, RFI, Corcom 6EF1-E1	702250-111	1	7-5;FL101
. . Fuseholder, Schurter 031-1673	705750-120	1	(F101)
. . Guard, Finger, IMC 65-175-3	716002-126	1	(M101)
. . Heat Sink and Card Assembly	114278-001	1	Ref.
. . . Bracket, Power Supply Card	114279-001	1	7-5;2
. . . Capacitor, 1 μ f, 50V, Ceramic Sprague 7C023105D8500E	702131-105	2	C103,C104
. . . Connector, 8 pin, Orange, Molex 09-50-7081	706510-223	1	7-5;P1
. . . Contact, Connector, Female, Molex 08-50-0106	706530-137	7	(P1)
. . . Grommet, H.H. Smith 91107	715020-125	1	
. . . Heat Sink	114176-001	1	7-5;3
. . . Insulator, Thermalloy 56-03-2AP	715019-115	1	(Z101)
. . . Insulator, Thermalloy 56-03-40	715019-125	1	(Z102)
. . . Key, Polarizing, Molex 15-04-0219	706540-149	1	(P1)

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-7. Cabinet Assembly 114276-001 (Continued).

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
. . Heat Sink and Card Assembly (Continued)			
. . . Printed Circuit Card Assembly, Power Supply. See Table 7-8 for contents.	114191-001	1	7-5;PC1
. . . Voltage Regulator, Fairchild A78H05KC	704520-147	1	Z101
. . . Voltage Regulator, Fairchild A78HGKC	704520-148	1	Z102
. . Lug, Amp 31888	715005-102	1	7-5;E101
. . Lug, Capacitor, Amp 31887	715005-110	4	(C101,C102)
. . Panel, Power Supply	114277-001	1	
. . Rectifier, Bridge, MDA2501	704005-143	2	7-5;BR101, BR102
. . Resistor, 0.1 ohm, 10W	70116R-100	1	7-5;R101
. . Resistor, 0.1 ohm, 5W	70115R-100	1	7-5;R102
. . Switch, Power, ON-OFF, C&K 21Z3X36	715063-111	1	7-5;S101
. . Terminal, Amp 61454-1	715005-137	4	(S101)
. . Terminal, Amp 2-350804-2	715005-145	4	(BR101, BR102)
. . Transformer Assembly	114207-001	1	T101
. . . Except for the items listed below, it is recommended that this item be replaced as a complete assembly.			
. . . Connector, 6 pin, Green, Molex 09-50-7061	706510-222	1	7-5;P2
. . . Contact, Connector, Female, Molex 08-50-0106	706530-137	6	(P2)
. Retainer, Trimstrip, Southco 98-12-701-33	715043-004	4	7-4;13
. Runner, Chassis	114188-001	2	
. Trim Bar Assembly, Power On	114178-001	1	7-6;4
. Trimstrip	114210-001	2	7-6;5

NOTE: WHEN ORDERING SPARE PARTS, CONTACT REMEX SPARES ORDER DESK AND REFERENCE COMPLETE MODEL AND SERIAL NUMBER OF UNIT. ALWAYS REFER TO ADDENDUM AT THE REAR OF THE MANUAL (IF APPLICABLE) FOR POSSIBLE PART NUMBER CHANGES.

Table 7-8. Printed Circuit Card Assembly, Power Supply 114191-001.

The following parts list was written for the D assembly and the D schematic revisions. Subsequent changes are listed on a P.C. Card Change Record form contained in the addendum.

Description and Manufacturer's Part No.	REMEX Part No.	Quantity	Reference Designation
Capacitor, 10 μ f, 25V, Aluminum, Electrolytic Mallory Series VTT	702366-106	2	C1,C2
Capacitor, 2.5 K μ f, 25V, Electrolytic Mepco 3050CL252V025	702357-258	1	C3
Capacitor, 3.3 μ f, 15V, Solid Tantalum Sprague 196D335X9015HA1	702394-335	1	C4
Capacitor, 0.01 μ f, 100V, Ceramic Disc Erie 805X5V103Z	702121-103	2	C5,C6
Connector, 8 pin, Orange, Molex 09-60-1081	706501-083	1	J1
Connector, 6 pin, Green, Molex 09-60-1061	706501-065	1	J2
Connector, 5 pin, Red, Molex 09-60-1051	706501-052	1	J3
Connector, 10 pin, White, Molex 09-60-1101	706501-109	1	J4
Connector, 5 pin, Yellow, Molex 09-60-1051	706501-054	1	J6
Diode, 1N5059	704000-107	4	CR1-CR4
Diode, Zener, 1N4733A, 5.1V	704014-128	1	CR5
Heat Sink, Ierc PBL-2CB	715033-135	1	(Z1)
Resistor, 470 ohm, 1/2W, +5%	701004-471	1	R1
Resistor, 330 ohm, 1/4W, +5%	701003-331	2	R2,R4
Resistor, 47 ohm, 1/4W, +5%	701003-470	1	R6
Resistor, 100 ohm, 1/4W, +5%	701003-101	2	R7,R8
Resistor, 19.1K, 1/8W, +1%	701201-912	1	R9
Resistor, 4.99K, 1/8W, +1%	701204-991	1	R10
Resistor, 180 ohm, 1/4W, +5%	701003-181	1	R13
Resistor, Variable, 100 ohm, 1/2W	701658-101	2	R3,R5
SCR, 2N6394	704400-111	1	Z1
Test Point, Phoenix Tool 23-1669-11	706530-170	4	TP1-TP4
Transistor, 2N4403	704202-108	1	Q1

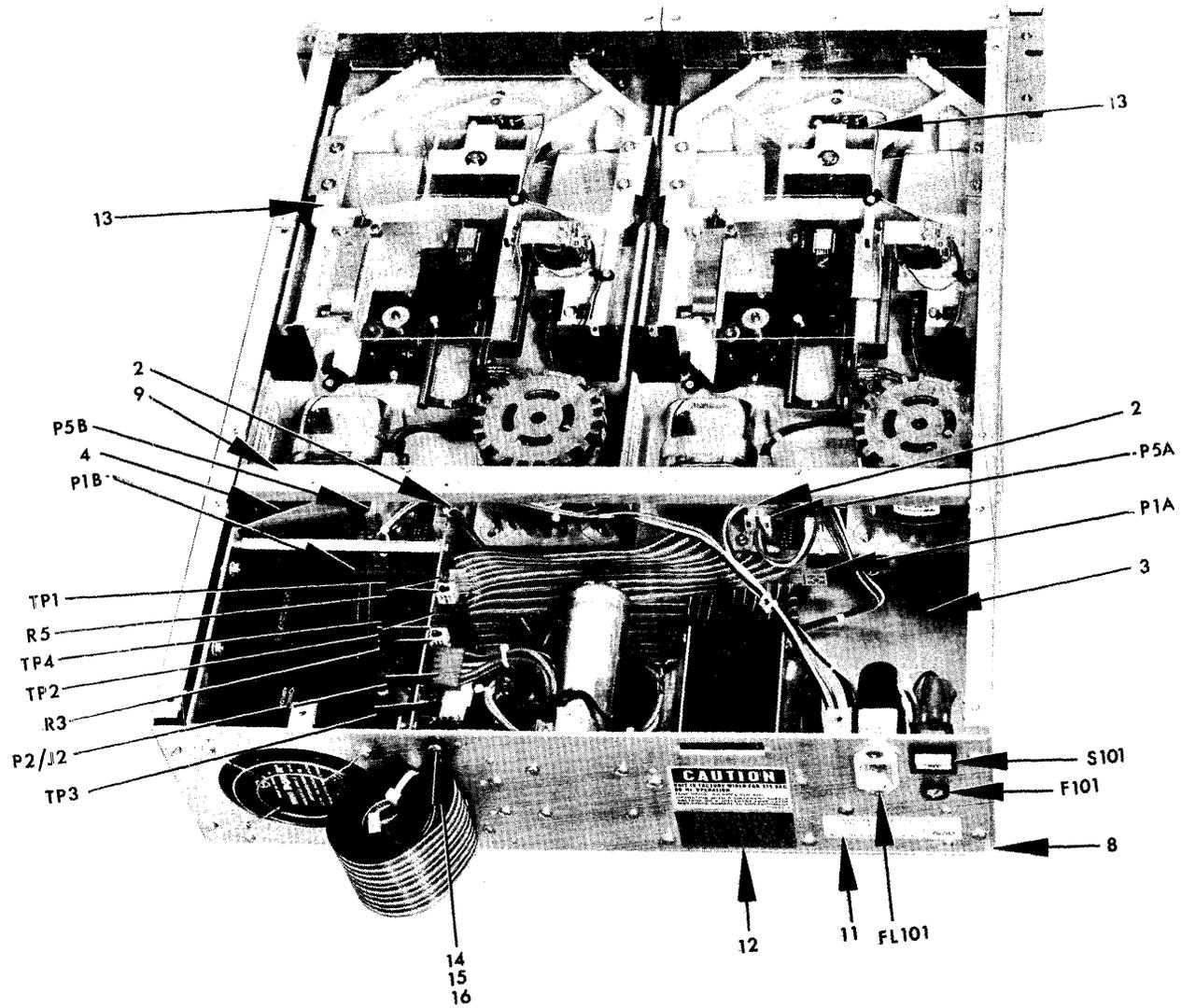


Figure 7-1. Top View REMEX 40/114175-XXX.

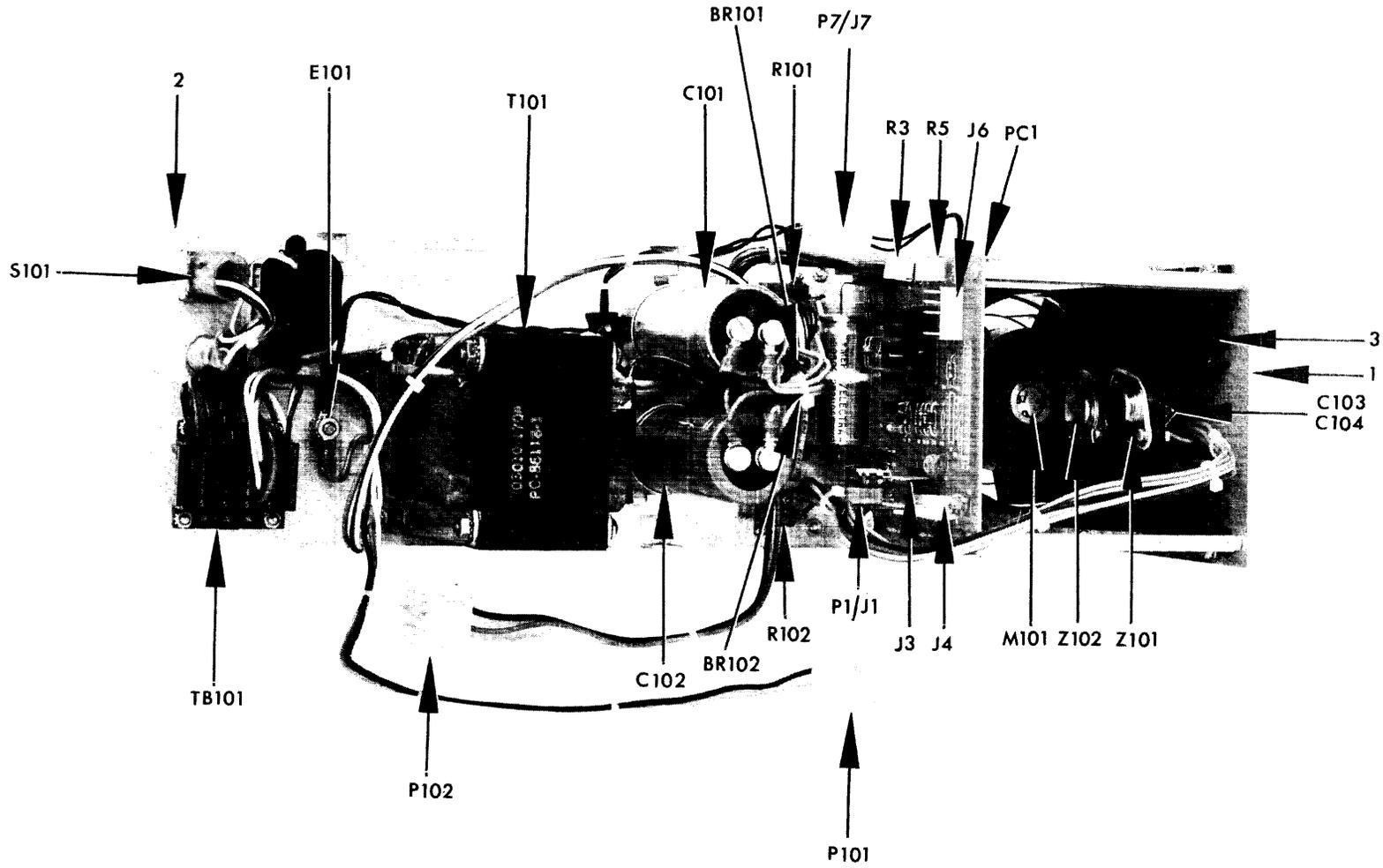


Figure 7-2. Inside View, Power Supply 114180-001.

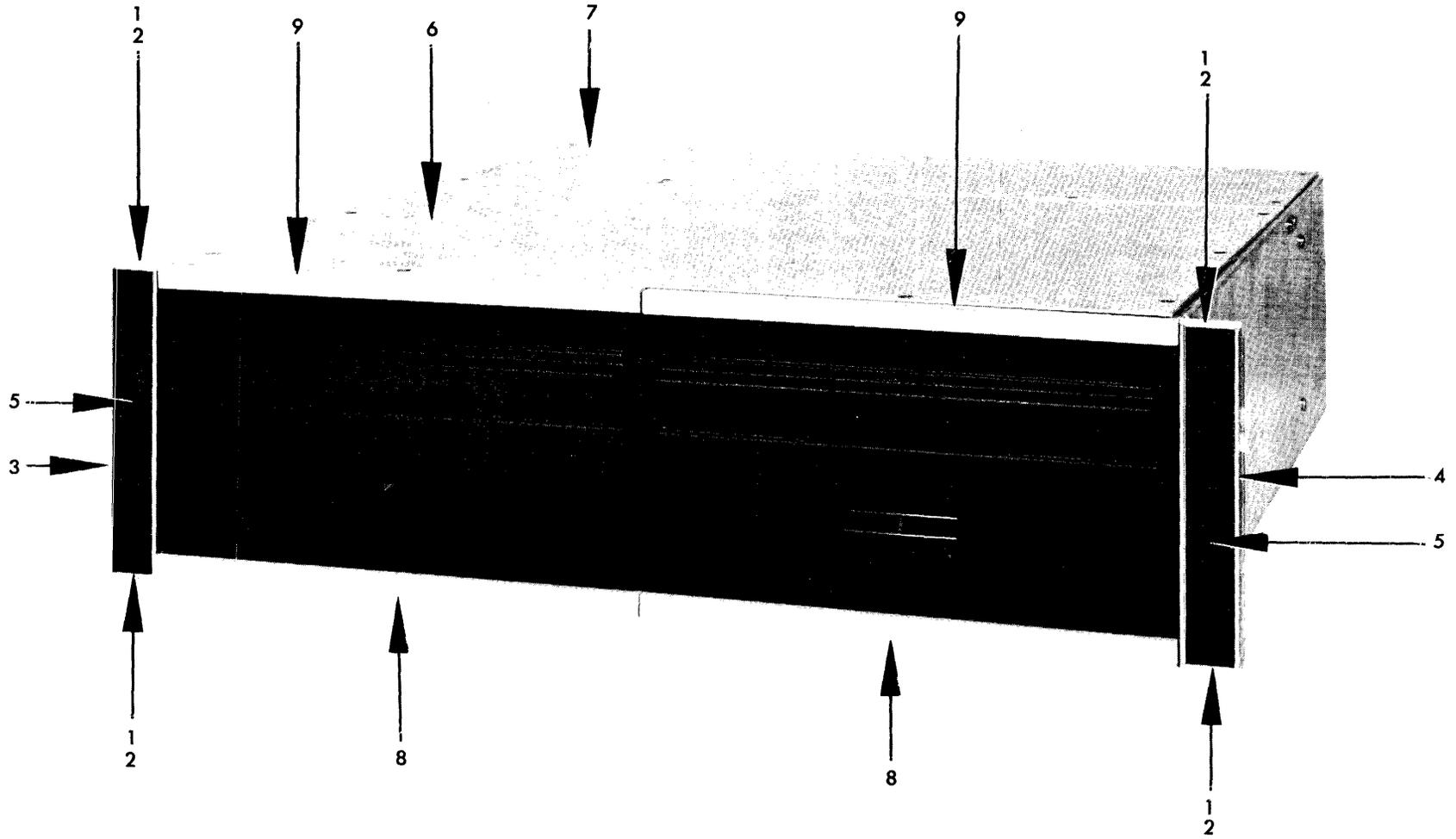


Figure 7-3. Front View of REMEX 40/114175-XXX.

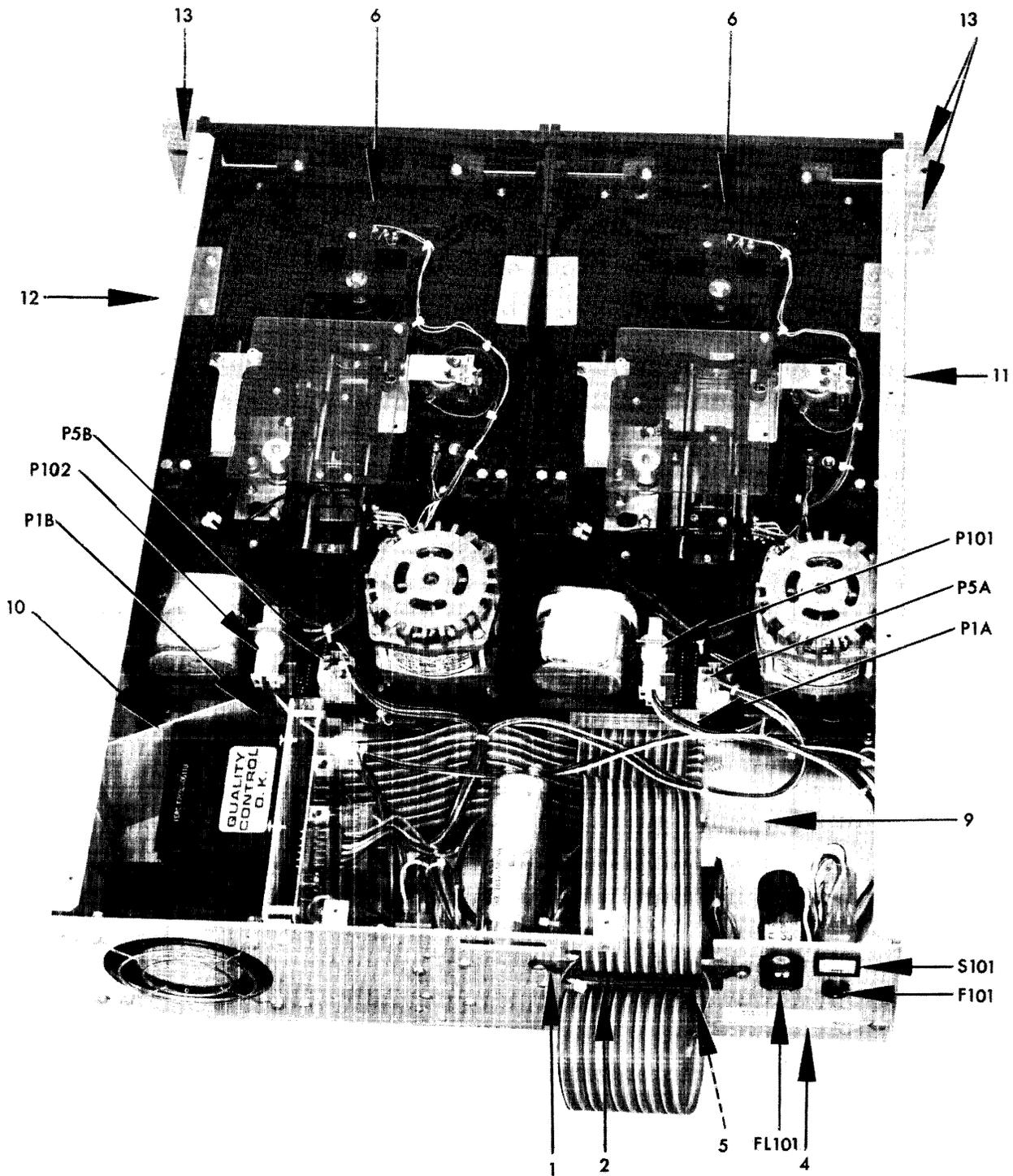


Figure 7-4. Top View of REMEX 20/814284-XXX. The top view of the REMEX 40/814288-XXX, REMEX 48/814290-XXX and REMEX 24/814286-XXX are similar.

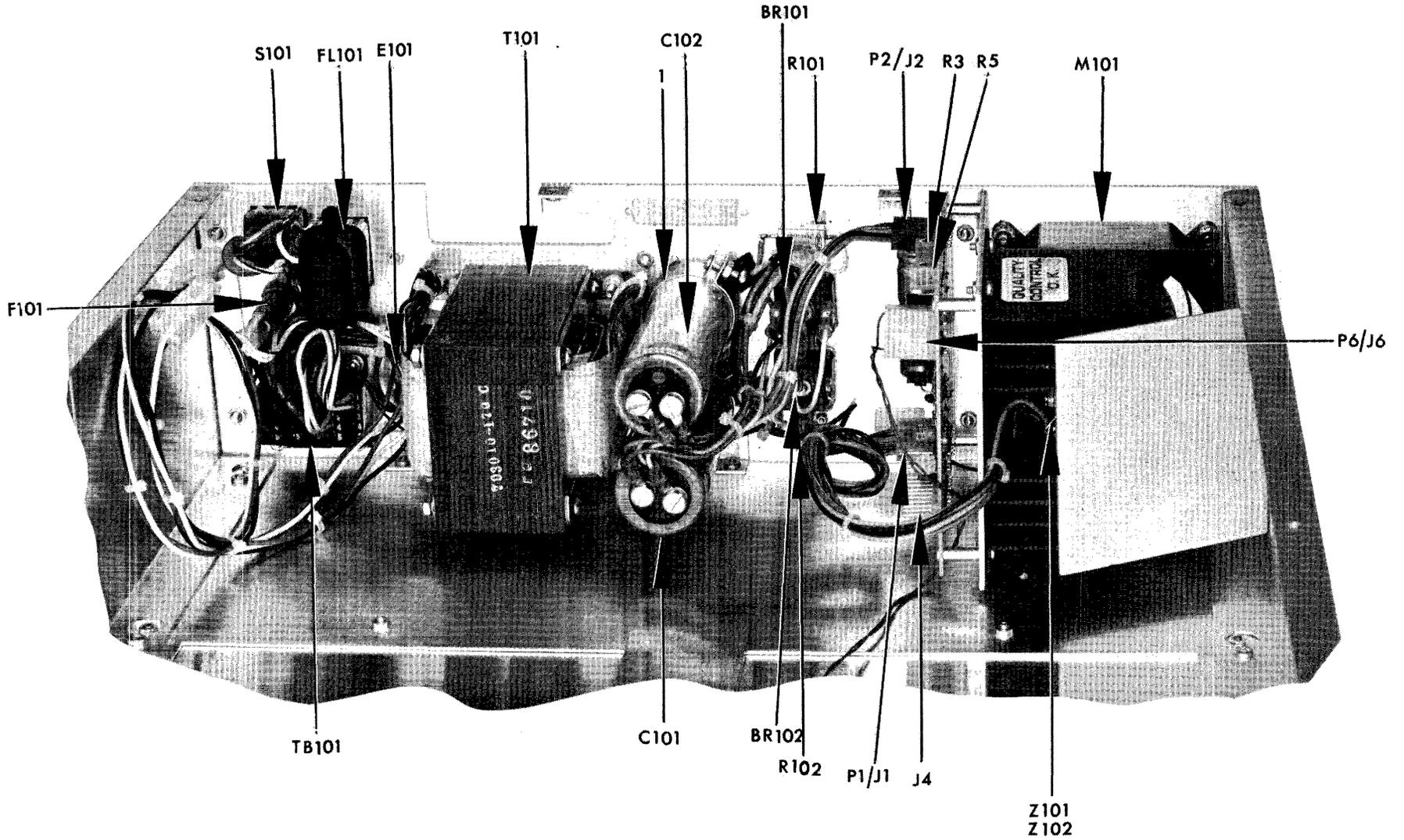


Figure 7-5. Inside view of Power Supply 114280-001.

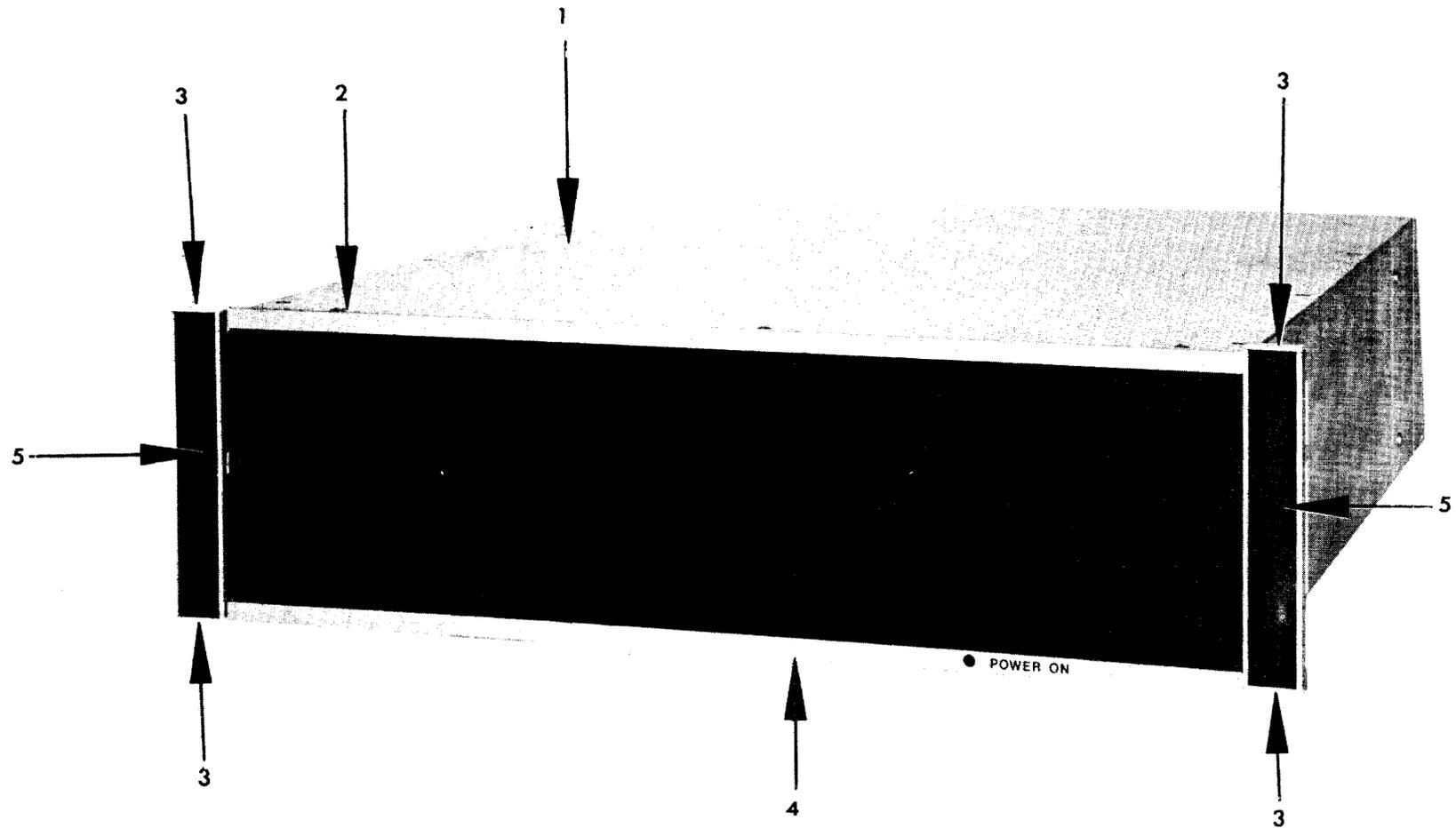


Figure 7-6. Front View of REMEX 20/814284-XXX. The front view of the REMEX 40/814288-XXX, REMEX 48/814290-XXX and REMEX 24/814286-XXX are identical.

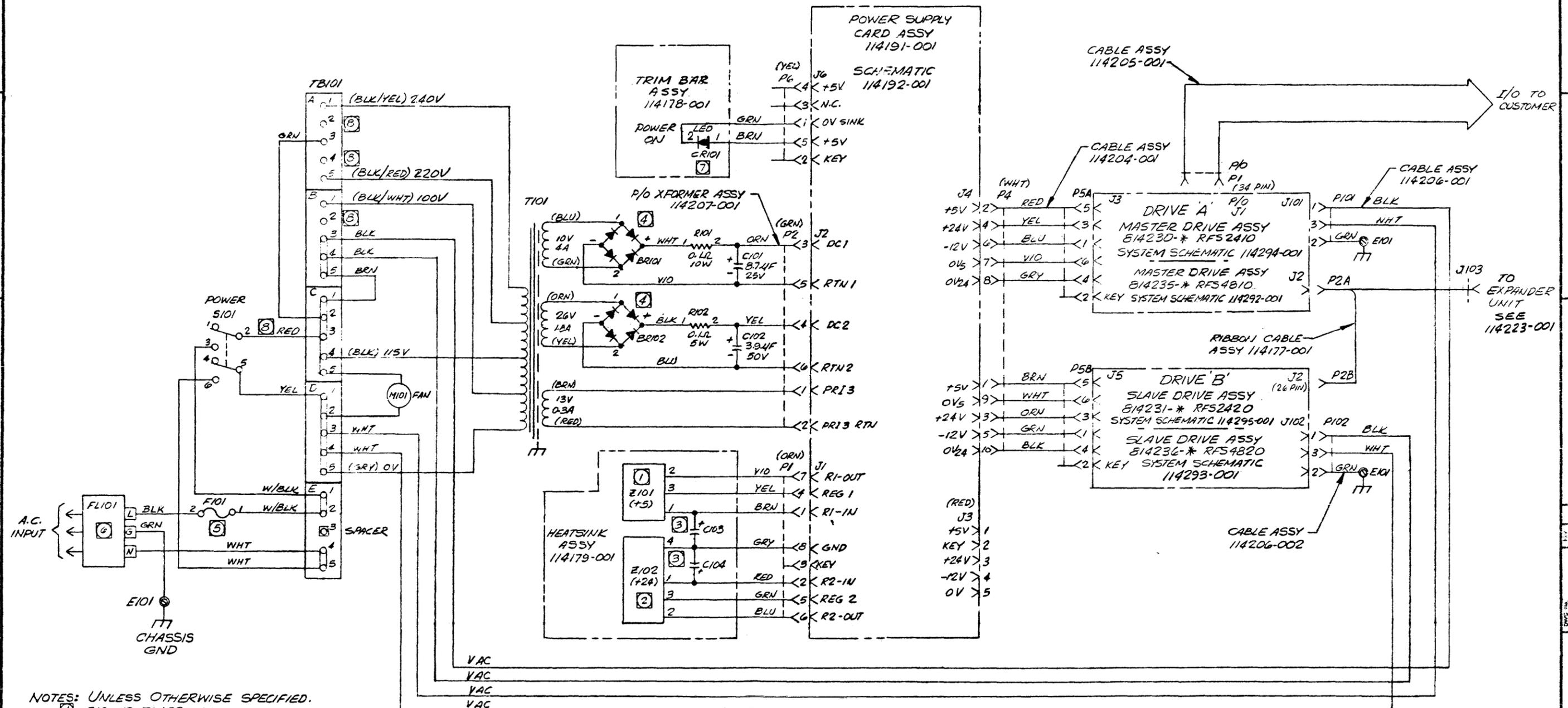
SECTION VIII

SCHEMATIC DRAWINGS

8.1 GENERAL

Figure 8-1 gives the system schematics for the REMEX 20/40 (sheet 1) and the 24/48 (sheet 2). Sheet 3 of Figure 8-1 gives the system schematic for the expander units used on the REMEX 24/48. Figure 8-2 gives the schematic for the Power Supply Board.

SYM	ECO	EFFECT	REVISIONS	BY	DATE	APPRO
A			RELEASED			
B	18804	11/17/71	SEE ECO	SEE	11/17/71	



NOTES: UNLESS OTHERWISE SPECIFIED.

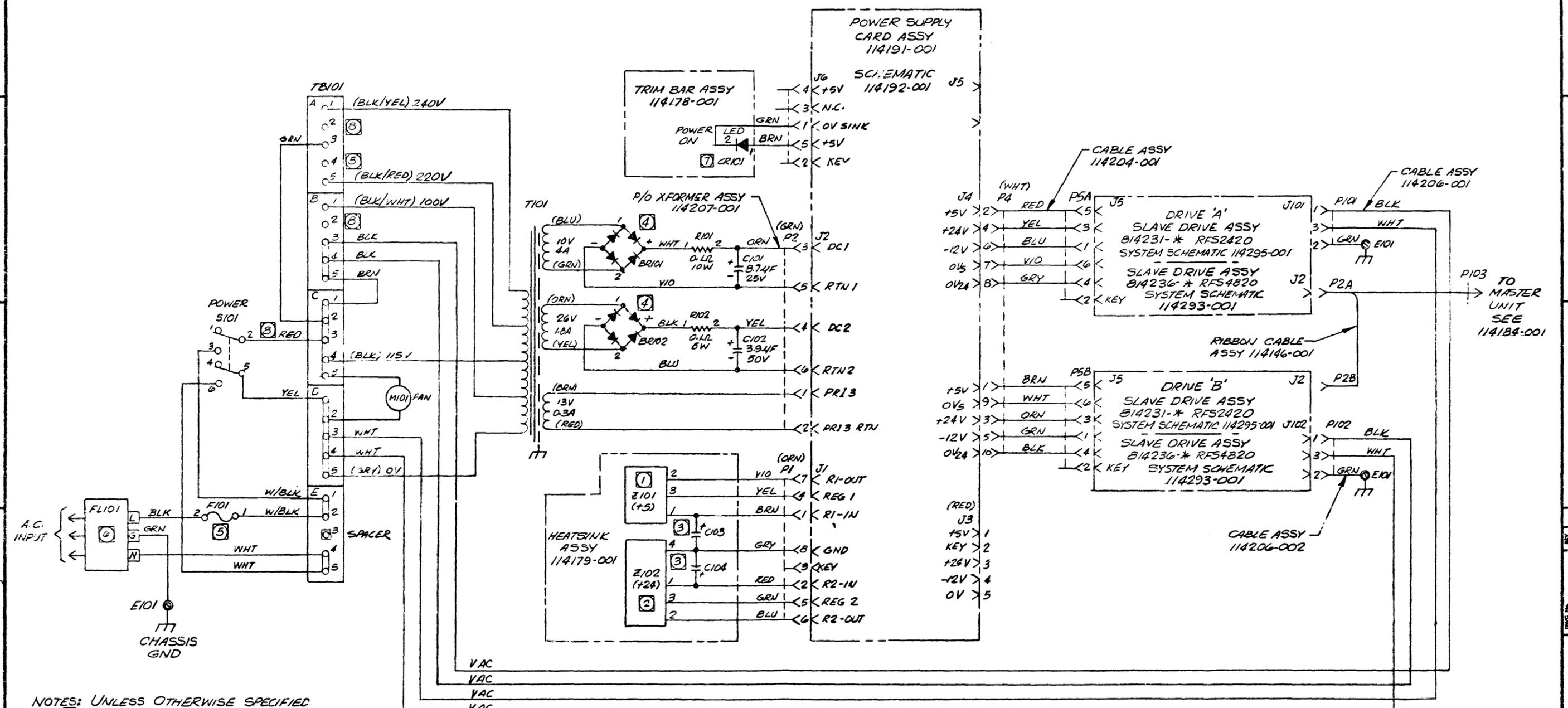
- ① Z101 IS 704520-147.
- ② Z102 IS 704520-148.
- ③ C103 & C104 ARE 702131-105.
- ④ BR101 & BR102 ARE 704005-143
- ⑤ F101 FOR 100V & 115V OPERATION IS 3AMP.
- ⑥ F101 FOR 220V & 240V OPERATION IS 1.5AMP.
- ⑦ FL101 IS REF FILTER 702250-111.
- ⑧ CR101 IS 704004-010.

SYSTEM SHOWN FOR 115VAC OPERATION
 FOR 240VAC, REMOVE RED LEAD FROM
 TB101-C3 AND INSERT AT TB101-A2. INSERT AT
 TB101-A4 FOR 220VAC, AND AT TB101-B2
 FOR 100VAC OPERATION.

Figure 8-1. System Schematic, Master Units, REMEX 24/48, Sheet 2 of 3.

114184-001

SYM	ECO	EFFECT	REVISIONS	BY	DATE	APPRD
A			RELEASED	G.P.	7.1.74	SK
B	18804	11.21.74	SEE ECO	S.E.O.	11.21.74	TSY



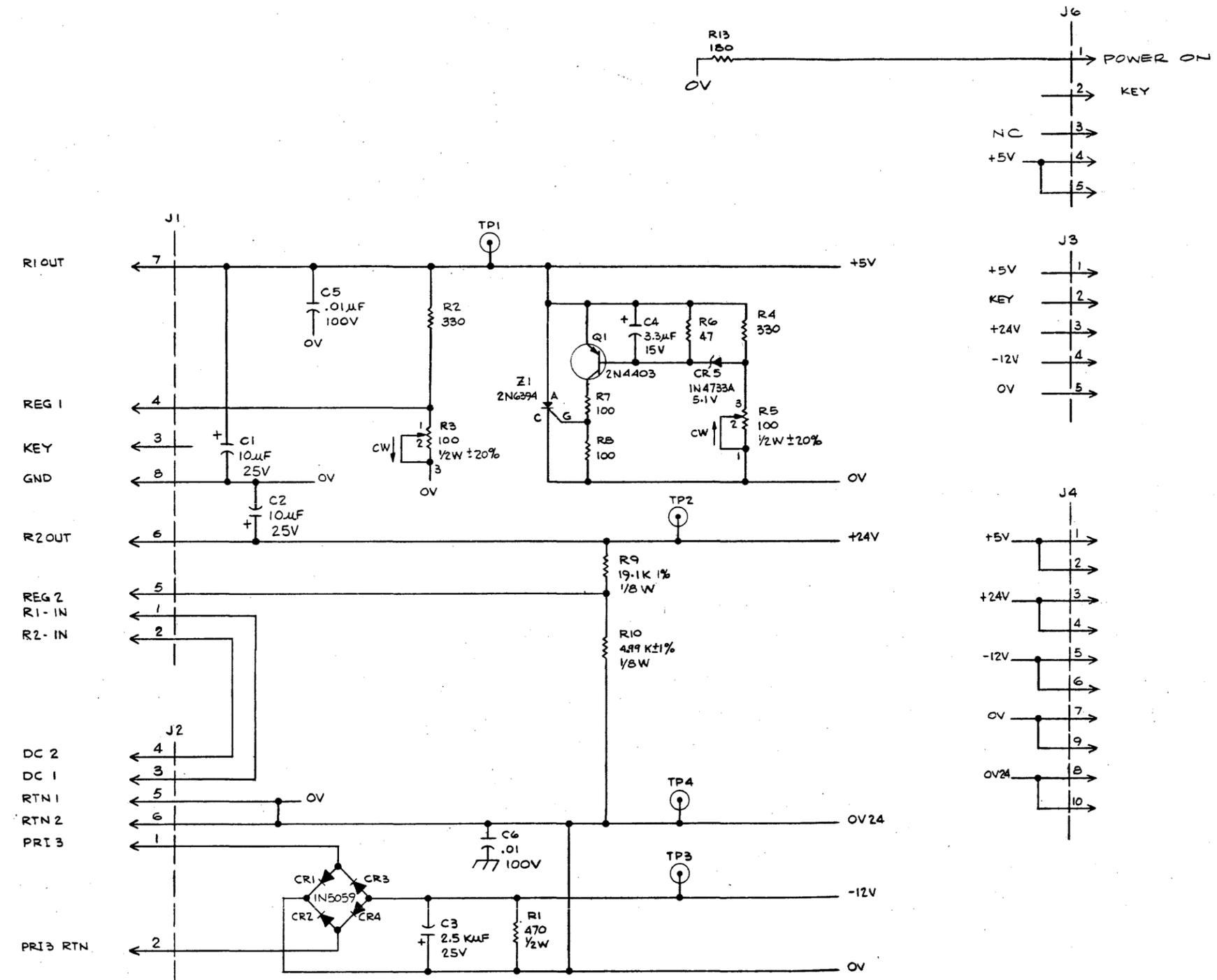
NOTES: UNLESS OTHERWISE SPECIFIED

- 1 Z101 IS 704520-147.
- 2 Z102 IS 704520-148.
- 3 C103 & C104 ARE 702131-105.
- 4 BR101 & BR102 ARE 704005-143
- 5 F101 FOR 100V & 115V OPERATION IS 3 AMP.
- 6 F101 FOR 220V & 240V OPERATION IS 1.5 AMP.
- 7 FL101 IS RFI FILTER 702250-111.
- 8 CR101 IS 704004-010.

SYSTEM SHOWN FOR 115VAC OPERATION.
 FOR 240VAC, REMOVE RED LEAD FROM TB101-C3 AND INSERT AT TB101-A2. INSERT AT TB101-A4 FOR 220VAC, AND AT TB101-B2 FOR 100VAC OPERATION.

Figure 8-1. System Schematic, Expander Units, REMEX 24/48, Sheet 3 of 3.

SYM	ECO	EFFECT	REVISIONS	BY	DATE	APPRD
A	-	11/6/74	RELEASE	ADT	11/6/74	JKY
B	15720	3279	CELETED: 5, 22, 24, R1, R12, R14	JKY	2-5-79	JKY
C	18163	3279	R10 VALUE WAS : 5 K	D.P.	3-2-79	JKY
D	18257	1579	C1, 2 WERE 100V 50V	JKY	4-18-79	JKY



REVISION STATUS		
FAB	SCH	ASSY
A	A	A
A	B	B
A	C	C
A	D	D

- NOTES: UNLESS OTHERWISE SPECIFIED
- Z1 IS 704400-111 (2N6394)
 -
 - Q1 IS 704202-108 (2N4403)
 - CR1-4 ARE 704000-107 (1N5059)
 - CR5 IS 704014-12B (1N4733A)
 - ALL RESISTORS ARE IN OHMS, $\pm 5\%$, $\frac{1}{4}W$
 - REF ASSY 114191-001

LAST DESIGNATION USED	NOT USED
CAPACITOR	C6
DIODE	CR5
INTEGRATED CIRCUIT	Z1 Z2
RESISTOR	R13 R11, 12
TRANSISTOR	Q1
CONNECTOR	J6 J5

REMUX 20	
24, 40, 48	114180-*
USED ON	NEXT ASSY

Figure 8-2. Schematic, Power Supply Card 114191-001.

Ex-Cell-O Corporation

REMEX DIVISION