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ADST
Cold Start Procedures Manual for the BDS-D Data Logger 1.0.0

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This Cold Start Procedures Manual outlines the components included for the initial software release of the BDS-D Data Logger 1.0.0

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Table of Contents

1.0 Scope

Per DI-MISC-80711, this manual details the Data Logger Cold Start Procedures. Distribution instructions, interaction with other simulators, and hardware compatibility notes (as applicable), build instructions as well as a detailed overview of the software release are included in the ADST Version Description Document for the BDS-D Data Logger 1.0.0; document number ADST/WDL/TR--93-003073.

"I Pete Peterson on this date 5/14/93, hereby certify that the software release BDS-D Data Logger 1.0.0 has been built from limited access, controlled baseline. This software is, to the best of my knowledge, free of malicious code intended to subvert its operation."

2.0 Cold Start Methodology

The Cold Start procedure for the Data Logger describes the user's ability to regenerate a Masscomp 5600 operating system and load the application software. This procedure consists of installing and bringing on-line the operating system, application, source files, data files, boot files, configuration files and databases. Verification of a build load is demonstrated through a series of tests or a checklist. This procedure also provides a detailed list of instructions that allow the user to startup and shutdown the Data Logger.

2.1 Required Resources

The following sections outline the required hardware and software resources needed to install and bring on-line the Masscomp based Data Logger.

2.1.1 Hardware Resources

The Masscomp based Data Logger requires the following hardware configuration resources to run:

Hardware Item	Description
Masscomp 5600	Masscomp 5600 computer running RTU 4.0A operating system.
150 MB tape drive	A 150 MegaByte tape drive must be installed in the Masscomp 5600 computer for application, source, and operating system installations.

2.1.2 Software Resources

The magnetic media (disks and tapes) prepared and supplied as part of the BDS-D Data Logger 1.0.0 are identified below:

Media Type	Label	Description
DC 6150 Tape	BDS-D Data Logger 1.0.0	Data Logger 1.0.0 application tape
DC 6150 Tape	BDS-D Data Logger 1.0.0	Data Logger 1.0.0 source tape
5 1/4" Floppy disk	Boot Disks	Stand alone boot disks (#1 & #2)
DC 6150 Tape	RTU4.0A system tape	RTU4.0A system dump tape

2.1.3 Other Required Resources

There are no other required resources.

2.2 Cold Start Procedures

The following section outlines the procedure for performing a cold-start on the Masscomp 5600 system.

2.2.1 System Preparation

This section describes formatting the disks on the Masscomp 5600 and installing the RTU 4.0A operating system. These instructions demonstrate how to format the system disk, install the operating system, and perform system checks verifying that the operating system is running correctly. (Warning!!! - This section should only be performed by trained system personnel, due to hardware differences between systems.)

SYSTEM PREPARATION

CONTROL ACTION	EXPECTED RESULTS
1. Log in to the Masscomp as **root**	The console terminal will display the system prompt. (i.e SIMLAB13#)
2. Reboot the computer to single-user mode: Enter: **reboot -h** (or) **sync;sync;halt**	The console terminal will display the single-user prompt: >>>
3. Insert stand-alone floppy #1 into floppy drive.	None
4. Enter: **b/f:1 flp**	The Masscomp will read from the floppy and, when finished, the console terminal will display the $$ prompt.
5. Insert stand-alone floppy #2 into floppy drive.	None
6. To format the internal hard disk drive, enter: **/stand/xmcformat /dev/ca0**	The console terminal will display: Warning!!! This program is about to wipe out all contents of your disk. Are you sure (ok)?
7. Enter: **ok**	The console terminal will display: Choose one of the following: (0) Custom Geometry - manual entry (1) Micropolis 85 mb (Has a rectangular LED ...) (2) Fujitsu 85 mb (Has a round LED on the disk...) (3) Micropolis 170 mb ESDI (4) Micropolis 382 mb ESDI Which menu selection (0-4)?:
8. Enter: **3**	The console terminal will display: Format the drive (yes or no)?
9. Enter : **yes**	The console terminal will display: Do you want to enter the media defect list (yes or no)?
10. Enter: **yes**	The console terminal will wait for your entry.
11. Install the media defect floppy into the floppy disk drive, and enter the name of the defect list file which appears on the floppy label: example: **707809.list**	The console terminal will display the following: Geometry block present on disk Use existing bad block list (yes or no)?

12. Enter: **no**	The message "formatting..." will appear and the disk drive LED will light up. Note: During the format operation, several format related messages will appear. Error messages are self-explanatory. The final message to appear should be: "wrote bad sector list for drive serial # 707809" and the $$ prompt will appear.
13. Insert stand-alone floppy # 1 into floppy drive.	None
14. Create an empty file system; enter: **/stand/mkfs /dev/ca0**	An empty file system /dev/ca0 is created, the sizes are displayed.
15. Check the file system integrity; enter:**/stand/fsck /dev/ca0**	Phases 0 to 5 of the file system check are displayed.
16. Insert stand-alone floppy #2 into floppy drive and enter: **/stand/writeboot /dev/ca0**	A boot block will be written to the hard drive.
17. At the $$ prompt, insert the tape marked "RTU4.0A system tape" into the cartridge tape drive and enter: **/stand/restor**	The prompt: tape? will appear on the console terminal
18. Enter **/dev/ctp**	The prompt: disk? will appear on the console terminal
19. Enter: **/dev/ca0**	The prompt: Last chance before scribbling on disk.
20. Enter **N/L** (note: upper case)	The tape will start to move, files will be restored to the disk. When the restore is complete, a $$ prompt will appear on the console terminal.
21. Enter: **/stand/fsck /dev/ca0**	The file system will be checked (phases 0 - 5)
22. To format the external hard disk drive, enter: **/stand/xmdformat /dev/da0**	The console terminal will display: Warning!!! This program is about to wipe out all contents of your disk. Are you sure (ok)?
23. Enter: **ok**	The console terminal will display: Choose one of the following: (0) Custom Geometry - manual entry (1) Fujitsu Eagle (47) (2) Fujitsu - 80 m2312k (34) (3) Fujitsu - 165 m2322k (34) (4) CDC RSD - 80 (33) (5) Fujitsu - 337 (68) (6) Fujitsu - 690 (68) Which menu selection (0-6)?:
24. Enter: **1**	The console terminal will display: Format the drive (yes or no)?
25. Enter : **yes**	The console terminal will display: Do you want to enter the media defect list (yes or no)?
26. Enter: **yes**	The console terminal will wait for your entry.
27. Install the media defect floppy into the floppy disk drive, and enter the name of the defect list file which appears on the floppy label: **example: 707809.list**	The console terminal will display the following: Geometry block present on disk Use existing bad block list (yes or no)?

28. Enter: **no**	The message "formatting..." will appear and the disk drive LED will light up. Note: During the format operation, several format related messages will appear. Error messages are self-explanatory. The final message to appear should be: "wrote bad sector list for drive serial # 707809" and the $$ prompt will appear.
29. Insert stand-alone floppy # 1 into floppy drive.	None
29. Create an empty file system; enter: **/stand/mkfs /dev/da0**	An empty file system /dev/ca0 is created, the sizes are displayed.
30. Check the file system integrity; enter:**/stand/fsck /dev/da0**	Phases 0 to 5 of the file system check are displayed.
31. Enter: **console**	The console prompt >>> will appear on the console terminal.
32. Enter: **b ca0/unix**	The system will boot up into multi-user mode, the prompt "To use current time, enter RETURN" will appear.
33. Enter the current date and time in the following format: **07-Apr-93 16:00**	The console terminal will display messages, the prompt system prompt (i.e SIMLAB13 #) will appear, then the multi-user login prompt (login:) will appear.
34. Enter: **root**	The prompt TERM = (vt100) will appear.
35. Enter a carriage return	The screen will clear, date and time will appear, then the system prompt (i.e. SIMLAB13 #).
36. Remove floppy and tape and proceed to installation of release.	None

2.2.2 Installation of Release

This section describes the installation of the BDS-D Data Logger 1.0.0 release tape on to the Masscomp 5600 computer system. A list of executable files, data files, configuration files, startup and shutdown files and their respective location in the directory tree is shown in Table 2-1. Table 2-1 allows the user to verify that what was copied off the BDS-D Data Logger 1.0.0 release tape on to the target machine to run in an operational environment is a complete list of application files and their location in the directory tree.

INSTALLATION

1. Load the installation tape into the tape drive.	None
2. Log on to the Masscomp 5600 as **root**.	The console terminal will display the system prompt: (i.e. SIMLAB13 #)
3. Set to the correct default directory **cd /directory_name**	The console terminal will display the system prompt: (i.e. SIMLAB13 #)
4. Read in the installation tape. Enter: **tar xvf /dev/rctp**	The tape will move, filenames will scroll by on the console terminal.
5. When the tape is fully rewound and the SIMLAB13 # prompt appears, remove the installation tape.	None

Table 2-1

	/logger_1.0.0	Description
	simnet/bin/logger	Data Logger Executable.
	simnet/bin/enp.bin	Binary downloaded and executed on the CMC Ethernet card. Includes Logger specific filtering.
	simnet/data/loghelp	ASCII text file containing help for the Logger's on-line help facility.
*	simnet/data/network.def	ASCII text file containing data that defines the configuration of the SIMNET network interface.
*	simnet/data/assoc.def	Simulation network configuration file defining the site/host tuple for all simulation hosts participating in an exercise.
*	simnet/data/logdev	Specifies mapping between logical recording devices, such as disk or 8-track tape, and physical device names, such as /dev/rctp.

* These files are site/host specific and are not included in the release tape.

2.3 Warm Start and Shutdown Procedures

The following section outlines the procedure for performing a warm-start and shutdown of the Masscomp 5600 system.

2.3.1 Startup Procedures

This section describes in detail how to startup the Data Logger.

STARTUP PROCEDURES

CONTROL ACTION	EXPECTED RESULTS
1. Locate the Data Logger and the Masscomp 5600 computer that the installation will be performed on.	None
2. Power up the Masscomp 5600 by turning the keyswitch (located on the front panel) to the "1" position.	The console terminal will display: login:
3. Log in as **root**	The console terminal will display a system prompt.(i.e. SIMLAB13 #)
4. Change to the binary executable directory. Enter: **cd /simnet/bin**	The console terminal will display a system prompt.(i.e. SIMLAB13 #)
5. Start up the network and CIG communications: Enter: **netstart**	The console terminal will display: Killing running ringstart... Resetting /dev/enp0... Loading /simnet/bin/enp.bin on /dev/enp0... Starting /simnet/bin/ringstart... [1] 82 Done SIMLAB13 #
6. Start up the data logger. Enter: **logger - (option)**	A list of options will appear as listed in Table 2-2.

Table 2.2

Masscomp Data Logger Command Line Switches and Parameters

Usage: logger switches ...
Must specify one of the following flags:

- c (opy or convert data files)
- p (lay tape of net traffic)
- r (ecord net traffic)
- h (elp)
- s (erver mode -- control from PVD)
- v (ersion information)

2.3.2 Shutdown Procedure

The following written set of procedures describe in detail how to shutdown the Data Logger.

SHUTDOWN PROCEDURES

CONTROL ACTION	EXPECTED RESULTS
1. On console terminal, quit the simulation if running. Enter: **q**	Simulation should exit. Console terminal will display system prompt (i.e.: SIMLAB13 #)
2. At the SIMLAB13 # prompt, enter:**shutdown** (or) At the SIMLAB13 # prompt, enter: **sync** **sync** **halt**	The message: syncing disks... will appear, then the prompt >>> will be displayed.
3. Turn the front panel key switch to the "0" position.	The system will power off.

3.0 Release Validations

3.1 Cold Start Validation

The following written set of procedures instructs the user on how to validate the success of the cold-start.

Cold-start Validation Instructions:

The expected results detailed in the System Preparation and Release Installation Procedure sections are indicative of a successful cold-start.

3.2 Warm Start Validation

The following written set of procedures instructs the user on how to validate the load once it is operational.

Warm Start Validation Instructions:

The expected results detailed in the Startup Procedure section are indicative of a successful warm start. After completion of Startup Procedure step 6, the Data Logger may be activated.