

# 1. Restoring RIT Software

## Introduction

At some point in time, users are going to be required to restore the entire hard drive image due to a variety of reasons for example; the hard drive is replaced or new versions of the hard drive image is available. This chapter will discuss the procedure to restore the RIT System hard drive from a CD-ROM disk.

### RIT System CD-ROM Disk

The RIT System CD-ROM Disk contains all of the commercial and FAA radar analysis software (preinstalled) for the RIT System. This disk should be used in situations that require restoring the entire RIT System Software Configuration or subsets thereof. Keep it in a safe place.

**Warning !** Each RIT System PC has been delivered with licensed commercial application software. Although there are several versions of the commercial software in use, each site may only install the exact version of commercial software they have a valid user license for.

### RIT System Boot Disk

The RIT System Boot Disk is used to bootup the RIT System PC when the entire RIT System Software Configuration is required to be restored from the RIT System CD-ROM Disk. Keep it in a safe place.

## Software Licenses

Every commercially developed software product is purchased and used under a specific user license agreement for that software product. Legal use of the software product is subject to the terms of the user license agreement. Most often the software license comprises the OEM documentation and the original installation disk(s). Microsoft usually provides a special certificate with a hologram on it.

Every RIT System procured and delivered to operational FAA field sites was delivered with individual user license agreements for each software product installed. All software license agreements permit the user to make a backup copy of installation disk. The RIT System CD-ROM Disk contains images of the installation disks as your backup copies. Users are permitted to use only the software they have licenses for.

**Warning !** It is the site users responsibility to maintain the commercial software licenses in a safe, secure location. AOS does NOT maintain these licenses.

### Commercial Software Licenses

Paragraph reserved.

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## Shareware Software Licenses

Paragraph reserved.

## Freeware Software

Paragraph reserved.

## Restore Procedures

**Warning !** Before executing this procedure, insure that the replacement hard drive is formatted as a DOS boot drive.

- STEP 1.** Power down the PC system (for a cold boot).
- STEP 2.** Place the floppy disk labeled “RIT/AST 486/33 Boot disk level 1.00”, in the A: drive.
- STEP 3.** Place the 150 MB master tape in the tape drive unit.
- STEP 4.** Power on the PC to boot the PC system; i.e., Depress the RESET button on the computer (for warm boot).
- STEP 5.** After the system boots successfully, change active drive from the floppy drive, a:, to the hard disk, c:.
- (a) at the DOS prompt, type `c :`.
  - (b) press <ENTER>.
- STEP 6.** Rename the hard disk volume label to “RIT\_DOS”.
- (a) at the DOS prompt type label `RIT_DOS`.
  - (b) press <ENTER>. The volume label "RIT\_DOS" will now be affixed to the hard drive.
- STEP 7.** Create a subdirectory “backit4” for the backup software.
- (a) at the DOS prompt type `MKDIR BACKIT4`.
  - (b) press <ENTER>.
- STEP 8.** Change the active subdirectory to backit4.
- (a) at the DOS prompt type `CD BACKIT4`.
  - (b) press <ENTER>.
- STEP 9.** Copy the BackIt 4 application files from the floppy diskette to the hard drive subdirectory, `c:\backit4`.

- (a) at the DOS prompt type `COPY A:\BACKIT4\*. *.`
- (b) press `<ENTER>`, the files will transfer.

**STEP 10.** Type `BK4` and then press `< ENTER >`.

**STEP 11.** Select the `RESTORE` function and then press `< ENTER >`.

**STEP 12.** Select `DIRECT RESTORE FROM BACKUP SET` and then press `< ENTER >`.

**STEP 13.** Select `RIT` and then press `< ENTER >`.

**STEP 14.** Type `Y` and then press `< ENTER >` to sequence number one on tape.

**STEP 15.** Press the `F2` function key; i.e., `RESTORE`, to move the tape contents on to the hard drive.

**STEP 16.** After restore is complete, type `QUIT` (or `Q`) to exit the `backIt` program.

**STEP 17.** The `RIT` System restore procedure is now complete!

## Software Installation

### Automated Procedure

**STEP 1.** Power on and boot up the PC to the DOS prompt.

- (a) If the PC automatically boots into MS Windows, open the Program Manager's File menu and select Exit or press: `<ALT>`, `<F>`, `<X>` keys in sequence.

**STEP 2.** Place the "EBT Hardware Configuration" diskette into the floppy diskette drive (A:).

**STEP 3.** Run the `GOGOEBT` DOS batch file.

- (a) Switch the active drive to the floppy drive by: at the DOS prompt type:  
`A : <ENTER>`
- (b) At the DOS prompt type:  
`GOGOEBT <ENTER>`

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The automated procedure will rename the AUTOEXEC.  
and . files to . and .  
respectively.

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- (a) The changes made will be enabled when the computer  
DOS and Windows.

CONFIG SYS  
the ASPI Managers that are not required for you model PC  
1. 1 bootup the computer will beep and

RIT Version designation		config.sys statement
	AST Premium 486/33	DEVICE= :\ \ 4 . /
RIT v2	AST Premium 486/33	DEVICE=C:\SCSI\ASPI4DOS.SYS /D
RIT v3	AST Premmia 4/66d	DEVICE=C:\SCSI\ASPIEDOS.SYS /D
RIT v4	AT&T Globalyst 630	DEVICE=C:\SCSI\ASPI8DOS.SYS /D
E-RIT/R & E-RIT/A	AST Premium SE 4/66d	DEVICE=C:\SCSI\ASPIEDOS.SYS /D

TABLE 1. -1 RIT CINFIG.SYS STATEMENTS

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**NOTE:** Verify that the TDIC and the RTADS/MX-6A systems  
work.

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## Manual Procedure

**STEP 1.** Power on and boot up the PC to the DOS prompt.

- (a) If the PC automatically boots into MS Windows, open the Program Manager's File menu and select Exit or press: <ALT>, <F>, <X> keys in sequence.

**STEP 2.** Place the "EBT Hardware Configuration" diskette into the floppy diskette drive (A:).

**STEP 3.** Copy Microsoft CD-ROM driver into the \DOS subdirectory.

- (a) At the DOS prompt type:  

```
COPY A:\MSCDEX.EXE C:\DOS<ENTER>
```

- (b) Do NOT overwrite if prompted.

**STEP 4.** Use an ASCII editor to modify the AUTOEXEC.BAT file.

- (a) Using the DOS editor modify the AUTOEXEC.BAT file
  - (i) At the DOS prompt type:  

```
EDIT AUTOEXEC.BAT
```
  - (ii) Press <ENTER> to execute the command.
- (b) Navigate down the file to the line following :GAZELLE END label
  - (i) Use the  and  keys to move the cursor.
  - (ii) Type the line:  

```
C:\DOS\MSCDEX.EXE /D:RITCD /M:12 /L:E
```

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**NOTE:** The MSCDEX.EXE enables the computer to recognize a CD-ROM drive as a single logical drive letter under DOS. The /L: option indicates the logical drive letter and may be any letter not in-use and less than the LASTDRIVE= command in CONFIG.SYS file.

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- (iii) The text will be inserted at the cursor location moving all other text to the right.
  - (iv) Press <ENTER> to move the other text to the next line.
- (c) Save the modified file.

- (i) Press: <ALT>, <F>, <X> keys in sequence.
- (ii) Answer YES to dialog box "LOADED FILE IS NOT SAVED. SAVE IT NOW?".
- (iii) The file will be saved and return you to the DOS command prompt.

**STEP 5.** Modify CONFIG.SYS file.

- (a) Using the DOS editor modify the CONFIG.SYS file
  - (i) At the DOS prompt type:  

```
EDIT CONFIG.SYS
```
  - (ii) Press <ENTER> to execute the command.
- (b) Navigate down the file to the line following  
DEVICE=C:\SCSI\ASPIDISK.SYS.
  - (i) Use the ↑ and ↓ keys to move the cursor.
  - (ii) Type the line:  

```
DEVICE=C:\SCSI\ASPIDISK.SYS /D:RTCD
```
  - (iii) The text will be inserted at the cursor location moving all other text to the right.
  - (iv) Press <ENTER> to move the other text to the next line.
- (c) Save the modified file.
  - (i) Press: <ALT>, <F>, <X> keys in sequence.
  - (ii) Answer YES to dialog box "LOADED FILE IS NOT SAVED. SAVE IT NOW?".
  - (iii) The file will be saved and return you to the DOS command prompt.

**STEP 6.** Reboot the computer.

- (a) The changes you made will be enabled when the computer reboots. The CD-ROM drive should now be accessible from DOS and Windows.

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**NOTE:** Verify that the TDIC and the RTADS/MX-6A systems work.

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## Troubleshooting the Installation

Following the Hardware and Software installation procedure outlined in this Guide should provide successful CD-ROM drive operation. However, sometimes things do not work the first time for a variety of reasons. This installation requires tedious changes to the hardware and software components.

Below is a list of some areas to check before calling AOS-500 for support:

1. ✓ Check that the CD-ROM tray closes completely. If the tray does not close completely the hardware drive does not allow DOS access. The CD-ROM drive activity light should illuminate for a second or two, then go out.

*Solution:* Push the tray closed and verify that the system works.

2. ✓ Check both AUTOEXEC.BAT and CONFIG.SYS files for accuracy. Verify the /d:<label> option are spelled exactly the same. We are using the label: "RITCD".

- the AUTOEXEC.BAT statement:

```
C:\DOS\MSCDEX.EXE /D:RITCD /M:12 /L:E
```

- the CONFIG.SYS command:

```
DEVICE=C:\SCSI\ASPICD.SYS /D:RITCD
```

*Solution:* If they are different, edit them to make them exactly the same.

3. ✓ Check both AUTOEXEC.BAT and CONFIG.SYS files to determine if there is a drive letter conflict. We are using drive letter "E:" to reference the CD-ROM drive.

- verify the AUTOEXEC.BAT file MSCDEX.EXE /l:<drive letter> option is not in conflict with another drive letter already used by another device.
- verify the AUTOEXEC.BAT file MSCDEX.EXE /l:<drive letter> (<drive letter> = E is used here) is less than the LASTDRIVE= command in the CONFIG.SYS file.

*Solution:* If the /l:<drive letter> is in conflict with a drive letter already in use or is greater than the LASTDRIVE= command, select another drive letter (you may change the LASTDRIVE= command letter).

4. ✓ Verify the cables are connected. Sometimes while putting the case back on, the SCSI ribbon cable is disconnected. Power down the PC and remove the case. Ground yourself.

- check that all the SCSI devices have the ribbon cable connected.

- check that all the devices have a power plug connected.

*Solution:* Connect the cable to all SCSI devices making the tape drive connected to the last connector on one end of the ribbon cable and the SCSI Host Adapter connected to the other end. The SCSI hard drive and the SCSI CD-ROM should be connected using middle connectors. You may have to twist or fold the ribbon cable.

5. ✓ Verify the CD-ROM terminators are removed. If the terminators are not removed, sometimes the drive works properly and sometimes it does not. Power down the PC and remove the case. Ground yourself.
  - check that the CD-ROM drive has it's terminators removed.
  - check that the tape drive has it's terminators installed.

*Solution:* Remove the CD-ROM terminators. You may have to take the drive out of the chassis.

6. ✓ Verify the SCSI-Id settings are correct.

SCSI Id # Target Id	RIT System (v1, v2, v3 & v4)
3 (int bus)	int. tape drv (term dev.)
2 (int bus)	int. CD-ROM drv
1 (int bus)	not used
0 (int bus)	int. boot hard drv C:

Power down the PC and remove the case. Ground yourself.

- check that the CD-ROM drive's SCSI-Id is set to 2.
- check that the tape drive's SCSI-Id is set to 3.

*Solution:* Usually, as is the case on the CD-ROM and tape drive, the SCSI-Id is set using a combination of three jumpers (binary, 2 = 010, 3 = 011).

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**NOTE:** If you continue to experience problems with this upgrade contact AOS-270.

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## AOS Support

FAA Operational Support  
 National Data Communications Systems Engineering Division  
 Radar Branch, AOS-270  
 FAA William J. Hughes Technical Center  
 Atlantic City International Airport, NJ 08405

Main & Tech Support: (609)485-HELP  
 Fax: (609)485-6488

The FAA Operational Support's Radar Branch, AOS-270, provides site users with technical phone support to resolve RIT System hardware and software problems.