SECTION X

Procedures

MAILBOX FORMAT (Service Report) For California network CAIR

We currently have 10 people who close service calls via the CAIR network in California. We desperately need a standard format when doing these calls. The reason is because they are grouped together on a daily basis and are read by many different people in different departments. It is easier to read them when they all look the same. (You guys all know this right? I know you were told in your training period) Now, with this staying in your Field Reference Manual, you have no excuse for not following the format. (The following examples are taken from California CAIR, You guys out of state should be using the RIDE mailbox form and try to stay as consistent as possible, although the forms protected fields will look somewhat different).

This is the following 'blank' format to follow. The dim areas are self-imposed protected fields, and nothing should be written in these areas.

CAIR MAILBOX MESSAGE ENTRY

SEND ANOTHER MESSAGE? **N**   RETURN RECEIPT? **N**

DATE: 4/11   803 I.S.I. (IN HOUSE CAIR)
TIME: 10:10   16815 VON KARMAN
FROM: IRVINE CA., 92714
  TO: **Robyn**   714 963-1240
CST#: **803**

TYPE OF MAIL: LETTER   ENCLOSURE: -

MESSAGE:

1. This is the type of call you were on. Below are some examples.
   CAIR / EVOLUTION CALL ; ALPHA HEALTH CARE CALL ; CAIR CALL ;
   ALPHA HEALTH CARE - T & M CALL; CAIR / EVOLUTION CALL - T & M CALL

2. This is the (ISI assigned) customer number. Example:
   CUST #: 236 - R.G.V. Insurancee , Glendale
   CUST #: 1146 - Dr Groper, North Hollywood
   Note. ALWAYS FILL OUT THE #, CUSTOMER NAME, AND THE CITY. Even if
   it is the same at the top of the form!!!

3. RE: stands for REASON as in 'REason for call'. This should be filled out
   Like so: **RE: Ticket # 843250; CRT has no display.** Occasionally you don't
   have the number when given the call. In that case, do something like
   this: **RE: Ticket #:...........; System will not boot.**
   When you have more text than one line, use the one below it, but skip
   the first fives spaces as a margin.

4. SOL stands for SOLution. This field is used to give a summary of the work
   performed on the call. If any of the work involved requires moving of any
   equipment that has a serial number, **ALWAYS REPORT THE SERIAL NUMBERS!!!**
   OUR INVENTORY IS UPDATED BY THESE SERVICE REPORTS. The only exception to
   this is during an installation. Obviously there are too many numbers
   involved to list in a service report and is redundant work.

5. TIME ON SITE is self explanatory. Please use decimal hours rounded off to
   the nearest quarter hour.

6. DATE / TIME : Is the date and time the call is **completed.** If you are
   completing a call at the time of the mailbox, just put it like this:
   DATE / TIME : Same Otherwise if you are filling out the service report
   after the call had been completed, it should read like this:
   DATE / TIME : 04/10/86/14:00 Please use military time.

7. STATUS: Reflects the status of the call. Examples below:
   STATUS: This call complete, headed home from here.
   STATUS: *** This call NOT complete, Waiting on new drive to be shipped.
   STATUS: This call complete, customer up and running at above time.

There are some instances when you need more room in field # 4 allows. In this
instance, use two mailboxes. Move fields # 5, 6, & 7 to the bottom of the
second page. Use field #3 at the top of the second page indicating it's
continued from before. Example.

   Ticket # 846320; Dead system   (continued)

**If you are unclear on some of these items, or have questions, Please don't
hesitate to call. Otherwise, You will be expected to use this format
effective immediately.**

Software Modifications Needed When Adding Peripherals to a CE system

I. Adding a CRT.

1. To **AMOSL.INI[1,4]** add the following lines.
   a. Add the appropriate comment to the EDIT HISTORY section.
   b. Add 1 extra job to the JOBS line.
   c. Add a job name to the JOBALC line.
   d. Add the TRMDEF line. Be aware of the terminal driver, buffer sizes,& MAKE SURE TO ADD THE COMMENTS: (Jobname & Line #).
   e. Decrease the CACHE memory assignment by 3K plus amount of memory assigned to the new JOB.
   f. Add the ATTACH, KILL & FORCE statements.
   g. After MONTSTing and verifying terminal operation, adjust the CACHE to take all leftover memory.

2. Make the necessary comments to **HISTRY.LOG[1,2]**.

3. Verify the JOB will go into the ALL of the CE systems. If you get a message: "PNC cannot be run from this terminal", You must log into DSK0:[377,377] and run ADDPPN for all CE sub-systems. (**PPNS.SN0, PPNS.SN1,** etc...are the files to be modified).

4. To **MSGALL.DO[2,2]** add the appropriate TRMDEF name.

II. Adding a Printer.

1. To **AMOSL.INI[1,4]** add the following lines.
   a. Add the appropriate comment to the EDIT HISTORY section.
   b. Add 1 extra job to the JOBS line.
   c. Add a job name to the JOBALC line.
   d. Add the TRMDEF line. Be aware of the terminal driver, buffer sizes,& MAKE SURE TO ADD THE COMMENTS: (Jobname & Line #).
   e. Add another non-sharable device to the DEVTBL line.
   f. Decrease the CACHE memory assignment by 9K.
   g. Add the ATTACH, KILL & FORCE statements.
   h. After MONTSTing and verifying terminal operation, adjust the CACHE (If neccesary) to take all leftover memory.

2. Create a **PRINT?.INI[1,4]**
   a. Make sure the DEVICE line is correct.
   b. Make sure the DEFAULT=FALSE.

3. Make the neccesary comments to **HISTRY.LOG[1,2]**.

4. Modify **PRTSPC.DAT[7,6]** by logging there and running PRTSPC. (Make sure you are logged into BAS: or you will discover the meaning of error codes 17 and 14).

5. Make the appropriate changes to **SYSTEM.PDF[7,0]** for SuperVUE operation.

6. **Before leaving the customer site, be sure you have printed from AMOS, CE, and from SuperVUE.**

Target installation date : _____

You are responsible for the following items to be completed before the actual installation date to insure a smooth and trouble-free installation of your system.

Check box when complete.

[ ] **Data cable installation.**

[ ] **Dedicated power line installatt ion.**

[ ] **Dialup telephone line installation.**

[ ] **General readiness.**

For your reference we have attached our **Environmental Specifications & Recomendations** sheet

1. **Data line installation.**
    Have the wire installed as soon as possible so we can come out and install the connectors. (Service calls permitting). Please call us when this is done. (Ask for Robyn Schaefer).

    a) Run lines for every peripheral device to be installed. (this includes CRT's and printers). Also, if you think you might be expanding your system, install cables in other offices where you might put a peripheral device sometime in the future. It is cheaper to do it all at once than to have an electrician come back out again, also the cables at the CPU end can be tied together in a neater fashion when it is all done the first time.

    b) Leave **10 feet** of extra cable where it will go into the CPU. This means that however the cable comes into the CPU room, either from the ceiling or the floor, **bring the cables to the bæ se location of where the CPU is to be placed, measure 10 feet of cable from this point.** We will cut the cable to the proper length during the installation.

    c) Leave enough cable at the device end to allow proper placement of the device and freedom of movement. 6 to 15 feet depending on the size of the office or cubicle.

    d) **PLEASE LABEL BOTH ENDS OF THE CABLES.** (ex. 1,2,3 or A,B,C) This saves a lot of time used during installation.

    e) Total cable length for any single device is not recommended beyond 200 feet. (RS-232c specs call for 50 feet or less). Although we have been able to go longer than 200 feet in some installations, We cannot guarantee error free data transmission past 200 feet.

2. **Power requirements**

   a) We require a dedicated power circuit for the CPU. It should be located within 5 feet of the CPU location. Four (4) outlets are needed. Fifteen (15) amps nominal. 115 Volts Typical three prong outlets are required.

   b) One three prong outlet is needed for each CRT and printer. These must be within 6 feet or so from the device. If extension cords are used they must be the three prong type. This power source does not need to be dedicated.

   c) For more detailed information, see the attached Environmental Specifications / Recomendations sheet.

3. **Dialup Phone lines.**

   a) A dialup line is required for remote diagnostics. I have attached the dialup line ordering information that you will need when contacting the phone company.

   b) All phone lines, data lines, cables, and electrical lines for the system must be installed within 5 feet of the CPU location. Please have more than one person in the office aware of the CPU location so there are no delays when the electricians or phone company installers arrive.

4. **General readiness**

   a) Please have everyone that is getting a CRT have a space made available in the morning of the installation date. This saves installation time.

   b) Make sure there is an **available** power outlet for each CRT and printer. We often find power outlets, but they are in use by typewriters and such. Checking each work-station a day or so before the installation can prevent this problem.

   c) Please have the CPU location cleared and ready. If your CPU is a table-top model, please note we do not provide the table.

   d) Be aware of which printers come with print stands and which do not, and have the appropriate space made available for each type. Remember, most printer stands have paper baskets in the rear and space is needed for access to the print-outs.

   With all of the above completed the installation should go very smoothly. I estimate the installation to take about ____ days.

Field Engineer
CAIR SYSTEMS Inc.
(714) 863-1240
(800) 432-7262   (California)
(800) 343-5219   (Nation wide)

HOW TO ORDER A DIAL UP DATA LINE FOR CAIR/EVOLUTION

Contact your local telephone business office and explain to the
representative that you would like to place an order for a
DIAL UP DATA LINE.

They will require the following routine information:
==

a). ADDRESS FOR BILLING-BILLING CONTACT

b). CREDIT INFORMATION

c). NAME OF BUSINESS, ADDRESS, TELEPHONE #, TYPE OF BUSINESS AT YOUR
    LOCATION.

They may require some of the following technical information:
===

a). WHAT IS THE FCC REGISTRATION #?   ----   B4V8N2-70606-DM-E

b). WHAT IS THE RINGER EQUIVALENCY?   ----   0.5A 1.6B

c). WHAT IS THE JACK CODE OR
    TERMINATION????   ----   RJ11 (MODULAR TYPE)

d). DO YOU NEED A TELEPHONE SET?   ----   No (NONE IS USED)

e). HOW MANY PAIR OR WIRES?   ----   2 Wire (1 PAIR)

f). TYPE CIRCUIT OR CHANNEL?   ----   Voice grade line

g). WHAT TYPE DATA SET OR MODEM
    WILL BE USED?   ----   Anchor Automation Inc.
                                               MK12(212-A Compatible)
                                               FCC Registered
                                               Bell System compatible.

If there are any complications, please contact:
==

                              Geoff Shiney at CAIR Systems Inc.
                              (714)863-1240
                              (800)432-7262 (California)
                              (800)343-5219 (Nation wide)

ENVIRONMENTAL SPECIFICATIONS FOR ALPHA MICRO SYSTEMS

There are many variables involved in the installation of any computer system, and each individual site and application will differ in specific requirements. A properly prepared site that meets power, environmental, location and future expansion recommendations will help to insure the optimum performance and reduced maintenance of all computer equipment.

POWER SPECIFICATIONS/RECOMMENDATIONS

A transient-free or smooth and consistent power source and a properly installed earth ground can significantly affect reliable operation of any computer system. A separate power source is required for use only by the computer system. It is also important that a constant line voltage free of power surges, fluctuations and impulses be maintained when the system is in use. A line conditioner that is capable of supressing transients or spikes is required to eliminate surges and noise. All outlets providing power to the system should have a common grounding point restricted to only those connections coming from the computer installation.

Occasionally the incoming power is not adequately regulated (line fluctuations of greater than 5%, "brown-outs", excessive power outages, etc...), and the installation of more sophisticated power conditioning equipment may be required.

The power rating for the power lines to which the system is connected must be a minimum 15 amp 115V grounded connector-type line to insure efficient operation of the system. Be sure any extension cords or power strips are rated for the full 15 amps.

Under no circumstances should ANY of the following be connected to the same circuit as the computer system: air conditioners, copiers, electric typewriters, or cleaning equipment.

ENVIRONMENTAL SPECIFICATIONS/RECOMMENDATIONS

For many computer installations, a normal office environment can be adequate. An area free from drastic fluctuations in temperature and relative humidity, or excessive amounts of airborne matter and dust will insure the smooth functioning of most systems. However, it is important to remember that a computer is still a delicate and sensitive instrument and must be taken care of properly to function at peak efficiency. There are also certain components of a system, such as the cartridge module drive or the tape drive, that require a cleaner environment than other system components to prevent equipment failures.

One of the biggest problems affecting computer performance is contamination of the equipment. Even a small particle of dust can cause a system malfunction. It is best to install the system in a cabinet or place it on a table, but not set it directly on the floor. Since another source of contamination is smoke, it is wise not to install a system in the same area as the lunch or break room. Do not place coffee cups or containers holding liquids on top of the equipment. A spilled cup of coffee can spell disaster for that equipment.

ENVIRONMENTAL SPECIFICATIONS FOR ALPHA MICRO SYSTEMS

Weather and climate conditions may also have an adverse effect on the performance of a computer system. Static electricity can often cause the system to act erratically. Be aware that clear plastic glides for use under desks, or other plastic products, are possible sources of static electricity. An anti-static spray and the removal of potential sources of static electricity from near the system may be required to alleviate these problems.

The temperature range should be 60 to 85 degrees Fahrenheit with a change not greater than 12 degrees Fahrenheit per hour. High humidity may also cause system problems. The non-condensing humidity should be from 20 to 80 percent. Some air conditioners actually increase humidity to 100 percent during the cooling process. Be sure air-conditioning equipment is located outside the immediate computer system area and uses a separate power circuit.

In the event of a computer-equipment fire, extensive damage can be avoided by having the correct type of fire extinguisher on hand. The fire department recommends locating a carbon dioxide,Halon 1211 or Halon 1301 fire extinguisher near your computer chassis and drive(s). The Halon types are recommended because they leave no residue on or around delicate equipment. If you have some other type of extinguisher, do NOT use it if at all possible if it is not labeled both "Type C" and "non-corrosive." While it may extinguish the fire, a corrosive extinguishing agent can cause as much damage as the flames. Using water on an electrical fire may cause electrocution.

LOCATION SPECIFICATIONS/RECOMMENDATIONS

When selecting a location, all computer equipment should be installed, if possible, in a room separate from the work environment. Along with reducing noise in the work environment, this will minimize foot traffic and aid in reducing dust and static electricity which can be very detrimental to computer systems. There must be at least 12 inches between the equipment and building walls, and the same clearance should be observed between the placement of individual components of the system.

Data cables should not be located near high voltage power lines, telephone cables or in elevator shafts. They should not cross walkways; or if it is necessary to place cables near walkways, they must be covered with a suitable bridge to avoid injury or damage. Cable length must also be taken into consideration. Single-ended circuits are susceptible to all forms of electromagnetic interference. As line length increases beyond fifty feet, the reliability of the RS-232C cable at high transfer rates decreases rapidly. If local terminals are to be located further than fifty feet from the computer system, there is no guarantee that they will be able to perform without any data loss without utilizing signal conditioning equipment.

Although it is impossible to totally eliminate static, recommended flooring for computer rooms should consist of tile, wood or sealed concrete. Carpeting is not recommended because of the dust and static electricity factors involved. However, if the area is already carpeted, anti-static mats or anti-static spray treatments can be used to help reduce static discharge problems.

ENVIRONMENTAL SPECIFICATIONS FOR ALPHA MICRO SYSTEMS

When placing the components of the system, it is important not to stack the equipment on top of one another; each has its own unique cooling system that must be taken into consideration. Be sure that there are no papers or cables that cover the fan or ventilation points. These too will prevent the proper cooling of the system. It is not advisable to set equipment on a table that also holds a printer or equipment that will cause the table to vibrate. Continual vibration can cause the circuit boards to unseat and cause system malfunctions.

SUMMARY

These specifications and recommendations are designed to insure the optimum performance of your computer system. As time passes, the power serving your computer system or the environment surrounding your computer system may change. In addition to the items required above, **CAIR SYSTEMS Inc. retains the right to require any of the above recommendations as a condition of continuance of the contract.** For instance, if static electricity becomes a problem, anti-static mats may be required ,or if power failures become a problem, a power conditioning unit may be required.

If you have any questions, Please do not hesitate to call us.

.INI RULES

1. NEVER MODIFY AMOSL.INI DIRECTLY. (Everyone should know this).

2. Reflect your changes in the label first.

3. After sucessful MONTSTing of your .INI file,
   a. COPY OLD=AMOSL.INI
   b. COPY AMOSL={your}.INI
   c. Erase all .INI files that no longer will be used.
   d. Update DSK0:HISTOR.LOG[1,2]

4. Use all TRMDEF conventions & comments. (JOB# and Line #)

5. Use all DEVTBL conventions, rules and comments. (Note the manufacturer and number of logical units).

6. Use all Printer names & comments. (DEVICE=TRMx:{trmdef-name} Printer #?)

M E M O R A N D U M
====================

From the desk of:
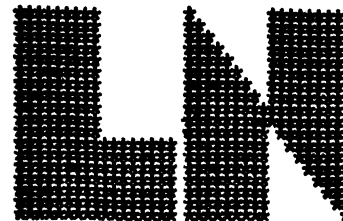
TO: All Alpha Micro Support Personnel

SB: .INI file format change.

We have run into a small problem on some AM1092 systems. This problem
has to do with the size of the .INI file. It cannot be over 9450 or so
bytes. MONTSTing with one larger will yield a status 12 and a system
lock-up. To get around this, we have come up with command files to be
called from within the .INI file. These files are listed below.

    AMOSL.PRT   Initializes all Printers

    AMOSL.VTM   Initializes all VTAM pseudo jobs

    AMOSL.CRT   Initializes all CRT's

These are command files called by thier full filename since they do not have
 .CMD extensions. Currently only a few systems are using this format. They
are Commerce Services, Goldman & Co. and the Hiatt agency.
Attached is an excerpt of an .INI using this format.

```
SYSTEM BAS:SINGLE
SYSDCT WORDS.DCT[1,20]
 YSTEM
DEL SYSTEM
;
CACHE 900K/N
;
LOAD MOUNT
MOUNT DSK1:
MOUNT DSK2:
MOUNT DSK3:
MOUNT DSK4:
MOUNT DSK5:
MOUNT DSK6:
MOUNT DSK7:
MOUNT DSK8:
MOUNT DSK9:
MOUNT DSK10:
MOUNT DSK11:
MOUNT DSK12:
DEL MOUNT
;
SET BPI MTU0:3200
;
LOAD ATTACH
LOAD KILL
LOAD FORCE
 AD WAIT

AMOSL.PRT;               This file initializes all printers
;
ATTACH DUMMY,DIALUP
KILL DIALUP
FORCE DIALUP
MEMORY 55K
LOG SYS:
SET DSKERR

WAIT DIALUP
ATTACH MODEM,DIALUP
KILL DIALUP
FORCE DIALUP SECURE


;
AMOSL.VTM;               This file initializes all VTAM jobs
;
AMOSL.CRT;               This file initializes all CRT's
;
TRACE OFF
LOG DSK0:[20,0]
MSG
;
MEMORY 0
```

```
;>>>>>>Used with AMOSL.INI<<<<<<<<<
:T
ATTACH DUMMY,SPOOL1;     DEVICE=TRM1:LW400        Printer #1      (CPU room)
KILL SPOOL1
FORCE SPOOL1
MEMORY 6K
LOG SYS:
LPTINI PRINT1.INI

WAIT SPOOL1
;
ATTACH DUMMY,SPOOL2;     DEVICE=TRM2:FACIT        Printer #2      (Cpu room)
KILL SPOOL2
FORCE SPOOL2
MEMORY 6K
LOG SYS:
LPTINI PRINT2.INI

WAIT SPOOL2
;
ATTACH DUMMY,SPOOL3;     DEVICE=TRM3:LASER        Printer #3      (Main floor)
KILL SPOOL3
FORCE SPOOL3
MEMORY 6K
LOG SYS:
LPTINI PRINT3.INI

WAIT SPOOL3

;
ATTACH DUMMY,SPOOL4;     DEVICE=TRM4:FACIT2       Printer #4      (San Diego)
KILL SPOOL4
FORCE SPOOL4
MEMORY 6K
LOG SYS:
LPTINI PRINT4.INI

WAIT SPOOL4


;
ATTACH DUMMY,SPOOL5;     DEVICE=TRM5:FACIT3       Printer #5      (Sacramento)
KILL SPOOL5
FORCE SPOOL5
MEMORY 6K
LOG SYS:
LPTINI PRINT5.INI

WAIT SPOOL5


;
```

```
:R
;>>>>>>>>>>>>>>>>BEGIN INITIALIZATION FOR VTAM JOBS<<<<<<<<<<<<<<<<<<<<<<<<<
ATTACH NTRM1,NJOB1;           VTAM Job #1 for JOB20
KILL NJOB1
FORCE NJOB1
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR

;
ATTACH NTRM2,NJOB2;           VTAM job #2 for JOB20
KILL NJOB2
FORCE NJOB2
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR

;
ATTACH NTRM3,NJOB3;           VTAM Job #1 for JOB21
KILL NJOB3
FORCE NJOB3
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR

;
ATTACH NTRM4,NJOB4;           VTAM job #2 for JOB21
KILL NJOB4
FORCE NJOB4
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR

;
ATTACH NTRM5,NJOB5;           VTAM Job #1 for JOB22
KILL NJOB5
FORCE NJOB5
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR

;
ATTACH NTRM6,NJOB6;           VTAM job #2 for JOB22
KILL NJOB6
FORCE NJOB6
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR

;
```

```
:T
ATTACH PORTB1,JOB2
KILL JOB2
FORCE JOB2
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR
MSG

;
ATTACH PORTB2,JOB3
KILL JOB3
FORCE JOB3
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR
MSG

;
ATTACH PORTB3,JOB4
KILL JOB4
FORCE JOB4
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR
MSG

ATTACH PORTB4,JOB5
KILL JOB5
FORCE JOB5
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR
MSG

;
ATTACH PORTC1,JOB6
KILL JOB6
FORCE JOB6
MEMORY 55K
LOG DSK0:[20,0]
SET DSKERR
MSG

;
```

The only time a Winchester drive should be recertified is if, after the drive is already in use, the controller begins to report hard errors for the drive or frequent CRC errors for the same disk areas, indicating that new media flaws have occurred. In general, drives should only be recertified when areas of the drive become inaccessible.

We would like to encourage our dealers not to recertify Winchester disks unless it is absolutely necessary. Three major reasons not to recertify are:

1. The Winchester disks from Alpha Micro have already been fully certified and tested during system burn-in. Therefore, recertifying the disk is an unnecessary, time-consuming procedure.

2. In addition, sophisticated testing procedures used at Alpha Micro (which are not feasible for use in the field) allow us to make sure that the optimum BADBLK.SYS file is created for each drive. If the drive is recertified, it is not likely that this optimum BADBLK.SYS file will be matched, and the drive may be marginally less reliable in its handling of media flaws.

3. Finally, it is not necessary to recertify a drive in order to change the number of logical devices on that drive.

Changing the Number of Winchester Logical Devices without Recertifying

Although we have recommended in the past that a Winchester drive be recertified when changing the number of logical devices on that drive, we have developed a simple procedure for accomplishing this change that takes only a few minutes. To change the number of logical devices on an *empty* Winchester drive regardless of the number of logical devices with which the drive was originally recertified, follow the procedure below.

To change the number of logical devices on a drive that contains data, 1) make a backup of all the data on the drive, 2) check the backup media to make sure it is a valid copy of the data. 3) perform the procedure described below, and 4) copy the backup data to the drive.

NOTE: This procedure deletes all data from the Winchester disk. Therefore, if the Winchester drive you wish to change is the System Device, it is extremely important that you have a backup from which to boot the system. We would like to encourage you whenever possible to configure the Winchester drive as a pripheral to an existing system, and not as a System Device.

1. Use FIX420 to generate a new driver for the Winchester drive. Specify the number of logical devices for the drive to be used. Make a note of the bitmap size displayed by FIX420 for use later when modifying the system initialization command file.

2. Make a copy of the system initialization command file - SYSTEM.INI for AMOS systems and AMOSL.INI for AMOS L systems - call ___ EST.INI

3. Define the drive to the TEST file specifying the number of logical devices to be used. This means adding the correct DEVTBL and BITMAP commands for the drive, following the standard rules for defining a new Winchester drive to the system. Remember to name the devices using the three-character name assigned to the new driver created in Step 1 above.

4. If the Winchester disk is the System disk, use the MONGEN command to incorporate the new driver into a copy of the monitor. When MONGEN asks for the name of the new monitor, do no use the name of the normal monitor – use a name such as TEST.MON.

5. Physically connect the drive to the system.

6. MONTST with the TEST.INI file.

7. If the system does not boot normally, reboot with the system initialization command file and check the TEST.INI for mistakes.

8. If the system boots normally, boot under the regular system initialization file and make a bootable backup copy of PPNs 1,4, 1,6 and 2,2. Now use the SYSTAT command to check that the new Winchester logical devices are listed in the device section of the display. If the SYSTAT display appears to be correct – all jobs and devices are defined – continue with this procedure. If the display appears to be incorrect, press the RESET button to boot with the normal system initialization command file and view the TEST.INI to see what is wrong.

Do not do anything that writes to the Winchester disk; writing to that disk while booted under the TEST.INI file will cause severe problems that can only be remedied by recertifying the disk.

9. MOUNT each of the Winchester logical devices.

10. Log into account [1,2] on the first logical device of the Winchester drive.

11. Use the LOAD command to load a copy of the BADBLK.SYS file in [1,2] into memory. This is a *very* important step – failure to do this will cause the BADBLK.SYS file to be lost in the later steps of this procedure and recertification will be necessary.

12. If the first logical device of the Winchester drive is not the System Disk, skip to step 14.

13. If the first logical device of the Winchester drive is the System Disk, log into account DSK0:[1,4] (the first logical device of the Winchester drive) and use the LOAD command to load the SYSACT and SAVE commands into memory. Programs that will be used to restore the System Disk after conversion is finished must also be loaded into memory. The next step will delete all files from DSK0:, destroying the System Disk. The loading of the above files will enable you to restore your System Disk.

14. Log into account [1,2] on the first logical device of the Winchester drive.

15. Use the SYSACT I command to initialize the first logical device of the Winchester drive.

16. Use the SAVE command to save the copy of the BADBLK.SYS file in memory to the disk. SAVE BADBLK.SYS

17. Restore the TEST.INI and TEST.MON from the backup made in step 8. Rename the initialization file and the monitor to their proper names. Now use the file restore software in memory to restore the files from the original System Disk backup with a /NO DELETE option. Although it is not necessary, we recommend using DSKANA on the System Disk to insure the integrity of the media.

18. Rename the TEST.INI to the proper name of the system initialization command file. If the Winchester drive is the System Device, rename the test monitor to the proper name of the monitor file.

19. Enter the SYSTAT command again. BITMAP KAPUT error messages will probably appear for these logical devices in the SYSTAT display. This is normal. *Do not* write to the Winchester devices yet.

20. Next, use the SYSACT "I" command on the other logical devices of the Winchester to initialize them.

21. Finally, enter SYSTAT again. All Winchester logical devices should be displayed correctly in the SYSTAT display

If you have any questions concerning this procedure, please contact our System Support Group at (714) 957-0392 for assistance.

SOFTWARE NOTES

SPN-0018L
Patch to AMSORT.SYS
AMOSL Version 1.0 (46)

Implementation of this patch will allow AMSORT.SYS to, 1) sort odd size records, and 2) leave all available disk space untouched.

Installation Instructions

1. Log into SYS:, and at AMOS/L command level enter:
   DIR/H AMSORT.SYS
   Compare the existing hash total with the beginning and ending hash total for this patch to ensure that the patch has not been installed. If it has not, proceed with the patch.
2. If one does not already exist, create a PPN to be used for patch files.
3. Create a VUE file, AMSOR1.M68, and enter the following text; or if you have the appropriate software, copy it from the AMTEC system:

```
;Patch #1 to SYS:AMSORT.SYS (AMOS/L Version 1.0)
;
;
;Copyright (C) 1982 - Alpha Microsystems

        COPY    PATCH

        OHASH   036,250,373,702
        NHASH   524,137,236,154

        .= 2126
        CALL    BLKALL

        .= 2630
        JMP     ODREC1
PATCH2:

        .= 2642
        JMP     ODREC2
        NOP
```

```
PATCH3:

          .=3600
BLKALL:   DIV     D2, D6
          AND     #65535, D2
          ASL     D2, #2
          RTN
ODREC1:   ADD     D0, A4
          SUB     #4, SP
          MOV     SP, A6
          MOVB    (A4)+, (A6)+
          MOVB    (A4)+, (A6)+
          MOVB    (A4)+, (A6)+
          MOVB    (A4)+, @A6
          WORD    47372
          WORD    <PATCH2-.>
ODREC2:   WORD    47272
          WORD    <2760-.>
          MOV     SP, A6
          MOVB    (A6)+, (A1)+
          MOVB    (A6)+, (A1)+
          MOVB    (A6)+, (A1)+
          MOVB    (A6)+, @A1
          SUB     #3, A1
          MOV     A6, SP
          WORD    47372
          WORD    <PATCH3-.>

          END
```

4. Copy AMSORT.SYS from DSK0:[1,4] to the account where you have created AMSOR1.M68.
5. Enter the command: **.PATCH AMSORT.SYS WITH AMSOR1**
   You will see the patch file being assembled and installed. If any error messages appear, check to make sure that you have entered the patch file correctly and are trying to patch the correct version of AMSORT.SYS. If the patch file appears to have been

Rebuilding a Master File Directory

When a Master File Directory (MFD) is lost, data recovery may be a difficult and time-consuming process. The most important MFD (in terms of system integrity) is that of DSK0:. When the MFD to DSK0: is lost, the operating system (AMOS/L) cannot access any of the system accounts and is thus rendered inoperable.

This potential problem may be easily avoided. If a copy of an MFD is printed out, and the MFD is lost, it can be recovered by rebuilding the block in which it is contained. This is done with the AMOS utility DSKDDT, which allows the user to change the contents of any word within the block.

The MFD for any device is always contained in block number 1 (the second logical block) of that device. It contains an entry for every account on that particular device. Each entry requires four words (eight bytes) of disk space and consists of two critical pieces of information: 1) an account number and, 2) a pointer to the block containing the User File Directory (UFD) for that account. Each entry also contains account passwords which are not critical and which can be reinstated after the MFD is rebuilt. If an MFD is lost and a hard copy is available, it can easily be rebuilt by using DSKDDT on block 1 (the MFD block) and substituting word for word the proper values for each account and pointer.

In order to create a hard copy of the MFD, a printer must be ATTACHed to a real job (not a DUMMY job) and that job FORCEd to DUMP the MFD. The output will appear on the printer which becomes the terminal. The procedure is as follows:

1. Check the SYSTEM.INI (or AMOSL.INI) to see the input width and input buffer size assigned to the printer in its TRMDEF statement. The input width and input buffer are the first and second of the three numbers at the end of the TRMDEF line. For additional reference, consult the *AMOS/L System Operators' Guide*. The input width and input buffer sizes must be large enough to hold characters from the CPU. (An input width and input buffer size of 30 should be sufficient for the FORCE commands.) If the buffer sizes are not large enough, make a copy of the SYSTEM.INI (call it TEST.INI) and modify the printer TRMDEF line. Reboot the system with the modified TEST.INI.

2. At AMOS command level, ATTACH the printer to a normal job. The command line will appear as follows:

   ATTACH printr,JOB2 (cr)

   "Job2" in this case would be any active job on the system and "printr" is the name assigned to the printer on its TRMDEF line. Then FORCE the job to DUMP the MFD:

   FORCE JOB2 SET OCTAL (cr)
   FORCE JOB2   UP MFD DSK0: (cr)

Since JOB2 is attached to the printer, the MFD will be displayed on printer paper (hard copy). When finished, remember to reattach JOB2 to its normal terminal by using the ATTACH command again:

   ATTACH TERM2,JOB2 (cr)

3. Each line of the DUMPed MFD contains the information (PPN and block link) for one account on the device. The block link word contains the actual block number in octal. The PPN, on the other hand, is encoded. The pair of numbers (project, programmer) are represented by a single octal number occupying one word in the block.

   The hard copy of a typical MFD dump of DSK0: will look like this:

   Master File Directory Dump of DSK0:

   Block number 1, previous block link is 0, next block link is 0

000000	[1,2]	000707
000010	[1,4]	001054
000020	[1,6]	001632
000040	[2,2]	002006
000050	[7,0]	002512
000060	[7,1]	002760

4. In order to record the actual octal values that encode the PPNs, DUMP block 1 to display the MFD in block format. (It is possible to FORCE the job ATTACHed to the printer to DUMP block 1. This is not recommended since the DUMP command does not insert carriage return line feeds after each line; some printers are not capable of handling the block DUMP.)

   Enter the command:

   DUMP BL 1 (cr)

   A DUMP of the same block will look like this:

   Block number 1 of DSK0:
   000000:000402 000707 000000 000000 000404
   000020:000406 001632 000000 000000 001002
   000040:003400 002512 000000 000000 003401

         001054 000000 000000............
         002006 000000 000000............
         002760 000000 000000............

All numbers displayed during a DUMP are in octal (provided HEX is not set). The first column in both cases is the word address within the block. The word address

varies from 0-776 octal, or 0-512 decimal. The MFD dump shows that the code for PPN [1,2] is in address 0, the code for PPN [1,4] in address 10, the code for PPN [1,6] in address 20 and so on. The block dump displays the actual codes stored in each word. Address 0 contains the octal number 000402 which is the code for PPN [1,2]. This octal number should be written down next to [1,2] on the o1e hard copy MFD dump. Address 10 contains the octal number 000404. This is the code for PPN [1,4]. It should be written down on the hard copy next to PPN [1,4]. The code for each PPN should be written down next to the actual PPN on the hard copy. The PPN codes are in addresses 0,10,20,30,40,50,60,70,100,110...

5. The block links are not encoded; the octal number following the PPN code is the actual value of each block link. The block links are in addresses 2,12,22,32, 42,52,62,72,102,112...

6. On AMOS/L based systems, an MFD link structure allows the MFD for any device to occupy more than one disk block. If more than 64 accounts are in an MFD, there will be a link to the next MFD block. This link to the following MFD block is in address 772. There is also a link to the preceding MFD block (if one exists) contained in address 774. If there are more than 64 accounts, these two links should be noted on the hard copy.

7. If the MFD to DSK0: is lost, and the system will not boot, the boot device should be brought up as a peripheral or the system brought up with a warm boot monitor. The warm boot monitor should have the utility DSKDDT loaded into system memory.

8. The hard copy of the MFD DUMP should be kept in a safe place. If the MFD is lost, it can be rebuilt word by word by referring to this hard copy. This is accomplished by using the AMOS utility DSKDDT. DSKDDT allows the user to change the value of any word within any block.

Be extremely cautious while using DSKDDT!

To use DSKDDT, the user must be logged into the operator account. To rebuild the DSK0: MFD block, enter the command:

DSKDDT DSK0:1 (cr)

Nothing will appear on the screen. A line feed (down arrow) will allow the user to step through and display the contents of each address, one at a time. A "!" will step through in reverse. An address followed by a "/" will cause the contents of that particular address to be displayed. If the MFD has been overwritten with garbage, its contents should be cleared by writing null characters (zeros) to all words in the block. Entering a "Z" while in DSKDDT will set the entire block to zeros. For additional information concerning DSKDDT, consult the AMOS/L co   s reference manual

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While in DSKDDT, any time the contents of an address are displayed, it can be changed. The user simply enters the proper octal value followed by a carriage return.

9. Exiting DSKDDT can be done two different ways. If there is any doubt while in DSKDDT, use control C to exit the utility and nothing will have been changed. When word values have been properly modified, DSKDDT should be exited by entering an "E". This will rewrite the block with all the changes made while in DSKDDT.

10. After rebuilding the MFD, be sure to "MOUNT" the disk that has been rebuilt. This will load the appropriate alternate track table (BADBLK.SYS) for that device. Before any activities which write to the disk in question, be sure to do a DSKANA to reclaim any blocks which may be in a file but not marked in use.

11. At this point the MFD will have been rebuilt and all the accounts on the device can be accessed.

For further information concerning the use of DSKDDT, refer to the *AMOS System Commands Reference Manual*, DWM-00100-49.