



International Space Station Command and Data Group Portable Onboard Computers

All Expedition Flights

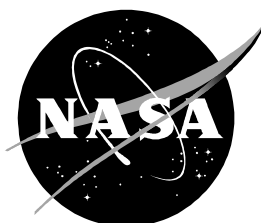
Mission Operations Directorate
Operations Division

May 1, 2000

*These procedures are available
electronically on the SODF Homepage
at <http://ftpproc.jsc.nasa.gov>*

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas



**INTERNATIONAL SPACE STATION
COMMAND AND DATA GROUP
PORTABLE ONBOARD COMPUTERS
ALL EXPEDITION FLIGHTS**

May 1, 2000

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This document is under the configuration control of the Systems Operations Data File Control Board (SODFCB).

Incorporates the following:			
CR:	POC U1	POC U6	Multi File U58
	POC U4	POC U7	
	POC U5	POC U8	

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COMMAND AND DATA GROUP
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ACTIVATION AND CHECKOUT PROCEDURES

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1. UNSTOW

- MF43H OCA1 Docking Station (Laptop and Expansion Chassis)
Collapsible Transfer Bag
- NOD1 OCA1 Data Cables
 - D4_D2 EECOM RFPDB18/OCA1 Cable SED16103021-301
 - PDGF/OCA1 Cable SED39134125-301
 - Wire Harness Assy 1553 Data Bus 1F74151-1
 - Wire Harness Assy 1553 Data Bus 1F74153-1
- OCA1 Power Cables
 - ECOMM OCA1 Power Cable SED16103023-301
 - FGB Power Cable SED39134107-301
 - FGB OCA1 ISO Power Cable SED39134120-301
- Headset
- Mini-cam
- Mini-cam Cable
- Speakers
- DC Power Isolator SED39134112-301

OCA1 2. √Expansion Chassis pwr – Off

3. INHIBITING POWER TO OCA1

If in FGB

FGB 427 (227)

NOTE
Power from either 427 or 227 may be used for OCA1.

On panel OUTLET PWR-10/3 AMPS (P5C-10/3)
√Switch – Off

NOD1S4

On RF PWR DIST BOX ORU, verify ECOMM RFPDB18/JUMPER is installed on J18.

If in Node 1

CRT

SM 203 EARLY COMM

N1RS2A RPC 11 OP – ITEM 16 EXEC (*)

4. CONFIGURING POWER CABLES

If in FGB, configure cables per Figure 1 ECOMM FGB OCA1 Power.
If in Node 1, configure cables per Figure 3 ECOMM NODE OCA1 Power.

5. √Expansion Chassis airflow ports not obstructed

6. CONFIGURING DATA CABLES

If in FGB, configure cables per Figure 2 ECOMM FGB OCA1 Data.
If in Node 1, configure cables per Figure 4 ECOMM NODE OCA1 Data.
If Video Conference required, configure cables per {P/TV 104 Video Conference} (SODF: P/TV SPEC: SCENES).

EARLY COMM OCA SETUP

(POC/2R - ALL/FIN)

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7. ENABLING POWER TO OCA1

- If in FGB
- FGB 427 (227) On panel OUTLET PWR-10/3 AMPS (P5C-10/3) Switch → On
 - DC Pwr Isolator ✓ Power Isolator Switch – On
- If in Node 1
- CRT SM 203 EARLY COMM
N1RS2A RPC 11 CL – ITEM 15 EXEC (*)
 - OCA1 Expansion Chassis pwr → On
OCA1 pwr → On

8. At Startup Menu, sel “Docked” configuration

NOTE

KFX software will be initiated upon bootup for SSCs with OCA card installed.

- ✓ ‘KFX’ icon Mini-Window appears
- ✓ TDRSS LINK STATUS display appears, then:
- ✓ OCA-ORBITER SEND: 128 Kbps

If SEND rate out of configuration
sel OPTIONS
sel DOWNLINK RATE 128 Kbps, as required

9. Notify **MCC** when complete.

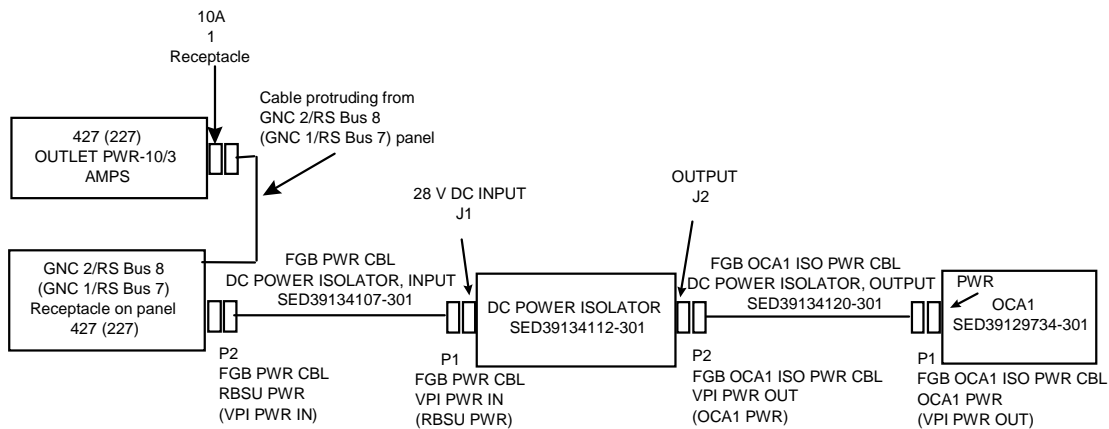


Figure 1.- ECOMM FGB OCA1 Power.

EARLY COMM OCA SETUP

(POC/2R - ALL/FIN)

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NOTE
ATTACH BOTH GROUND STRAPS TO THE CONNECTOR PLATE CLOSEST TO PLANE II VIA THE SCREW IN THE CONNECTOR PLATE.

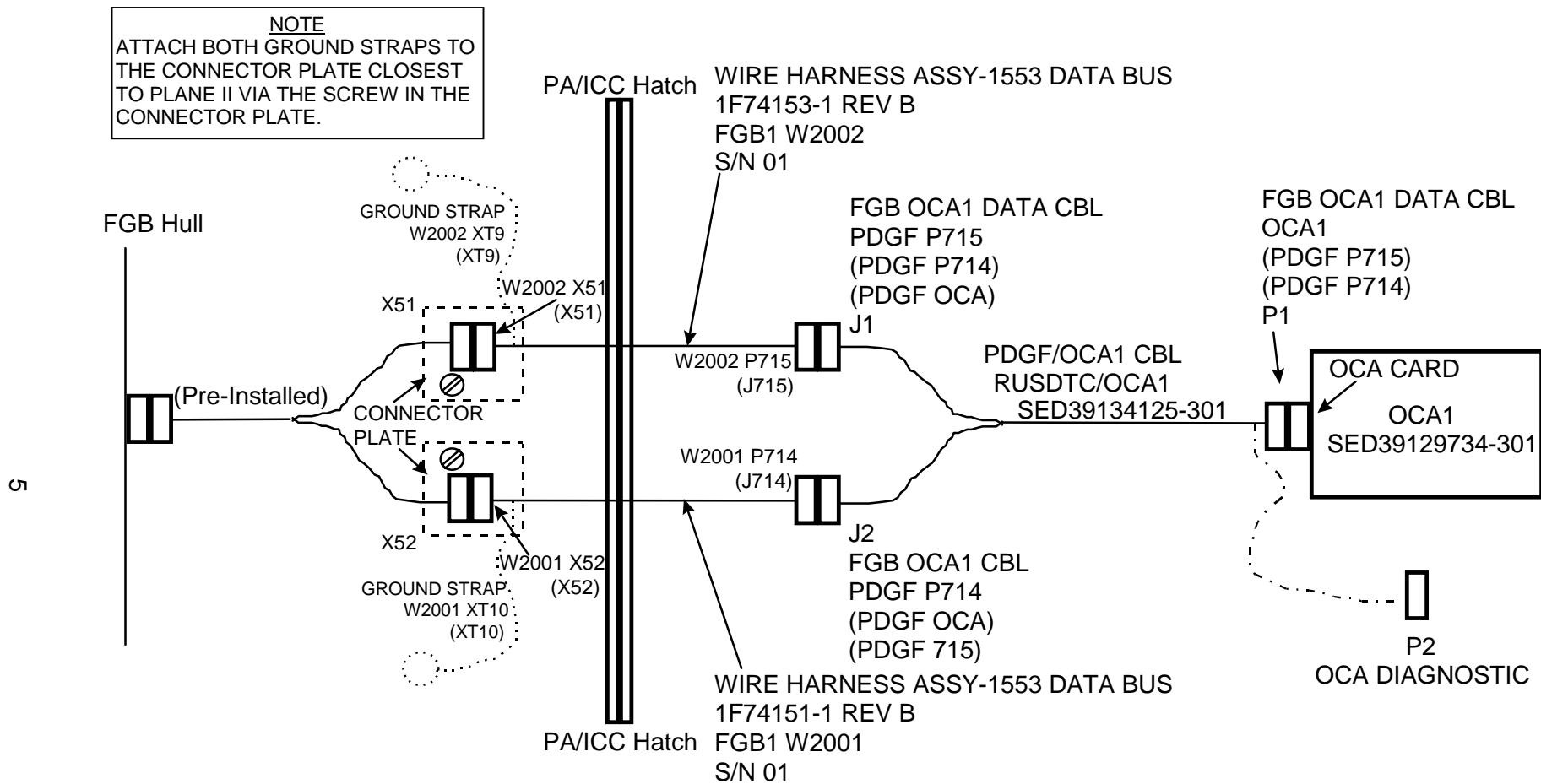


Figure 2.- ECOMM FGB OCA1 Data.

EARLY COMM OCA SETUP

(POC/2R - ALL/FIN)

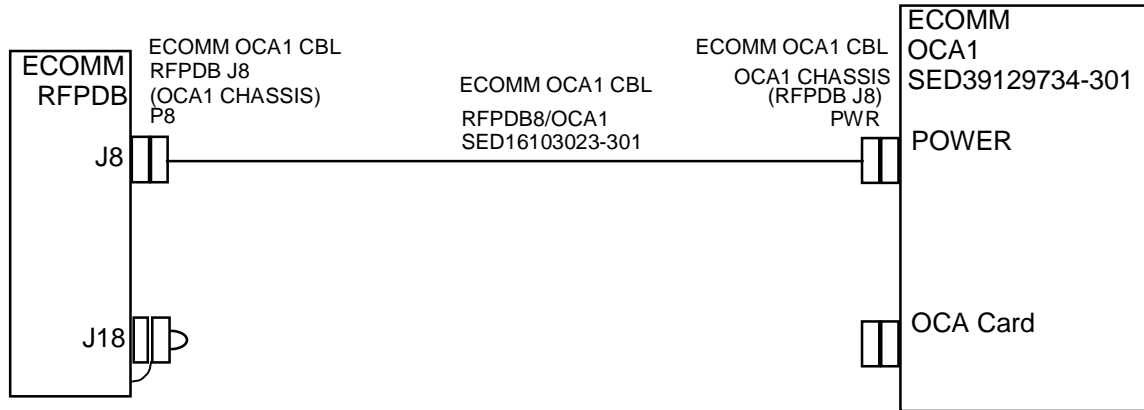
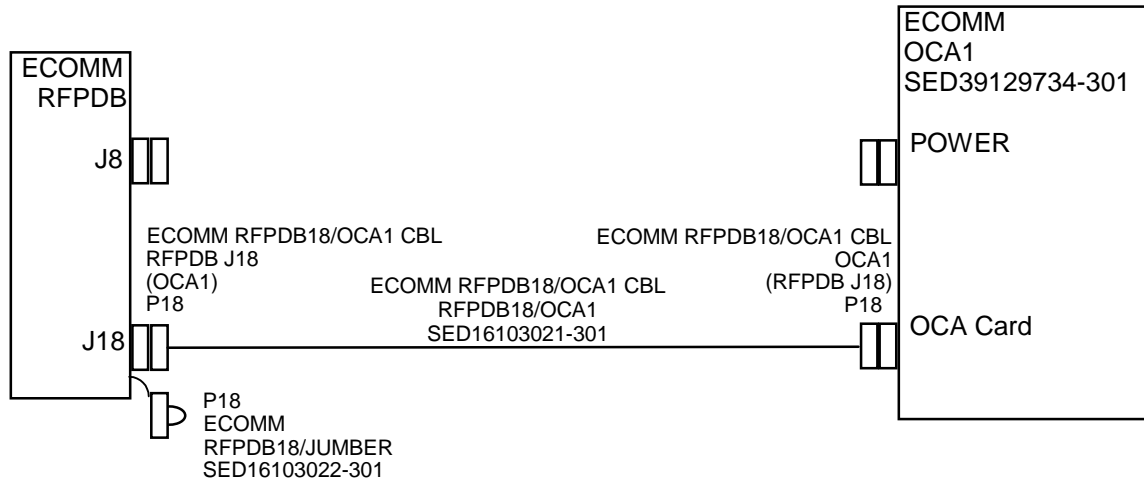


Figure 3.- ECOMM NODE OCA1 Power.



NOTE: After removal from J18, the ECOMM RFPDB18/JUMPER should be capped with the soft cover attached to it. The jumper should then be the RF PWR DIST BOX.

Figure 4.- ECOMM NODE OCA1 Data.

1. UNSTOW

SSC (three)
SSC Desk and Mounting Bracket (two)

US DC Power Supply (four)
US DC Power Cable (four)
DC Power Supply Adapter Cable (five)

RS/ORB DC Power Supply (one)
RS DC Power Cable (one)

RF LAN Access Point (two)
RF LAN Network PC Card (one)

Ethernet PC Card and Cable (three)
Ethernet 10Base2 Cable, 25 ft
Ethernet 10Base2 Cable, 3 ft (eight)
Ethernet T-Connector (six)
Ethernet Terminator (two)
Ethernet Barrel Connector (four)

Refer to Figure 1 for schematic of SSC Network LAB Configuration.

For appropriate DC power outlets to use for all equipment, refer to {UTILITY OUTLET PLUG IN PLAN}, all (SODF: TBD).

2. INSTALLING RF LAN ACCESS POINTS

NOTE
Do not power RF LAN Access Points until File Server has been reconfigured.

Secure RF LAN Access Point with patch antenna in LAB Fwd Endcone. Orient antenna so the RF signal cone is pointing toward Node 1.

Secure RF LAN Access Point with dipole antenna near Node 1 hatch.

UOP

√UOP pwr sw – Off
√US AP DC Pwr Sply sw – Off

US DC Power Cable →|← UOP
US DC Power Cable →|← US DC Power Supply (J1)

DC Power Supply Adapter Cable →|← US DC Power Supply (J2)
DC Power Supply Adapter Cable →|← RF LAN Access Point power port

Repeat step 2 for second RF LAN Access Point.

SSC NETWORK RECONFIGURE FOR LAB

(POC/5A - ALL/FIN)

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3. SETTING UP DESKS AND LAB SSC CLIENT LAPTOP

Mount two SSC desks in LAB (server and client).

Secure LAB SSC laptop to one of the desks.

Refer to Figure 1.

UOP

√UOP pwr sw – Off

√US DC Pwr Sply sw – Off

US DC Power Cable →|← UOP

US DC Power Cable →|← US DC Power Supply (J1)

DC Power Supply Adapter Cable →|← US DC Power Supply (J2)

DC Power Supply Adapter Cable →|← SSC client power port

SSC

Insert Ethernet PC Card into bottom PCMCIA slot.

If desired, attach PC card strain relief.

4. MOVING PRINTER TO LAB

Printer

Printer power button → Off (light – off)

Pwr Sply

Printer Power Supply sw → Off

PCR

PCR pwr sw → Off

Printer

PRINTER Power Cable ←|→ PRINTER Power Supply

RS DC Power Cable ←|→ TBD PCR

Stow PRINTER Power Supply and RS DC Power Cable.

PRINTER DATA Cable (LPT parallel cable) ←|→ SSC File Server
Parallel port

PRINTER DATA Cable (LPT parallel cable) →|← Printer parallel port

Stow PRINTER DATA Cable (LPT parallel cable).

Transfer Printer to LAB.

UOP

√UOP pwr sw – Off

PRINTER Power Cable →|← UOP

5. CONNECTING COMPONENTS TO ETHERNET DATA BACKBONE

Construct ethernet hardwire data backbone per Figure 1.

Ethernet 10Base2 Cable 3 ft →|← RF LAN Access Point AP1

Ethernet T-Connector →|← Printer Ethernet 10Base2 Connector

Ethernet T-Connector →|← Ethernet PC Card (LAB Client SSC6)

Ethernet T-Connector →|← Ethernet PC Card (for occasional and future
use, secure card away from traffic area)

Ethernet T-Connector →|← Ethernet PC Card (File Server)

Ethernet T-Connector →|← RF LAN Access Point AP2

SSC NETWORK RECONFIGURE FOR LAB

(POC/5A - ALL/FIN)

Page 3 of 7 pages

6. MOVING SSC FILE SERVER TO LAB

NOTE

1. Ops LAN server traffic and procedure viewing will not be possible during file server move.
2. √**MCC** to ensure no OCA uplink in progress

SSC FS

Shut down file server

sel Start | Shut Down | Shut Down | OK

Wait while computer saves data to hard drive, ~45 seconds.

Once Shutdown Computer screen appears

SSC FS pwr sw → Off

Pwr Sply
PCR

RS/ORB DC Pwr Sply sw → Off

PCR power sw → Off

RS DC Power Cable ←|→ UOP

DC Power Supply Adapter Cable ←|→ SSC File Server power port

SSC FS

Temporary stow RS/ORB DC Pwr Sply Cables.

Eject and temporary stow RF Network Card.

Stowed items will be used with FGB SSC client laptop in step 8.

Transfer File Server to LAB and secure to SSC desk.

Insert Ethernet PC Card into bottom PCMCIA slot.

If desired, attach PC card strain relief.

UOP

√UOP pwr sw – Off

√US DC Pwr Sply sw – Off

US DC Power Cable →|← UOP

US DC Power Cable →|← DC Power Supply (J1)

DC Power Supply Adapter Cable →|← US DC Power Supply (J2)

DC Power Supply Adapter Cable →|← SSC File Server power port

UOP

UOP pwr sw → On

US DC Pwr Sply sw → On

SSC FS

SSC FS pwr sw → On

√**MCC** to determine if complete software reload of file server is required or if only a software update is required

SSC NETWORK RECONFIGURE FOR LAB

(POC/5A - ALL/FIN)

Page 4 of 7 pages

If complete software reload required

Note, perform full backup of server directories.

Perform {SSC DATA BACKUP}, all (SODF: POC: Nominal: Ops LAN), then:

Perform {SSC SOFTWARE AUTO RELOAD}, all (SODF: POC: Nominal: Ops LAN), then:

If software update required

Perform {SSC LATE UPDATE}, all (SODF: POC: Nominal: Ops LAN), then:

7. POWERING ON ACCESS POINTS

UOP

UOP pwr sw → On

US DC Pwr Sply sw → On

AP1(2)

RF LAN Access Point power sw → On

√RF LAN Access Point power light – green, ~40 seconds

Repeat step 7 for second RF LAN Access Point.

8. POWERING ON LAB SSC CLIENT

UOP

UOP pwr sw → On

LAB SSC

US DC Pwr Sply sw → On

SSC pwr sw → On

Input standard crew personal or generic crew logon.

sel OK

9. SETTING UP FGB AND SM SSC CLIENTS

PCR

√PCR pwr sw – Off

Pwr Sply

√RS/ORB DC Pwr Sply sw – Off

RS DC Power Cable →|← PCR

RS DC Power Cable →|← RS/ORB DC Power Supply (J1)

DC Power Supply Adapter Cable →|← RS/ORB DC Power Supply (J2)

DC Power Supply Adapter Cable →|← SSC power port

SSC

Remove PCMCIA strain relief.

Insert RF Network Card into bottom PCMCIA slot with Proxim label up.

Remove backing from antenna holder adhesive.

Press antenna holder onto exterior of laptop lid.

Attach RF antenna to antenna holder.

PCR

PCR pwr sw → On

SSC NETWORK RECONFIGURE FOR LAB

(POC/5A - ALL/FIN)

Page 5 of 7 pages

Pwr Sply RS/ORB DC Pwr Sply sw → On
SSC pwr sw → On

Input standard crew personal or generic logon.

sel OK

Repeat step 9 for SM SSC.

10. UPDATING EXISTING SSCS CLIENTS

√**MCC** to determine if complete software reload of existing clients is required or if only a software update is required

SSC1,2,3 If complete software reload required
 Perform {**SSC SOFTWARE AUTO RELOAD**}, all (SODF: POC:
 Nominal: Ops LAN), then:

 If software update required
 Perform {**SSC LATE UPDATE**}, all (SODF: POC: Nominal: Ops LAN),
 then:

Perform step 10 for SSC1, SSC2, and SSC3.

11. CHECKING NETWORK CONNECTIVITY

SSC,
OCA1 Select PingMaster icon  from system tray.

sel Ping All Network

√All status icons green, ~15 seconds

If PingMaster icon yellow or red, √**MCC**.

Repeat step 11 for each SSC.

12. SETTING NETWORK CLOCK

SSC FS Press [Ctrl+Alt+Delete] to logon.

Input standard File Server logon information.

sel OK

SSC NETWORK RECONFIGURE FOR LAB

(POC/5A - ALL/FIN)

Page 6 of 7 pages

PCS From PCS or other on board clock, obtain current GMT.

SSC FS Select the clock from system tray.

Manually adjust time to match PCS or other time source.

sel OK

sel Ops LAN Time Update icon from desktop

SSC Verify time broadcast for 2 minutes.
Verify time on clients matches time on server.

13. [TESTING PRINTER](#)

UOP UOP pwr sw → On

Printer Printer power button → On

Wait while printer performs cleaning cycle (up to 2 minutes).

SSC sel MPV from the desktop and open any procedure
sel File | Print
sel OK to begin printing

Exit MPV.

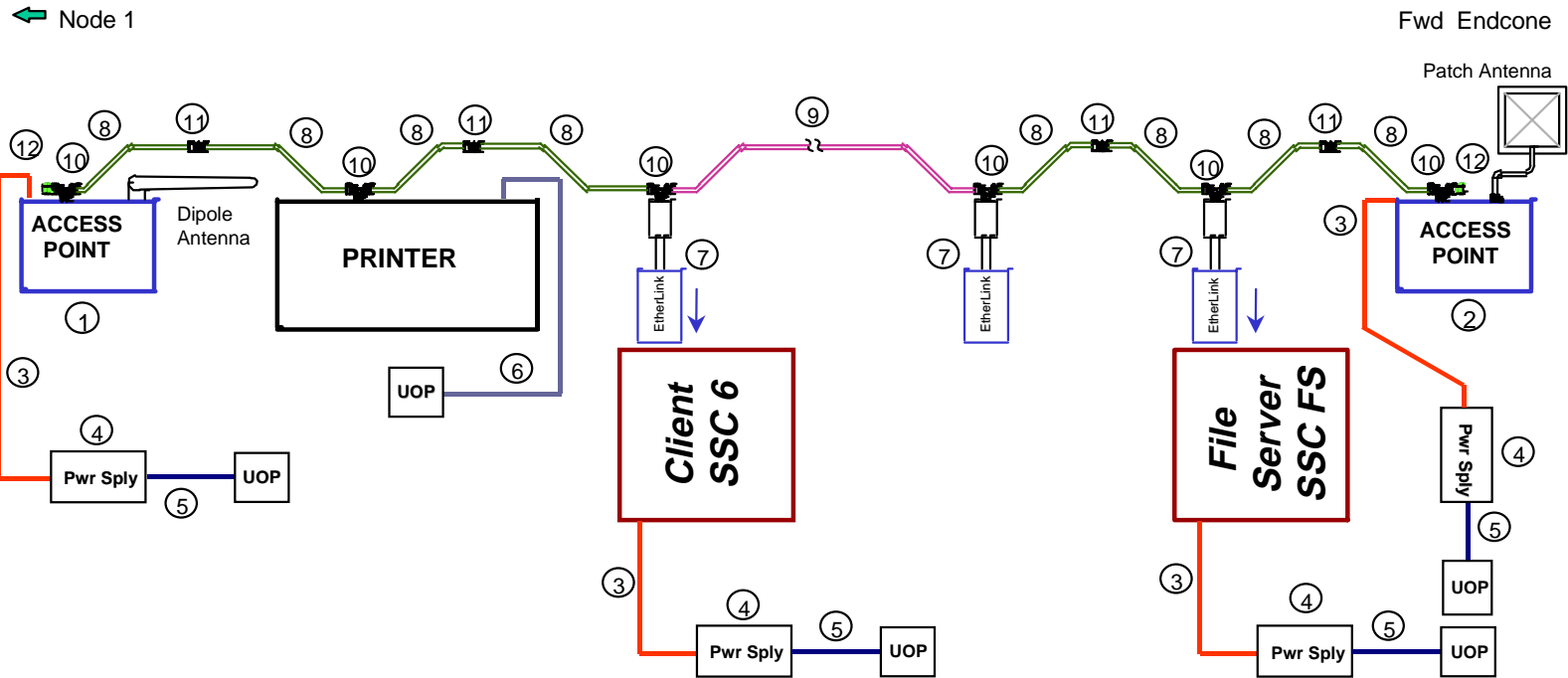
sel Internet Explorer from the desktop
sel File | Print
sel OK to begin printing

Exit Internet Explorer.

Inform **MCC** network that reconfiguration is complete, and report the mounting location of major network components, especially access points.

Also, report deviations from Figure 1.

5A LAB CONFIGURATION
 HARDWARE DATA BACKBONE



LAB NETWORK COMPONENTS

Item	Qty.	Description	Item	Qty.	Description
1	1	RF LAN Access Point (with dipole antenna)	7	3	Ethernet PC Card and Cbl
2	1	RF LAN Access Point (with patch antenna)	8	8	Ethernet 10Base2 Cbl, 3 ft
3	4	DC Pwr Sply Adapter Cbl	9	1	Ethernet 10Base2 Cbl, 25 ft
4	4	US DC Pwr Sply	10	6	Ethernet T-Connector
5	4	US DC Pwr Cbl	11	4	Ethernet Barrel Connector
6	1	Printer Pwr Cbl	12	2	Ethernet Terminator

Figure 1.- SSC Network.

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SSC NETWORK SETUP

(POC/2R - ALL/FIN)

Page 1 of 6 pages

I

1. UNSTOW

FGB Thinkpad 760XD laptops labeled with cue cards, SSC 1, SSC 2,
1P217/ SSC 3, and PCS
218 RF Network Card (five)

RS DC Power Cable (four)
DC Power Supply Adapter Cable (four)

RS/ORB DC Power Supply (four)

FGB Printer Data Cable (LPT Parallel cable)

1O303

TBD Thinkpad Auto Loader floppy diskette
SSC Client Reload CD ROM disk
SSC Server Reload CD ROM disk
External floppy disk drive

TBD SSC FS Cue Card

TBD 810 MB hard drive

2. POWERING CABLE CONNECTIONS

SSC (1)(2) Remove and stow battery.
(3)(FS) Perform {THINKPAD BATTERY CHANGEOUT}, steps 1 --- 9 (SODF:
POC: Nominal: ThinkPad), then:

For appropriate DC power outlet to use, refer to {UTILITY OUTLET PLUG
IN PLAN} (SODF: TBD).

PCR √PCR pwr sw – Off
√RS/ORB DC Pwr Sply sw – Off

RS DC Power Cable →|← PCR
RS DC Power Cable →|← RS/ORB DC Power Supply (J1)

DC Power Supply Adapter Cable →|← RS/ORB DC Power Supply (J2)
DC Power Supply Adapter Cable →|← SSC power port

Repeat step 2 for each laptop.

3. LOADING FILE SERVER SOFTWARE

NOTE

The 760XD laptop labeled with the PCS Cue Card does not have a software load on it and will be converted to the SSC file server.

SSC FS Remove and stow PCS Cue Card.
Attach SSC FS Cue Card.

SSC NETWORK SETUP

(POC/2R - ALL/FIN)

Page 2 of 6 pages

√**MCC** to verify current version of SSC File Server and SSC Client software loads

Connect external floppy drive.
Insert Auto Loader floppy diskette.

Thinkpad pwr → On
Insert SSC Server Reload CD ROM disk.

NOTE

1. The reload process is automatic and will take 20 --- 30 minutes to complete.
2. Step 7, Reloading SSC Client Software, may be accomplished simultaneously.
3. The computer will reboot several times during this process.

When on-screen prompt appears, eject floppy and CD ROM disks.

Thinkpad pwr → Off

4. CONNECTING PRINTER TO SSC FILE SERVER

Perform {SSC PRINTER SETUP}, all (SODF: POC: Activation and Checkout: Ops LAN), then:

Pwr Sply Printer power supply sw → Off

Printer Printer Data Cable (LPT Parallel Cable) →|← SSC File Server Parallel port
Printer Data Cable (LPT Parallel Cable) →|← Printer Parallel port

5. POWERING ON PRINTER

Pwr Sply Printer power supply sw → On
Printer Printer power button → On (light flashing)

√Flashing green power light while printer performs self cleaning (up to 2 minutes)

Printer ready when power light steady green.

6. POWERING ON SSC FILE SERVER

NOTE

Configuration and power up of the SSC file server required prior to logging on to clients to avoid network failure message during bootup of other SSCs.

SSC FS Remove PCMCIA strain relief.
Insert RF Network Card into bottom PCMCIA slot with Proxim label up.
Remove backing from antenna holder adhesive.

SSC NETWORK SETUP

(POC/2R - ALL/FIN)

Page 3 of 6 pages

Press antenna holder onto exterior of laptop lid.
Attach RF antenna to antenna holder.

SSC FS SSC FS pwr sw → On

Verify window appears, ~2 minutes.

NOTE

Disregard logon request. It is not necessary to logon to the file server yet.

7. RELOADING SSC CLIENT SOFTWARE

SSC (1,2,3) ✓ Thinkpad pwr – Off

Connect external floppy drive to laptop.
Insert Auto Loader floppy diskette.

PCR PCR pwr sw → On

Pwr Sply RS/ORB DC Pwr Sply sw → On

SSC (1,2,3) Thinkpad pwr → On

Insert SSC Client Reload CD ROM disk.

NOTE

The reload process is automatic and will take 15 --- 20 minutes to complete.

When on-screen prompt appears, eject floppy and CD ROM disks.

Thinkpad pwr → Off

Remove PCMCIA strain relief.
Insert RF Network Card into bottom PCMCIA slot with Proxim label up.
Remove backing from antenna holder adhesive.
Press antenna holder onto exterior of laptop lid.
Attach RF antenna to antenna holder.

Thinkpad pwr → On

Input standard crew personal or generic logon information.

sel OK

sel Yes to run Unique Client Configuration Program

SSC NETWORK SETUP

(POC/2R - ALL/FIN)

Page 4 of 6 pages

Unique Client Config

sel a unique computer name SSC1(SSC2,SSC3) based on attached Cue Card
sel Uppdate

Verification

Verify computer name.

sel OK

Restart

sel Yes to restart Windows

8. CONNECTING OCA1

FGB

If not previously accomplished

Perform {EARLY COMM OCA SETUP}, all (SODF: POC: Activation and Checkout: Ops LAN), then:

OCA1

Exit all Windows Applications.

Shut down Windows.

OCA Thinkpad pwr sw → Off

Expansion Chassis pwr sw → Off

Open keyboard by pulling side latches toward front of laptop.

Remove and stow 540 MB hard drive.

Install new 810 MB hard drive.

Close keyboard.

Insert RF Network Card into bottom PCMCIA slot with Proxim label up.

Remove backing from RF antenna holder adhesive.

Press antenna holder onto exterior of laptop lid.

Attach RF antenna to antenna holder.

Expansion Chassis pwr sw → On

OCA1 Thinkpad pwr sw → On

When prompted, Press [1] to select the Docked configuration.

Enter Network Password

Input standard OCA1 logon information.

sel OK


√PC Card (PCMCIA) Status icon  appears in the system tray

SSC NETWORK SETUP

(POC/2R - ALL/FIN)

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9. CHECKING NETWORK CONNECTIVITY

SSC Select PingMaster icon  from system tray.

sel Ping All Network

√All status icons green, ~15 seconds

If PingMaster icon yellow or red, √**MCC**.
Repeat step 9 for each SSC and OCA1.

10. SETTING NETWORK CLOCK

SSC FS

Press [Ctrl+Alt+Delete] to logon.

Input standard File Server logon information.

sel OK

PCS From PCS or other on board clock, obtain current GMT.

SSC FS Select the clock from system tray.

Manually adjust time to match PCS or other time source.

sel OK

sel Ops LAN Time Update icon from desktop

SSC 1(2,3) Verify time broadcast for 2 minutes.
Verify time on clients matches time on server.

11. TESTING PRINT

SSC sel MPV icon from the desktop and open any procedure
sel File | Print
sel OK to begin printing

Exit MPV.

sel Internet Explorer icon from the desktop
sel File | Print
sel OK to begin printing

SSC NETWORK SETUP

(POC/2R - ALL/FIN)

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Exit Internet Explorer.

Check print quality of documents.

Inform **MCC** Network Setup Complete.

- 1. UNSTOW
- FGB1 302 Printer
- Printer Power Cable
- Printer Input Tray
- Printer Output Tray
- Philips Screwdriver
- Printer Paper

If SM setup, also unstow:
 RS DC Power Cable
 Printer Power Supply

- 2. ASSEMBLING PRINTER
- Printer Align arrows on Printer Input Tray and back of Printer.
Refer to Figure 1.

Insert white tabs on Printer Input Tray (near arrows) into black outlined slots on Printer.

Slide tray downward.

Attach Printer Input Tray to Printer (use Phillips screwdriver on 2 captive screws to secure tray. Captive screws are circled in white).

Attach Printer Output Tray to Printer (4 captive screws).

- 3. POWER CONFIGURATION
- Refer to {UTILITY OUTLET PLUG IN PLAN} (SODF: TBD) for appropriate DC power outlet to use.

√DC UOP pwr sw – Off

If SM

RS DC Power Cable	→ ←	DC UOP
	→ ←	Printer Power Supply (J1)
Printer Power Cable	→ ←	Printer Power Supply (J2)
	→ ←	Printer power port

If US LAB

Printer Power Cable	→ ←	DC UOP
	→ ←	Printer power port

Insert paper into Printer Input Tray (~50 Sheets).

SSC PRINTER SETUP

(POC/2R - ALL/FIN)

Page 2 of 3 pages

4. WARMUP

DC UOP pwr sw → On

If SM, Printer Pwr Sply sw → On

Printer power button → On (light flashing)

√Flashing green pwr light while printer performs self cleaning (up to 3 minutes)

Printer ready when power light steady green.

5. INSTALLING NEW INK CARTRIDGES

Perform {SSC PRINTER MAINTENANCE}, steps 1 and 2 (SODF: POC: Corrective, Ops LAN), then:

6. SELF-TEST

Refer to Figure 2, Printer Top View.

Printer power button → Off (light – off)

SIMO sel Printer power button and LOAD/EJECT button (hold both for 3 seconds)

Immediately after printing page 2 (color page)

Printer power button → Off (to terminate self test)

Verify print quality of 1 black and white, 1 color text page.

If Print quality not acceptable

Go to {SSC PRINTER MAINTENANCE}, step 3 (SODF: POC: Corrective, Ops LAN).

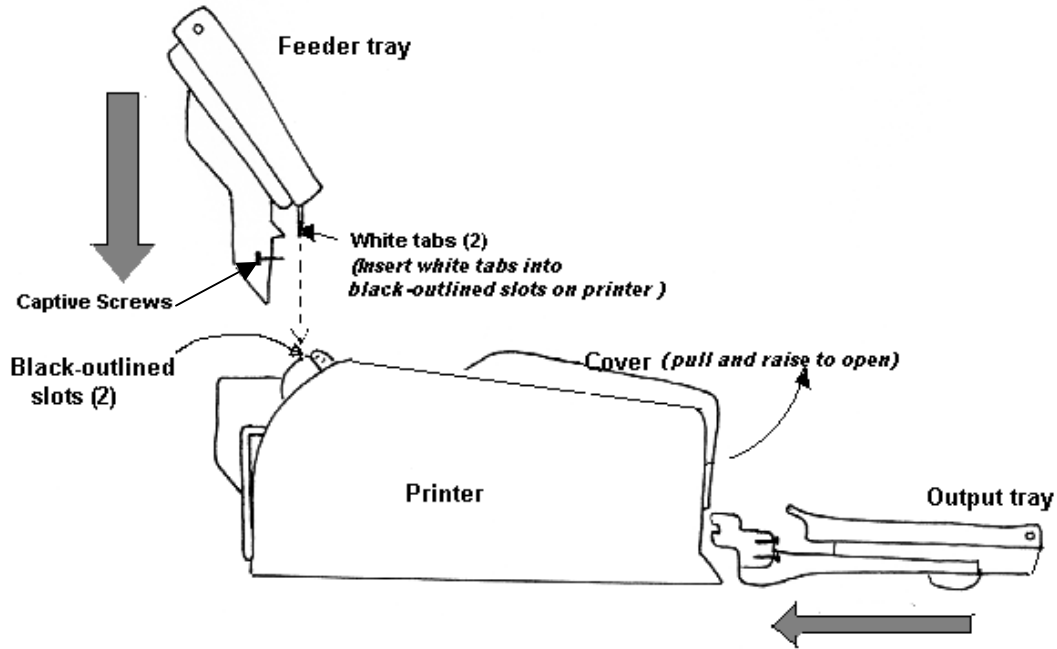
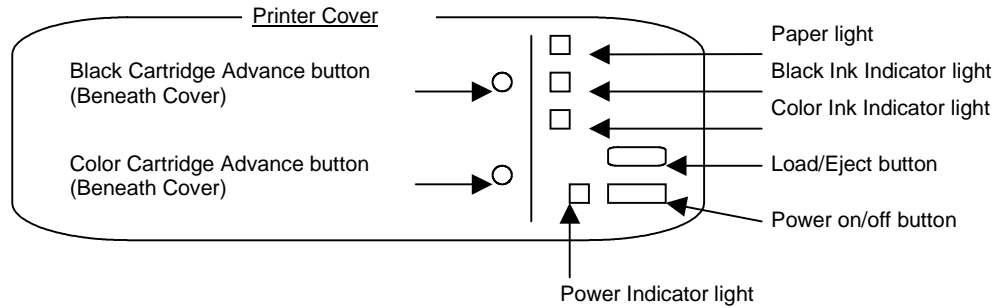


Figure 1.- Sideview of Printer and Trays (ready for assembly).

PRINTER Top view



PRINTER Back View

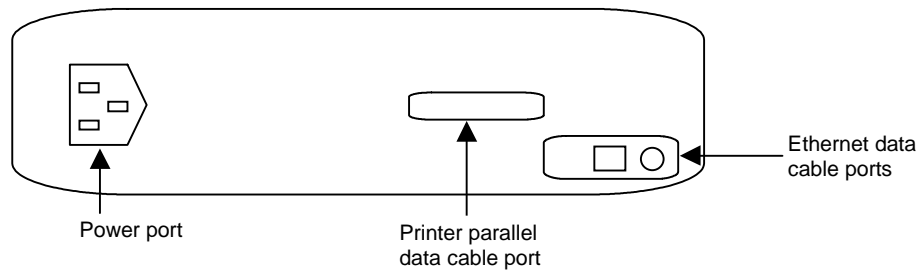


Figure 2.- Printer View.

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NOMINAL PROCEDURES

NOMINAL

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NOTE

This procedure will only be used for unplanned video teleconferences between the crew and ground. If S-band TDRS service has not been previously scheduled, this procedure will cause the loss of command and telemetry.

1. PREPARING VIDEO TELECONFERENCES (CREW ONLY)

Perform {EARLY COMM VIDEO TELECONFERENCE}, steps 1 --- 6 (SODF: POC: Nominal: Ops LAN).

2. SETTING CREW CALL INDICATOR 1 (CREW ONLY)

NOTE

1. Crew Call Indicator 1 is used to signal the readiness of the crew to begin a non-critical teleconference.
2. Crew Call Indicators 1 and 2 are used to signal the readiness of the crew to begin a critical teleconference.

EPCS

C&T: Early Comm Overview

Early Comm Overview

'Crew Call'

sel Set Cmds

Crew Call Set

'Indicator 1'

cmd Set

Verify Indicator 1 – X

Early Comm Overview

'Crew Call'

Verify Crew Call indicator 1 is lit.

3. SETTING CREW CALL INDICATOR 2 (CREW FOR CRITICAL, GROUND FOR NON-CRITICAL)

NOTE

Crew Call Indicator 2 will be

1. Used by the ground to acknowledge the crew's request for a teleconference.
2. Used by the ground to signal its request to begin a teleconference with the crew.
3. Used by the crew conjunction with Crew Call Indicator 1 to signal the readiness of the crew to begin a critical teleconference.

EARLY COMM CREW CALL - PRE LAB

(POC/4A - ALL/FIN)

Page 2 of 2 pages

EPCS

C&T: Early Comm Overview

Early Comm Overview

'Crew Call'

sel Set Cmds

Crew Call Set

'Indicator 2'

cmd Set

Verify Indicator 2 – X

Early Comm Overview

'Crew Call'

Verify Crew Call indicator 2 is lit.

4. **MCC-H** (CATO and ISS GC) sends a time tag command to mode ECS to Low, modes ECS to High, and configures ground to ECS High.
5. Crew and **MCC-H** (Ops Plan) verify two green lights on their respective OCA machines.
6. [CONDUCTING VIDEO TELECONFERENCE \(CREW ONLY\)](#)
Perform {[EARLY COMM VIDEO TELECONFERENCE](#)}, steps 7 --- 10
(SODF: POC: Nominal: Ops LAN).
7. [RESETTING CREW CALL INDICATORS \(GROUND ONLY\)](#)

EPCS

C&T: Early Comm Overview

Early Comm Overview

'Crew Call'

sel Reset Cmds

Crew Call Reset

'Indicator 1'

cmd Reset

Verify Indicator 1 – (blank)

'Indicator 2'

cmd Reset

Verify Indicator 2 – (blank)

Early Comm Overview

'Crew Call'

Verify Crew Call Indicator 1 is off.

Verify Crew Call Indicator 2 is off.

1. VIDEO TELECONFERENCE PREPARATION

If required, perform {EARLY COMM OCA SETUP}, all (SODF: POC: Activation and Checkout: Ops LAN), then:

OCA1

2. VIDEO TELECONFERENCE

sel OCA Proshare Video icon

NOTE
Video Teleconference takes ~30 seconds to start.

3. √Video active in LOCAL window

4. Adjust Thinkpad display tilt-angle, camera position, iris.
Focus so operator's face centered in 'LOCAL' video window.

5. √Picture quality and position

If picture quality poor from LOCAL video window
sel Adjust Video (slide bar icon)

Adjust picture quality as required.

sel Close

If 'Save camera control settings?' appears,
sel Yes button

√ZOOMS IN button (mag glass) in the out position

6. Wait for **MCC** to initiate call.

7. CONDUCTING VIDEO TELECONFERENCE

NOTE
Video teleconference performance may be affected if other applications are active. When teleconference is completed, either side can terminate call. If **MCC-H** has disconnected, 'Hand Up' button will change to 'Dial.'

√Remote video window active, audio active

Move remote video window directly beneath camera.
Use SPLIT button to move window separate from handset.
Adjust audio volume using slide bar under remote video window.

EARLY COMM VIDEO TELECONFERENCE

(POC/2R - ALL/FIN)

Page 2 of 2 pages

8. SET EARLY COMM MODE TO LOW RATE (PRELAB ONLY)

NOTE

MCC-H (ISS GC) will need to configure the ground for Early Comm Low Data Rate after command is sent.

EPCS

C&T: Early Comm Overview

Early Comm Overview

'Command Telemetry Processor'

sel System Mode

Early Comm System Mode

cmd Sys Mode Low Execute

Verify MODE – LO

OCA1 9. sel system menu (upper-left corner)
sel Exit (Alt-Shift-F4)

10. VIDEO TELECONFERENCE TEARDOWN

If required, go to {OCA DEACTIVATION}, all (SODF: POC: Nominal: Ops LAN).

OCA DEACTIVATION

(POC/2R - ALL/FIN)

Page 1 of 2 pages

I

- OCA1
 - 1. Exit OCA applications.
 - 2. Shut down Windows.
 - 3. OCA1 pwr → Off
Expansion Chassis pwr → Off
 - 4. INHIBITING POWER TO OCA1
 - If in FGB
 - FGB 427 (227) | On panel OUTLET PWR-10/3 AMPS (P5C-10/3)
sw → Off
 - If in Node 1
 - Orbiter | N1RS2A RPC 11 OP – ITEM 16 EXEC (*)
 - 5. If in FGB
 - Disconnect data cables from rear of OCA1 only.
If practical, coil cables and stow in the FGB PA with Velcro from the IFM Kit.
Apply Velcro to the FGB PA if necessary; otherwise, stow in the Transfer Bag.
 - Disconnect power cables.
 - If in Node 1
 - Disconnect power and data cables.
- NOD1S4
 - 6. If Node 1 Ops
 - Replace Jumper (P18) on the RF PWR DIST BOX ORU.
- 7. STOWAGE
 - FGB1D114
 - Collapsible Transfer Bag
 - OCA1 Docking Station (Laptop and Expansion Chassis)
 - OCA1 Data Cables
 - EECOM RFPDB18/OCA1 Cable SED16103021-301
 - OCA1 Power Cables
 - ECOMM OCA1 Power Cable SED16103023-301
 - FGB Power Cable SED39134107-301
 - FGB OCA1 ISO Power Cable SED39134120-301
 - Headset
 - Mini-cam
 - Mini-cam Cable
 - Speakers
 - DC power isolator SED39134112-301
 - Coil in FGB PA
 - √OCA1 Data Cables
 - PDGF/OCA1 Cable SED39134125-301
 - Wire Harness Assy 1553 Data Bus 1F74151-1
 - Wire Harness Assy 1553 Data Bus 1F74153-1

OCA DEACTIVATION

(POC/2R - ALL/FIN)

Page 2 of 2 pages

8. ENABLING POWER TO RF PWR DIST BOX ORU

If in Node 1

Orbiter

N1RS2A RPC 11 CL – ITEM 15 EXEC (*)

SSC BATTERY CONDITIONING

(POC/2R - ALL/FIN)

Page 1 of 2 pages

I

CAUTION

Do not perform this procedure with a 28V RS/ORB DC Power Supply. The power supply cannot charge the battery and power the laptop at the same time.

NOTE

1. Each discharge - charge cycle will take approximately 4 hours. The battery will be cycled three times for complete conditioning.
2. The SSC may be used during conditioning.
3. Do not perform this procedure with the SSC File Server.

1. PREPARING SSC

If required, insert the battery to be conditioned.

Perform {**THINKPAD BATTERY CHANGEOUT**}, steps 1 --- 12 (SODF: POC: Nominal: ThinkPad).

If not already accomplished, provide vehicle power to laptop

SSC
Pwr Sply
UOP

- √SSC pwr – Off
- √US DC Pwr Sply sw – Off
- √UOP pwr sw – Off

US DC Power Cable →|← UOP

US DC Power Cable →|← US DC Power Supply (J1)

DC Power Supply Adapter Cable →|← US DC Power Supply (J2)

DC Power Supply Adapter Cable →|← SSC client power port

UOP
Pwr Sply
SSC

- UOP pwr sw → On
- US DC Pwr Sply sw → On
- SSC pwr → On

Input personal login name and password.

sel OK

2. CONDITIONING APPLICATION

sel Station Apps icon from desktop

sel ThinkPad folder icon

sel Fuel icon

SSC BATTERY CONDITIONING

(POC/2R - ALL/FIN)


Page 2 of 2 pages

3. DISCHARGE - CHARGE CYCLE

NOTE

Do not shut down Windows or power off the SSC during the discharge - charge cycle.

Fuel

sel discharge icon 

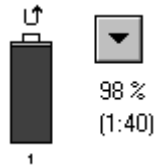
Information

sel OK

Information

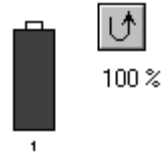
sel OK

Verify battery charge % decreasing.



Fuel

Wait until discharge - recharge cycle has completed, and verify battery recharged back to 100 %.



Perform step 3, a total of three times.

Fuel

Close Fuel window.

NOTE
√**MCC** to ensure no OCA uplink in progress

SSC FS 1. LOGGING ON TO FILE SERVER

√SSC FS pwr – On

Begin Logon

If file server was just powered on, wait 2 minutes to allow services to load to before proceeding.

Press [Ctrl+Alt+Delete] to logon.

Logon Information

Input standard File Server logon information.

sel OK

2. INSTALLING PC HARD CARD AND PERFORMING BACKUP

NOTE
1. Do not run additional programs on the SSC File Server while performing backup.
2. Backup should take 1 --- 15 minutes depending upon number of files.

If backing up only files that have changed since the last backup
Insert PC Hard Card labeled “File Server Incremental Backup” into PCMCIA slot extender.

Insert PCMCIA slot extender into laptop.

PC Card Director for Windows NT

sel OK

sel Incremental Backup icon from desktop

sel OK

If replacing all backup data sets

Insert PC Hard Card labeled “File Server Full Backup” into PCMCIA slot extender.

Insert PCMCIA slot extender into laptop.

PC Card Director for Windows NT

sel OK

sel Full Backup icon from desktop

sel OK

Verify

SSC DATA BACKUP

(POC/2R - ALL/FIN)

Page 2 of 2 pages

sel Yes

Verify the hard disk indicator is
active on the keyboard LCD screen



Complete

sel OK

Eject PCMCIA slot extender.

PC Card Director for Windows NT

sel OK

Disconnect PC Hard Card from PCMCIA slot extender.
Stow "File Server Backup" PC Hard Card.

NOTE
√**MCC** to ensure no OCA uplink in progress

1. LOGGING ON TO FILE SERVER

SSC FS √SSC FS pwr – On

Begin Logon

If file server was just powered on, wait 2 minutes to allow services to load to before proceeding with logon.

Press [Ctrl+Alt+Delete] to logon.

Logon Information

Input standard File Server logon information.

sel OK

2. INSTALLING BACKUP PC HARD CARD AND PERFORMING RESTORE

Based on the last known backup of required files, insert PC Hard Card labeled “File Server Full Backup” or “File Server Incremental Backup” into a PCMCIA slot extender.

Insert the PCMCIA slot extender into the laptop.

PC Card Director for Windows NT

sel OK

sel UltraBac icon from desktop

UltraBac

sel OK

UltraBac Single Server Edition (RESTORE) Disk0 f:\

sel Restore | Load Index From Storage Media

UltraBac – Select Backup Set

sel Search Media

Based on date of backup, select backup set from the description field containing file(s) to be restored.

sel Load Set

UltraBac Single Server Edition (RESTORE)

SSC DATA RESTORE

(POC/2R - ALL/FIN)

Page 2 of 2 pages

If a single file is desired

In left window pane, navigate to file(s) to be restored.

In right window pane, select blue box next to file name (blue check mark will appear).

If multiple files are desired

In left window pane

sel folder containing files

sel Include

Input mask to select certain types of files or leave " * " to select all files in folder.

sel Use Mask

sel Perform Restore

UltraBac - Restore File(s)

sel Restore

If overwriting a file that already exists on hard drive

Duplicate File

sel Overwrite

UltraBac - Statistics

Verify 'Files Processed/Selected:' is same number for both values.

sel Close

UltraBac Single Server Edition (RESTORE)

sel Restore | Exit

Eject PCMCIA slot extender.

PC Card Director for Windows NT

sel OK

Disconnect PC Hard Card from PCMCIA slot extender.

Stow "File Server Backup" PC Hard Card.

SSC LATE UPDATE

(POC/2R - ALL/FIN)

Page 1 of 1 page

I

- SSC
1. If SSC Client
Logon with personal logon or input Crewmember for User name.
If SSC File Server
Logon with FServer for User name.
 2. Perform {SSC PCMCIA CARD CHANGEOUT}, all (SODF: POC: Nominal: Ops LAN), then:
Insert PC Hard Card labeled "SSC Late Update."
 3. If SSC Client
Select Station Apps folder from desktop.
Select PC Card Late Update icon to launch software update file.
If SSC File Server
Select PC Card Late Update icon from desktop.

Verify

4. Acknowledge update message.

Complete

5. sel OK

6. If SSC Client
Perform {SSC PCMCIA CARD CHANGEOUT}, all (SODF: POC: Nominal: Ops LAN), then:
Reinsert network PCMCIA card.
If SSC File Server
Shut down file server.
sel Start | Shut Down | Shut Down | OK
After Shutdown Computer screen appears
SSC FS pwr sw → Off

CAUTION

PC Hard Card may be hot.

Eject and stow SSC Late Update PC Hard Card.
Insert previously removed PCMCIA card(s).
SSC FS pwr sw → On

7. Repeat procedure for each SSC client, OCA1, and File Server.

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SSC NETWORK TIME UPDATE

(POC/2R - ALL/FIN)

Page 1 of 1 page

I

1. LOGGING ON TO FILE SERVER

SSC FS √SSC FS pwr – On

Begin Logon

If file server was just powered on, wait 2 minutes to allow services to load to before proceeding with logon.

Press [Ctrl+Alt+Delete] to logon.

Logon Information

Input standard File Server logon information.

sel OK

2. OBTAINING AND ENTERING CURRENT TIME

PCS From PCS or other onboard clock, obtain current GMT.

SSC FS Select the clock from system tray.

Date/Time Properties

Manually adjust time to match PCS or other time source.

sel OK

3. BROADCASTING SERVER TIME TO CLIENTS

NOTE

To receive the time update, a client computer must have to be powered on and logged into.

SSC (1- x) If required, boot and logon to all SSC client computers requiring time update.

SSC FS sel Ops LAN Time Update icon from desktop

OPS LAN Time Synchronization

Verify time broadcasts for 2 minutes.

SSC (1- x) Verify time on client matches time on server.

NOTE

The server time is scheduled to be broadcast to the network automatically every day at noon GMT.

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SSC PCMCIA CARD CHANGEOUT

(POC/2R - ALL/FIN)

Page 1 of 1 page

I

SSC

1. If SSC client, √Pwr – On

1.1 Select PCMCIA Card icon  from system tray.

1.2 Select the name of the PCMCIA device to be removed.

1.3 sel Stop

1.4 Wait while system stops card drivers, ~30 seconds.

1.5 √'You may safely remove this device' message appears

1.6 sel OK

1.7 Close window.

sel OK

2. Depress release button to eject PCMCIA card(s) from PCMCIA card slot(s).

3. If SSC File Server

sel OK

4. Insert desired PCMCIA card.

5. If SSC File Server

sel OK

If SSC Client

√PCMCIA Card icon  reappears in system tray

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CAUTION
While operating with the RS\ORB 28 - 20V power supply, the battery will discharge even while plugged in. Do not allow the battery to drop below 1 % to avoid possible laptop hardware damage.

Perform Site Survey with an SSC Client: either SSC 1, SSC 2, or SSC3.

SSC Insert battery.

√Battery is Charged > 85 %

If Battery not charged, allow Battery to Charge to > 85 %.

SSC FS √SSC FS pwr – On
√RF Network Card is properly inserted

1. RUNNING SITE SURVEY APPLICATION

<u>NOTE</u>
1. For Site survey experiment SSC File Server needs to remain powered on. SSC1(2)(3) should be used to record data at different data points in SM, FGB and N1.
2. Do not run the Site Survey application on more than one SSC at a time.

SSC sel Station Apps folder from Desktop
sel RF OPSLAN Utilities folder
sel RangeLan2 Site Survey & Configuration Tool icon

RangeLAN2 Site Survey & Configuration Tool

sel Site Survey... button

Site Survey

sel the master graphical antenna button

Directed Link

√Packet Size Bytes: 1500

2. RECORDING BASELINE DATA SET

<u>NOTE</u>
The Baseline data set is mandatory and should be recorded within one meter of the File Server.

Use Table 1 and perform data take 00 (Baseline Reading).
Rotate laptop antenna until highest signal strength is observed.
Log Packets/sec and Received Signal Strength data.

SSC RF LAN SITE SURVEY

(POC/2R - ALL/FIN)

Page 2 of 4 pages

3. PREPARING TO RECORD ROAMING DATA SET

Pwr Sply RS DC Pwr Sply sw → Off

PCR PCR pwr sw → Off

RS DC Pwr Sply Adapter Cable ←|→ SSC power port
Allow SSC to run on battery power.

4. RECORDING SM DATA SET

At each data point, rotate laptop antenna until highest signal strength is observed.

Use Table 1 to log unobstructed centerline value (mandatory), then look for potentially obstructed areas and record data sets (highly desired).

Table 1. SM Data Takes

	Location and Description		Packets/ Sec	Received Signal Strength %
00	Baseline Reading	Near File Server (M)		
01	SM Working Compartment	Unobstructed Centerline (M)		
02	SM Working Compartment (Obstructed Area)			
03	SM Working Compartment (Obstructed Area)			
04	SM Working Compartment (Obstructed Area)			
05	Transfer Tunnel	Unobstructed Centerline (M)		
06	Transfer Tunnel (Obstructed Area)			
07	Transfer Tunnel (Obstructed Area)			
09	Internal Pressurized Adapter	Unobstructed Centerline (M)		
10	Internal Pressurized Adapter (Obstructed Area)			
11	Internal Pressurized Adapter (Obstructed Area)			
12	Internal Pressurized Adapter (Obstructed Area)			

SSC RF LAN SITE SURVEY

(POC/2R - ALL/FIN)

Page 3 of 4 pages

5. RECORDING FGB DATA SET

At each data point, rotate laptop antenna until highest signal strength is observed.

Use Table 2 to log unobstructed centerline value (mandatory), then look for potentially obstructed areas and record data sets (highly desired).

Table 2. FGB Data Takes

	Location and Description		Packets/ Sec	Received Signal Strength %
01	Instrument Module 2	Unobstructed Centerline (M)		
02	Instrument Module 2 (Obstructed Area)			
03	Instrument Module 2 (Obstructed Area)			
04	Instrument Module 2 (Obstructed Area)			
05	Instrument Module 1	Unobstructed Centerline (M)		
06	Instrument Module 1 (Obstructed Area)			
07	Instrument Module 1 (Obstructed Area)			
08	Instrument Module 1 (Obstructed Area)			
09	Instrument Module 3	Unobstructed Centerline (M)		
10	Instrument Module 3 (Obstructed Area)			
11	Instrument Module 3 (Obstructed Area)			
12	Instrument Module 3 (Obstructed Area)			
13	Mini Pressurized Adapter	Unobstructed Centerline (M)		
14	Mini Pressurized Adapter (Obstructed Area)			
15	Mini Pressurized Adapter (Obstructed Area)			
16	Mini Pressurized Adapter (Obstructed Area)			

SSC RF LAN SITE SURVEY

(POC/2R - ALL/FIN)

Page 4 of 4 pages

6. RECORDING N1 DATA SET

At each data point, rotate laptop antenna until highest signal strength is observed.

Use Table 3 to log unobstructed centerline value (mandatory), then look for potentially obstructed areas and record data sets (highly desired).

Table 3. N1 Data Takes

	Location and Description	Packets/Sec	Received Signal Strength %
01	Unobstructed Centerline (M)		
Potentially Obstructed Areas			
02			
03			
04			
05			
06			
07			

7. EXITING SITE SURVEY PROGRAM

sel Done

sel Done

sel Exit

8. RECHARGING AND REMOVING BATTERY

Shut down Windows

√SSC pwr sw – Off

Wait for battery to charge to 100 %.

Remove and stow battery:

Perform {**THINKPAD BATTERY CHANGEOUT**}, steps 2 --- 9 (SODF:
POC: Nominal: Thinkpad).

NOTE

1. The hard drive will be completely overwritten during this procedure.
2. This procedure does not apply to the OCA1 laptop, PCS, or the RS laptops.

Unstow:

Thinkpad AutoLoader floppy diskette
SSC Reload CD ROM disk
External floppy disk drive

1. RELOADING HARD DRIVE FROM DISK IMAGE

- 1.1 Save any personal files to the server or personal hard card.
- 1.2 $\sqrt{\text{MCC}}$ for current version of software load
- 1.3 Shut down operating system.
- 1.4 Thinkpad pwr → Off
- 1.5 Connect external floppy drive to laptop.
- 1.6 Insert "AutoLoader" floppy diskette.
- 1.7 Thinkpad pwr → On
- 1.8 Insert SSC Reload CD ROM containing new software load.

NOTE

1. The reload process is automatic and will take 15 --- 30 minutes to complete.
2. The computer may reboot several times during this process.

- 1.9 When on-screen prompt appears, eject and stow floppy and CD ROM disks.
- 1.10 Thinkpad pwr → Off
- 1.11 If required, insert network PCMCIA card.
- 1.12 Thinkpad pwr → On

2. CONFIGURING SSC CLIENT UNIQUE PARAMETERS

If reloading and SSC Client:

If the message '**Window Protection Error. You need to restart your computer**' appears

Thinkpad pwr → Off

Thinkpad pwr → On

When '**Microsoft Windows95 Start Menu**' message appears, press [1], [Enter] to enter normal boot mode.

2.1 Input standard crew personal or generic logon information.

sel OK

2.2 sel Yes to run Unique Client Configuration Program

NOTE

Each computer on the network whether powered on or off, must have a unique computer name.

2.3 sel a unique computer name (SSC1 – SSC7)

2.4 sel Uppdate

2.5 Verify computer name.

sel OK

2.6 sel Yes to restart Windows

<p><u>NOTE</u></p> <p>The maximum size for one file transfer is 8 Megabytes (MB) and the size of each file must be an even number of bytes.</p>

1. OPENING FILE TRANSFER WINDOW

PCS

PCSCDS Main Control Panel

sel Commands
sel File Transfer

File and Memory Transfer

<p><u>NOTE</u></p> <p>At this point, decide which file transfer to perform. The options include</p> <ol style="list-style-type: none"> 1. <u>Get a File Function</u> - initiate a direct file or directory listing transfer from the C&C MDM or Payload MDM to PCS. 2. <u>Put a File Function</u> - initiate a direct file transfer from PCS to the C&C MDM or Payload MDM. 3. <u>Indirect File Transfer Function</u> - initiate an indirect file transfer between the C&C MDM and the Payload or JEM MDMs, between prime and backup C&C MDMs, or between prime and backup Payload MDMs. 4. <u>Indirect Data Load Function</u> - initiate an indirect transfer of a file from the C&C MDM to the memory of the GN&C MDMs, LAB CEU, or Cupola CEU.

To perform the Get a File Function, go to step 2.
To perform the Put a File Function, go to step 3.
To perform the Indirect File Transfer Function, go to step 4.
To perform the Indirect Data Load Function, go to step 5.

2. GETTING A FILE FUNCTION

PCS

File and Memory Transfer

sel Commands
sel Get a File

Get Remote File

sel Source Node (MDM that PCS is connected to)
sel Abort on MSD Read Error
sel True

'Source is Directory'
True – for directory listing transfer
False – for file transfer

ONBOARD FILE TRANSFER

(POC/4A - ALL/FIN)

Page 2 of 4 pages

NOTE

Due to limitations on the MDM, the source and target directory paths specified during transfers are limited to a total of 96 characters each. In addition, each directory and file name is limited to 32 characters.

Input Source Directory and Source File (if applicable) by keyboard or by File Select button.

Input Target Directory and Target File by keyboard or by File Select button.

sel Apply

Go to step 6.

3. PUT A FILE FUNCTION

PCS

File and Memory Transfer

sel Commands

sel Put a File

Put Remote File

NOTE

1. Direct file transfers from the C&C MDM to PCS are only available if PCS is connected directly to the C&C MDM (i.e., not available in pass-through mode).
2. Due to limitations on the MDM, the source and target directory paths specified during transfers are limited to a total of 96 characters each. In addition, each directory and file name is limited to 32 characters.

Input Source Directory and Source File by keyboard or by File Select button.

sel Target Node (MDM that PCS is connected to)

Input Target Directory and Target File by keyboard or by File select.

sel Apply

Go to step 6.

4. INDIRECT FILE TRANSFER FUNCTION

PCS

File and Memory Transfer

sel Commands

sel Indirect File Transfer

ONBOARD FILE TRANSFER

(POC/4A - ALL/FIN)

Page 3 of 4 pages

Indirect File Transfer

NOTE

Only certain combinations of source and target nodes are available for indirect transfers (i.e., files cannot be transferred from the JEM RMS to the P/L Prime). When the source node is set to Unselected, all target nodes are available for selection. Once a source node is selected, only the applicable target nodes are available. The same is true for the target node. When the target node is set to Unselected, all source nodes are available for selection. Once a target node is selected, only the applicable source nodes are available.

sel Source Node (MDM to transfer from)
sel Target Node (MDM to transfer to)

NOTE

Due to limitations on the MDM, the source and target directory paths specified during transfers are limited to a total of 96 characters each. In addition, each directory and file name is limited to 32 characters.

Input Source Directory and Source File by keyboard.
Input Target Directory and Target File by keyboard.

sel Apply

Go to step 6.

5. INDIRECT DATA LOAD FUNCTION

PCS

File and Memory Transfer

sel Commands
sel Indirect Data Load

Indirect Data Load

NOTE

This function is not available when PCS is connected to the Payload MDM.

sel Source Node – C&C Prime
sel Target Node (Platform to transfer to)

NOTE

Due to limitations on the MDM, the source and target directory paths specified during transfers are limited to a total of 96 characters each. In addition, each directory and file name is limited to 32 characters.

ONBOARD FILE TRANSFER

(POC/4A - ALL/FIN)

Page 4 of 4 pages

Input the Source Directory and Source File by keyboard.
Input the Starting Address for the memory location on the Target Node to
hold the transferred file.
Input the File Length of the file being transferred.

sel Apply

6. MONITORING THE FILE AND MEMORY TRANSFER

PCS

'Active Transfers'

Verify Transfer status – OK

Wait 4 minutes per megabyte of file size to be transferred.

'Completed Transfers'

Verify Transfer Status – COMPLETED

To perform another file transfer, go to step 1.

sel Commands

sel Close

sel Yes

1. POWERING DOWN PCS

Close all display windows.

Disconnect CDS from MDM.

Close CDS window.

At the taskbar on bottom of display,
sel EXIT

On Logout Confirmation window
sel OK

When '**Type any key to continue**' message appears

If shuttle AFD

PCS PCS 1,2 Thinkpad pwr sw → Off

Pwr Sply PCS1 28V DC Pwr Sply sw → Off (Lt Off)
PCS2 28V DC Pwr Sply sw → Off (Lt Off)

A15 MNC DC UTIL PWR (J2) → Off

L12/A3 PDIP DC POWER 2 → Off

If in SM

PCS PCS Thinkpad pwr sw → Off
Pwr Sply PCS 28V DC Pwr Sply sw → Off (Lt Off)

If in FGB

PCS PCS Thinkpad Pwr sw → Off
Pwr Sply PCS 28V DC Pwr Sply sw → Off (Lt Off)
PEC-10/3 On Panel OUTLET PWR 10/3 AMPS (PEC-10/3) sw → OFF

2. DISCONNECTING EPCS POWER AND DATA CABLE

If shuttle AFD

L12/A3 Disconnect both ORB 1553 Data Cables 8' from N1-1 (J103) and
N1-2 (J107) and from the 1553 PC Card Adapter Cables.

Disconnect both the ORB DC Power Cable 6' and ORB DC Power
Cable 10' from the RS/ORB DC power supply (J1) and the ORB DC
outlets.

Disconnect both the ORB Power Supply Adapter Cable 10' from the
PCS DC power outlet and the RS/ORB DC power supply (J2).

PCS DEACTIVATION

(POC/4A - ALL/FIN)

Page 2 of 2 pages

- Pwr Sply

If in SM

Disconnect RS DC Power and 1553 Cable 8' to PCR outlet and the RS/ORB DC power supply outlet (J1) and the 1553 PC Card Adapter Cable.

Disconnect the ORB Power Supply Adapter Cable 10' from the RS/ORB DC power supply outlet (J2) and from the PCS.

If in FGB

Disconnect RS DC Power and 1553 Cable 8' to PCR outlet and the RS/ORB DC power supply outlet (J1) and the 1553 PC Card Adapter Cable.

Pwr Sply

Disconnect the ORB Power Supply Adapter Cable 10' from the RS/ORB DC power supply outlet (J2) and from the PCS.

P5C -10/3

Disconnect the cable, protruding from the GNC 2/RS Bus 8 (GNC 1/RS Bus 7) panel (cables are labeled 77KM-2120-1670 and 77KM-2120-2190, respectively), from the 10A connector on panel OUTLET PWR 10/3 AMPS (P5C-10/3).

3. STOWING PCS

- MF71M

PCS Thinkpads (two)

20V DC Power Cables 10' (two)

1553 Card and 22-inch Adapter Card (two)

If shuttle AFD

 - Stow ORB DC Power Cable 6' (one)
 - ORB DC Power Cable 10' (one)
 - ORB 1553 Data Cables 8' (two)
 - RS/ORB DC Power Supplies (two)

If ISS RS

 - Stow RS DC Power and 1553 Cable 8' in the FGB.
 - RS/ORB DC Power Supply (one)

PCS

1. CDS LOGS DUMP

If PCSCDS Main Control Panel is an icon,
double-click the 'cds_ui' icon to restore it.

PCSCDS MAIN CONTROL PANEL

sel File
sel Update Log Files

2. SAVE LOGS

sel Arrow directly above PCS logo
sel Save Logs

PCS save logs

Disregard text.
Press enter.

NOTE

1. The format to use for naming the directory is:
[userinitials] logs [flight day]
2. Use a different directory name each time you save the logs. If the logs need to be saved more than once in a flight day, append the directory name with an underscore and a number starting at "1" and increment each time that the logs are saved that day. An example directory name would be:
abclogs07_2

Enter directory name.
Press enter.

Verify message – Save logs completed

Press enter.

PCS

3. BRINGING UP A TERMINAL WINDOW

Right-click anywhere on empty desktop space.

sel Programs
sel Terminal...

PCS LOG FILE SAVE

(POC/4A - ALL/FIN)

Page 2 of 2 pages

4. VERIFYING THE LOGS HAVE BEEN SAVED

Type 'cd <directory name>'.

Type 'ls -l'.

Verify Runtime_files/ and logs/ are in the directory.

Close terminal window.

5. Inform **MCC-H** with the directory name.

1. CDS SHUTDOWN

If PCS does not accept inputs from the keyboard or mouse, go to step 3.

If PCS does accept inputs from the keyboard or mouse,
Close all display windows.
Disconnect CDS from MDM.
Close CDS Window.

2. SOLARIS EXIT

On taskbar at bottom of display
sel EXIT
sel OK
Wait for **'type any key to continue.'**

3. TURNING OFF POWER

PCS Thinkpad pwr sw → Off

4. TURNING ON POWER

PCS Thinkpad pwr sw → On

5. CONNECTING PCS TO MDM DATA

PCS2

After bootup, when taskbar appears at bottom of display
sel Arrow directly above PCS logo
sel Start/Restart PCS CDS
sel Icon to open PCSDCS Main Control Panel Window

√Status Box is green and **'Connected'** is displayed in the PCSCDS
Main Control Panel Window

Iconify PCSCDS Main Control Panel Window.

If Status Box is not green, select
CONNECT TO MDM button.

6. CONFIGURING PCS FOR DISPLAYS

<p style="text-align: center;"><u>NOTE</u> After PCSCDS has been selected, wait 30 seconds before starting CDDF displays.</p>

sel Arrow above PCS logo
sel Start PCS CDDF display

After approximately 1 minute, √**'PCS Home Page'** is displayed

If GMT - <static> or telemetry fields in Caution &
Warning toolbar are cyan, go to {PCS RECONNECT},
all (SODF: POC: Nominal: PCS).

Displays may now be selected as desired.

1. CDDF AND CDS SHUTDOWN

Close all display windows.
Disconnect CDS from MDM.
Close CDS window.

2. CONNECTING PCS TO MDM DATA

sel Arrow directly above PCS logo
sel Start/Restart PCS CDS

NOTE

1. A pop-up window will appear if the internal PCS is more than 60 seconds different from the RS time. If this window appears, select 'use RS time'.

2. A pop-up window may appear saying that the CW Server failed to start and it will be retried every 15 seconds. Select OK to remove it.

sel Icon to open PCSCDS Main Control Panel Window

√Status Box is green and '**Connected**' is displayed in the PCSCDS Main Control Panel Window

Iconify PCSCDS Main Control Panel Window.

If Status Box is not green, select
CONNECT TO MDM button.

3. PCS FOR DISPLAYS CONFIGURATION

NOTE

After PCSCDS has been selected, wait 30 seconds before starting CDDF displays.

sel Arrow above PCS logo
sel Start PCS CDDF display

After approximately 1 minute, √'**PCS Home Page**' is displayed.

If GMT – <static> or telemetry fields in Caution & Warning toolbar are cyan, √**MCC-H**.

Displays may now be selected as desired.

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1. OPENING SNAPSHOT WINDOW

Move the pointer to an open area on the desktop.
Press the right mouse button.

sel Programs
sel Snapshot...

2. TAKING SNAPSHOT

Snapshot V3.X

sel box next to 'Hide Window During Capture'
sel Snap

NOTE

When you click on the window, the Snapshot Window will disappear for 8 --- 16 seconds. Once it has reappeared, you may proceed.

Click on the window you want to take a snapshot of.

3. SAVING SNAPSHOT

NOTE

The image file will be saved in the /export/home/PCUser directory.

Snapshot V3.X

sel View...

Image Tool V3.X File: Untitled

sel File
sel Save As...

Image Tool: Save As

'File Format'

sel Sun Raster
sel JFIF (JPEG)

Save As...

Type over 'Untitled1' with the name that you wish to call the image followed by '.jpg'.

NOTE

There will be a popup window with the message
**'Saving to the JFIF(JPEG) file format may result
in a loss of data. Do you want to continue?'**
The difference is negligible and can be ignored.

sel Save
sel Yes

4. CLOSING THE IMAGE TOOL AND SNAPSHOT WINDOWS

Double-click the leftmost box on the tile bar of the Image Tool and
Snapshot Windows.

5. HOW TO RETRIEVE AND VIEW THE IMAGE

Right-click on any empty space on the desktop.

sel Programs
sel Image Viewer
sel File
sel Open...
sel the desired file
sel OK

Close Image View - Palette window.

- 1. UNSTOWING PCS
- MF71M PCS Thinkpads (two)
- ORB Power Supply Adapter cable 10' (two)
- 1553 PC Card w/Adapter Cable 22in (two)
- If ISS RS
 - RS DC Power and 1553 Cable 8' (one)
 - RS/ORB DC Power Supply (one)

- 2. VERIFYING POWER OFF
- If in SM
 - Pwr Sply | √PCS 28V DC pwr sply sw – Off
- If in FGB
 - Pwr Sply | √PCS 28V DC power supply sw – Off
 - √On Panel OUTLET PWR-10/3 AMPS (P5C-10/3), sw → OFF

3. MAKING PCS POWER AND DATA CABLE CONNECTIONS

Connect 22in Adapter Cable to the 1553 PC Card for both PCSs. Insert 1553 PC Card into either PCS PCMCIA slot for both PCSs.

If in SM

- Connect RS DC Power and 1553 Cable 8' to receptacle on panel GNC 2/RS Bus 8 (GNC 1/RS Bus 7), and 28V DC power supply outlet (J1) and 22in Adapter Cable.

Connect the ORB Power Supply Adapter Cable 10' to the PCS and to the RS/ORB DC power supply outlet (J2).

If in FGB

- Connect RS DC Power and 1553 Cable 8' to receptacle on panel GNC 2/RS Bus 8 (GNC 1/RS Bus 7), and 28V DC power supply outlet (J1) and 22in Adapter Cable.

Connect the ORB Power Supply Adapter Cable 10' to the PCS and to the RS/ORB DC power supply outlet (J2).

Connect the cable protruding from the GNC 2/RS Bus 8 (GNC 1/RS Bus 7) panel (cables are labeled 77KM-2120-1670 and 77KM-2120-2190, respectively) to the 10A connector on panel OUTLET PWR 10/3 AMPS (P5C-10/3).

4. TURNING ON PCS

- If in SM
 - 28V DC pwr sply sw → On (Lt On)
- If in FGB
 - 28V DC power supply sw → On (Lt On)
 - Pwr Sply On panel OUTLET PWR-10/3 AMPS (P5C-10/3), sw → ON
 - PCS PCS Thinkpad pwr sw → On

5. CONNECTING PCS TO MDM DATA (IF MDMs ARE UP AND RUNNING)

PCS2

After bootup when taskbar appears at bottom of display

sel Arrow directly above PCS logo (as required)

sel Start/Restart PCS CDS (as required)

NOTE

1. A pop-up window will appear if the internal PCS time is more than 60 seconds different from the RS time. If this window appears, select "Use RS Time".
2. A pop-up window may appear saying that the CW Server failed to start and it will be retried every 15 seconds. Select OK to remove it.

sel Icon to open PCSCDS Main Control Panel Window (as required)

√Status Box is green and **'Connected'** is displayed in the PCSCDS Main Control Panel Window (as required)

Iconify PCSCDS Main Control Panel Window.

 If Status Box is not green, select CONNECT TO MDM button if the MDMs are on.

NOTE

1. PCS connection to MDM is indicated by green in the Status Box and **'Connected'** message displayed in the PCSCDS Main Control Panel Window only when the associated Node MDM is up and running as the Primary MDM.
2. If MDMs are not up and running and step 5 is executed, expect a PCS **'CW Server Error Msg'** and a **'CDS Signon Fail'**.
3. After connected to the MDMs if the PCS displays **'The MDM Connection has failed'**, open the PCSCDS Main Control Panel Window and select CONNECT TO MDM button to reconnect. If no joy, close all displays and anything iconified and redo step 5. If still no joy, perform {LOSS OF PCS TELEMTRY}, all (SODF: C&DH: Malfunction: PCS).

6. CONFIGURING PCS FOR DISPLAYS (AS REQUIRED)

NOTE

After PCSCDS has been selected, wait 30 seconds before starting CDDF displays.

sel Arrow above PCS logo
sel Start PCS CDDF display

After approximately 1 minute, √**PCS Home Page** is displayed.

If GMT - <static> or telemetry fields in Caution & Warning toolbar are cyan, perform {**PCS RECONNECT**}, all (SODF: POC: Nominal: PCS).

Displays may now be selected as desired.

Inform **MCC-H** when complete.

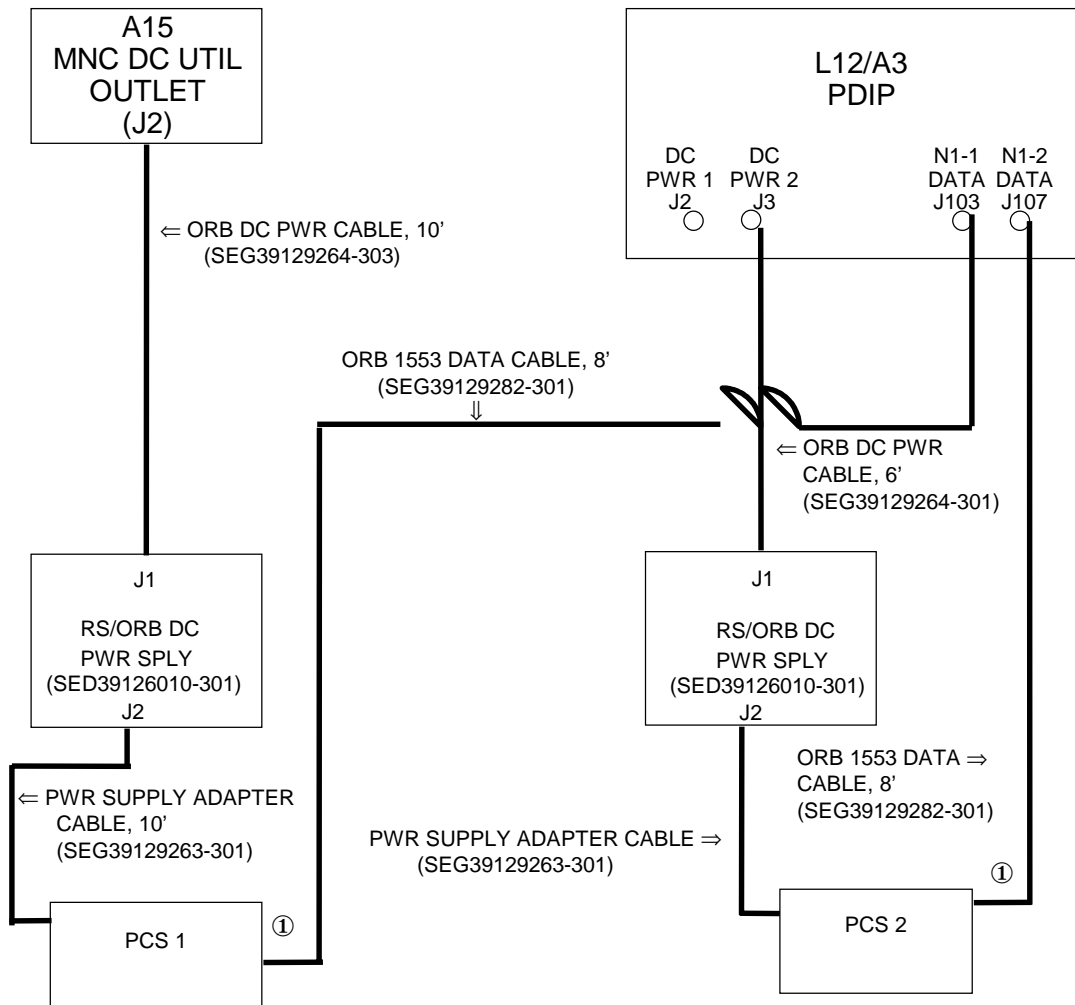


Figure 1.- AFD PCS Configuration.

NOTE

The 1553 Data Cable I/Fs with a 22in pigtail connector (Ch A and B) connects to the 1553 Card that inserts into the PC Card PCMCIA upper slot in the PCS.

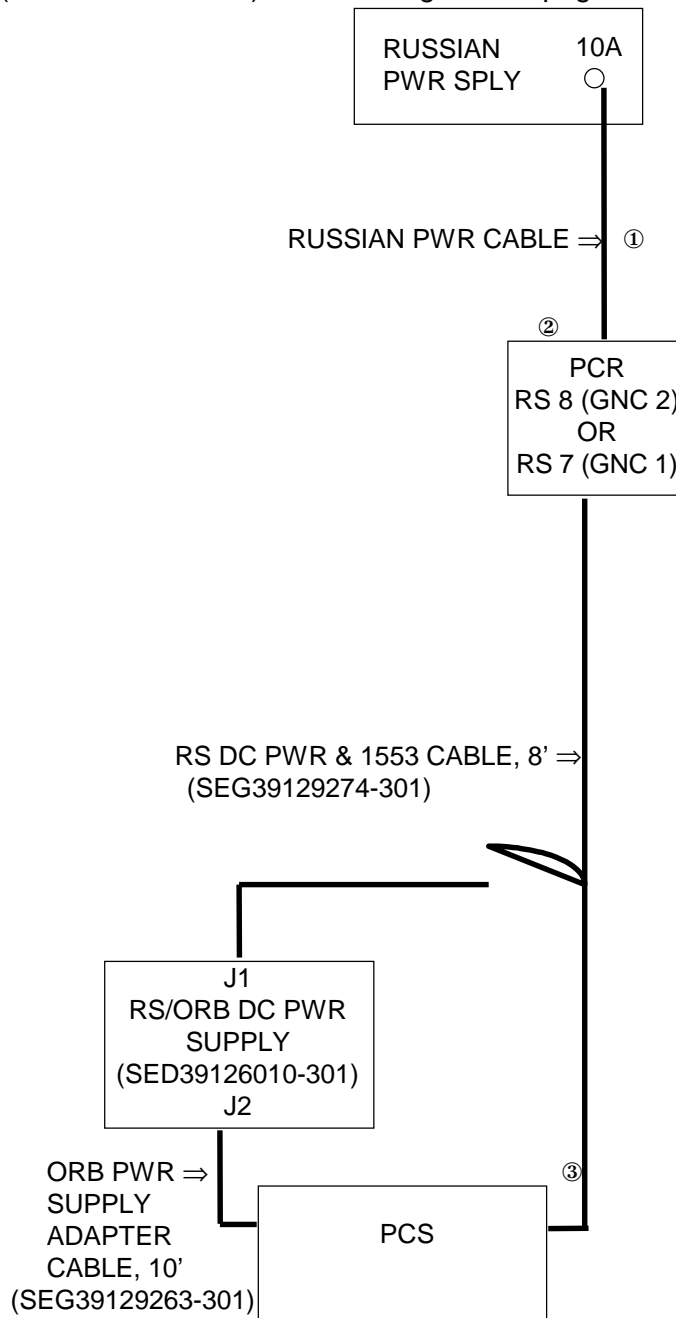


Figure 2.- FGB PCS Configuration.

NOTE

1. The Russian power cable is fixed in place and only needs to be connected to the Russian 10A power outlet.
2. If N1-2 is Primary, connect to PCR RS 8 (GNC-2) for data. If N1-1 is Primary, connect to PCR RS 7 (GNC-1) for data.
3. The 1553 Data Cable I/Fs with a 22in pigtail connector (Ch A and B) connects to the 1553 Card that inserts into the PC Card PCMIA upper slot in the PCS.

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TRANSFERRING LOG FILES TO FLOPPY DISK

I

(POC/4A - ALL/FIN)

Page 1 of 1 page

1. PERFORMING PCS LOG FILES SAVE

Perform {PCS LOG FILE SAVE}, all (SODF: POC: Nominal: PCS), then:

2. RUNNING COPY LOGS TO FLOPPY UTILITY

sel Arrow directly above PCS logo

sel Copy PCS logs to floppy

Press Enter.

If no disk in drive, insert diskette, try again.

If no floppy drive attached, shutdown, attach floppy drive, and reboot.

If floppy drive is attached after boot up, shutdown and reboot.

If floppy drive not seated properly, shutdown, re-seat, and reboot.

Input directory name from list of available directories listed in the Terminal window.

sel OK

Verify Copy logs to floppy complete.

Press Enter.

Manually Eject Floppy Disk.

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THINKPAD BATTERY CHANGEOUT

(POC/2R - ALL/FIN)

Page 1 of 1 page

I

CAUTION

While operating with the RS\ORB 28 - 20V power supply, the battery will discharge even while plugged in. Do not allow the battery to drop below 1 % to avoid possible laptop hardware damage.

- Thinkpad 1. Exit all applications and shut down the operating system.
2. ✓ Thinkpad pwr – Off
- Pwr Sply 3. RS/ORB DC Pwr Sply sw → Off
- UOP 4. UOP pwr sw → Off
- Thinkpad 5. Tilt screen back 180° position.
6. To tilt keyboard up, lift up on near corners of keyboard while sliding both side latches towards rear of Thinkpad.
- If CD ROM installed
7. Remove and temporary stow CD ROM drive (left compartment component).
Lift blue plastic tabs to unseat handle.
Firmly pull component out by center of handle.
8. To remove battery (center compartment component), grasp blue tab on battery, pull toward front of laptop, and lift up.
9. Stow removed battery.
10. If required, insert new battery.
11. If CD ROM required, insert CD ROM drive aligning connectors and pressing ONLY on top edge of drive.
Rotate handle back under lip.
12. Lower keyboard and press down on near corners of keyboard to close.
- UOP 13. UOP pwr sw → On
- Pwr Sply 14. RS/ORB DC Pwr Sply sw → On
- Thinkpad 15. Thinkpad pwr → On

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THINKPAD CD ROM/FLOPPY DRIVE CHANGEOUT

(POC/2R - ALL/FIN)

Page 1 of 1 page

I

- Thinkpad 1. Exit all applications and shut down the operating system.
2. √Thinkpad pwr – Off
3. RS/ORB DC Pwr Sply sw → Off
- UOP 4. UOP pwr sw → Off
- Thinkpad 5. Tilt screen back 180° position.
6. To tilt keyboard up, lift up on near corners of keyboard while sliding both side latches towards rear of Thinkpad.
7. Remove and stow left-side compartment component (CD-ROM drive or floppy drive)
Lift blue plastic tabs to unseat handle.
Firmly pull component out by center of handle.
8. Insert new component
Align connectors and press ONLY on top edge of drive.
Rotate handle back under lip.
9. Lower keyboard and press down on near corners of keyboard to close.
- UOP 10. UOP pwr sw → On
- Pwr Sply 11. RS/ORB DC Pwr Sply sw → On
- Thinkpad 12. Thinkpad pwr → On

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- Thinkpad 1. Exit all applications and shut down the operating system.
2. ✓ Thinkpad pwr – Off
3. If Expansion Unit attached, Expansion Unit pwr → Off
- Pwr Sply 4. RS/ORB DC Pwr Sply sw → Off
- UOP 5. UOP pwr sw → Off
6. Tilt screen back 180° position.
- Thinkpad 7. To tilt keyboard up, lift up on near corners of keyboard while sliding both side latches towards rear of Thinkpad.
8. Remove and temporary stow left-side component (CD-ROM drive)
Lift blue plastic tabs to unseat handle.
Firmly pull component up and out by center of handle.
9. If installed, remove and temporary stow center component (battery) using blue tab lift up and towards front of laptop.
10. Remove and stow right-side component (hard drive)
Lift blue plastic tabs to unseat handle.
Firmly pull component up and out by center of handle.
11. Insert new hard drive
Align connectors and press ONLY on top edge of drive.
Rotate handle back under lip.
12. Reinsert center component (battery).
13. Reinsert left side component (CD ROM drive)
Align connectors and press ONLY on top edge of drive.
Rotate handle back under lip.
14. Lower keyboard and press down on near corners of keyboard to close.
- UOP 15. UOP Pwr Sply sw → On
- Pwr Sply 16. RS/ORB DC Pwr Sply sw → On
- Thinkpad 17. Thinkpad pwr → On

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MALFUNCTION PROCEDURES

MALFUNCTION

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CORRECTIVE PROCEDURES

CORRECTIVE

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CORRECTIVE

NOTE

The hard drive will be completely overwritten during this procedure.

Unstow:

- OCA1 AutoLoader floppy diskette
- OCA1 Reload PC Hard Card

RELOADING HARD DRIVE FROM DISK IMAGE

1. Save any personal files to the server or personal hard card.
2. ✓ **MCC** for current version of OCA1 software load
3. Shut down Windows.
4. Thinkpad pwr → Off
5. Insert "AutoLoader" floppy diskette.
6. Insert "OCA1 Reload" PC Hard Card.
7. Thinkpad pwr → On

NOTE

The reload process is automatic and will take 10 --- 15 minutes to complete.

8. When on-screen prompt appears, eject and stow floppy and PC Hard Card.
9. Thinkpad pwr → Off
10. Insert network PCMCIA card.
11. Thinkpad pwr → On

Enter Network Password

12. Input standard OCA login information.

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1. BLACK INK CARTRIDGE CHANGEOUT

Unstow:

- Grey Tape
- Small Ziplock Bag
- New Black Ink Cartridge

NOTE

Perform if black ink cartridge light is illuminated or the printer has been stowed for a long period of time.

- 1.1 Refer to {SSC PRINTER SETUP}, Figure 1 (SODF: POC: Activation and Checkout: Ops LAN), then:
- 1.2 √Printer – Ready (steady green power light)
- 1.3 Raise printer cover.
- 1.4 Press and hold both ink cartridge buttons for ~3 seconds and release. Black ink cartridge (leftmost) will move to the left.

NOTE

Printer will reset if the following step is not performed within 1 minute after performing step 1.4. If reset experienced, repeat step 1.4.

CAUTION

Do not squeeze ink cartridge.

- 1.5 Lift tab on purple cover.
Remove black ink cartridge.
- 1.6 Cover opening on used cartridge with Gray Tape.
Stow old cartridge in Ziplock Bag.
Place Ziplock Bag in printer locker.
- 1.7 Unstow new cartridge from sealed pack.
Remove small yellow plastic tab on top.
Do not remove white tab (reference instructions on cartridge).
- 1.8 Insert new cartridge (black arrow should be pointing toward back of printer).
- 1.9 Lower and latch tab on purple cover. Do not reopen.
- 1.10 If also changing color cartridge, go to step 2; otherwise, continue.
- 1.11 Lower and close printer cover.

SSC PRINTER MAINTENANCE

(POC/2R - ALL/FIN)

Page 2 of 3 pages

- 1.12 Perform {SSC PRINTER SETUP}, Warmup and Self-Test steps 4 and 6 (SODF: POC: Activation and Checkout: Ops LAN), then:

2. COLOR INK CARTRIDGE CHANGEOUT

Unstow:

- Grey Tape
- Small Ziplock Bag
- New Color Ink Cartridge

NOTE

Perform if color ink cartridge light is illuminated or the printer has been stowed for a long period of time.

- 2.1 Raise printer cover.
- 2.2 Refer to {SSC PRINTER SETUP}, Figure 1 (SODF: POC: Activation and Checkout: Ops LAN), then:
- 2.3 Press and hold both ink cartridge buttons until black ink cartridge moves to the left (~3 seconds).

NOTE

Printer will reset if the following step is not performed within 1 minute after performing step 2.3. If reset experienced, repeat step 2.3.

- 2.4 Press and hold color ink cartridge (lower) button for 1 second and release to expose color cartridge. Color cartridge holder (rightmost component) will move to the left and become accessible.

CAUTION

Do not squeeze ink cartridge.

- 2.5 Lift tab on purple cover (rightmost).
Remove ink cartridge.
- 2.6 Cover openings on used cartridge with Gray Tape.
Stow old cartridge in Ziploc Bag.
Place Ziploc Bag in printer locker.
- 2.7 Unstow new cartridge from sealed pack.
Remove small yellow plastic tab on top.
Do not remove white tab (reference instructions on cartridge).
- 2.8 Insert new cartridge (black arrow should be pointing toward back of printer).

SSC PRINTER MAINTENANCE

(POC/2R - ALL/FIN)

Page 3 of 3 pages

- 2.9 Lower and latch tab on purple cover. Do not reopen.
- 2.10 Lower and close printer cover.
- 2.11 Perform {SSC PRINTER SETUP}, Warmup and Self-Test steps 4 and 6 (SODF: POC: Activation and Checkout: Ops LAN), then:

3. CLEANING PRINTER HEADS (Black and/or Color)

NOTE

Printer must be ON, not printing and appropriate ink cartridge light must not illuminate red.

- 3.1 Refer to {SSC PRINTER SETUP}, Figure 1 (SODF: POC: Activation and Checkout: Ops LAN), then:
- 3.2 ✓PRINTER PWR – On
✓INK CARTRIDGE Light – Off

If light is red, go to step 1 or 2.
- 3.3 Raise printer cover.
- 3.4 Press and hold appropriate ink cartridge button for ~3 seconds.
- 3.5 ✓Flashing green power light – Green light will flash while cleaning

Procedures are complete when power light stops flashing (~2 minutes).
- 3.6 Repeat steps 3.4 and 3.5 three times.
- 3.7 Close printer cover.
- 3.8 Perform {SSC PRINTER SETUP}, Warmup and Self-Test steps 4 and 6 (SODF: POC: Activation and Checkout: Ops LAN), then:

If quality of print is bad, repeat as necessary.

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THINKPAD CMOS REINITIALIZATION

(POC/2R - ALL/FIN)

Page 1 of 1 page

I

NOTE

This procedure will return the laptops CMOS settings back to the IBM factory default settings. The factory default settings should not be used with flight software loads. This procedure should be followed by steps to reconfigure the CMOS settings for flight.

√Thinkpad pwr – Off

While holding down the [F1] key, Thinkpad pwr → On

Hold down the [F1] key until the Easy-Setup screen appears.

Easy-Setup

sel config
sel initialize
sel OK
sel Exit
sel restart
sel OK

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REFERENCE PROCEDURES

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OCA DIRECTORY STRUCTURE

(POC/2R - ALL/FIN)

Page 1 of 1 page

I

```
C:\
|___Oca-down
|   |___Checs
|   |___DCS
|   |___Ims
|   |___Mail
|   |___Payload
|___Oca--sw (Ground Use Only)
|___Oca-up
|   |___Archive
|   |___Checs
|   |___Ims
|   |___Mail
|   |   |___AllCrew
|   |   |___Sergei
|   |   |___Shep
|   |   |___Yuri
|   |___Messages
|   |   |___(as required for execute package)
|   |___News
|   |___Other
|   |___Payloads
|   |___SpOC
```

NOTE

1. This portion of the directory structure is the same on both the Early Comm OCA1 computer and the SSC File Server.
2. The SSC File Server is mapped as the K:\ drive on the Early Comm OCA1 computer.

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NOTE

Simultaneous key combinations are linked by the + sign.
Sequential key combinations are linked by commas.

WINDOWS DESKTOP

Shut down Windows	[CTRL+ESC], [↑], [ENTER], [ENTER]
Select and open desktop icon	[CTRL+ESC], [ESC], [TAB], [TAB], [Arrow keys], [ENTER]
Program item icons contained in folder:	
Select program item icon	[Arrow keys]
Start program	Select program item, [ENTER]

WINDOWS EXPLORER

Select previous/next directory or subdirectory	[↑] or [↓]
Page forward/backward	[PG DN] or [PG UP]
Select root directory	[HOME]
Select last directory	[END]
Expand current selection (if in left pane and not expanded)	[→]
Collapse current selection (if in left pane and expanded)	[←]
Toggle between panes	[TAB] or [F6]
Refresh screen	[F5]

FILE MANIPULATION IN WINDOWS EXPLORER

Select adjacent files	[SHIFT+up or down arrow keys]
Select nonadjacent files	[CTRL+up or down arrow keys to move to desired file], [spacebar], repeat as needed
Select all items	[CTRL+A]
Move selected files or directories	[CTRL+X], select drive/directory to move files/directory to, [CTRL]/[V]
Copy selected files or directories	[CTRL+C],select drive+directory to copy files/directory to, [CTRL+V]

SSC WINDOWS KEYBOARD REFERENCE

(POC/2R - ALL/FIN)

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OPERATING PROGRAMS IN WINDOWS

Starting, Quitting, and Switching Between Programs

Start Windows or DOS program	Select icon on Windows desktop, [ENTER]
Cycle between open applications	[ALT+TAB] or [ALT+ESC] (select applications in forward direction) or [SHIFT+ALT+ESC] (select applications in reverse direction)
Display Task List Dialog Box	[CTRL+ALT+DELETE]
Cycle between selections in Dialog Box	[TAB] (forward direction) or [SHIFT+TAB] (reverse direction)
Cancel menu currently displayed	[ESC]
Quit active application	[ALT+F4] or [ALT+spacebar], [C] or [ALT+F], [X]

SIZING, CLOSING, AND MOVING WINDOWS

NOTE

Maximized Windows cannot be resized. Use
Restore to configure Windows for resizing.

Restore windows from maximized configuration	[ALT+spacebar], [R]
Resize active program window	[ALT+spacebar], [S], [press arrow keys to adjust window size], [ENTER]
Close window	[ALT+spacebar], [C]
Move window	[ALT+spacebar], [M], [use arrow keys to move windows to desired location], [ENTER]
Minimize program or document window to icon	[ALT+spacebar], [N]
Maximize program or document window to full screen	[ALT+spacebar], [X]

PROGRAM CURRENTLY RUNNING

Select menu and perform task	[ALT+underlined menu letter], [underlined task letter]
Move between areas (lists, buttons, etc.) in Dialog Box	[TAB] or [SHIFT+TAB] or [ALT+ underlined letter]
Select pulldown list within Dialog Box	[ALT+underlined letter]

SSC WINDOWS KEYBOARD REFERENCE

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Cancel pulldown list

[ESC]

Cancel menu selection

[ESC]

CLIPBOARD FUNCTIONS

Copies displayed image to Clipboard

[CTRL+C]

Cuts image to Clipboard

[CTRL+X]

Pastes object from Clipboard to documents,
spreadsheets, etc.

[CTRL+V]

GETTING HELP (APPLICATIONS ONLY)

Get Help

[F1] or [ALT+H]

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SSC WORLD MAP KEYBOARD REFERENCE

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NOTE

Simultaneous key combinations are linked by the + sign. Sequential key combinations are linked by commas.

Exit application	[Alt+F4]
Help index	[F1]
Zooms in	[CTRL+ I], [+], or [PgUp]
Zooms out	[CTRL+O], [-] (minus key), or [PgDn]
Toggle night ops color on/off	[CTRL+N]
Toggle click and drag zoom	[CTRL+F12]
Toggles previous/next longitude of ascending node (LAN)	[CTRL+L]
Restores nadir zoom from point zoom	[ESC]
Identify point on map	Left-mouse double-click
Zoom on point clicked	Right-mouse click and then select the Point Zoom option from the popup menu.

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CUE CARD PROCEDURES

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TOP OF "SSC FS CUE CARD"



TOP OF "PCS CUE CARD"

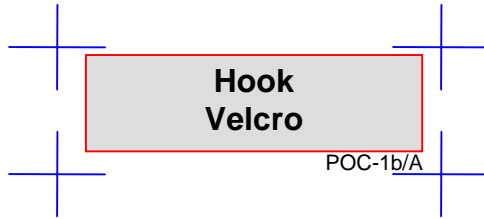


THINKPAD CUE CARDS

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TOP BACK OF "SSC FS CUE CARD"



TOP BACK OF "PCS CUE CARD"

