

ADST Cold Start Procedures Manual for the MCC / Mips Host Configuration 1.0.0

Loral Western Development Labs Electronic Defense Systems Software Department Software Engineering Laboratory 3200 Zanker Road P.O. Box 49041 San Jose, California 95161-9041



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Prepared for:

Simulation Training and Instrumentation Command Naval Training Systems Center 12350 Research Parkway Orlando, FL 328266-3275

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1.0 Scope

Per DI-MISC-80711, this manual details the Management Command & Control (MCC) Cold Start Procedures for the AIRNET configuration on the Mips host. 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 MCC / Mips Host 1.0.0; document number ADST/WDL/TR--92-003037.

"I Pete Peterson on this date 9/3/93, hereby certify that the software release BDS-D MCC / Mips Host 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 MCC describes the user's ability to regenerate a Mips operating system and load the MCC 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 checklists. This procedure also provides a detailed list of instructions that allow the user to startup and shutdown the MCC.

2.1 Required Resources

The following sections outline the required hardware and software resources needed to install and bring on-line the Mips based MCC.

2.1.1 Hardware Resources

The Mips based MCC requires the following hardware configuration resources to run:

Computer:	Mips Magnum 3000/33
Memory:	64MB
Hard Drive:	300MB minimum
Interface:	Ethernet card
Computer:	Mac Plus
Memory:	2.5MB

2.1.2 Software Resources

The following software is required to run the baseline for the Airnet MCC software:

MacPlus:

OS Release 6.0.3

MIPS:

OS RISCos4.5.1 CAP 6.0 KIP (Kinetics IP AppleTalk daemon) SIMNET device driver

SHIVA:

Shiva FastPath version 4 or higher.

The magnetic media (disks and tapes) prepared and supplied as part of the MCC 1.0.0 are identified below:

MIPS:

Media Type	Label	Description
DC 6150 Tape	AIRNET MCC application	MCC / Mips Host 2.0.0 application tape
DC 6150 Tape	AIRNET MCC Source	MCC / Mips Host 2.0.0 source tape
DC 6150 Tape	SIMNET device driver	

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Include the following in your path on the MIPS: Path names: /usr/X11/bin: /usr/lbin:

h names:	/usr/X11/bin:	/usr/lbin:	/usr/ucb:	/usr/bin:	/bin:
	/etc:	/usr/new:	/usr/local/bin:	/bsd43/bin:	/saf/bin

MacPlus: <u>Media Type</u> 3 1/2" floppy

Label SIMNET SCC 1.0.0 executable

Description SCC Version 1.0.0

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 Mips 3000/33 system.

2.2.1 System Preparation

These section demonstrates how to install the operating system, the RISCwindows Release 4.0.0, the SIMNET device driver, and the CAP on the Mips 3000/33. (Warning!!! - This section should only be performed by trained system personnel, due to hardware differences between systems.)

CONTROL ACTION	EXPECTED RESULTS
RISC/OS Version 4.5.1 Installation	By default, machine displays MIPS Monitor version, memory size, Icache size, and Dcache size, and a command prompt ">>".
1. >> boot -f tqsd(0,6,2)sash.std	This command is machanie dependent. See the <u>MIPS</u> "Software Binary Release Notes"; "Installation Notes section" on "Installing RISC/os 4.51 from scratch" for detail. Display completion messages such as: "Rewinding the tape Done entry: hex number" A standalone shell displays on screen with a "sash" prompt.

SYSTEM PREPARATION

2. sash: cp -b 16k tqsd(0,6,4) dksd(,,1)	This command is machine dependent. See the <u>MIPS</u> "Software Binary Release Notes"; "installation Notes section" on "Installing RISC/os 4.51 from scratch" for detail. Display completion messages such as: "Rewinding the tape Done." A "sash" prompt returns.
3. sash: boot -f tqsd(0,6,11)unix.r3030_std root=sdc0d0s1	This command is machine dependent. See the <u>MIPS "Software Binary Release Notes</u> "; "installation Notes section" on "Installing RISC/os 4.51 from scratch" for detail. Display forward spacing message, revision information on CPU, FPU and OS, memory size, and status of the miniroot device files. Returns a "#" prompt
4, Enter the followings to install OS: # set -a # From=Q120 # inst	Displays "Software package installation" message, machine type, and root disk type.
5. Is the information above correct? (y n) [y]? Enter: y	Displays "The process will take a few minutes" message.
 6. Would you like to install the kernel to the miniroot (y n) [n] ? Enter: n 	Enter "n" because the kernel will not fit on the miniroot.
 7. Display a list of sub-packages and returns with the following question. Install ALL subpackages (y n) [n]? Enter: n 	User will be asked to select the optional subpackages to be installed. Enter "y" to the following subpackages: root m2000-33adc - machine dependent m2000-33sdc_dev - machine dependent usr cmplrs cmplrs-bsd43 man compat bsd43 reconfig emacs sccs news_readers games mh
8. Display current value of the clock and returns with the following question:	Displays the next-step message "verifying single- user mode".
	-

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9. Do you want to install sash to the volume header (y n) [y]? Enter: v	Answer "y" unless you really understand the consequences.		
	Displays "installing sash to the volume header" message and returns an usr partition question.		
10. A list of possible partitions displays on screen, user has to select one of the partition number. Displays a status message " /usr partition will be installed on partition # ".	Displays the next-step message "initializing file systems".		
Which partition should /usr be installed on? Enter an appropriate partition number.			
11. To override initialization of each individual file system below:	Displays filesytem initialization status and warnings.		
Initialize filesystem (y n) [y] ? Enter: y	Displays mesystem clieck status and warnings.		
Disk type for controller 0 drive 0 [94191]? Enter: LXT-200s - machine dependent			
Initialize filesystem on /dev/root (y n) [y]? Enter: y			
Initialize filesystem on /dev/usr (y n) [y]? Enter: y			
12. Displays filesystem mounting status and prompts the following question.	Displays the next-step message "verifying disk space".		
Do you wish to change swap partition configuration (y n) [n]? Enter: n			
13. Do you want to check for space (y n) [y] ? Enter: y	Enter "y" unless you really understand the consequence.		
	Displays status message, extracts files from subpackage archives (user need to follow instruction on screen), makes device special files and run comply. Status message is displayed for each of these processes.		

14. Do you wish to configure the network (y n)[n]?Enter: y	All answers here are machine dependent and site specific. See your system administrator for proper entries.
Set hostname [no_hostname]? Enter: mips	The next-step is "cleaning up" then a "installation complete" message is displayed.
Set netmask [0xffff0000]? Enter: 0xffffff00	To check the RISC/os release version, Enter: # uname -r
Set broadcast address [255.255.255.0] ? Enter: 130.62.9.255	
Set net address [127.1.0.0] ? Enter: 130.62.9.50	
Should we create the /etc/local_hostname file (y n) [y] ? Enter: y	
Should we add the above entry to the /etc/hosts file (y n) [y] ? Enter: y	
Set domain name [mips.com]? Enter: mips_1	
Should we create the /etc/local_domainname file (y n) [y]? Enter: y	

RISCwindows 4.00 Release Installation This is an overview of the RISCwindows 4.00 Release Installation. For more details refer to MIPS "Software Binary Release Notes, RISCwindows 4.00 Release - document no. 75-00162(A)"	 * Installer must be superuser * System should be put into single-user state by entering: # telinit 1 Install on another fileystem other than root (/usr): # mount /usr then proceed with the installation process. The installation will be performed twice. The first pass is for the rest of the subpackages relative to /usr# while the second pass for the RISCwindow_links subpackage relative to root. After the second pass on installation process, create a link form /usr# to /usr. # In -s /usr#/usr/RISCwindow4.0 /usr/RISC windo ws4.0
1. Install the package.	# is the prompt sign.
Mount the RISC windows binary package 1/4" cartridge tape (in QIC-120 format) and enter the following commands:	Display installation status.
# mount /usr # /usr/pkg/bin/inst	
Install package relative to where [/]? - Press the <return></return> key	
Is the information above correct? (y n) [y]? - Press the <return></return> key	
2. Select optional subpackages.	Prompts user to select optional subpackages if user
Install ALL subpackages (y n) [n]? Enter: n	question.
Select the following optional subpackages: RISCwindows_binaries RISCwindows_links RISCwindows_server RISCwindows_libraries RISCwindows_misc_fonts RISCwindows_oldX11_fonts RISCwindows_fonts100dpi RISCwindows_fonts75dpi RISCwindows_manpages RISCwindows_psview RISCwindows_contrib_bin RISCwindows_contrib_src	
3. Set system clock/calendar	Display current clock value.
Is the clock correct (y n) [y]? - Press the <return></return> key	

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4. Verify single-user mode.	Display the verification status.
5. Preserve local files.	Display the preserving local files status.
6. Verify disk space.	System checks to verify that there is enough disk space to install the package.
Do you want to check for space (y n) [y]?	
- Press the <return></return> key.	Display verification status.
7. Strip old links to the optional subpackages.	Display stripping status
8. Extract files from subpackage archives.	Load the selected opticial subpackages.
	Display loading status.
9. Run comply.	Display run comply status.
10. Clean up the old versions.	Clean all files from previous version.
11. Restore preserved user files.	Display restoring status.
12. Clean up.	Installation is complete at this point.
Remove install tools (y n) [n]? Enter: y	
Set system to multi-user mode, type: # telinit 2	
13. Post installation check.	Must in multi-user mode.
# ls /usr/ncd	
If the above directory exist, create a link to it. # In -s /usr/ncd /usr/lib/X11/ncd	

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SIMNET device driver Installation.	
1. Directory and file setup	Must be in multi-user mode.
# cd / # tar xvf /dev/ctape0	
# cd /usr/src/uts/mips/bsd/mips # mkdir enp # cd enp	
Copy device driver files # cp /usr3/rucker/simnet/src/magnum_enpdriver/* .	
Rename files # mv if_lacomm.c, enp.4_51/if_lacomm.c # mv if_lance.c.enp.4_51/if_lance.c # cd	
2. Invoke make and create enpa.o	
Invoke makefile Must add "/usr/include" to makefile # make	
Make the enpa.o file # cd//io # cp/bsd/mips/enp/enpa.c . Edit the makefile to add "-I/bsd/mips/enp" to the BSD_FLAGS # make enpa.o # mv enpa.o/bootarea_i	
3. Make interface	
Edit interface files # cd/master.d # cp kernel.r3030_std kernel.r3030_cmc # cp sysgen.r3030_std sysgen.r3030_cmc Add "increase MAXUMEM 32768" to kernel.r3030_cmc. Add "VECTOR: module=enpa" "INCLUDE: enpa" to sysgen.r3030_cmc. # cp/bsd/mips/enp/enpa . # cd	
Edit makefile to add unix.r3030_cmc to EXTRA_UNICES_1 # make unix.r3030_cmc # mv unix.r3030_cmc /	

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4. Make enp	
<pre>make enp device # cd /dev/DEV_DB # cp /usr/src/uts/mips/bsd/mips/enp/common.local . # cd # ./MKDEV enp # cd / if unix_r3030_std doesn't exist, save the original kernal. # mv unix unix_r3030_std else # rm unix</pre>	
5. Create link # In unix.r3030_cmc unix	
6. Reboot the machine.# telinit 6	Reboot the system to multi-user state. Installation is complete.

2.2.2 Application Preparation

2.2.2.2 Installation of Release

This section describes the installation of the MCC / Mips Host 1.0.0 release tape on to the Mips 3000/33 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 MCC / Mips Host 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

CONTROL ACTION	EXPECTED RESULTS
Installing on the MIPS	
1. Log into the MIPs as "root"	See your system admin. for root password
2. Load the executable and data files:	
Insert the tape "AIRNET MCC" into the tape reader	[errors of type "can't find xxxx.h" indicate that your paths are not configured correctly.]
Enter the following on the MIPs:	
# mkdir <dest></dest>	- go to destination directory
# cd <dest></dest>	l i
# tar -xvhf /dev/rmt/ctape0	
- extract all files from tape and created a "saf" directory.	
# cd / - go back to root to	
# In -s <dest> saf</dest>	
- create a symbolic link to	
saf!!!!!! which is needed to	
run "phantom" later.	
# cd /saf	
# In -s <terrain_path> terrain</terrain_path>	- make a link in <dest.> to point to your terrain</dest.>
	database.

DIRECTORY	APPLICATION FILES
MCC_2.0.0	README
_	phantom
terrain	* - data files
bin	assoc.def - supplied as a template only.
	/etc/atalkatab not supplied-"site specific".
	enp.bin
	katosoft.p
	ktdev.def
	netcon
	netdump
	netstart
	network.def - site specific
	netxr
	ringstart
	tblgr
	tblgr.lisp
٠ •	ttysetup
	xreset
	actread

Table 2-1 Application Files and Location in Directory Tree

.

config	#README#
	Makefile
	README
	Saf-resources
	TbLgr-resources
	activate.mac
	blue_cis.lisp
	blue_cis_echelons.lisp
	blue_echelons.lisp
	blue_forms.lisp
	blue_mcc_config.lisp
	bombs.lisp
	capacity.lisp
	color.mac
	config.lisp
	config.mac
	culture.lisp
	damage_map.lisp
	detection.lisp
	df_damg.lisp
	ech.mac
i de la companya de la compa	filters.lisp
	fulcrum.lisp
	hitmodels.lisp
	icons.mac
	if_damg.lisp
	ivis.lisp
	machine.lisp

	ويستشاه والمراجع المتحد والمتحد والمتحد والمتحد والمحمد والم
	make.apprules
	make.config
	make.depend
	make.driver
	make.include
	make.librules
	manningslisn
	mcc blue config lisp
	mcc blue echelons lisp
	mcc blue forms lisp
	mcc_config lisn
	mcc_echelons lisn
	mcc_passwd liep
	mcc_pusswu.nsp mcc_red_config_lisp
	mee_red_config.htsp
	mee_red_centerons.nsp
	micc_icd_ionis.nsp
	mineneta.iisp
	nionoc.mac
	objtype.lisp
	overlays.hsp
	pictures.mac
	points.lisp
	project.iisp
	red_cis.lisp
	red_cis_echelons.lisp
	red_forms.lisp
	red_mcc_config.lisp
	rwa_config.lisp
	se_munition.lisp
	se_vehicles.lisp
	simactiv.lisp
	simhosts.lisp
	simmodels.lisp
	simnet6-0.mac
	detection.mac
	sims.lisp
	sims_sanjose.lisp
	utm.lisp
	vehtype.lisp
	vtypes.mac
	ws.lisp
	simnet.mac
	lisp.list
config factory	machine lisp
••••••••••••••••	muonmo.nsp

2.2.2.3 Shiva and MIPs Configuration

This sections includes the (MIPS and Shiva) / (MAC and Shiva)gateway configuration instructions.

SHIVA Gateway Configuration (on MAC)	Shiva gateway is the bridge between MIPs and Macintoshes. Configuring the Shiva is a "one time job".
Reference to the Shiva Manual or follow the example below.	All entries (Italic) are product and site dependent. Use this as an example only.
1. Pause the MAC that is use to configure Shiva.	
2. Setup the following menus:	
Main Menu	
Gateway Fastpath Serial Number: 1234567890 Prom Version: 4.1 Currently Downloaded File: K-STAR Version 8.0.1 Current Configuration File: WDL-MCC-192 Ethernet Address: 0080D3003B78 LocalTalk Interface AppleTalk Zone Name: ADST-MCC AppleTalk Net Number: 320 AppleTalk Node Number: 220 EtherTalk Phase 2 Range Start: 0 Range End: 0 Etalk 2.0 Net Number 0 Etalk 2.0 Node Number 0	
Configurations K-STAR IP ATalk Phase II	
Switches Auto Config: Off Remote Boot: Off	
Option Flags Off: all	

K-STAR IP	
IP Information IP Address of FastPath Box : 192.67.225.10 IP Subnetwork Mask: 255.255.255.0 IP Broadcast Address: 192.67.225.255 IP Address of Default Router: 0.0.0.0	
Administrator IP Address of Administrator Host: 192.67.225.201	
IPTalk Interface AppleTalk Zone Name: LORAL AppleTalk Network Number: 1 AppleTalk Node Number: 10	
Number of IP Clients Dynamic: 0 Static: 0	
3. Verify "atis" is running on MIPs	
4. Download K-Star 8.0.1	
5. Type "Go" to download the above menus to Shiva.	Log file indicates K-Star atalkab configuration is complete.

MIPS Configuration There are three daemons involve: atalkad - an apple talk administrator. atis - an apple talk interconnect system. aufs - a CAP application which acts as an apple unix file server for Macintosh computers with Appleshare client code.	Configuring the MIPs is a "one time job" only. Once the MIPS is configured, you do not have to "configure the MIPs" every time you want to launch the Airnet MCC. CAP - Columbia AppleTalk Package for Unix.
1. Copy "atalkad" and "atalkatab" from /saf/cap60 to /etc.	
2. Insert the following code at the end of the /etc/init.d/netdaemons file:	Code must exist to init the deamons.
if test -x /etc/atalkad; then /etc/atalkad; echo "atalkad\c" fi	
if test -x /saf/cap60/atis; then /saf/cap60/atis; echo "atis\c" fi	
if test -x /saf/cap60/aufs; then /saf/cap60/aufs -G guest -V /saf/cap60/AFPVOLS; echo "aufs\c" fi	
The following file instructions are site/host specific. They are served as examples.	
1. Assign IP address to logical names: # cd /etc edit the hosts file: 127.1 local host 192.67.225.201 MIPS-1 192.67.225.10 ADST-MCC	ADST-MCC identifies SHIVA and the Appletalk net.
 2. Set hostname: # cd /etc edit the local_hostname file: MIPS-1 netmask 0xffffff00 broadcast 192.67.225.0 	
 3. Create a guest entry for the MAC: # cd /etc edit the passwd file guest::1300:1:Guest Account:/usr/local/lib:/bin/csh 	(1300 is an arbitrary user number)
 4. Instruct MAC which volume to load: # cd /saf/cap60 edit the AFPVOLS file: /saf/config:MCC: 	

 5. Setup up assoc.def configuration file: # cd /saf/bin edit the assoc.def file: site 1 host 11 	The site and host ids are site dependent. When editing this file, DO NOT put a carriage return after the host number. Make sure the host number is at the end of the file.
 6. Set routing information for the static IPTalk: # cd /etc edit the atalk.local file: appletalk net node zone 0.1 201 Loral 0.1 10 192.67.225.10 	Use current MIPS's applenet zone name.
7. Verify the existence of /saf/bin/enp.bin:	This is the board code for the Ethernet port.
 # Is -1 /saf/bin/enp.bin 8. Verify the /saf/config.factory/machine.lisp file: 	
CHANTYPES {0} UDP {1} CAP {2} ((PORTS CHANTYPES (port_type CAP 3)) (ethernet_device "/dev/enp0"))	
 9. Define IP subnets to AppleTalk Mapping: > cd /etc edit the atalkatab file 0.1 N1 192.67.225.0 LORAL 1.64 K 192.67.225.10 ADST-MCC 	 Describe an appletalk net ("anet") anet #: 0.1 - this MIPS is on applenet 1 1.64- on applenet 320 ((1*256)+64 =320) flags: N1 - anet equivalent to IP net 1 -bdcast addr 0.0.0.255 ANDed w/IP addr. K - Anet is the atalk port on SHIVA C - SHIVA is also a "core gateway"
192.67.225.255 L0 L0 L0 L0 L0 L0 L0 S0 S0 LX0 S0 S0 %N %N	 Describe the SHIVA configuration <i>four byte IP address</i> <i>ipdebug ipfile</i> <i>ipother unused unused</i> <i>flags ipstatic ipdynamic</i> <i>atneta atnete</i>
10. Reboot the machine.# telinit 6	Reboot the system to multi-user state. Installation is complete.
 Test the appletalk and atis deamons: See if MIPS "sees" appletalk entities # atlook ;; should see gateway 	Must be Root.
Check atis # atistest	
Check to see if appletalk zones are visible #getzones	

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2.3 Warm Start and Shutdown Procedures

The following section outlines the procedure for performing a warm-start and shutdown of the Mips 3000/33 system and SCC.

2.3.1 Startup Procedures

This section describes in detail how to startup the Airnet MCC 7.2 on the MIPS.

CONTROL ACTION	EXPECTED RESULTS
1. Log into the MIPS as root	See the system administrator for password.
 2. Make sure atis, aufs, and atalkad are running: # ps -eaf grep atis # ps -eaf grep aufs # ps -eaf grep atalkad 	If they are not running, see the instruction on how to configure the MIPS for Airnet MCC above.
 Verify the MIPS to Shiva gateway connection Verify Shiva is configured. 	A MCC "devil" icon should appear if everything is OK. If Shiva is not configured, see the instruction on how to configure the Shiva gateway for Airnet MCC from above.
4. Start up the network and CIG communications:# netstart	* Phantom must not be running. "netstart" kills any running ringstart and then restarts it.
	User may get the " can't write to /dev/enp0: Error 0" message when starting ringstart, ignore it.
5. Ensure ringstart is running: # ps -eaf grep ringstart	Ringstart is a background task that creates and maintains the connection between the Ethernet card and the Phantom executable. It is started by the "netstart" script.
	[Note: the following also kills ringstart & restarts it: # /saf/bin/restart this kills ringstart, restarts it, restarts enp, loads enp.bin. This has nothing to do with the Shiva! "restart" is a script that sets up the simulation Ethernet for the MCC]

STARTUP PROCEDURES

 6. Launch "Phantom" # cd /saf/MCC_2.0.0 # dbx phantom At the (dbx) prompt enter: 	<pre><dest> is the destination directory. dbx is the debugger - BBN suggests using it. Ignore this message: "main: Source not available". If everything is OK, "SIMNET site/host: 1/11"</dest></pre>
(dbx) run -p -c -t knox-0311	message should appear on console. If not, do another ringstart.
	If the above message is displayed, console terminal will display the following prompt: "PHANTOM @ MIPS-1 >". User may enter host operator command or enter: #?, for switches information.

Startup SCC on Macintosh	
1. Locate the Macintosh that is connected to the	Should label the Macintosh as "SCC".
Shiva.	
2. Connect to the MIPS via Chooser.	
Under "Chooser" menu: Select Appleshare and the LORAL Appletalk Zone. Select "MIPS-1 Aufs" file server	- User name must be "guest" and Appletalk must be active.
Hit the "OK" button.	A new menu pops up.
Connect to file server as "Guest". Hit the "OK" button.	A new menu pops up.
Select the MCC server volume. Hit the "OK" button.	on the desktop as an "Owl on a cable" icon; otherwise, no icon appears [check the cables, ensure the MIPS is configured correctly, and check the Shiva's configuration].
3. Launch the SCC.	
Insert the SCC floppy. Double click on the "SIMNET SCC 2.0.0" executable.	The "Connect Screen" menu pops up.
Double click on "LORAL" zone in the zones table. Click on the MIPS-1 in the "hosts" table. Click on the "Connect" button to connect SCC to the MIPS.	MIPS-1 should then come up as an entry in the "hosts" table. The SCC will take a couple of minutes to download configuration files from the MIPS. When the main "SCC" screen pops up, the process is complete.

2.3.2 Shutdown Procedure

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

SHUTDOWN PROCEDURES

CONTROL ACTION	EXPECTED RESULTS
1. On console terminal,	Simulation should exit. Console terminal will display system prompt.
Quit the simulation (phantom) if running: # q	
Quit the debugger: dbx: quit	
confirmation prompt: Enter: yes	
2. At the prompt, enter:shutdown (or) 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 MCC may be activated.