Table 9-4: Procedure to Install HSO or MSO Module	
Step	**Action**
4	Install HSO Module cover panel by sliding its flange into the slot, closing, and latching it in place.
5	Notify operator that the HSO or MSO replacement procedure is completed. Have operator verify that old alarms have cleared and no new alarms are reported.
6	Install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Figure 9-4: HSO or MSO Module

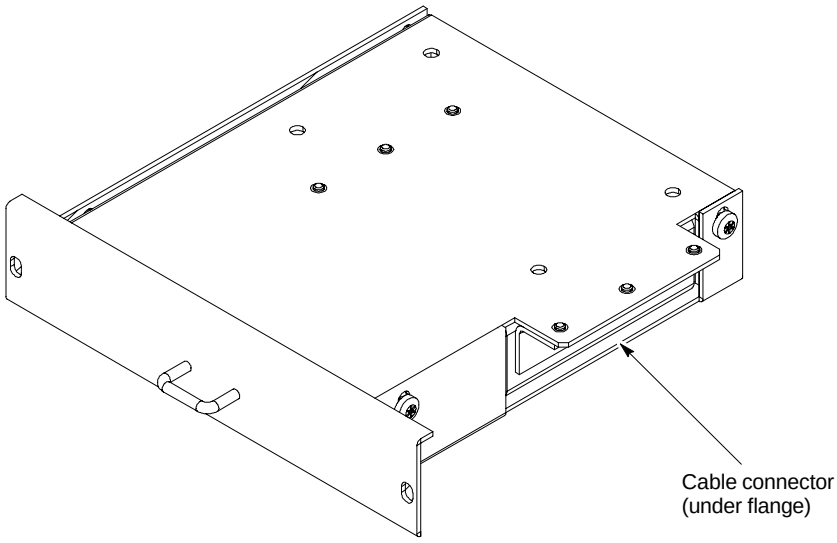
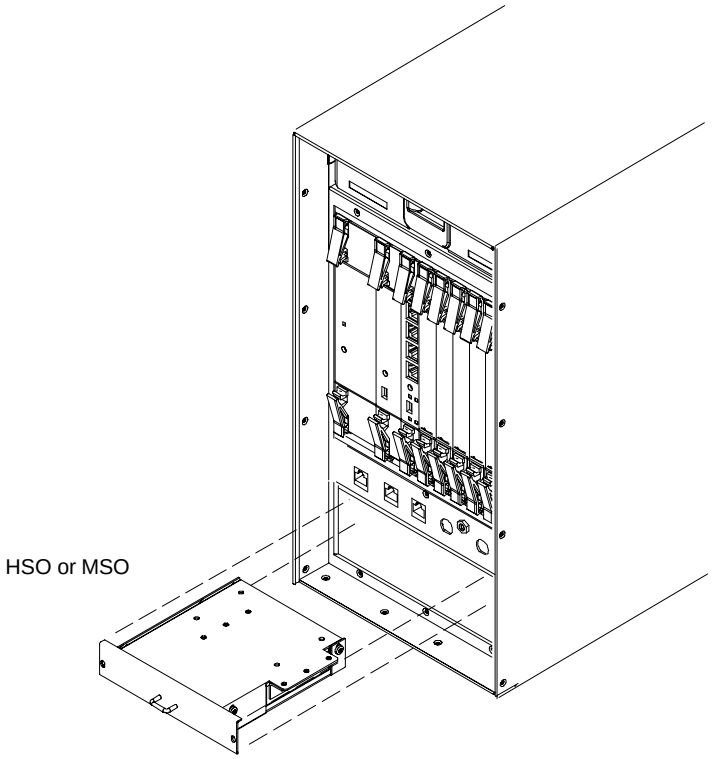


Figure 9-5: HSO or MSO Location



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Introduction

The Compact BTS is configured with either Remote or RF Global Positioning System (GPS) receiver operation.

For Remote GPS operation, the GPS receiver is located in a remotely–located GPS head. This head contains a GPS antenna, GPS receiver, and digital interface. The GPS receiver output signal from the RGPS head is applied to the Compact BTS. The received signal is routed to the CSA card.

System Impact/Considerations

IMPORTANT

If the GPS head has failed, performing the replacement procedure will not cause an downtime or interrupt call processing as long as an HSO or MSO has been installed.

If the HSO or MSO has not been "trained" by the GPS for a minimum of 24 hours, BTS synchronization may not be maintained for the minimum 24 hours when using the HSO or 8 hours when using the MSO backup.

Required Items

Documents

Optimization chapter this manual.

Tools

Appropriate size socket for loosening the pipe/conduit mounting hardware.

Replacement Unit

One RGPS head (Motorola P/N 0186012H04)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Replacement Procedure

If desired, record the BTS and RGPS head serial number of the failed unit in Table 9-55 at the end of this chapter.

Remove RGPS Head

Follow the procedure in Table 9-5 to remove the RGPS Head.

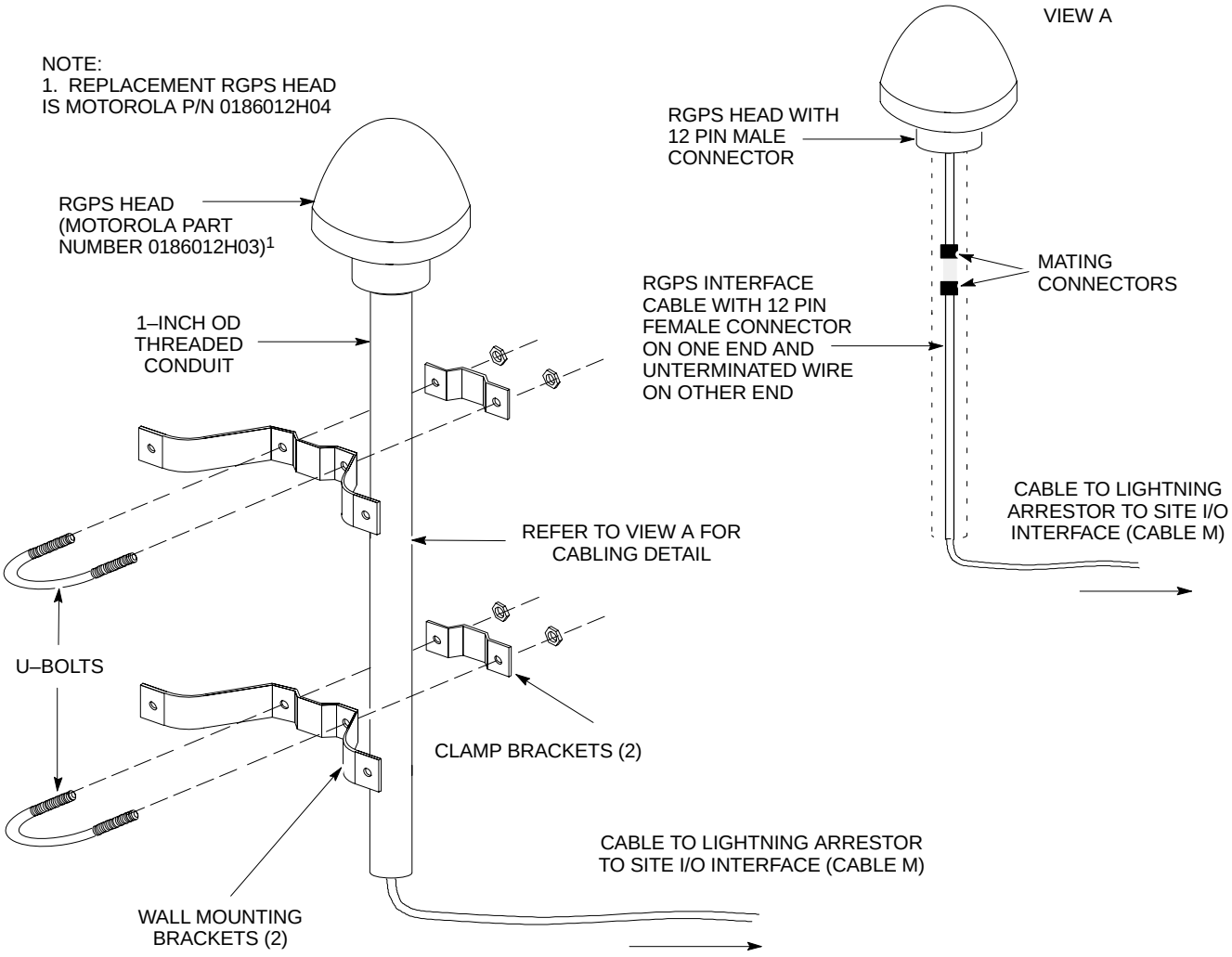
Table 9-5: Procedure to Remove RGPS Head	
Step	**Action**
1	Notify operator that the RGPS Head replacement procedure is starting and that alarms can be expected.
2	Have the OMC–R operator verify the reference source configuration for the CSA. *** IMPORTANT** Before removing an RGPS Head that has a working RGPS receiver, have the OMC–R operator verify that the reference source for the CSA is configured for an HSO or MSO.
3	Create slack in the RGPS cable so that 0.70 m (2 ft.) of cable extend out of the RGPS Head end of the mounting pipe/conduit. **NOTE** To prevent twisting of cables, do not unscrew or screw RGPS Head while holding the pipe/conduit.
4	Loosen the pipe/conduit mounting hardware until the pipe/conduit is free to be unscrewed from the RGPS Head.
5	Grasp the RGPS Head in one hand and the pipe/conduit in the other. Unscrew the pipe/conduit from the head and separate. Grasp the cable just below the head and pull out about 0.5 m (16–inches) of cable out of the pipe/conduit until the mating cable connectors are exposed. **NOTE** The CSA will automatically switch over to the HSO or MSO approximately 2 seconds after disconnecting a working RGPS Head. Alarms will be triggered at this time.

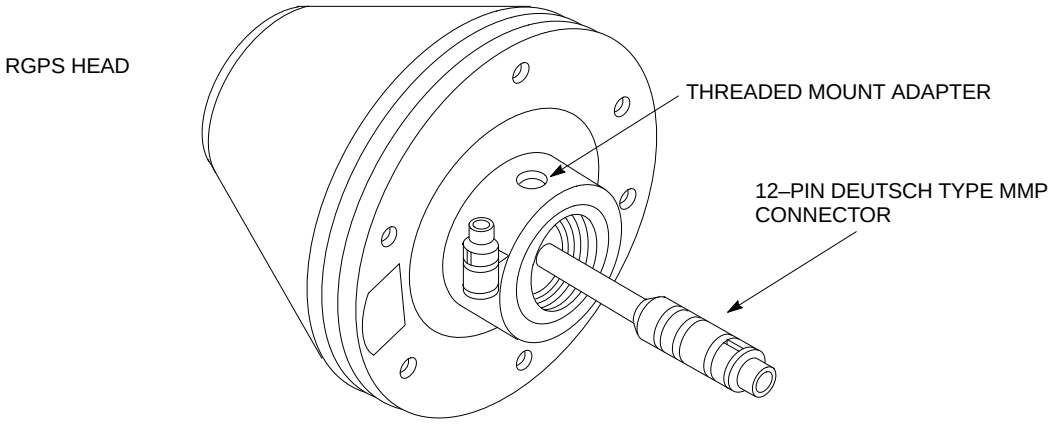
Install RGPS Head

Follow the procedure in Table 9-6 to install the RGPS Head.

Table 9-6: Procedure to Install RGPS Head	
Step	**Action**
1	Connect the cable connector of the replacement RGPS head to the RGPS cable connector.
2	Feed the cable slack into the RGPS head end of the mounting pipe/conduit.
3	Grasp the RGPS head in one hand and the pipe/conduit in the other. Being careful not to cross thread the fitting on the RGPS head, screw the pipe/conduit into the head. Hand tighten only!
4	Tighten the pipe/conduit mounting hardware until the pipe/conduit is securely mounted.
5	Notify the operator that the replacement procedure has been completed. Have the operator verify that the original alarms have cleared and that no new alarms are reported.

Figure 9-6: RGPS Head and Mounting Pipe/Conduit





Introduction

The procedures in this section cover only the removal and installation of the RF–GPS Module.

System Impact/Considerations

If the RF–GPS is failing or has failed there will be an interruption in call processing. The entire site will be down during the replacement of this component unless an HSO or MSO is in support.

IMPORTANT

The maximum loss of the RF cable ***CANNOT*** exceed 15 dB (assuming 25 dB antenna gain).

Required Items

Documents

None

Tools

Star screw driver.

Replacement Items

One RF–GPS Module (SGRG4030)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the RF–GPS module will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

If desired, record the BTS and RF–GPS serial number of the failed unit in Table 9-56 at the end of this chapter.

Remove RF–GPS

Follow the procedure in Table 9-7 to remove the RF–GPS.

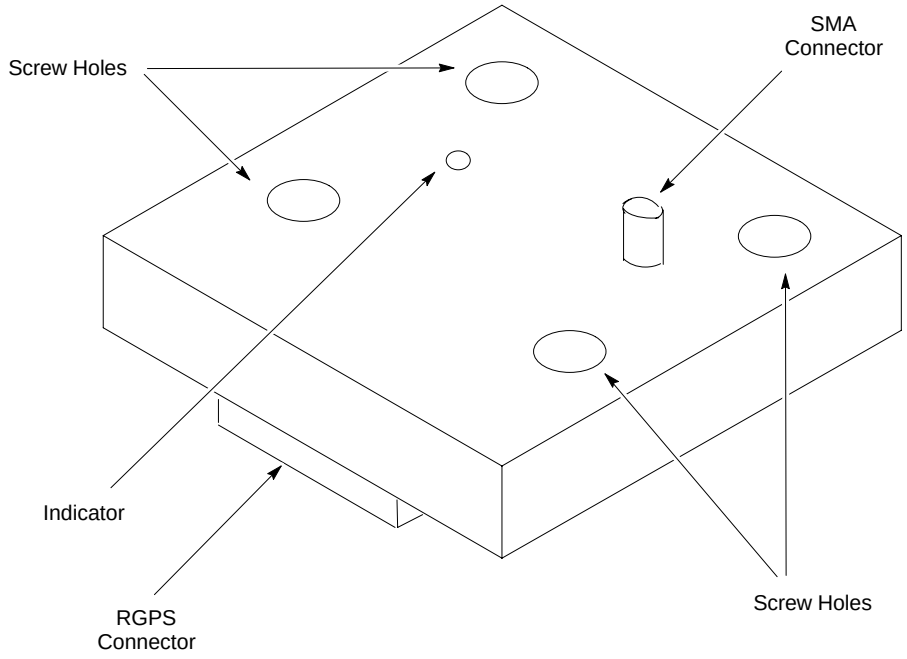
Table 9-7: Procedure to Remove RF–GPS	
Step	**Action**
1	Notify operator that the RF–GPS module replacement procedure is starting and that alarms can be expected.
2	Put on an ESD wrist strap or other approved grounding device.
3	At the rear of the BTS, disconnect RF–GPS cable from its SMA connector. See Figure 9-7.
4	Using a T20 bit, remove four M4 screws securing RF–GPS module to the CBIO Board.
5	Gently remove RF–GPS module (disconnects it from the RGPS D–connector in the CBIO Board) and place in/on an anti–static container or surface.

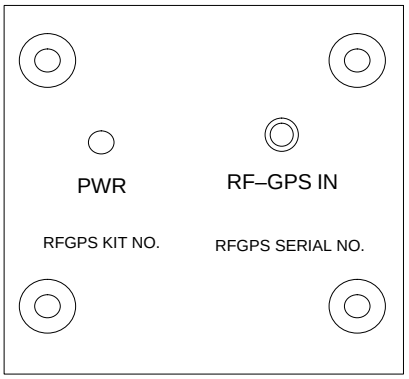
Install RF–GPS

Follow the procedure in Table 9-8 to install the RF–GPS.

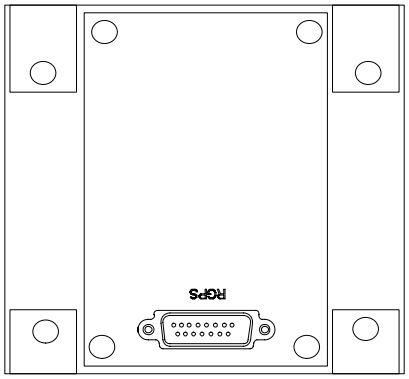
Table 9-8: Procedure to Install RF–GPS	
Step	**Action**
1	Put on an ESD wrist strap or other approved grounding device.
2	If not already done, remove new RF–GPS module from its anti–static container
3	Remove protective cover from RGPS D–connector.
4	Install RF–GPS module onto the CBIO Board, by aligning D–connector on bottom of RF–GPS module with RGPS D–connector on CBIO Board and gently push down on module. See Figure 9-8.
5	Using a T20 bit, secure module to CBIO Board with four M4 screws. Torque screws to 2.3 N–M (20 in–lbs).
6	Connect RF–GPS cable to the SMA connector. Torque to 1 N–M (9 in–lbs).
7	Notify the operator that the replacement procedure is complete.

Figure 9-7: RF–GPS Module



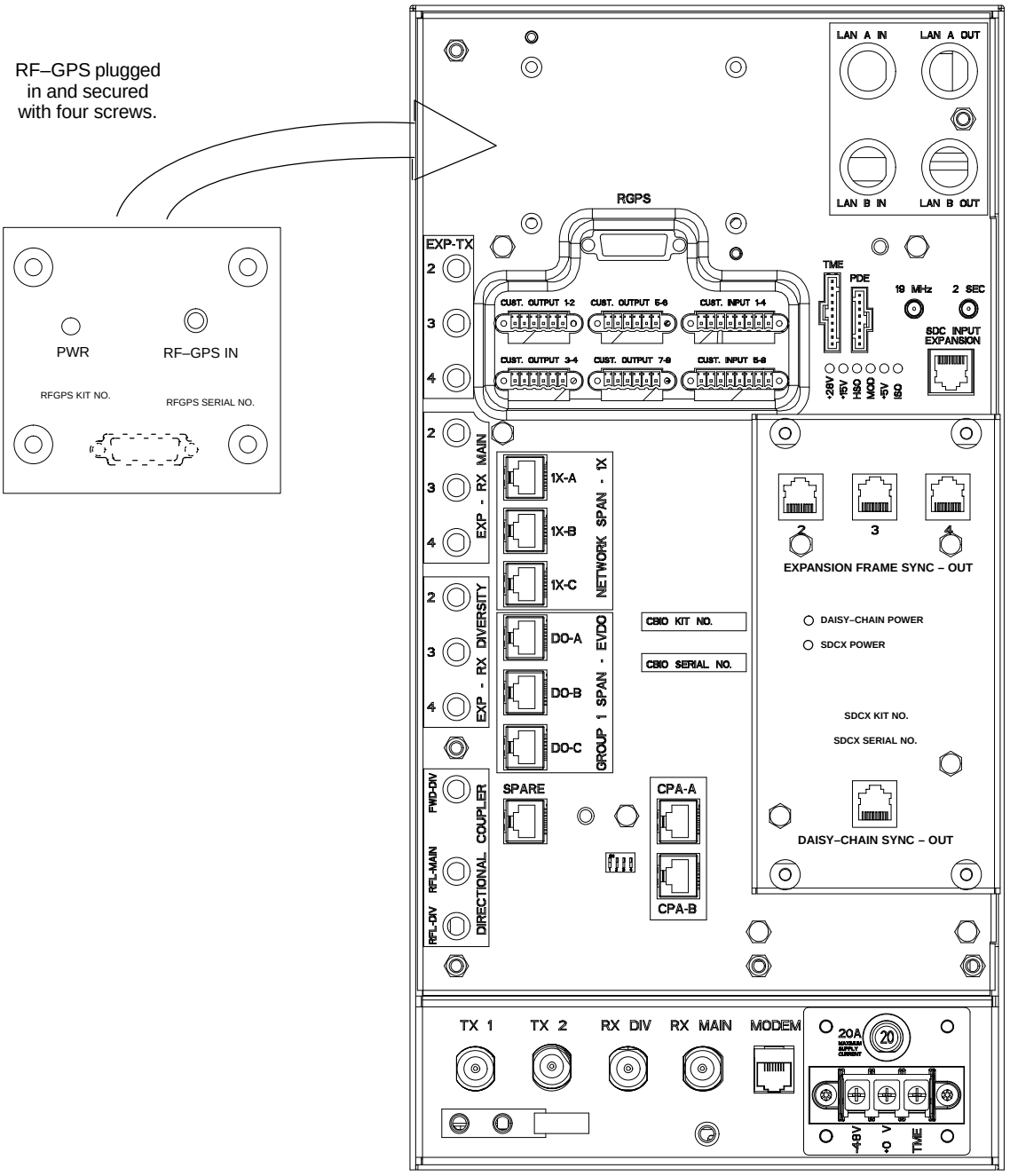


TOP VIEW



BOTTOM VIEW

Figure 9-8: RF–GPS Placement on CBIO Board



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Power Supply Module (PSM)

Introduction

The procedures in this section cover only the Power Supply Module (PSM). The PSM occupies the first slot in the CCP2 Shelf.

System Impact/Consideration

The PSM supplies DC power to the cards/modules of the CCP2 Shelf. If the module needed replacing it will cause an interruption in call processing.

Required Items

Documents

None.

Tools

None.

Replacement Unit

For –48 VDC – One Power Supply Module (SGPN4053)

For +27 VDC – One Power Supply Module (STPN4009)

NOTE

The connector keying for the PSM is different for each version to prevent using the wrong module.

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the PSM will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

IMPORTANT

When this module is removed, the BTS will shut down because power to CCP2 Shelf will be interrupted. It is recommended that replacing the PSM be performed during a maintenance window.

Replacement Procedure

CAUTION

This procedure requires working around circuitry that is extremely sensitive to Electrostatic Discharge (ESD). Wear a conductive, high impedance wrist strap during the procedure.
Use appropriate safety measures.

If desired, record the BTS and PSM serial number of the failed unit in Table 9-57 at the end of this chapter.

Remove Power Supply Module

Follow the procedure in Table 9-9 to remove the Power Supply Module.

Table 9-9: Procedure to Remove Power Supply Module

Step	Action
	△ **WARNING** Disengaging the PSM from the CCP2 Shelf will cause the site to be shutdown due to the disruption in power to the shelf.
1	Notify operator that the PSM replacement procedure is starting and that alarms can be expected.
2	At the front of the BTS, remove the front panel cover by grasping finger grooves at the top and bottom and pulling simultaneously.
3	Put on an ESD wrist strap or other approved grounding device.
4	Simultaneously press the locking tabs on both the top and bottom module latches
5	Pull the latches out to disengage the module from the shelf and slide the card out.
6	Place PSM in/on an anti–static container or surface.

Install Power Supply Module

Follow the procedure in Table 9-10 to install the Power Supply Module.

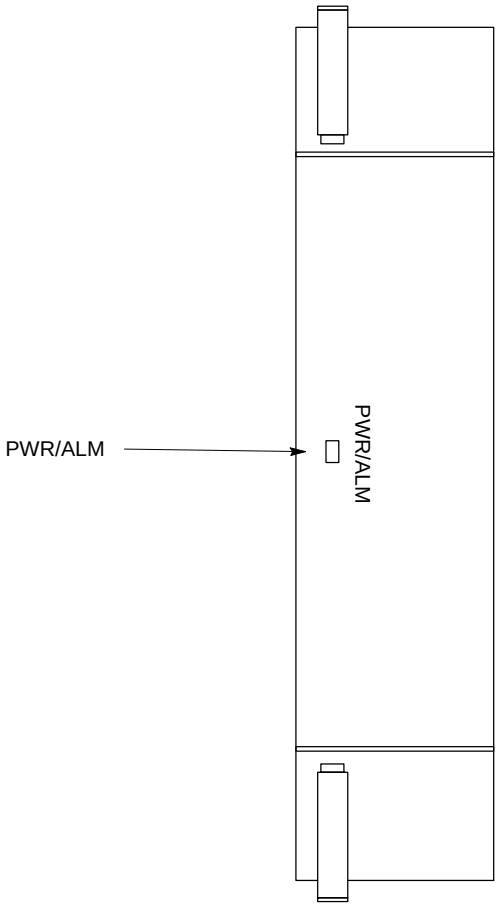
Table 9-10: Procedure to Install Power Supply Module

Step	Action
1	Put on an ESD wrist strap or other approved grounding device.
2	If not already done, remove new PSM from its anti–static container.
3	Insert module and carefully slide into slot and push in until it is seated in the backplane.
4	Simultaneously pull both latches forward and slip the tips behind the frame.

table continued on next page

Table 9-10: Procedure to Install Power Supply Module	
Step	**Action**
5	Push the latches in to engage the module with the backplane and lock the tabs.
6	Note that the LED turns red briefly, then green. Green indicates that it has passed all self–tests and is functional.
7	Notify the operator that the replacement procedure has been completed. Have the operator verify that the original alarms have cleared and that no new alarms are reported.
8	Install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Figure 9-9: Power Supply Module (PSM)



Clock Synchronization Alarms Card

Introduction

The procedures in this section cover only the Clock Synchronization Alarms (CSA) card. The CSA occupies the second slot in the CCP2 Shelf.

System Impact/Considerations

This replacement procedure does require some system downtime. Since there is no redundancy, call processing will be interrupted during the time of the replacement.

Required Items

Documents

None.

Tools

None

Replacement Item

One CSA card.

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the CSA card will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

If desired, record the BTS and CSA serial number of the failed unit in Table 9-58 at the end of this chapter.

Remove CSA Module

Follow the procedure in Table 9-11 to remove the CSA card.

Table 9-11: Procedure to Remove CSA Module

Step	Action
	△ **WARNING** Disengaging the CSA from the CCP2 Shelf will cause the site to be shutdown due to the disruption in clock timing to the other cards and modules in the BTS.
1	Notify operator that the CSA card replacement procedure is starting and that alarms can be expected.

table continued on next page

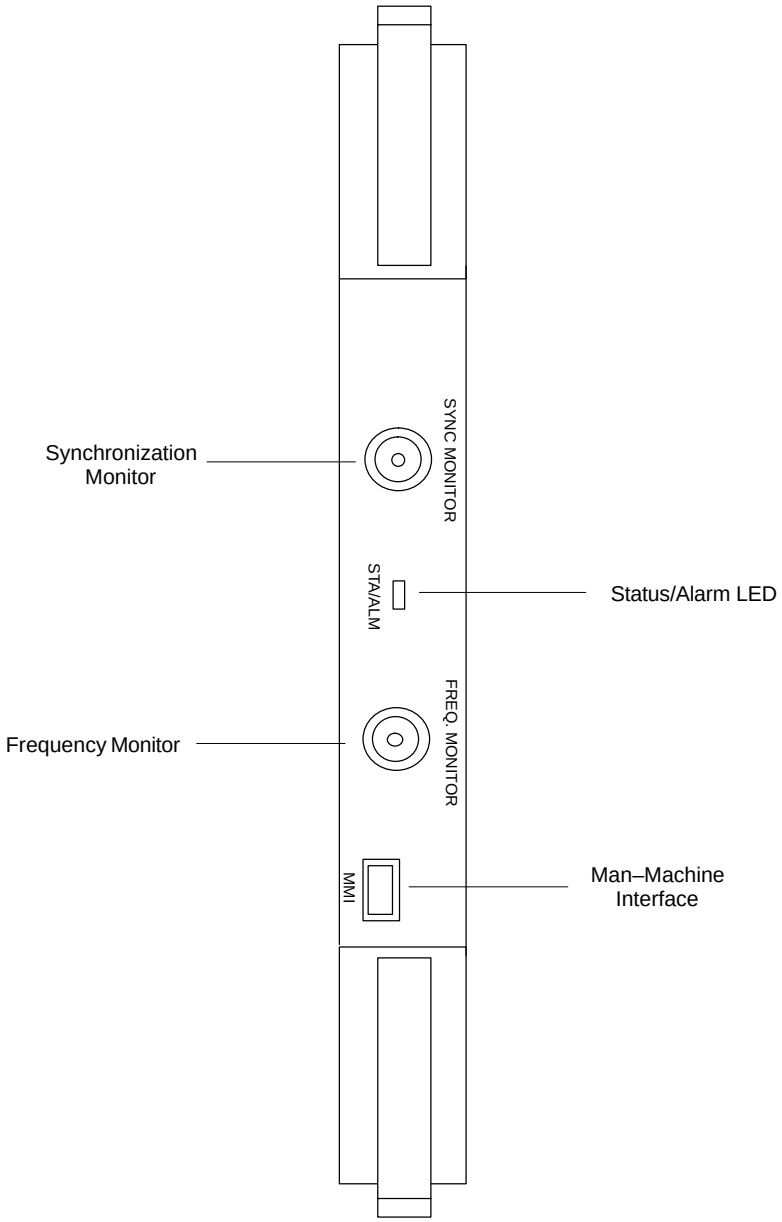
Table 9-11: Procedure to Remove CSA Module	
Step	**Action**
2	Put on the ESD wrist strap or other approved grounding device.
3	If not already done, remove BTS front panel cover by grasping finger grooves at the top and bottom and pulling simultaneously.
4	Simultaneously press the locking tabs on both the top and bottom card latches
5	Pull the latches out to disengage the card from the shelf and slide the card out.
6	Place card in/on an anti–static container or surface.

Install CSA Module

Follow the procedure in Table 9-12 to install the CSA card.

Table 9-12: Procedure to Install CSA Module	
Step	**Action**
1	Put on the ESD wrist strap or other approved grounding device.
2	If not already done, remove new CSA card from its anti–static container.
3	Insert card and carefully slide into slot and push in until it is seated in the backplane.
4	Simultaneously pull both latches forward and slip the tips behind the frame.
5	Push the latches in to engage the card with the backplane and lock the tabs.
6	The LED illuminates red briefly, then turns green. Green indicates that the module has passed all self–tests and is functional.
7	Notify the OMC–R operator that the replacement procedure has been completed, and that old alarms are cleared and no new alarms are reported.
8	If there are no other actions required, install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Figure 9-10: Clock Synchronization and Alarm Card



Group Line Interface Card

Introduction

The procedures in this section cover only the Group Line Interface (GLI) 3 card. The GLI3 occupies the third slot in the CCP2 Shelf.

System Impact/Considerations

An interruption in call processing will occur if the GLI3 card is failing or fails.

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the GLI3 card will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

IMPORTANT

When this module is removed, the BTS will shut down because card interface and communication will be interrupted. It is recommended that replacing the GLI3 be performed during a maintenance window.

Required Items

Documents

This manual for the optimization and acceptance test procedures.

Tools

None

Replacement Item

One GLI3 card (SGLN5975)

Replacement Procedure

CAUTION

This procedure requires working around circuitry that is extremely sensitive to Electrostatic Discharge (ESD). Wear a conductive, high impedance wrist strap during the procedure.
Use appropriate safety measures.

If desired, record the BTS and GLI3 serial number of the failed unit in Table 9-59 at the end of this chapter.

Remove GLI3 Card

Follow the procedure in Table 9-13 to remove the GLI3 card.

Table 9-13: Procedure to Remove GLI3 Card

Step	Action
	△ WARNING Disengaging the GLI3 from the CCP2 Shelf will cause the site to be shutdown due to the disruption in commnuication with the BBX and MCC cards.
1	If not already done, remove BTS front panel cover by grasping finger grooves at the top and bottom and pulling simultaneously.
2	Put on the ESD wrist strap or other approved grounding device.
3	Notify operator that the GLI3 card replacement procedure is starting and that alarms can be expected.
4	Simultaneously press the locking tabs on both the top and bottom card latches
5	Pull the latches out to disengage the card from the shelf and slide the card out.
6	Place card in/on an anti–static container or surface.

Install GLI3 Card

Follow the procedure in Table 9-14 to install the GLI3 card.

Table 9-14: Procedure to Install GLI3 Card

Step	Action
1	Put on the ESD wrist strap or other approved grounding device.
2	If not already done, remove new GLI3 card from its anti–static container.
3	Insert card and carefully slide into slot and push in until it is seated in the backplane.
4	Simultaneously pull both latches forward and slip the tips behind the frame.
5	Push the latches in to engage the card with the backplane and lock the tabs.
6	Check the STATUS and ALARM LEDs: • The ALARM LED lights for about 10 seconds while it powers up self–diagnostic test. • The STATUS LED lights briefly, indicating that the card has passed self diagnostic tests. • Both LEDs should then remain OFF.

table continued on next page

Table 9-14: Procedure to Install GLI3 Card	
Step	**Action**
	NOTE If the red ALARM LED remains ON, the card may not be fully seated in the backplane. Pull the card out about halfway, wait about two minutes before reseating. Perform steps 4 and 5. If the red LED turns back ON after the green LED turns OFF, a new failure condition exists and an alarm generated.
7	Notify operator that the GLI3 replacement procedure is completed. Have operator verify that old alarms have cleared and no new alarms are reported.
8	Using the LMF connected to the MMI port, verify that new GLI3 card has the proper configuration.
9	Proceed to Table 9-15.

GLI3 Recovery Procedure

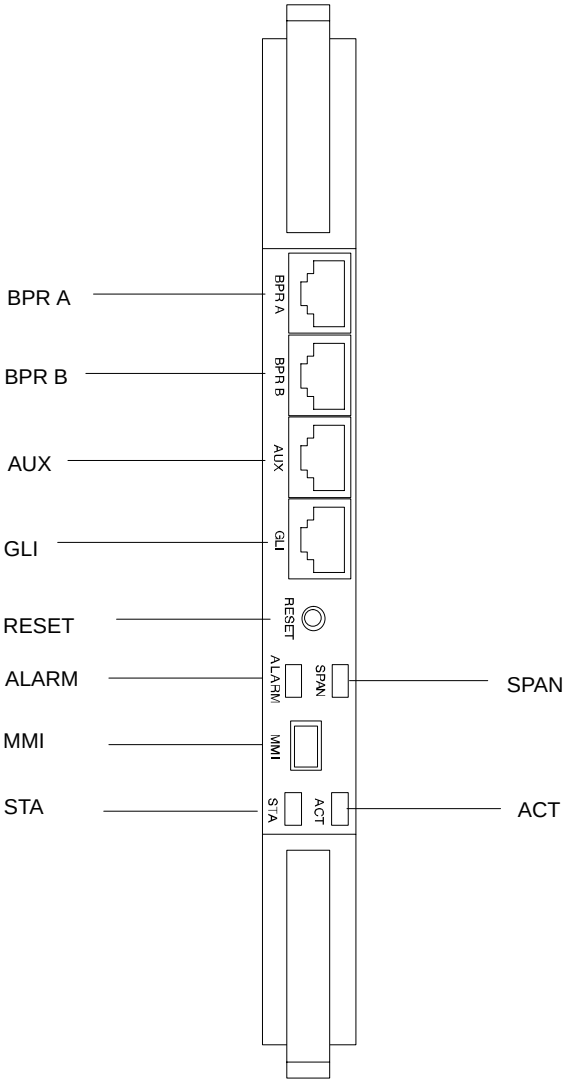
Follow the procedure in Table 9-15 to recover the GLI3 card.

Table 9-15: Procedure to Recover GLI3 Card	
Step	**Action**
1	At the prompt, enter the following command: omc–00000>**ENABLE GLI–**<bts#>–<gli#> **UNC**
2	Display the status of the GLI by entering the following command: omc–00000>**DISPLAY BTS–**<bts#> **STATUS**
3	Verify the status of the new GLI3 is INS_ACTIVE.
4	If there are no other actions required, install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Optimization Requirement

Refer to the Optimization section of this manual and perform the required procedures.

Figure 9-11: Group Line Interface 3 Card



Introduction

The procedures in this section cover only the Multi–Channel CDMA (MCC) cards. The MCC–1X cards occupy the fourth, fifth, and sixth slots (MCC 1, 2, & 3) in the CCP2 Shelf.

If the MCC–DO card is in use, proceed to that section for more information later in this chapter.

System Impact/Considerations

If an MCC–1X card fails it will cause some interruption in call processing in the sense that not all calls will be handled. The other MCC–1X cards may not be able to handle the additional calls thus calls on the failing or failed card will be dropped.

If an MCC–1X card must be replaced, it must be ensured that it has the same number of channels as the card being replaced.

MCC Front Panel

PWR/ALM LED

The MCC–1X card has its own alarm (fault) detection circuitry that controls the state of the PWR/ALM LED. When the LED is:

- **Green –**
  - OFF – INS_ACT no alarm.
- **Red –** Power-up or fault condition.

Active LED

The MCC–1X card has circuitry that controls the state of the Active LED. When the LED is:

- **Green –**
  - Solid – INS_ACT no alarm.
  - Rapidly Flashing – OOS_RAM no alarm.
  - Slowly Flashing – OOS_ROM no alarm.
- **Red –**
  - Fault condition or card is in reset.
  - Slow flashing (alternating with green) – CHI bus inactive on power up.

Required Items

Documents

None.

Tools

None.

Replacement Items

- Up to 3 MCC–1X–16 cards (SGLN6117)
- Up to 3 MCC–1X–32 cards (SGLN6050)
- Up to 3 MCC–1X–48 cards (SGLN6051)
- Up to 3 MCC–1X–64 cards (SGLN6052) (for Packet Backhaul)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the MCC–1X card will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

CAUTION

This procedure requires working around circuitry that is extremely sensitive to Electrostatic Discharge (ESD). Wear a conductive, high impedance wrist strap during the procedure.
Use appropriate safety measures.

If desired, record the BTS and MCC serial number of the failed unit in Table 9-60 at the end of this chapter.

Remove MCC–1X Card

Follow the procedure in Table 9-16 to remove the MCC–1X card.

Table 9-16: Procedure to Remove MCC–1X Card

Step	Action
	△ **WARNING** Due to a lack of redundancy, disengaging the MCC cards from the CCP2 Shelf will cause the site to be shutdown due to the disruption in communication with the GLI3.
1	Notify operator that the MCC replacement procedure is starting and that alarms can be expected.
2	Put on the ESD wrist strap or other approved grounding device.
3	If not already done, remove BTS front panel cover by grasping finger grooves at the top and bottom and pulling simultaneously.

table continued on next page

Table 9-16: Procedure to Remove MCC–1X Card	
Step	**Action**
4	Simultaneously press the locking tabs on both the top and bottom card latches
5	Pull the latches out to disengage the card from the shelf and slide the card out.
6	Place MCC–1X card on/in an anti–static container or surface.

Install MCC–1X Card

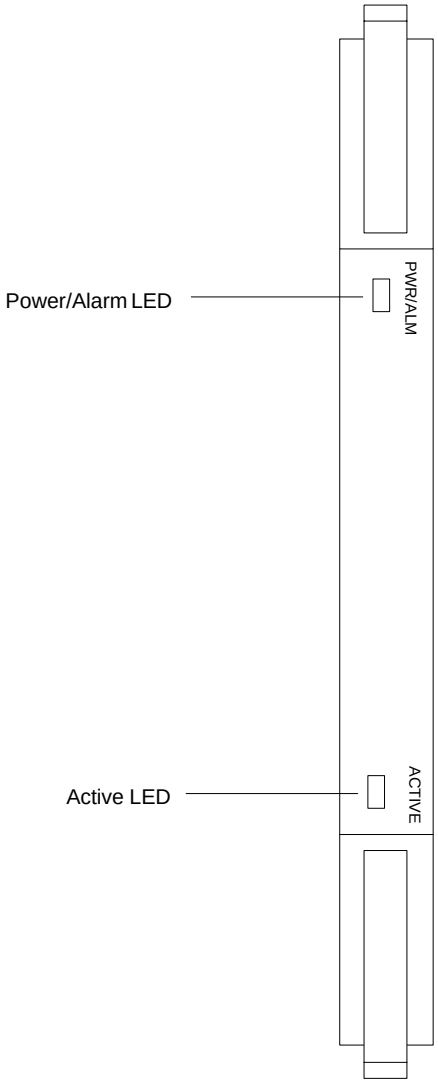
Follow the procedure in Table 9-17 to install the MCC–1X card.

Table 9-17: Procedure to Install MCC–1X Card	
Step	**Action**
1	Put on the ESD wrist strap or other approved grounding device.
2	If not already done, remove new MCC–1X card from anti–static container.
3	Slide card into slot and simultaneously pull both latches forward and slip the tips behind the frame.
4	Push the latches in to engage the card with the backplane and lock the tabs.
5	Notify operator that the MCC replacement procedure is completed. Have operator verify that old alarms have cleared and no new alarms are reported.
6	If there are no other actions required, install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Optimization Requirement

Refer to the Optimization section of this manual and perform the required procedures.

Figure 9-12: MCC 1X Card



Introduction

The procedures in this section cover only the Broad Band Transceiver 1X (BBX–1X) cards. These cards occupy the seventh and eighth slots (BBX 1 & 4) of the CCP2 Shelf.

System Impact/ Considerations

The Compact BTS is not configured for redundancy, so a failure of the BBX card will cause an interruption in call processing. It is still "hot–swappable" like its Macrocell counterparts. Once replacement is made, optimization procedures will have to be performed.

Front Panel

The BBX–1X card contains the PWR/ALM and ACTIVE LED's, reset switch and MMI port connector. A removable lens covers these items and deters access to the reset switch and MMI port. Refer to Figure 9-13.

PWR/ALM LED

The BBX module has its own alarm (fault) detection circuitry that controls the state of the PWR/ALM LED. When the LED is:

- **Green –**
  - Solid – INS_ACT no alarm.
  - Slowly Flashing – OOS_ROM no alarm.
  - Rapidly Flashing – OOS_RAM no alarm.
- **Red –** initializing or power-up or alarm condition.
- Combinations
  - Long **red**/Short **green**– OOS_ROM alarm.
  - Short **red**/Short **green** – OOS_RAM alarm.
  - Long **green**/Short **red** – INS_ACT alarm.
- OFF
  - No DC power
  - The on–board fuse is open.

Active LED

The BBX module has circuitry that controls the state of the Active LED. When the LED is:

- **Green –** Operating in INS_ACTIVE state and keyed. No alarm condition present.
- **Red –**
  - Color during initial system power–up.
  - Operating in FAULT (alarm) state. Alarm condition is present.

Required items

Documents

This manual for optimization and acceptance test procedures.

Tools

None

Replacement Unit

One or two 800 MHz BBX–1X card (SGLF4133)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the BBX–1X card will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

CAUTION

This procedure requires working around circuitry that is extremely sensitive to Electrostatic Discharge (ESD). Wear a conductive, high impedance wrist strap during the procedure.
Use appropriate safety measures.

If desired, record the BTS and BBX–1X serial number of the failed unit in Table 9-61 at the end of this chapter. BBX 1 and 4 will be present if BTS is configured for two carriers; otherwise, only BBX 1 will be present.

Remove BBX–1X Card

Follow the procedure in Table 9-18 to remove the BBX–1X card.

Table 9-18: Procedure to Remove BBX–1X Card

Step	Action
	△ WARNING Due to a lack of redundancy, disengaging the BBX card(s) from the CCP2 Shelf will cause the site to be shutdown due to the disruption in communication with the GLI3 and loss of carrier.
1	Notify operator that the BBX–1X card replacement procedure is starting and that alarms can be expected.
2	Put on the ESD wrist strap or other approved grounding device.
3	If not already done, remove BTS front panel cover by grasping finger grooves at the top and bottom and pulling simultaneously.
4	Simultaneously press the locking tabs on both the top and bottom card latches
5	Pull the latches out to disengage the card from the shelf and slide the card out.
6	Place on/in an anti–static container or surface.

Install BBX–1X Card

Follow the procedure in Table 9-19 to install the BBX–1X card.

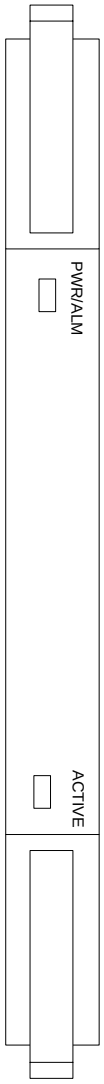
Table 9-19: Procedure to Install BBX–1X Card

Step	Action
1	Put on the ESD wrist strap or other approved grounding device.
2	If not already done, remove new BBX–1X card from anti–static container.
3	Slide card into slot and simultaneously pull both latches forward and slip the tips behind the frame.
4	Push the latches in to engage the card with the backplane and lock the tabs.
5	Notify operator that the BBX–1X replacement procedure is completed. Have operator verify that old alarms have cleared and no new alarms are reported.
6	If there are no other actions required, install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Optimization Requirement

Refer to the Optimization section of this manual and perform the required procedures.

Figure 9-13: BBX–1X Card



Introduction

The procedures in this section cover only the Multi–Coupler Preselector Card (cMPC). The cMPC occupies the ninth slot of the CCP2 Shelf.

cMPC PWR/ALM LED States

The cMPC has a dual color (green & red) power/alarm (PWR/ALM) status indicator LED located on its front panel. The card has its own alarm (fault) detection circuitry that controls what is displayed on the LED. Table 9-20 lists these states. Refer to Figure 9-14.

Table 9-20: cMPC PWR/ALM LED State

LED State	Device State
Steady GREEN	Operating normally
Steady RED	1. Displayed during initial power– up. 2. Operating in a Fault condition.
OFF	No DC power to card.

System Impact/Considerations

An interruption in call processing, due to the RX signal path being broken, will occur if the cMPC must be replaced due to total failure or marginal operation.

Required items

Documents

This manual for optimization and acceptance test procedures.

Tools

None

Replacement Unit

One cMPC (STLF4109)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the Compact MPC will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

CAUTION

This procedure requires working around circuitry that is extremely sensitive to Electrostatic Discharge (ESD). Wear a conductive, high impedance wrist strap during the procedure.
Use appropriate safety measures.

Before Beginning

If desired, record the BTS and cMPC serial number of the failed unit in Table 9-62 at the end of this chapter.

Remove cMPC

Follow the procedure in Table 9-21 to remove the cMPC.

Table 9-21: Procedure to Remove cMPC

Step	Action
1	Notify operator that the cMPC replacement procedure is starting and that alarms can be expected.
2	Put on an ESD wrist strap or other approved grounding device.
3	If not already done, remove BTS front panel cover by grasping finger grooves at the top and bottom and pulling simultaneously.
4	Simultaneously press the locking tabs on both the top and bottom card latches Pull the latches out to disengage the card from the shelf and slide the card out far enough to disconnect the RF cabling. *** IMPORTANT** If the BTS is set up for 2 PAs, then there will be 6 RF cables (fitted with QMA connectors) to disconnect. Recommend that the cables be disconnected either from top–to–bottom or bottom–to–top. This will be important when re–connecting the cables. At the rear of the card the jumper will be connected to the upper of the two RF connections
5	Cables are labeled and color coded, if not, then tag each cable as it is disconnected. Once cables are disconnected, pull out card.
6	Place in/on an anti–static container or surface.

Install cMPC

Follow the procedure in Table 9-22 to install the cMPC.

Table 9-22: Procedure to Install cMPC	
Step	**Action**
1	Put on an ESD wrist strap or other approved grounding device.
2	If not already done, remove new cMPC from its anti–static container.
3	Verify that the cMPC is set up for using 1 or 2 Compact PAs. See Figure 9-15. • For 1 PA, the jumper should be connected to the “Default” RF connector. • For 2 PAs, the jumper should be connected to the “Alternate” RF connector.
4	*** IMPORTANT** To insert the cMPC with minimum of trouble, make sure the RF cabling is held away towards the side of the frame in single file and in order they were disconnected. Insert card and carefully slide into slot far enough to attach cables. Attach RF cables (each cable is labeled and color coded)
5	Simultaneously pull both latches forward and slip the tips behind the frame.
6	Push the latches in to engage the card with the backplane and lock the tabs.
7	Note that the LED turns red briefly, then green. Green indicates that it has passed all self–tests and is functional.
8	Notify operator that the cMPC replacement procedure is completed. Have operator verify that old alarms have cleared and no new alarms are reported.
9	If no other action is needed, install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Figure 9-14: Compact Multi–Coupler Preselector Card

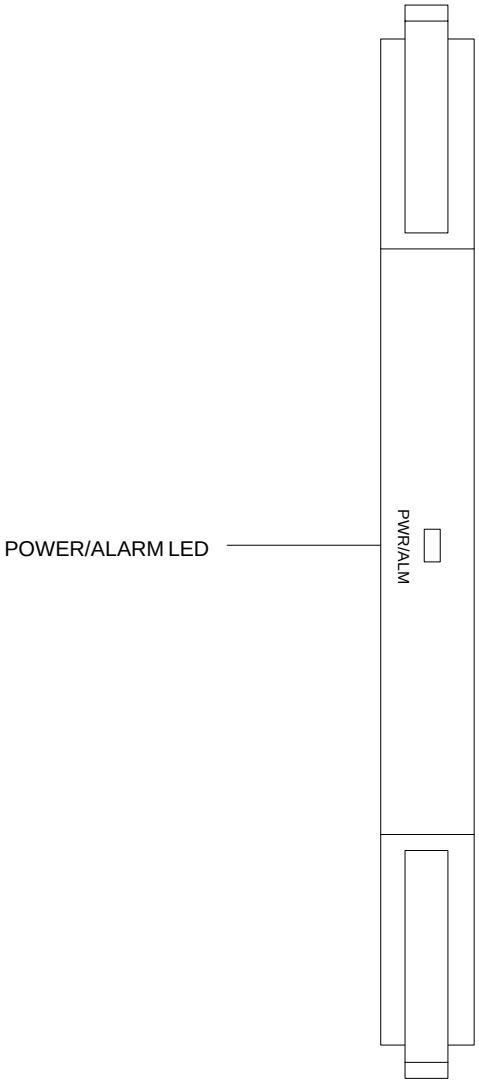
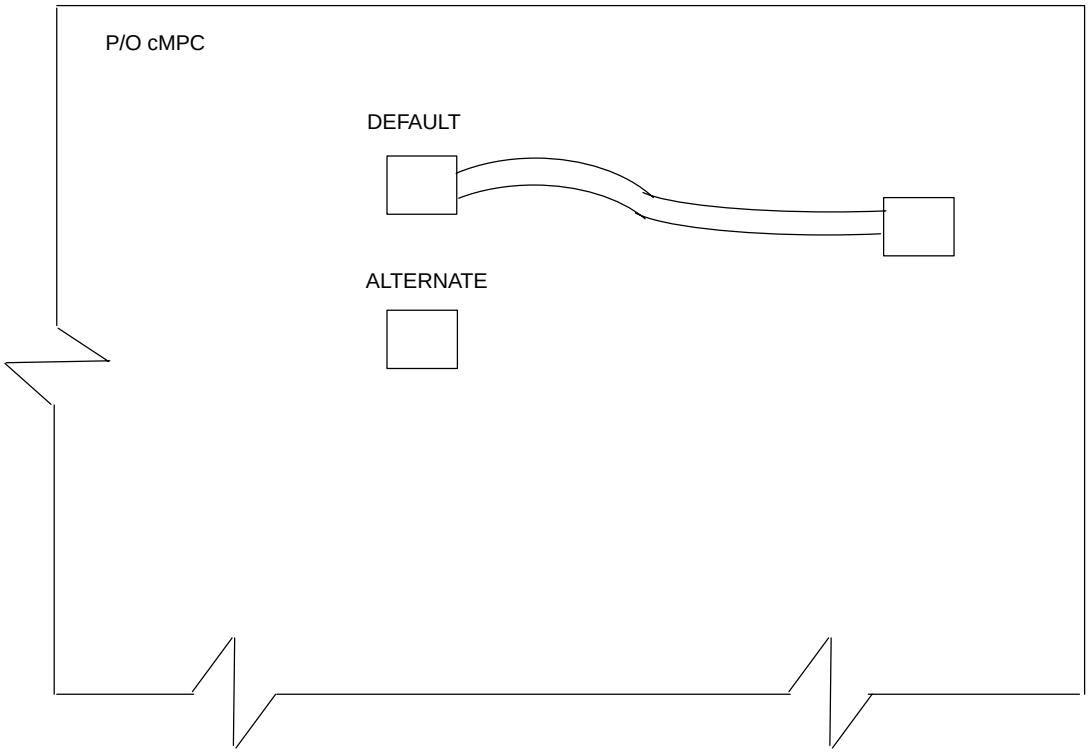


Figure 9-15: Compact Multi–Coupler Preselector Card Jumper Connection



Compact MPC shown is set for 1 Power Amplifier

Introduction

The procedures in this section cover only the MCC Data Only (MCC–DO) card. If in use, this card utilizes MCC slots 1 and 2, with slot 3 containing an MCC–1X card or a filler panel.

EV–DO FRU Information

If there are conflicts between the procedures presented here and the material presented in *1xEV–DO Field Replaceable Unit (FRU) Procedures – 68P09257A99*, the manual takes precedence.

System Impact/Considerations

If the Multi–Channel CDMA Data Only card fails or is removed from service, there will be an interruption in call processing.

LED States

The MCC–DO card uses four front panel LEDs to indicate its status. Table 9-23 lists the states of the MCC–DO LEDs.

Table 9-23: MCC–DO LED States

LED	Color	Status	SPAN
PWR/ALM	Green	ON	INS or INS_SBY or INS_ACT
	Red	ON	Not installed or OOS.
		Blinking	Installed in wrong slot.
	—	OFF	Off
ACT	Green	ON	INS_ACT
		Blinking	OOS or INS_SBY
	Red	ON	Not Initialized.
		Blinking	Installed in wrong slot.
	Orange	ON	INS
	—	OFF	Off
SPAN	Red	ON	Major alarms on a provisioned span.
	Orange	ON	Minor alarms on a provisioned span.
	Green	ON	No alarms on a provisioned span.
	—	OFF	No Provisioned span.
ENET	Orange	ON	Both ENET and TAT links are up.
	Green	ON	Either ENET or TAT link is up.

table continued on next page

Table 9-23: MCC–DO LED States			
LED	**Color**	**Status**	**SPAN**
	—	OFF	Both ENET and TAT link are down.
NOTE: In the case of some spans on a given MCC–DO having Yellow alarms, and other spans having Red alarms, a Red Alarm state should be indicated.			

Required Items

Documents

None.

Tools

None.

Replacement Items

One MCC–Data Only card (SGLN6146)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the MCC–DO card will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

If desired, record the BTS and MCC–DO serial number of the failed unit in Table 9-63 at the end of this chapter.

Remove MCC–DO Card

Follow the procedure in Table 9-24 to remove the MCC–DO card.

Table 9-24: Procedure to Remove MCC–DO Card	
Step	**Action**
	△ **WARNING** Disengaging the MCC–DO card from the CCP2 Shelf will cause the site to be shutdown due to the disruption in signal processing.
1	Notify operator that the MCC–DO card replacement procedure is starting and that alarms can be expected.

table continued on next page

Table 9-24: Procedure to Remove MCC–DO Card	
Step	**Action**
2	Put on the ESD wrist strap or other approved grounding device.
3	If not already done, remove BTS front panel cover by grasping finger grooves at the top and bottom and pulling simultaneously.
4	If not already done, label cables prior to disconnecting them from front panel connectors.
5	Simultaneously press the locking tabs on both the top and bottom card latches
6	Pull the latches out to disengage the card from the shelf and slide the card out.
7	Place in/on an anti–static container or surface.

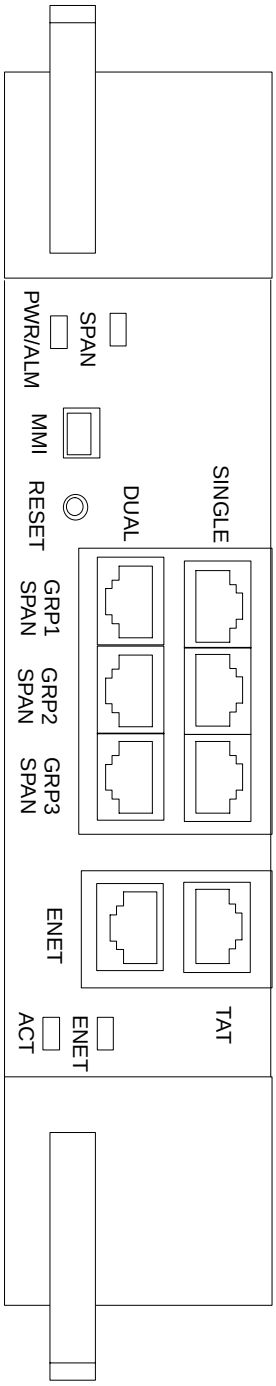
Install MCC–DO Card

Follow the procedure in Table 9-25 to install the MCC–DO card.

Table 9-25: Procedure to Install MCC–DO Card	
Step	**Action**
1	Put on the ESD wrist strap or other approved grounding device.
2	If not already done, remove new MCC–DO card from anti–static container.
3	Slide card into slot and simultaneously pull both latches forward and slip the tips behind the frame.
4	Push the latches in to engage the card with the backplane and lock the tabs.
5	Note that the PWR/ALM LED turns red briefly, then green. Green indicates that it has passed all self–tests and is functional.
6	Connect cabling to front panel connectors.
7	Notify operator that the MCC–DO replacement procedure is completed. Have operator verify that old alarms have cleared and no new alarms are reported.
8	If there are no other actions required, install BTS front panel cover by setting it in place and pushing on the top and bottom simultaneously.

Figure 9-16: MCC–DO Card

NOTE:
1. The DO card physically occupies MCC slots 1 & 2, but only plugs into one backplane connector



Compact BTS Input and Output Board

Introduction

The procedures in this section cover only the removal and installation of the Compact BTS Input and Output (CBIO) Board.

System Impact/Considerations

If the CBIO board is failing or has failed there will be an interruption in call processing. The entire site will be down for replacement of this component.

CBIO Indicators

The CBIO Board has six indicators that provide status of several components of the BTS. The six LEDs are +28V, +15V, HSO, MOD, +5V, and ISO.

+28V LED

The +28V LED indicates the status of the DC power that is supplied to the Remote GPS or the RF GPS module. This LED will come on after the CSA initializes. When the CSA is trying to determine the cable delay, this LED will go OFF and ON, but it should stay ON once the delay is successfully completed. If the LED remains OFF, it may indicate a problem with either the RGPS or RF GPS, or the CSA FRU.

+15V LED

The +15V LED indicates the status of the DC power that is coming from the DC–DC converter module to the CBIO Board. This LED should always be ON, unless there is a blown fuse on the CBIO Board.

HSO LED

The HSO LED indicates the status of the DC power that is supplied to the HSO or MSO module. This LED will be OFF, if the HSO or MSO is not connected; otherwise, it is ON. Faulty operation of the LED may be related to problems with the main +15V supply to the CBIO Board, also indicated by the +15V LED.

MOD LED

The MOD LED indicates the status of the DC power that is supplied to the modem module. However, this LED is not dependent on whether the modem module is plugged in or not, and should be always ON. If the CBIO +5V supply is okay, then the LED being OFF could indicate a problem with the modem module, the wiring, or a resettable fuse on the CBIO Board.

+5V LED

The +5V LED indicates the status of the DC power that is coming from the DC–DC converter module to the CBIO Board. This LED should always be ON, unless there is a blown fuse on the CBIO Board.

ISO LED

The ISO LED indicates the status of the isolated DC voltage that is used for the customer inputs. This LED should always be ON, if the +5V supply to the CBIO Board is okay. If the LED is OFF, it indicates a problem on the CBIO Board.

Required Items

Documents

None

Tools

Screwdriver with T20 star bit

Replacement Items

One CBIO Board.

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the CBIO will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

If desired, record the BTS and CBIO Board serial number of the failed unit in Table 9-64 at the end of this chapter.

Remove CBIO Board

Follow the procedure in Table 9-26 to remove the CBIO Board.

NOTE

To perform the following procedure, the BTS must be removed from the Mounting Plate.

Table 9-26: Procedure to Remove CBIO Board

Step	Action
1	Notify operator that the CBIO Board replacement procedure is starting and that alarms can be expected.
2	Perform the Site Shutdown procedure in Table 10-2.

table continued on next page

Table 9-26: Procedure to Remove CBIO Board	
Step	**Action**
	△ WARNING By pulling out the circuit breaker, power to the BTS will be interrupted, causing the BTS to go off line.
3	Disengage DC power to the BTS by pulling out the 20 A breaker at the rear of the BTS.
4	If possible, turn off DC power at the source. Verify that DC power source is OFF.
5	Disconnect all cabling to the BTS.
6	Put on the ESD wrist strap.
7	At the rear of the BTS, remove the four M4 screws securing the SDCX or SDCX cover plate to the CBIO Board. Gently remove SDCX module from the CBIO connector or SDCX cover plate.
8	Use a driver with a T20 star bit to remove 6 M4 screws securing CBIO to housing. See Figure 9-17.
	*** IMPORTANT** DO NOT yank out the CBIO Board, there are cables connected at the bottom rear side of the board.
9	Grasp holes and gently pull on CBIO Board to disengage it from the backplane. See Figure 9-17. Note that there are internal cables connected at the bottom.
10	If not already done, label internal cables before disconnecting them.
11	Remove CBIO Board and place in an anti–static container.

Install CBIO Board

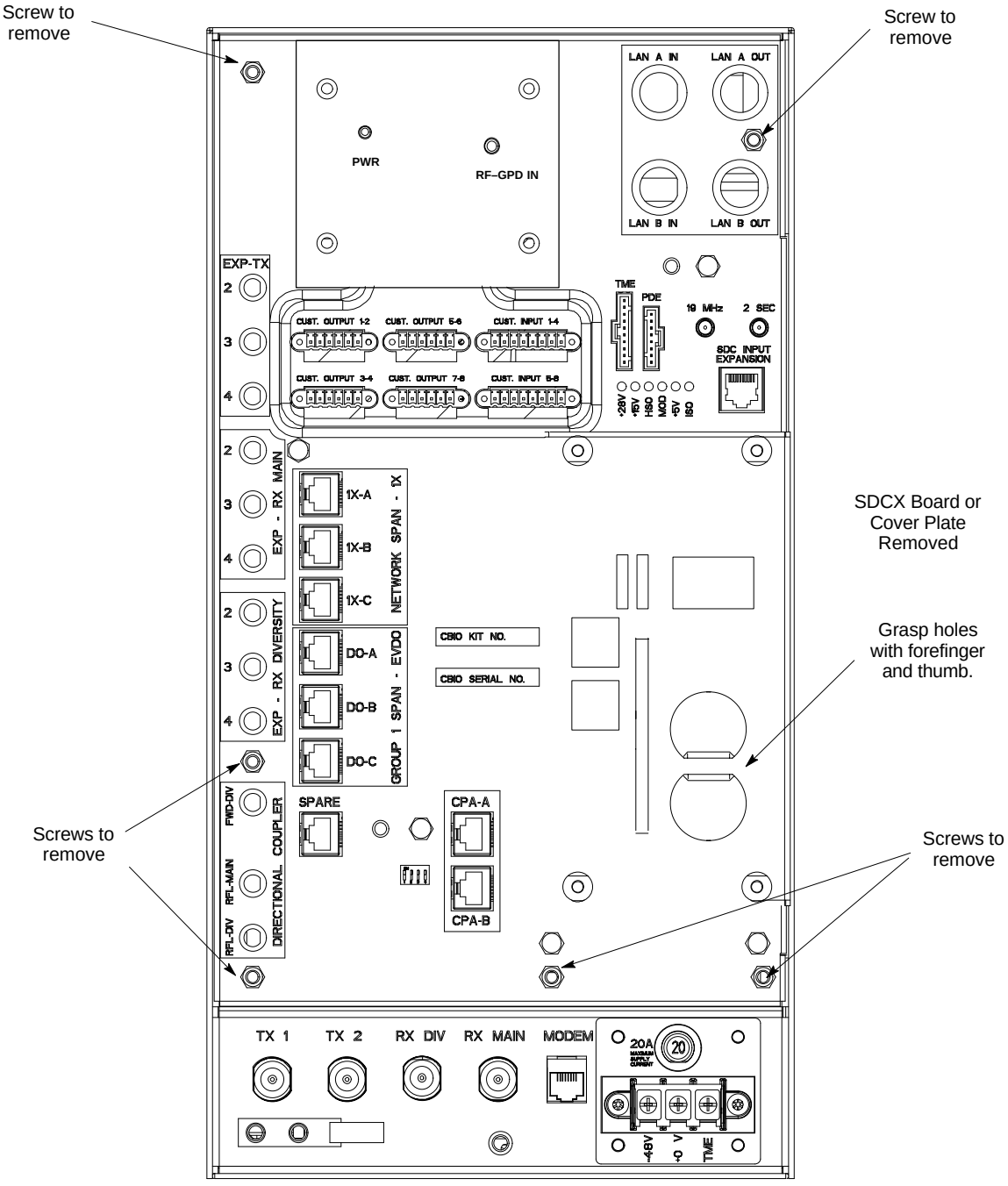
Follow the procedure in Table 9-27 toinstall the CBIO Board.

Table 9-27: Procedure to Install CBIO Board	
Step	**Action**
1	Put on the ESD wrist strap.
2	If not already done, remove CBIO Board from its anti–static container.
3	Set CBIO Board onto rear of BTS and connect the internal cables, in the same order as previously connected.
4	Carefully align the CBIO panel to the frame and gently seat the CBIO connector into the backplane connector.
5	Once aligned, with one hand grasp BTS and with the other hand gently push the CBIO until it sets up against the housing.
6	Use a driver with a T20 star bit to secure the CBIO to the frame using 6 M4 screws. Torque screws to 2.3 N–M (20 in–lbs). See Figure 9-17.
7	Install SDCX or SDCX cover plate and secure to CBIO using 4 M4 screws. Torque screws to 2.3 N–M (20 in–lbs).

table continued on next page

Table 9-27: Procedure to Install CBIO Board	
Step	**Action**
8	Disengage from the ESD wrist strap.
9	Connect all external cabling.
10	Verify that DC power source is OFF before re–connecting to the BTS. Turn on DC power source.
11	Notify the operator know that the replacement procedure is completed, and that power up will begin shortly.
12	Allow the BTS to power up by pushing in the 20 A circuit breaker at the rear of the BTS.
13	Perform the Site Startup procedure in Table 10-5.
14	Perform an optimization of the cards, using the procedures in the *Optimization/ATP* section of this manual.
15	After BTS is optimized and is operating within normal parameters, install the BTS front cover panel by setting it in place and pushing on the top and bottom simultaneously.
16	Notify operator that optimization is complete.

Figure 9-17: CBIO Board with SDCX Removed



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Introduction

The procedures in this section cover only the removal and installation of the Synchronization Daisy–Chaining and eXpansion (SDCX) Module.

System Impact/Considerations

If the SDCX fails it will cause a disruption in call processing by upsetting the timing of the BTSs.

Required Items

Documents

None

Tools

Star screw driver.

Replacement Items

One SDCX Module (SGLN6153)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the SDCX module will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

If desired, record the BTS and SDCX serial number of the failed unit in Table 9-65 at the end of this chapter.

Remove SDCX

Follow the procedure in Table 9-28 to remove the SDCX Module.

Table 9-28: Procedure to Remove SDCX

Step	Action
1	Notify operator that the SDCX Module replacement procedure is starting and that alarms can be expected.
2	Put on an ESD wrist strap or other approved grounding device.

table continued on next page

Table 9-28: Procedure to Remove SDCX	
Step	**Action**
3	Disconnect all cables from SDCX Module.
4	At the rear of the BTS, use a T20 screw driver to remove four M4 screws securing SDCX Module to the CBIO Board. See Figure 9-19.
5	Gently remove SDCX Module (disconnect it from the SDCX connector in the CBIO Board), and place it in/on an anti–static container or surface.

Install SDCX

Follow the procedure in Table 9-29 to install the SDCX.

Table 9-29: Procedure to Install SDCX	
Step	**Action**
1	Put on an ESD wrist strap or other approved grounding device.
2	If not already done, remove new SDC Module from its anti–static container
3	Install SDCX module onto the CBIO Board.
4	Align connector on bottom of SDCX Module with connector on on CBIO Board and gently push down on module. See Figure 9-20.
5	Secure module to CBIO Board using four M4 screws. Torque screws to 2.3 N–M (20 in–lbs).
6	Notify the operator know that the replacement procedure is complete.

Figure 9-18: SDCX Module

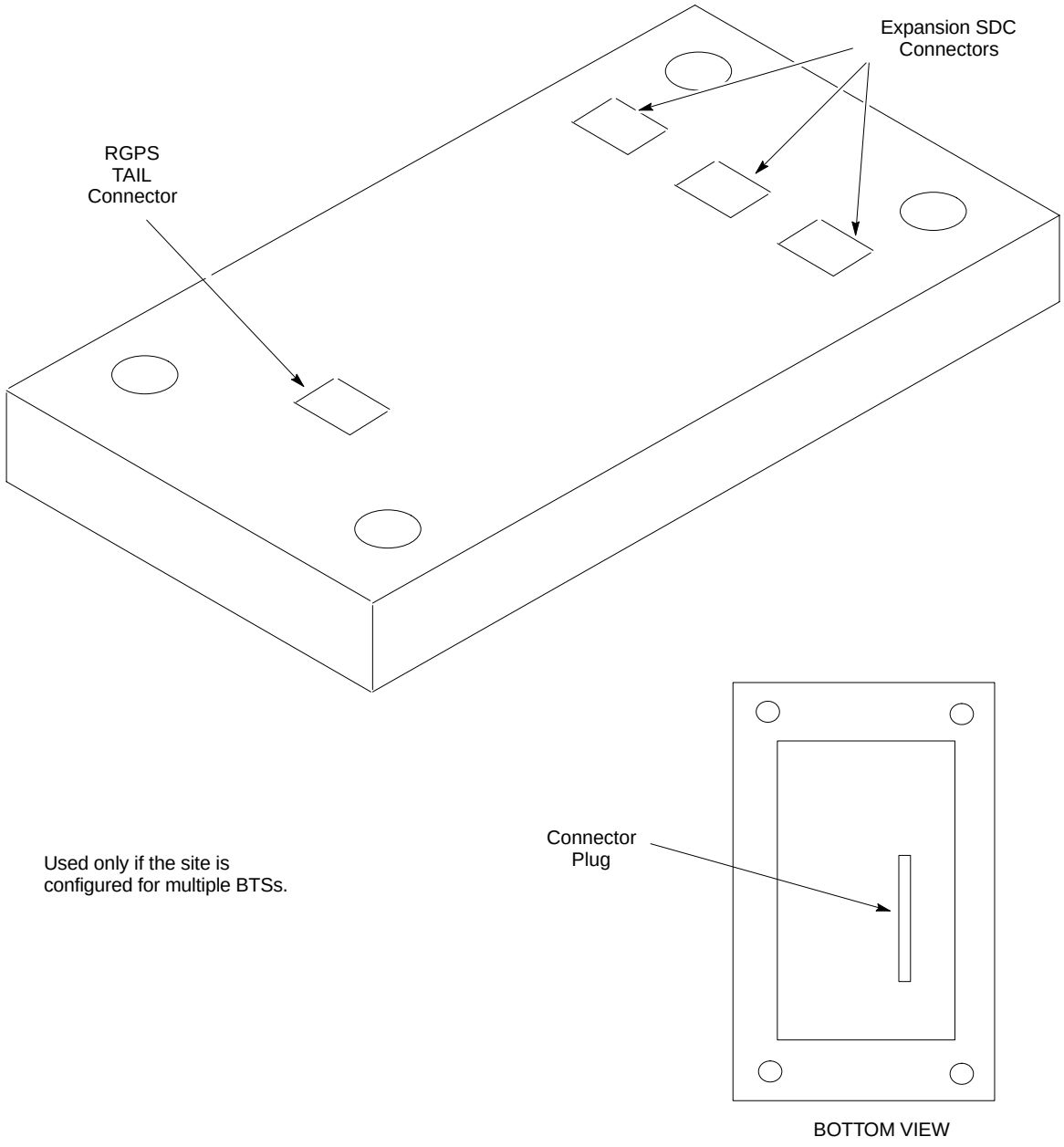

Figure 9-19: CBIO Board with SDCX

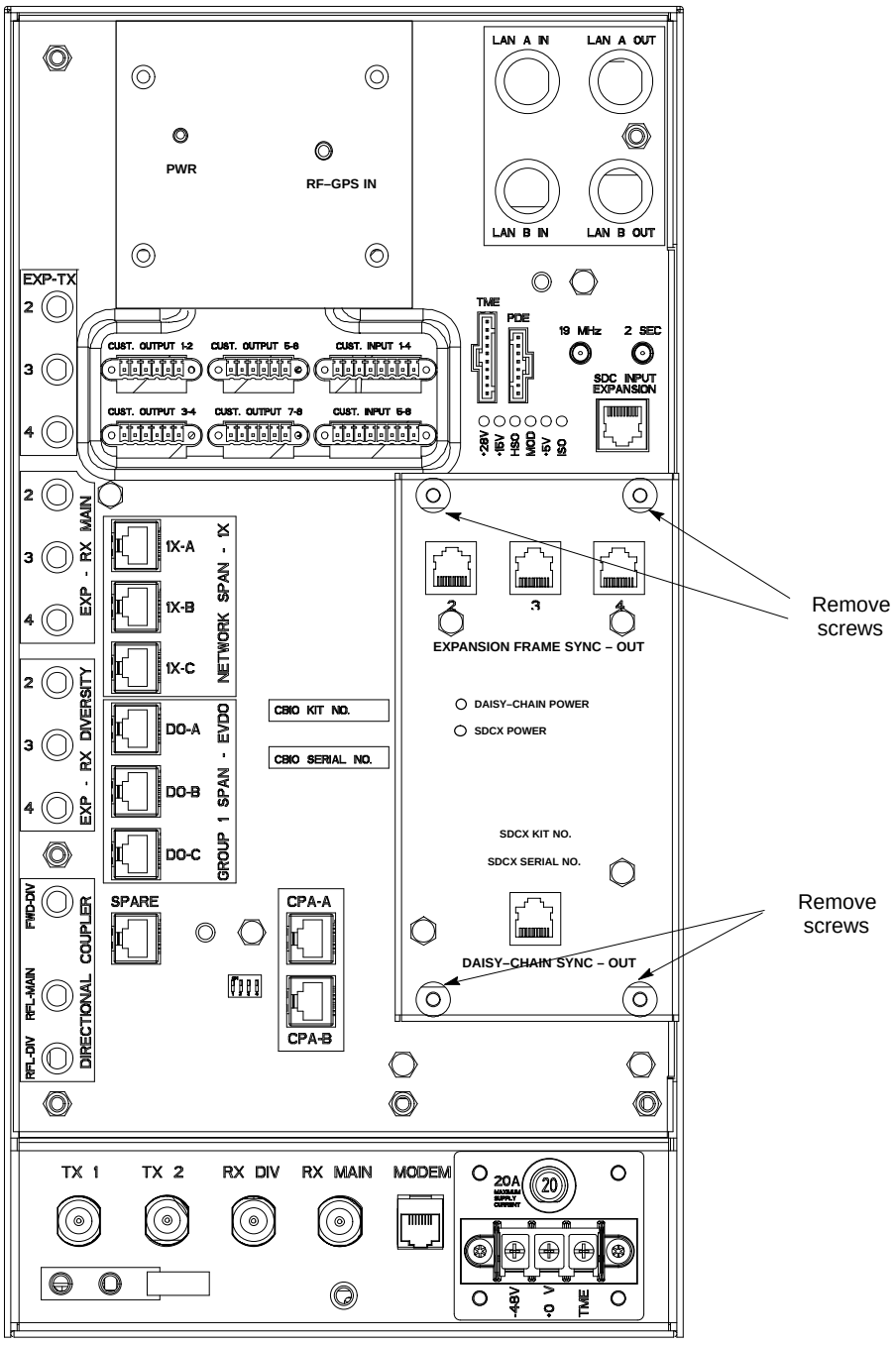

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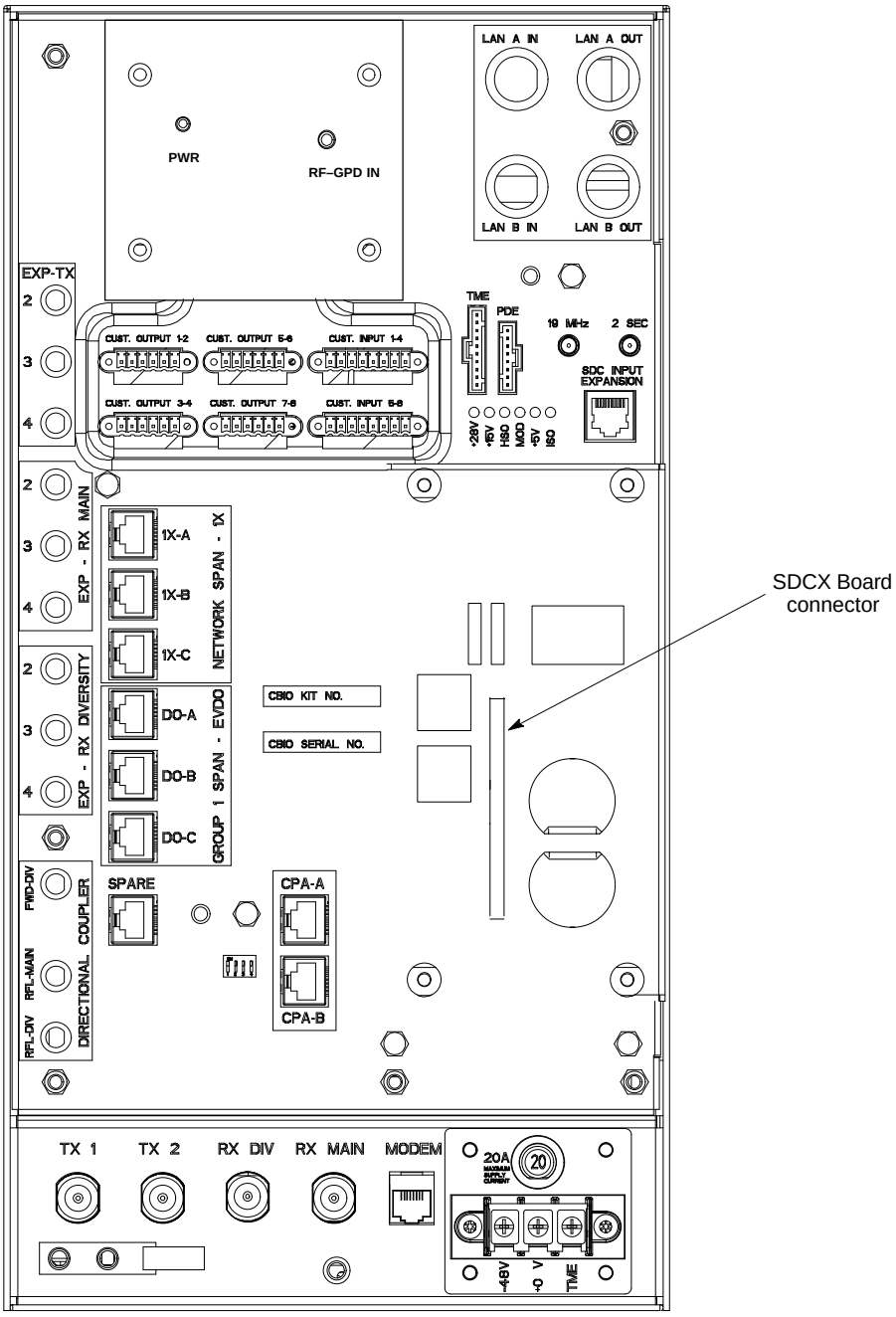
Figure 9-20: CBIO Board with SDCX Removed



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RF Filter Tray

Introduction

The procedures in this section cover only the removal and installation of the RF Filter Tray.

System Impact/Considerations

If either of the filters on the tray is failing or has failed there will be an interruption in call processing. The entire site will be down for replacement of this component.

Required Items

Documents

None

Tools

Screwdriver with T20 star bit

Replacement Items

- 800 MHz Filter Kit – 0 cCLPA (SGLF4152)
- 800 MHz Filter Kit – 1 cCLPA (SGLN6223)
- 800 MHz Filter Kit – 2 cCLPA (SGLN6222)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the Filter Tray will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

If desired, record the BTS and Filter Tray serial number of the failed unit in Table 9-66 at the end of this chapter.

If the BTS is in an outdoor configuration, perform Table 9-51, Remove TME. The BTS removal is embedded in the procedure.

Remove Filter Tray

Follow the procedure in Table 9-30 to remove the Filter Tray.

NOTE

To perform the following procedure, the BTS must be removed from the Mounting Plate.

Table 9-30: Preparation Procedure for Removing the Filter Tray

Step	Action
1	Notify operator that the Filter Kit replacement procedure is starting and that alarms can be expected.
2	Perform the Site Shutdown procedure in Table 10-2.
3	Remove 3 M6 screws and washers securing BTS to Mounting Plate.
	△ WARNING By pulling out the circuit breaker, power to the BTS will be interrupted, causing the BTS to go off line.
4	Disengage DC power to the BTS by pulling out the 20 A breaker at the rear of the BTS.
5	If possible, turn off DC power at the source. Verify that DC Power source is OFF.
6	Disconnect all cabling to the BTS.
7	Remove BTS from Mounting Plate and place on a stable, flat surface.
8	Put on an ESD wrist strap or other approved grounding device.Ensure wrist strap is properly grounded. Do not ground to BTS chassis.
9	*If not already done*, remove BTS front cover panel by grasping finger grooves at the top and bottom and pulling.
10	Pull out all the circuit cards and modules.
11	*If not already done*, remove HSO Module cover panel by turning latch, gently pulling it open, and sliding it out towards the right. The panel has a flange that fits into a slot in the chassis.
12	Reach fingers in along the right side and feel for the clip that holds on the lower front right side vent panel, and pop out the panel.
13	Using the hole left by the front right side vent panel, reach fingers in along the divider and press on the clip holding the rear right side vent panel and pop it out.
14	If the BTS is equipped with Filter Tray Kit SGLF4152, proceed to Table 9-31. If the BTS is equipped with Filter Tray Kit SGLN6223, proceed to Table 9-35. If the BTS is equipped with Filter Tray Kit SGLN6222, proceed to Table 9-37.

9

Filter Tray Kit SGLF4152 Removal Procedure

Follow the procedure in Table 9-31 to remove the Filter Tray.

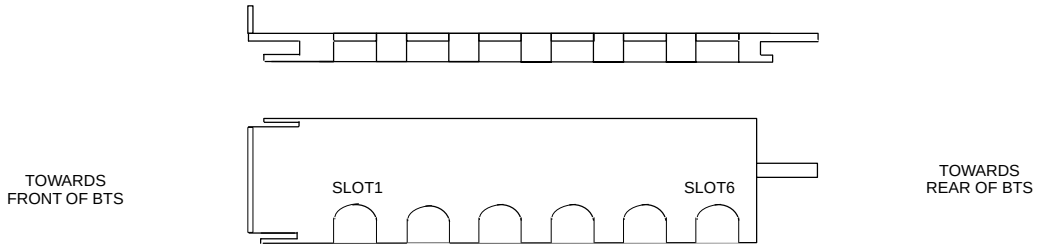
Table 9-31: Procedure to Remove Filter Tray Kit SGLF4152	
Step	**Action**
1	Perform the preparation procedure described in Table 9-30.
2	Using a screwdriver with T20 star bit, remove two screws securing the Filter Tray Assembly to the chassis.
3	Disconnect the RF cables (Input) in the following order: – RX MAIN connector (blue) RX DIV connector (green) RX RFL–MAIN connector (blue) RX RFL–DIV connector (green) RX FWD–DIV connector (green)
4	Hold cables to one side and slide out filter tray to expose cables attached to rear connector (Output) of each filter.
5	Disconnect RX MAIN cable (blue).
6	Disconnect RX DIV cable (green).
7	Remove Filter Tray completely.

cMPC Cable Clip Removal Procedure

Follow the procedure in Table 9-32 to remove the cMPC cable clip. The cMPC cable clip is located just inside the front of the BTS, on the CCP2 shelf on the right side (looking into the BTS).

Table 9-32: Procedure to Remove cMPC Cable Clip	
Step	**Action**
	NOTE cMPC cable clip only needs to be removed if filter tray is not replaced with the same type. Clip removal is to accommodate other filter tray configurations or cable replacement.
1	Using a small, flat blade screwdriver, reach in and simultaneously lift tab and push towards the front of the BTS. See Figure 9-21.
2	Using thumb and forefinger grasp tab (narrow end), and pull up and towards rear to pop out clip.
3	Remove clip and place a side.
4	Remove the RX MAIN (blue) and RX DIV (green) cables.

Figure 9-21: cMPC Cable Clip



cMPC Cable Clip Installation Procedure

Follow the procedure in Table 9-33 to install the cMPC cable clip.

Table 9-33: Procedure to Install cMPC Cable Clip

Step	Action
1	Properly position cables in clip (order defined in installation procedure).
2	Insert clip by sliding in wide flange end in first (towards front of BTS)
3	Using a thumb, press on clip and push towards rear, slipping clip into place.
4	Route cables inside BTS towards filter tray.
5	Return to filter tray installation procedure.

Install Filter Tray Kit SGLF4152

Follow the procedure in Table 9-34 to install the Filter Tray. Refer to Figure 9-22.

Table 9-34: Procedure to Install Filter Tray Kit SGLF4152

Step	Action
1	Put on an ESD wrist strap or other approved grounding device. Ensure that wrist strap is properly grounded. **NOTE** ***Do not*** attach ESD wrist strap to BTS chassis.
2	*If not already installed*, the following cables must be installed: – RX RFL–MAIN (blue) – RX RFL–DIV (green) – RX FWD–DIV (green)
3	Remove the CBIO Board by performing the procedure described in Table 9-26.

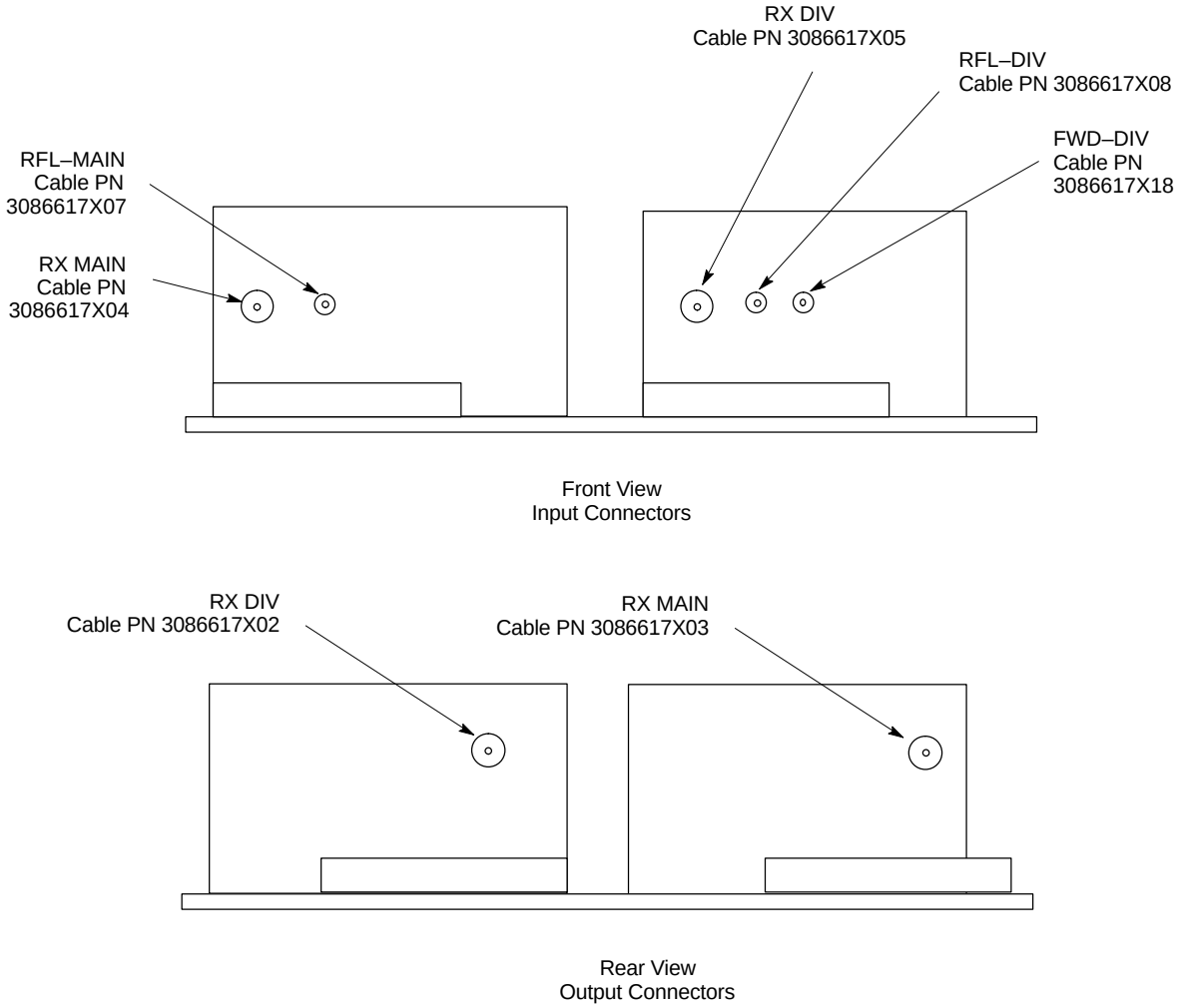
table continued on next page

Table 9-34: Procedure to Install Filter Tray Kit SGLF4152	
Step	**Action**
4	Connect cables to the RFL–MAIN, RFL–DIV, and FWD–DIV connectors at the inside rear of the BTS, respectively. Use a 5/16–in wrench to secure cables to connectors. Torque to 1 N–M.
5	**NOTE** Cables have two heat shrink sleeves with a slight separation between them. The cMPC cable clip slides into this separation to hold the cables in place. Install RX MAIN and RX DIV cables as follows: – Ensuring the cable is on the inside of BTS, place RX DIV (green) cable into slot 1 of cMPC cable clip (Connector labeled RX DIV faces towards the front of BTS) – Place RX MAIN (blue) cable into slot 2 of cMPC cable clip (Connector labeled RX MAIN faces towards the front of BTS). – Place (red) cable into slot 5. – Place (black) cable into slot 6.
6	Perform Table 9-33 to install the cMPC cable clip. (If it had been removed.)
7	Set Filter Tray on the edge of its slot and connect the RX MAIN (blue) and RX DIV (green) cables to the output connector at the rear of their respective filters. See Figure 9-22.
8	Slide Filter Tray into BTS chassis and secure using 2 M4 screws. Torque to 2.3 N–M (20 in–lbs).
9	Connect the following cables: – RX MAIN (blue) to RX MAIN input – RX DIV (green) to RX DIV input – RX RFL–MAIN (blue) to RFL–MAIN input – RX RFL–DIV (green) to RFL–DIV input – RX FWD–DIV (green) to FWD–DIV input See Figure 9-22.
10	Use tie–wraps to dress cables as necessary.
11	Install the rear right side vent panel. Ensure that the clip end faces the front of the BTS or towards the left.
12	Install the front right side vent panel. Ensure that the clip end faces the front of the BTS or towards the left.
13	Make sure the vent panels are flush with the side of the BTS.
14	Install CBIO Board following the procedure in Table 9-27.
15	Install circuit cards and modules, ensure they are seated properly.
16	Install HSO Module cover panel by sliding its flange into the slot, closing, and latching it in place.
17	Disengage from the ESD wrist strap.
18	Set the BTS on the Mounting Plate and secure using 3 M6 screws and isolation washers. Torque to 5 N–M (44 in–lbs).

table continued on next page

Table 9-34: Procedure to Install Filter Tray Kit SGLF4152	
Step	**Action**
19	Connect all external cabling.
20	Verify that DC power source is OFF before re–connecting to the BTS. Turn on DC power source.
21	Notify the operator know that the replacement procedure is completed, and that power up will begin shortly.
22	Allow the BTS to power up by pushing in the 20 A circuit breaker at the rear of the BTS.
23	Perform the Site Startup procedure in Table 10-5.
24	Perform an optimization of the cards, using the procedures in the *Optimization/ATP* section of this manual.
25	After BTS is optimized, and it is operating within normal parameters, install the BTS front cover panel by setting it in place and pushing on the top and bottom simultaneously.
26	Notify operator that optimization is complete.

Figure 9-22: Filter Tray Connectors and Cable Part Numbers



Filter Tray Kit SGLN6223 Removal Procedure

Follow the procedure in Table 9-35 to remove the Filter Tray Kit (SGLN6223).

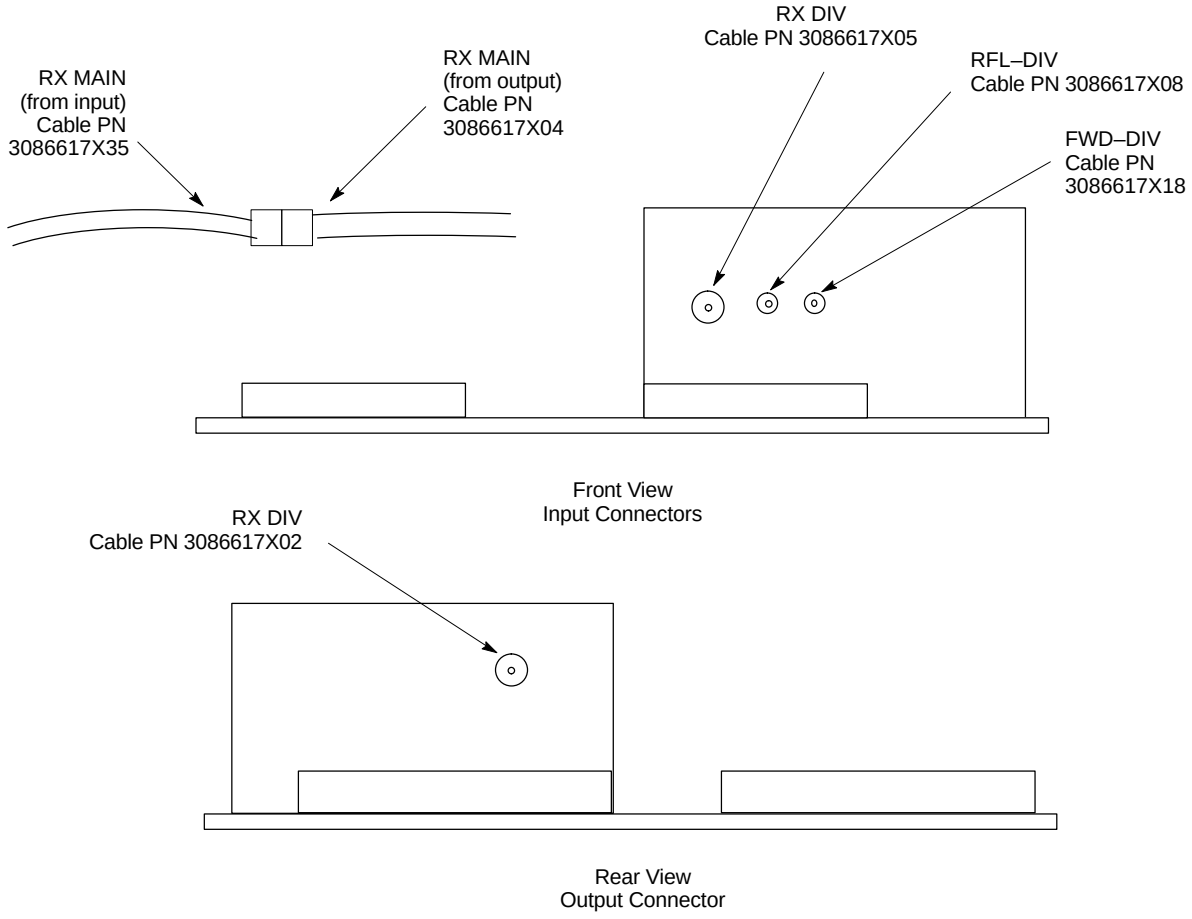
Table 9-35: Procedure to Remove Filter Tray Kit SGLN6223

Step	Action
1	Perform the preparation procedure described in Table 9-30.
2	Using a screwdriver with T20 star bit, remove two screws securing the Filter Tray Assembly to the chassis.

table continued on next page

Table 9-35: Procedure to Remove Filter Tray Kit SGLN6223	
Step	**Action**
3	Disconnect the RF cables (Input) in the following order: – RX MAIN connector (blue) from RX MAIN connector RX DIV connector (green) RX RFL–DIV connector (green) RX FWD–DIV connector (green) See Figure 9-23
4	Hold cables to one side and slide out filter tray to expose cable attached to rear connector (Output) of the RX DIV filter.
5	Disconnect RX DIV (Output) cable (green).
6	Remove Filter Tray completely.

Figure 9-23: Filter Tray Connectors and Cable Part Numbers (SGLN6223)



Install Filter Tray Kit SGLN6223

Follow the procedure in Table 9-36 to install the Filter Tray. Refer to Figure 9-22.

Table 9-36: Procedure to Install Filter Tray Kit SGLN6223

Step	Action
1	Put on an ESD wrist strap or other approved grounding device. Ensure that wrist strap is properly grounded.
	NOTE ***Do not*** attach grounding devices to BTS chassis.
2	If the filter tray to be installed is different from the one removed, proceed to the appropriate filter tray installation procedure. Otherwise, proceed to step 5.
3	*If not already installed*, the following cables must be installed: – RX RFL–DIV (green) – RX FWD–DIV (green)
4	Remove the CBIO Board by performing the procedure described in Table 9-26.
5	Connect cables to the RFL–DIV and FWD–DIV connectors, respectively. Use a 5/16–in wrench to secure cables to connectors. Torque to 1 N–M.
6	**NOTE** Cables have two heat shrink sleeves with a slight separation between them. The cMPC cable clip slides into this separation to hold the cables in place. Install RX MAIN and RX DIV cables as follows: – Ensuring the cable is on the inside of BTS, place RX DIV (green) cable into slot 1 of cMPCcable clip (Connector labeled RX DIV faces towards the front of BTS) – Place RX MAIN (blue) cable into slot 2 of cMPC cable clip (Connector labeled RX MAIN faces towards the front of BTS). – Place (red) cable into slot 5. – Place (black) cable into slot 6.
7	Perform Table 9-33 to install the cMPC cable clip.
8	Set new Filter Tray into its slot and connect the input RX MAIN (blue) directly to output RX MAIN cable. Connect RX DIV (green) cable to the output connector at the rear of the RX DIV filter. See .
9	Slide Filter Tray into BTS chassis and secure using 2 M4 screws. Torque to 2.3 N–M (20 in–lbs).
10	Connect the following cables: – RX DIV (green) to RX DIV input – RX RFL–DIV (green) to RFL–DIV input – RX FWD–DIV (green) to FWD–DIV input See Figure 9-23.
11	Use tie–wraps to dress cables as necessary.

table continued on next page

Table 9-36: Procedure to Install Filter Tray Kit SGLN6223	
Step	**Action**
12	Install the rear right side vent panel. Ensure that the clip end faces the front of the BTS or towards the left.
13	Install the front right side vent panel. Ensure that the clip end faces the front of the BTS or towards the left.
14	Make sure the vent panels are flush with the side of the BTS.
15	Install CBIO Board following the procedure in Table 9-27.
16	Install circuit cards and modules, ensure they are seated properly.
17	Install HSO Module cover panel by sliding its flange into the slot, closing, and latching it in place.
18	Disengage from the ESD wrist strap.
19	Set the BTS on the Mounting Plate and secure using 3 M6 screws and isolation washers. Torque to 5 N–M (44 in–lbs).
20	Connect all external cabling.
21	Verify that DC power source is OFF before re–connecting to the BTS. Turn on DC power source.
22	Notify the operator know that the replacement procedure is completed, and that power up will begin shortly.
23	Allow the BTS to power up by pushing in the 20 A circuit breaker at the rear of the BTS.
24	Perform the Site Startup procedure in Table 10-5.
25	Perform an optimization of the cards, using the procedures in the *Optimization/ATP* section of this manual.
26	After BTS is optimized, and it is operating within normal parameters, install the BTS front cover panel by setting it in place and pushing on the top and bottom simultaneously.
27	Notify operator that optimization is complete.

Filter Tray Kit SGLN6222 Removal Procedure

Follow the procedure in Table 9-37 to remove the Filter Tray Kit (SGLN6222).

Table 9-37: Procedure to Remove Filter Tray Kit SGLN6222	
Step	**Action**
1	Perform the preparation procedure described in Table 9-30.
2	Disconnect the cables in the following order: – RX MAIN connector (X35, blue) from RX MAIN (X04, blue) connector RX DIV connector (X36, green) from RX DIV (X05, green) connector See Figure 9-24.
3	Remove cMPC cable clip per Table 9-32, if necessary

Install Filter Tray Kit SGLN6222

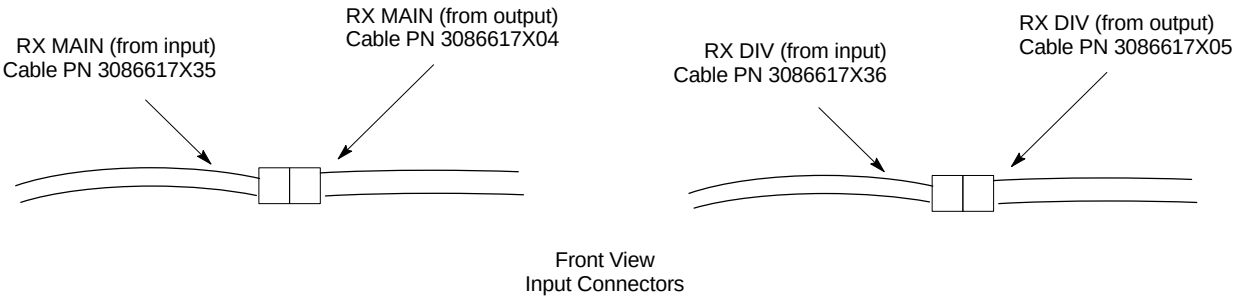
Follow the procedure in Table 9-38 to install the Filter Tray.

Table 9-38: Procedure to Install Filter Tray Kit SGLN6222	
Step	**Action**
1	Put on an ESD wrist strap or other approved grounding device. Ensure that wrist strap is properly grounded.
	NOTE ***Do not*** attach ESD wrist strap to BTS chassis.
2	If the filter tray to be installed is different from the one removed, proceed to the appropriate filter tray installation procedure. Otherwise, proceed to step 5.
	NOTE Cables have two heat shrink sleeves with a slight separation between them. The cMPC cable clip slides into this separation to hold the cables in place.
3	Install RX MAIN and RX DIV cables as follows: – Ensuring the cable is on the inside of BTS, place RX DIV (green) cable into slot 1 of cMPC cable clip (Connector labeled RX DIV faces towards the front of BTS) – Place RX MAIN (blue) cable into slot 2 of cMPC cable clip (Connector labeled RX MAIN faces towards the front of BTS). – Place (red) cable into slot 5. – Place (black) cable into slot 6. See Figure 9-24.
4	Perform Table 9-33 to install the cMPC cable clip. (If it had been removed.)
5	Connect the input RX MAIN (blue) directly to output RX MAIN cable. Connect input RX DIV (green) directly to the output RX DIV cable
6	Use tie–wraps to dress cables as necessary.
7	Install the rear right side vent panel. Ensure that the clip end faces the front of the BTS or towards the left.

table continued on next page

Table 9-38: Procedure to Install Filter Tray Kit SGLN6222	
Step	**Action**
8	Install the front right side vent panel. Ensure that the clip end faces the front of the BTS or towards the left.
9	Make sure the vent panels are flush with the side of the BTS.
10	Install circuit cards and modules, ensure they are seated properly.
11	Install HSO Module cover panel by sliding its flange into the slot, closing, and latching it in place.
12	Disengage from the ESD wrist strap.
13	Set the BTS on the Mounting Plate and secure using 3 M6 screws and isolation washers. Torque to 5 N–M (44 in–lbs).
14	Connect all external cabling.
15	Verify that DC power source is OFF before re–connecting to the BTS. Turn on DC power source.
16	Notify the operator know that the replacement procedure is completed, and that power up will begin shortly.
17	Allow the BTS to power up by pushing in the 20 A circuit breaker at the rear of the BTS.
18	Perform the Site Startup procedure in Table 10-5.
19	Perform an optimization of the cards, using the procedures in the *Optimization/ATP* section of this manual.
20	After BTS is optimized, and it is operating within normal parameters, install the BTS front cover panel by setting it in place and pushing on the top and bottom simultaneously.
21	Notify operator that optimization is complete.

Figure 9-24: Filter Tray Connectors and Cable Part Numbers (SGLN6222)



Introduction

The procedures in this section cover only the removal and installation of the Compact Combined Linear Power Amplifier (cCLPA).

System Impact/Considerations

If the cCLPA is failing or has failed there will be an interruption in call processing. While the BTS itself may be operational, there may not be reception or transmission depending on the fault.

Required Items

Documents

None

Tools

Screwdriver with T20 star bit

Replacement Item

- –48 VDC A Band (STTF4023)
- +27 VDC A Band (STTF4024)
- +27 VDC B Band (STTF4025)

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the Filter Tray will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

If desired, record the BTS and cCLPA serial number of the failed unit in Table 9-67 at the end of this chapter.

Remove cCLPA

Follow the procedure in Table 9-39 to remove the cCLPA.

Table 9-39: Procedure to Remove cCLPA

Step	Action
1	Notify operator that the cCLPA replacement procedure is starting and that alarms can be expected.
2	Have OMC–R operator disable the cCLPA and the associated BBX card(s).

table continued on next page

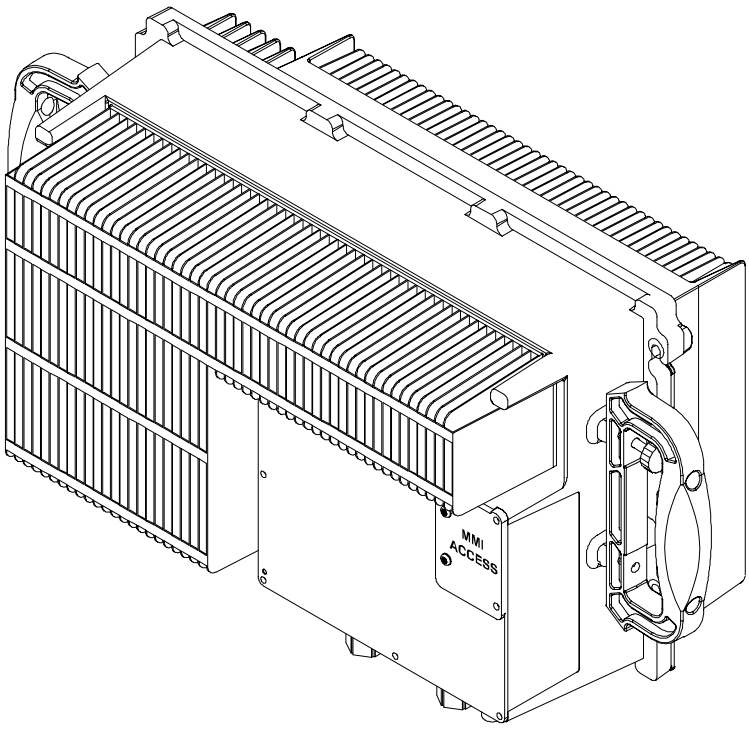
Table 9-39: Procedure to Remove cCLPA	
Step	**Action**
3	Turn off DC power to the cCLPA. For Outdoor configuration disengage the PDE circuit breaker to the cCLPA being removed.
4	Use a screwdriver with a T20 star bit to remove 8 screws securing I/O Board cover to the cCLPA.
5	Loosen screws securing DC power to the I/O Board DC connector.
6	Disconnect BTS Data Cable from the I/O Board.
7	Disconnect ground cable from the cCLPA.
8	Remove 4 M6 screws securing cCLPA to the rack.
9	Loosen 2 M6 screws securing cCLPA flange to the rack enough to safely remove the cCLPA.
10	Lift cCLPA up and away from the rack.

Install cCLPA

Follow the procedure in Table 9-40 to install the cCLPA.

Table 9-40: Procedure to Install cCLPA	
Step	**Action**
1	Lift cCLPA up and hang on two screws. Ensure that all screw holes align, then tighten screws to flange.
2	Install 4 M6 screws and secure cCLPA to rack.
3	Connect ground cable to cCLPA.
4	Route BTS Data Cable through cCLPA DATA opening and connect to RJ45 connector on cCLPA I/O Board.
5	Route DC power cable through DC IN opening and insert in DC Power terminal board. Ensure that the “–” wire goes to –48V and the “+” wire goes to 0V locations. Tighten the screws to secure the wires in place.
6	Install I/O Board cover panel and use a screwdriver with a T20 star bit to secure it to cCLPA using 8 M6 screws.
7	On cCLPA, pull out 20A circut breaker.
8	Turn on cCLPA DC power source.
9	Allow the cCLPA to power up by pushing in the 20 A circuit breaker.
10	Notify OMC–R operator that the cCLPA replacement procedure is completed.
11	Have OMC–R operator enable cCLPA and associated BBX card(s) that were taken out–of–service and verify that there are no new alarms.

Figure 9-25: Compact Combined Linear Power Amplifier



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Introduction

The procedures in this section cover only the removal and installation of the TME Power Distribution Assembly (PDA)

System Impact/Considerations

If the PDA is failing or has failed there will be an interruption in call processing. Power to the BTS and 1U unit will be interrupted.

Required Items

Documents

None

Tools

- Screwdriver with T20 star bit
- Torque Driver Wrench or Torque Ratchet Wrench
- Socket, 8 mm, 3/8–in or 1/4–in
- Flat head or Phillips head screw driver

Replacement Item

- PDA (STHN4066A)

Prerequisite

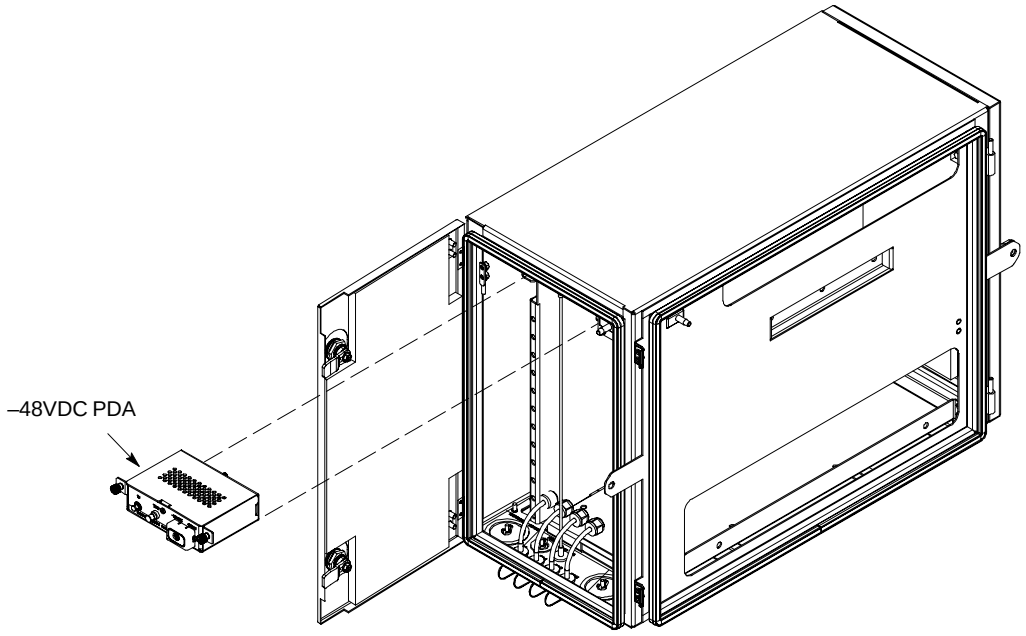
IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the PDA will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Figure 9-26: PDA Location



Replacement Procedure

If desired, record the BTS and PDA serial number of the failed unit in Table 9-68 at the end of this chapter.

Remove PDA

Follow the procedure in Table 9-41 to remove the PDA. See Figure 9-26 or Figure 9-28.

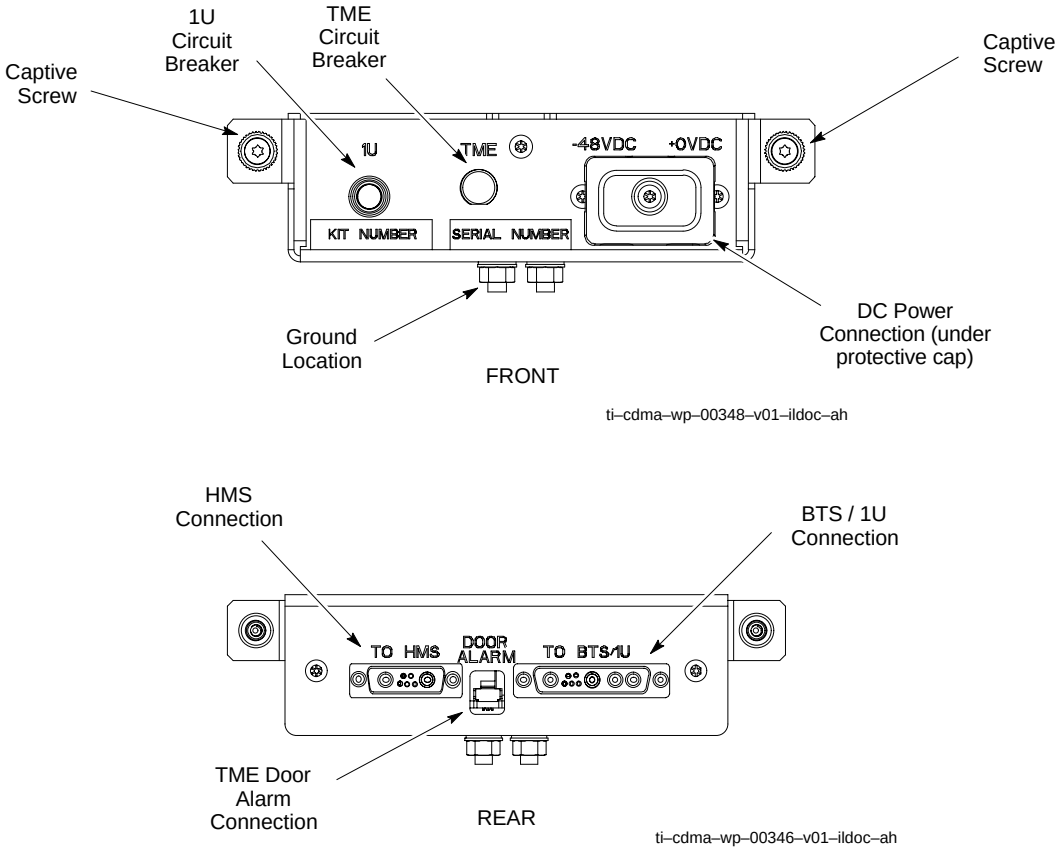
Table 9-41: Procedure to Remove PDA

Step	Action
1	Notify operator that the PDA replacement procedure is starting and that alarms can be expected.
2	Disengage circuit breakers by pulling or setting to “O” position.
3	Turn off DC power to the PDA.
4	On –48VDC PDA, remove protective cap from DC Power connector. Proceed to step 5. On +27VDC PDA disconnect power plug from connector. Proceed to step 6.
5	Use a screwdriver to loosen screws securing DC power wires to PDA.
6	Use a wrench to remove two nuts and washers securing ground lug to the PDA.
7	Loosen captive screws securing PDA to TME chassis.

table continued on next page

Table 9-41: Procedure to Remove PDA	
Step	**Action**
8	Gently pull out PDA far enough to disconnect cables at the rear.
9	Remove PDA.

Figure 9-27: Power Distribution Assembly for –48VDC



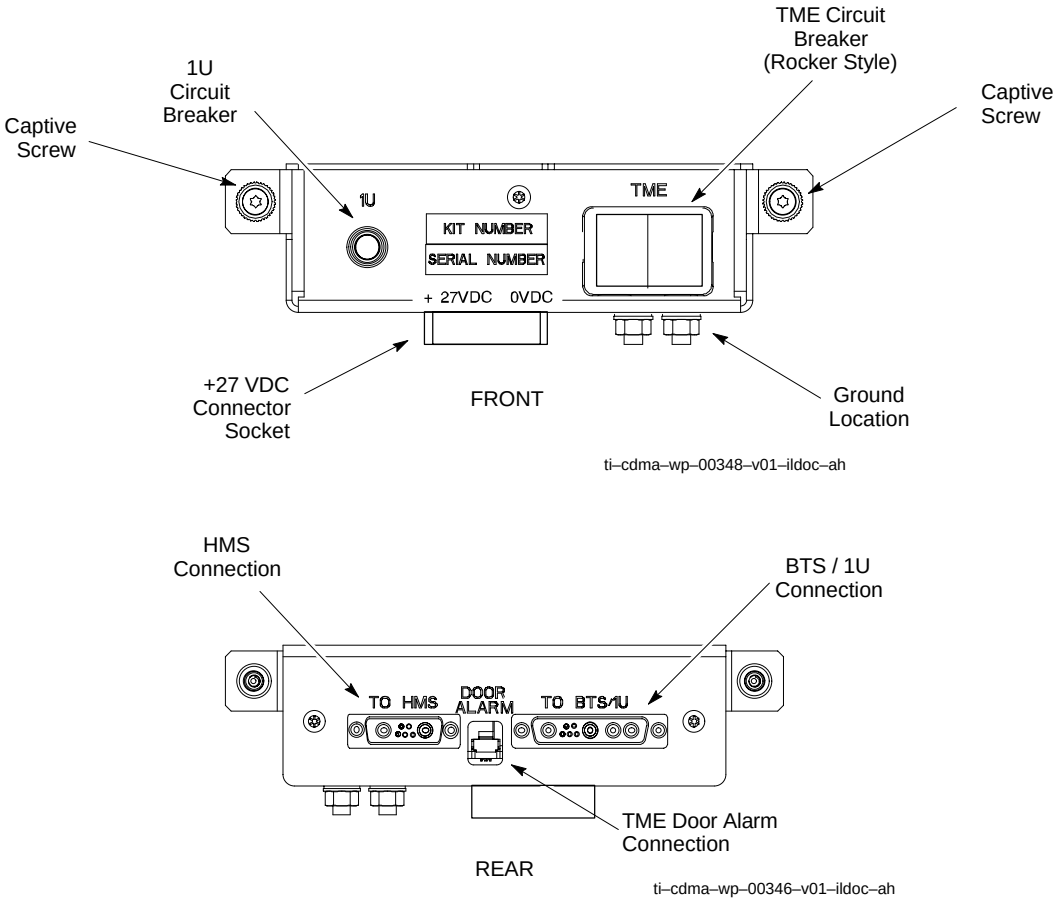
Install PDA

Follow the procedure in Table 9-42 to install the PDA. See Figure 9-26 or Figure 9-28.

Table 9-42: Procedure to Install PDA

Step	Action
1	Hold PDA near its slot in the TME and connect the cables (previously disconnected) to the rear of the PDA.
2	Slide PDA in and secure to TME chassis by tightening the captive screws.
3	Place ground lug on ground studs of the PDA and secure using two M6 nuts and washers. Torque nuts to 3.4 N–M (30 in–lbs).
4	Verify that circuit breakers are disengaged (pulled out or set to “O” position).
5	Verify that DC power source is OFF.
6	For –48 VDC PDA, connect DC power to the PDA using a screwdriver to tighten screws. Proceed to step 7. For +27 VDC PDA, connect power plug . Proceed to step 8.
7	Install DC power protective cap.
8	Turn on DC power.
9	On –48 VDC PDA, push in TME circuit breaker. On +27VDC PDA, set switch to “1” position.
10	Push in 1U circuit breaker.
11	Notify operator that replacement is complete and verify that no new alarms have been generated and that old alarms are cleared.

Figure 9-28: Power Distribution Assembly for +27VDC



Introduction

The procedures in this section cover only the removal and installation of the Heat Management System (HMS)

System Impact/Considerations

If the HMS is failing or has failed there will be an interruption in call processing. It is recommended that power be disengaged from the TME.

Required Items

Documents

None

Tools

- Screwdriver with T20 star bit
- Torque Driver Wrench or Torque Ratchet Wrench
- Socket, 10 mm, 3/8–in or 1/4–in

Replacement Item

- HMS
- Heater Elements
- Blower Fan
- HMS Controller

Periodic Maintenance

The louvers over the HMS intake fan need to be inspected and cleaned in order to ensure proper operation of the TME/BTS. A vacuum cleaner or soft bristle brush is recommended to clean the louvers.

NOTE

The condition of the louvers must be monitored. The recommended service interval is every 90 days, barring any previous inspections. Once environmental conditions at the site are established by inspection, it is possible that cleaning intervals may need to be adjusted to more or less than the nominal 90 day interval.

Prerequisite

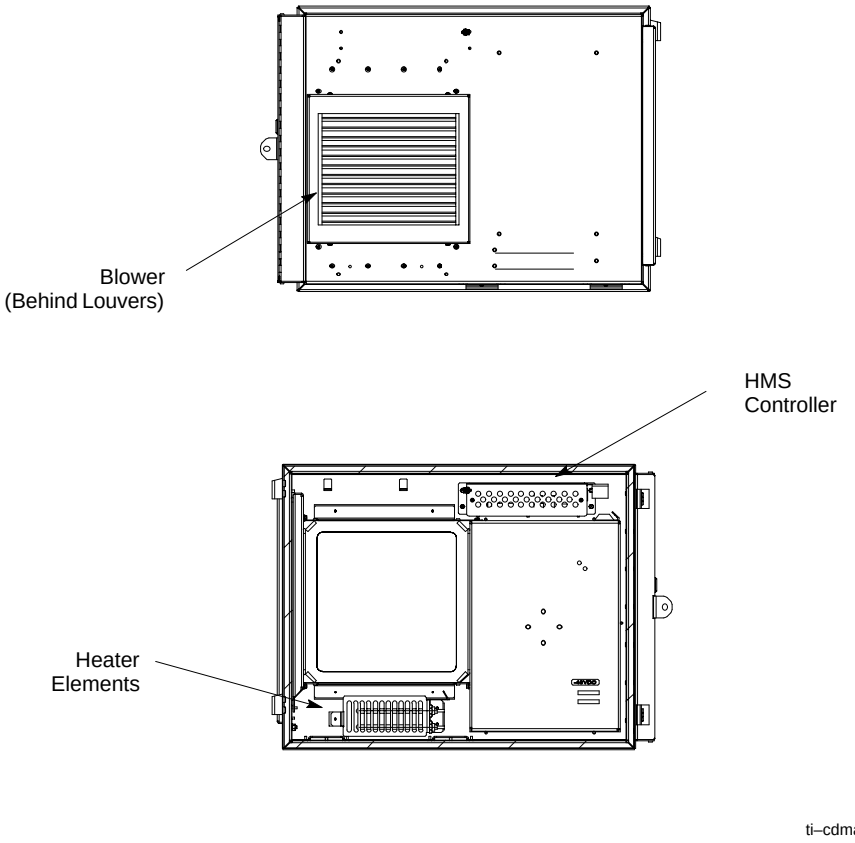
IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the HMS or its components will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Figure 9-29: Heat Management System



Replacement Procedure

If desired, record the TME and HMS serial number of the failed unit in Table 9-69 at the end of this chapter.

Remove HMS

Follow the procedure in Table 9-43 to remove the HMS. See Figure 9-29.

Table 9-43: Procedure to Remove HMS	
Step	**Action**
1	Notify operator that the HMS replacement procedure is starting and that alarms can be expected.
2	Turn off DC power to the TME.
3	Unlock and remove external lock
4	Use key to unlock HMS draw latch door.
5	Turn latches and slowly swing open HMS. **! CAUTION** Be aware of the heater elements, they will be hot to the touch if they have been in recent use. Removing the HMS exposes the interior of the TME to the elements, cover the opening with a blanket, towel, tarp, card board, or equivalent item.
6	Use an driver wrench with socket to remove two M6 nuts and washers securing ground lug to HMS door. Disconnect DC power and HMS controller cable from HMS Controller.
7	Remove HMS and place on a flat surface, preferably a table of bench top. **! CAUTION** Be careful not to damage louvers protecting Blower Fan.

Install HMS

Follow the procedure in Table 9-44 to re–install the HMS.

Table 9-44: Procedure to Re–install HMS	
Step	**Action**
1	Carefully lift HMS and set on TME hinge pins.
2	Place ground lug on ground studs of the HMS and secure using two M6 nuts and washers. Torque nuts to 3.4 N–M (30 in–lbs).
3	Connect DC Power and HMS controller cable to HMS Controller.
4	Close HMS be careful not to pinch any of the wiring.
5	Close HMS and secure using the two draw latches. Fold draw latch handles down. Verify that HMS is fully closed and seated.
6	Close HMS draw latch door and lock using key.
7	Lock HMS with external lock.
8	Notify operator that replacement is complete and verify that no new alarms have been generated and that old alarms are cleared.

Heater Element Replacement Procedure

This information is still under consideration at this time. Updated information will be supplied at a later date.

If desired, record the TME, HMS, and HMS Heater Elements serial number of the failed unit in Table 9-70 at the end of this chapter.

Perform the procedure in Table 9-45 to remove the Heater Elements.

Table 9-45: Procedure to Replace Heater Elements

Step	Action
1	Perform the HMS removal procedure described in Table 9-43.
	! CAUTION Heater Elements could still be hot, use caution when removing them. Recommend that thermal resistant gloves be worn to remove the heater elements.
2	
3	
4	
5	

Heater Element Installation Procedure

This information is still under consideration at this time. Updated information will be supplied at a later date.

Perform the procedure in Table 9-46 toinstall the Heater Elements.

Table 9-46: Procedure to Install Heater Elements

Step	Action
1	
2	
3	
4	
5	Perform the procedure in Table 9-44 to install the HMS.

Figure 9-30: HMS Heater Elements

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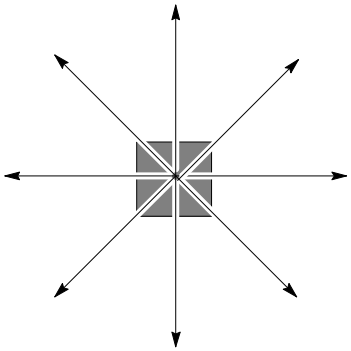


HMS Controller Replacement Procedure

This information is still under consideration at this time. Updated information will be supplied at a later date.

If desired, record the TME, HMS, and HMS Controller serial number of the failed unit in Table 9-71 at the end of this chapter.

Perform the procedure in Table 9-47 to remove the HMS Controller.

Table 9-47: Procedure to Replace HMS Controller

Step	Action
1	Perform the HMS removal procedure described in Table 9-43.
2	
3	
4	
5	

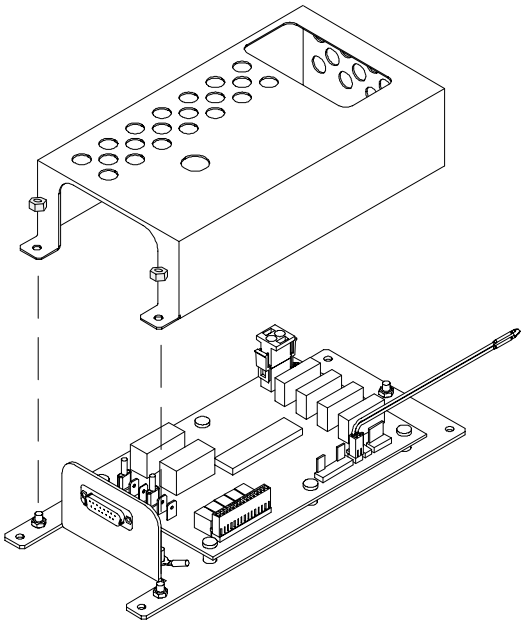
HMS Controller Installation Procedure

This information is still under consideration at this time. Updated information will be supplied at a later date.

Perform the procedure in Table 9-48 to install the HMS Controller.

Table 9-48: Procedure to Install HMS Controller	
Step	**Action**
1	
2	
3	
4	
5	Perform the procedure in Table 9-44 to install the HMS.

Figure 9-31: HMS Controller



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Blower Fan Replacement Procedure

This information is still under consideration at this time. Updated information will be supplied at a later date.

If desired, record the TME, HMS, and Blower Fan serial number of the failed unit in Table 9-72 at the end of this chapter.

Perform the procedure in Table 9-47 to remove the Blower Fan.

Table 9-49: Procedure to Replace Blower Fan	
Step	**Action**
1	Perform the procedure in Table 9-43 to remove the HMS.
2	
3	
4	
5	

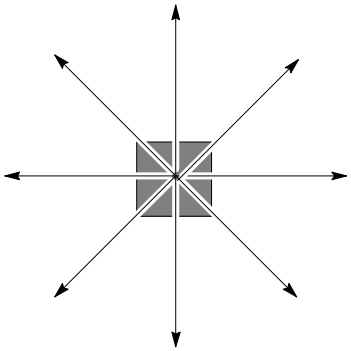
Blower Fan Installation Procedure

This information is still under consideration at this time. Updated information will be supplied at a later date.

Perform the procedure in Table 9-48 to install the Blower Fan.

Table 9-50: Procedure to Install Blower Fan	
Step	**Action**
1	
2	
3	
4	
5	Perform the procedure in Table 9-44 to install the HMS.

Figure 9-32: Blower Fan



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Introduction

The procedures in this section cover only the removal and installation of the Thermal Management Enclosure (TME).

System Impact/Considerations

If the TME enclosure has been damaged it will no longer environmetally protect the BTS. Thus, an interruption in call processingwill occur while the TME is replaced.

Required Items

Documents

None

Tools

- Screwdriver with T20 star bit or T30 star bit
- Torque Driver Wrench or Torque Ratchet Wrench
- Socket, 8 mm, 3/8–in or 1/4–in
- 10 mm socket

Replacement Item

- TME

Prerequisite

IMPORTANT

Coordinate this repair task with the OMC–R operator.

Contact the OMC–R operator before performing the replacement procedure. Tell the operator that the Filter Tray will be replaced and that alarms can be expected.

Upon completion of the replacement procedure, have the OMC–R operator verify that old alarms are cleared and that no new ones are reported.

Replacement Procedure

Remove TME

Follow the procedure in Table 9-51 to remove the TME.

Table 9-51: Procedure to Remove TME

Step	Action
1	Notify operator that TME replacement procedure is starting and that alarms can be expected.
2	Perform Carrier Shutdown procedure as described in Table 10-4.

table continued on next page

Table 9-51: Procedure to Remove TME	
Step	**Action**
3	Disengage circuit breaker on the affected cCLPAs.
4	Use the key to unlock both doors of the TME.
5	Disengage TME PDA circuit breakers by pulling them out.
6	At the rear of the BTS disconnect antenna cables from BTS to TME.
7	*If not already done*, label individual cables as they are disconnected from the rear of the BTS.
8	Remove cover and disconnect DC power cables from BTS.
9	Use screwdriver to remove two screws securing ground lug to BTS.
10	Use key to unlock the HMS draw latch door.
11	Turn latches and open HMS.
12	Disconnect ground lug by removing two nuts and washers with the driver wrench and socket.
13	Disconnect DC power and HMS controller cable from HMS to TME.
14	Lift HMS off hinge pins on TME and place on a flat surface. See Figure 4-21. **! CAUTION** Be careful not to damage louvers protecting Blower Fan.
15	Remove 5 M6 screws securing BTS to TME. See Figure 4-19.
16	Slide BTS out of TME.
17	Disconnect all conduit hubs and cabling from bottom of TME. Label conduit and cabling as necessary.
18	Remove 6 M6 screws securing TME to Wall Mounting Bracket. See Figure 4-18.
19	Lift TME off of Wall Mounting Bracket.

Install TME

Follow the procedure in Table 9-52 to install the TME.

Table 9-52: Procedure to Install TME	
Step	**Action**
1	Set the TME onto the Wall Mounting Bracket. Ensure that it rests in the slots of the Wall Mounting Bracket. See Figure 4-17.
2	Secure the TME to the Wall Mounting Bracket using 6 M6 screws. Torque screws to 3.4 N–M (30 in–lbs). See Figure 4-18.
3	Place BTS in TME opening and slide it in.
4	Secure BTS to TME using 5 M6 screws. Torque screws to 3.4 N–M (30 in–lbs). See Figure 4-19.

table continued on next page

Table 9-52: Procedure to Install TME	
Step	**Action**
5	Insert cables from conduit up through their respective access holes and connect to the BTS.
6	Tighten conduit hubs.
7	Use a screw driver and two screws to secure the ground lug to the BTS.
8	Connect antenna cables from BTS to TME.
9	Connect all cabling to connectors on bottom of the TME.
10	Install DC power wires to BTS, use a screwdriver to tighten screws holding wires.
11	Install cover over BTS DC power connection.
12	Set HMS on hinges on TME.
13	Using the driver wrench and socket, attach ground lug to HMS using two nuts and washers.
14	Connect DC power and HMS controller cable.
15	Close HMS and secure using the two draw latches. Fold draw latch handles down. Verify that HMS is fully closed and seated.
16	Close HMS draw latch door and lock using key.
17	Turn on DC power to TME.
18	Engage PDA circuit breakers (push in).
19	Engage circuit breaker on affected cCLPAs.
20	Notify operator that replacement is complete and verify that no new alarms have been generated and that old alarms are cleared.
21	Perform Carrier Startup Procedure as described in Table 10-7.

Power Distribution Enclosure

Introduction

The procedures in this section cover only the removal and installation of the Powerl Distribution Enclosure (PDE).

System Impact/Considerations

If the PDE enclosure has been damaged it will no longer environmetally protect the AC–to–DC power converter circuitry. Thus, an interruption in call processing will occur while the PDE is replaced.

Replacement Procedure

Consult the manufacturer's Field Replacement Unit (FRU) guide for removal and replacement information.

Introduction

The Master Item Number Failure List is provided as a means of keeping a written record of the units that failed for any particular BTS or BTSes. The list is for logistical purposes only.

For the BTS Fan Module, use Table 9-53.

Table 9-53: Fan Module Item Number List	
Item	**Number**
BTS Number	
Fan Module Number	

For the HSO/MSO Module, use Table 9-54.

Table 9-54: HSO or MSO Module Item Number List	
Item	**Number**
BTS Number	
HSO Module Number	
MSO Module Number	

For the RGPS Head, use Table 9-55.

Table 9-55: RGPS Item Number List	
Item	**Number**
BTS Number	
RGPS Head Number	

For the RF GPS Module, use Table 9-56.

Table 9-56: RF GPS Module Item Number List	
Item	**Number**
BTS Number	
RF GPS Number	

For the PSM, use Table 9-57.

Table 9-57: PSM Item Number List	
Item	**Number**
BTS Number	
PSM Number	

For the CSA Card, use Table 9-58.

Table 9-58: CSA Card Item Number List	
Item	**Number**
BTS Number	
CSA Card	

For the GLI3 Card, use Table 9-59.

Table 9-59: GLI3 Card Item Number List	
Item	**Number**
BTS Number	
GLI3 Card	

For the MCC–1X, use Table 9-60.

Table 9-60: MCC–1X Card Item Number List	
Item	**Number**
BTS Number	
MCC 1	
MCC 2	
MCC 3	

For the BBX–1X, use Table 9-61.

Table 9-61: BBX–1X Card Item Number List	
Item	**Number**
BTS Number	
BBX 1 (SGLF4136)	
BBX 4 (SGLF4136)	

For the cMPC, use Table 9-62.

Table 9-62: Compact MPC Item Number List	
Item	**Number**
BTS Number	
Compact MPC Number	

For the MCC–DO card, use Table 9-63.

Table 9-63: MCC–DO Card Item Number List	
Item	**Number**
BTS Number	
MCC–Data Only Card	

For the CBIO Board, use Table 9-64.

Table 9-64: CBIO Board Item Number List	
Item	**Number**
BTS Number	
CBIO Board	

For the SDCX Module, use Table 9-65.

Table 9-65: SDCX Module Item Number List	
Item	**Number**
BTS Number	
SDCX Number	

For the Filter Tray, use Table 9-66.

Table 9-66: Filter Tray Kit Item Number List	
Item	**Number**
BTS Number	
Filter Tray Kit (SGLF4152)	
Filter Tray Kit (SGLN6223)	
Filter Tray Kit (SGLN6222)	

For the cCLPA, use Table 9-67.

Table 9-67: cCLPA Item Number List	
Item	**Number**
BTS Number	
cCLPA #1 (If used)	
cCLPA #2 (If used)	

For the TME PDA, use Table 9-68.

Table 9-68: TME PDA Item Number List	
Item	**Number**
TME Number	
PDA	

For the TME HMS, use Table 9-69.

Table 9-69: TME HMS Item Number List	
Item	**Number**
TME Number	
HMS Number	

For the TME HMS Heater Elements, use Table 9-70.

Table 9-70: TME HMS Heater Element Item Number List	
Item	**Number**
TME Number	
HMS Number	
Heater Element	

For the TME HMS Controller, use Table 9-71.

Table 9-71: TME HMS Controller Item Number List	
Item	**Number**
TME Number	
HMS Number	
HMS Controller Number	

For the TME HMS Blower Fan, use Table 9-72.

Table 9-72: TME HMS Blower Fan Item Number List	
Item	**Number**
TME Number	
HMS Number	
HMS Blower Fan Number	

Notes

Chapter 10: Reference Procedures Performed At OMC–R

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Notes

Reference Procedures Performed At OMC–R

Introduction

The procedures in this chapter are referenced during various FRU replacement procedures and are performed by the OMC–R operator. These reference procedure covers the following:

- Accessing OMCR CLI window
- Circuit BTS shut down and restore procedures for:
  - BTS
  - Sector
  - Carrier
- Packet BTS shut down and restore procedures for:
  - BTS
  - Sector
  - Carrier

Accessing OMC–R CLI Window

Many of the FRU procedures require the OMC–R operator to manipulate BTS logical devices. This is achieved via UNO or the OMC–R (Operations and Maintenance Center – Radio) Command Line Interface (CLI).

The operator enters commands via UNO or OMC–R CLI.

IMPORTANT

Should there be any issues which affect UNO or the OMC–R CLI operations, command dependent replacement procedures cannot be performed.

OMC–R CLI access procedure

The following procedure is performed by the OMC–R operator at the OMC–R terminal.

Table 10-1: Login and Access Alarm Window Procedure

✓	Step	Action
	1	Login by entering the user name.
	2	Enter the password at the system prompt.
	3	Open an UNO Alarm Manager window and an OMC–R CLI window from the pull down menu using the mouse button.
	4	Verify that the filter display is set to the BTS–# where the work is being performed. This ensures that any BTS–# alarms, encountered while installing the hardware, can be observed and rectified.

Shut Down Site Signaling Functions for a Circuit BTS

If a complete site shutdown is required for the FRU replacement, follow the procedure in Table 10-2 to disable the circuit BTS site.

CAUTION

This site shut down procedure takes a BTS out–of–service (OOS), but does not affect other BTSs. To minimize system impact, it may be advisable (but not necessary) to perform this procedure during a maintenance window.

IMPORTANT

The **EDIT REDIRECT** or **REDIRECT2** command does NOT affect calls in progress and does NOT move these calls to another BTS. The command only prevents future calls from being originated on the targeted BTS. If active call processing is still taking place in the target BTS, wait for any active calls to terminate before disabling the BTS.

NOTE

Refer to the *System Commands Reference* manual (68P09256A58) part/of *Cellular System Administration CDMA2000 1X* – 99R09255A10 CD–ROM for a complete explanation of OMCR commands.

Table 10-2: Shut Down Site Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	1	Open a CLI window. Refer to the *Accessing OMC–R CLI Window* section on page 10-2.
		*** IMPORTANT** It is recommended that you redirect subscribers to another site/carrier and then wait for any active calls to terminate before disabling the BTS.
	2	If you want to redirect subscribers and then wait for any active calls to terminate before disabling the BTS, go to step 3. If you are not concerned about redirecting subscribers and waiting for any active calls to terminate and you just want to disable the BTS, perform step 13 and step 15 only.

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Table 10-2: Shut Down Site Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE The REDIRECT command is used to redirect subscribers to an 800 MHz analog site or to invoke the REDIRECT2 command which is then used to redirect subscribers to a different CDMA carrier frequency. REDIRECT2 is the preferred command if an alternate CDMA carrier is available.
		*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT REDIRECT command when restoring signaling operations at the end of the replacement procedure.
	3	View the status of the BTS signaling redirect parameters for all carriers equipped for the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Observe the following *typical* system display response for a BTS (this example shows initial standard values):

```
                                Access Overload Class Redirect Flags
                    RETURN                                                  ROTATE  RECORD   EXP   IGNORE    SYS
     CARRIER ID     IF FAIL  0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1                TIMER    TYPE    SID    CDMA   ORDERING
(bts-sector-carrier)          0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5                (sec)
--------------------  -------  - - - - - - - - - - - - - - - -              ------  ------  -----  ------  --------
  CARRIER-1-1-1        N      N N N N N N N N N N N N N N N N               4       1       0      N       CUSTOM
```

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Table 10-2: Shut Down Site Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE This step edits the REDIRECT parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the BTS and onto a different BTS or system.
	4	Enter the following command at the prompt: `omc-000000>`**EDIT BTS–**`<bts#>` **REDIRECT!** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *`<accolc0>`*enter **Y**, *`<accolc1>`*enter **Y**, *`... <accolc15>`* enter **Y** (All Access Overload Classes *must* be set to yes to ensure that all subscribers are redirected.) *`<returniffail>`* , enter **N** (Must be set to no to ensure that subscribers do not return if redirect is unsuccessful.) *`<recordtype>`* , enter **1** or **2** (A value of 2 will invoke REDIRECT2 which is used to redirect subscribers to a CDMA channel at a neighbor site. A value of 1 redirects subscribers to an 800 MHz analog site. This example uses 2.) *`<expectedsid>`* , enter **13** (Use the Area ID the subscriber units should expect to find on the system where they are being redirected. This example uses 13. The valid range is 0 – 32767; the default is 0.) *`<ignorecdma>`* , enter **Y** *`<sysordering>`* , enter **CUSTOM** (The system acquisition ordering value tells the mobiles the order to use when attempting to obtain service on the different analog systems. Valid values are: CUSTOM – use custom system selection; AONLY – try the A system only; BONLY – use the B system only; AFIRST – try the A system first. If unsuccessful, try the B system; BFIRST – try the B system first. If unsuccessful, try the A system; AORB – try A or B. If unsuccessful try the alternative system; CUSTOM is the default.) *`<rotatetimer>`* , enter **4** (Call processing continuously rotates, circular right–shifts, the Y/N values of Access Overload Class Redirect Flags 0 to 9. Values are shifted one flag at the end of the timer period; then timer re–starts. Valid values are 0–255; 4 is the default.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).

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Table 10-2: Shut Down Site Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	5	View the status of the signaling REDIRECT parameters to verify that the applicable BTS is ready for global redirect. `omc-000000>`**DISPLAY BTS-**`<bts#>` **REDIRECT** Ensure that the values in the system display response match the values input in Step 4 (see example below). Access Overload Class Redirect Flags: 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 / 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CARRIER ID (bts-sector-carrier): CARRIER-1-1-1 RETURN IF FAIL: N Access Overload Class Redirect Flags: Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y ROTATE TIMER (SEC): 4 RECORD TYPE: 2 EXP SID: 13 IGNORE CDMA: Y SYS ORDERING: CUSTOM
	6	If 2 was entered for *<recordtype>* in step 4, go to step 7. If 1 was entered for *<recordtype>* in step 4, go to step 10.
	7	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT REDIRECT2 command when restoring signaling operations at the end of the replacement procedure. View the status of the BTS signaling redirect parameters for all carriers equipped for the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **REDIRECT2** Observe the following *typical* system display response for a BTS (this example shows initial standard values): REDIRECT CHAN 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 CARRIER ID (bts-sector-carrier): CARRIER-1-1-1 EXP NID: 65535 BAND CLASS: CDMA800 REDIRECT CHAN: - - - - - - - - - - - - - - -

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Table 10-2: Shut Down Site Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE This step edits the REDIRECT2 parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the BTS with the failed equipment and onto a CDMA channel at a neighbor site.
	8	Enter the following command at the prompt: `omc-000000>`**EDIT BTS-**`<bts#>` **REDIRECT2!** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *expecting an integer number (from 0 to 65535)* *<EXPNID= ? >* (Use the Network ID the subscriber units should expect to find on the system they are being redirected to. This example uses 555.) *expecting an integer number (from 0 to 2047)* *<CHAN1= ? >, <CHAN2= ? > ... <CHAN15= ?>* (A list of CDMA channels for neighbor sites that the subscriber units can use for redirection. This example uses 200, 350, 400, 725, 75, 175, 100, 575, and 775.) *expecting an enumerated value:* *CDMA1900 CDMA800 CDMA900 JAPANCDMA CDMA2100* *<BANDCLASS= ? >* (Use CDMA1900 for 1.9 GHz systems, and CDMA800 for 800 MHz systems. This example uses CDMA800.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	9	View the status of the BTS signaling REDIRECT2 parameters to verify that the BTS is ready for maintenance. `omc-000000>`**DISPLAY BTS-**`<bts#>` **REDIRECT2** Ensure that the values in the system display response match the values input in Step 8 (see example below).

```
                                                    REDIRECT CHAN
     CARRIER ID          EXP      BAND
(bts-sector-carrier)    NID      CLASS     1    2    3    4    5    6    7    8    9    10   11   12   13   14   15
--------------------  -------  ---------  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---
     CARRIER-1-1-1      555     CDMA800   200  350  400  725   75  175  100  575  775   -    -    -    -    -    -
```

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Table 10-2: Shut Down Site Signaling Functions Procedure For a Circuit BTS

✓	Step	Action

	10	View the existing congestion control parameters for all carriers equipped for the BTS by entering the following command at the prompt:
		`omc-000000>`**DISPLAY BTS-**`<bts#>` **CONGESTCONF**
		Observe the following *typical* system display response for a BTS:
		`CARRIER (bts#-sector#-carrier#) SET NEWCALL ALARMFLAG REG ALARMFLAG AGG ALARMFLAG ANALOGREDIRECT GLOBALREDIRECT`
		`1-1-1 1 ENABLE ENABLE ENABLE DISABLE DISABLE`

	11	**NOTE** In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is broadcast on all of the sector paging channels at the BTS. Enter the following command at the prompt using the applicable BTS number: `omc-000000>`**EDIT BTS -**`<bts#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **ENABLE** (This will force the Global Service Redirect Message to be broadcast on all of the sector paging channels at the BTS.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message is sent over the sector paging channels. All subscribers are redirected away from the BTS and onto a different system or CDMA carrier channel. This effectively shuts down the BTS.

	12	Verify that the CONGESTCONF *`globalredirect`* is enabled for each carrier at the BTS by entering the following command at the prompt:
		`omc-000000>`**DISPLAY BTS-**`<bts#>` **CONGESTCONF**
		Observe the following *typical* system display response for a BTS:
		`CARRIER (bts#-sector#-carrier#) SET NEWCALL ALARMFLAG REG ALARMFLAG AGG ALARMFLAG ANALOGREDIRECT GLOBALREDIRECT`
		`1-1-1 1 ENABLE ENABLE ENABLE DISABLE ENABLE`

	13	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **STATUS** Record the system response for all devices that are OOS_AUTOMATIC. This information will be used for later reference when restoring site signaling operations.

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Table 10-2: Shut Down Site Signaling Functions Procedure For a Circuit BTS		
✓	**Step**	**Action**
	14	Wait three minutes to allow any active calls to terminate.
	15	Disable the BTS by entering the following command at the prompt: `omc-000000>`**DISABLE BTS–**`<bts#>` **UNC**

Shut Down Sector Signaling Functions for a Circuit BTS

If a sector shutdown is required for the FRU replacement and the site is currently under CBSC control, follow the procedure in Table 10-3 to disable the sector.

CAUTION

This sector shut down procedure takes a sector out–of–service (OOS) but does not affect the other sectors. To minimize system impact, it may be advisable (but not necessary) to perform this procedure during a maintenance window.

IMPORTANT

The **EDIT SECTOR REDIRECT** or **REDIRECT2** command does NOT affect calls in progress and does NOT move these calls to another sector/carrier. The command only prevents future calls from being originated on the targeted sector/carrier. If active call processing is still taking place in the target sector/carrier, wait for any active calls to terminate before disabling the sector/carrier.

NOTE

Refer to the *System Commands Reference* manual (68P09256A58) part/of *Cellular System Administration CDMA2000 1X* – 99R09255A10 CD–ROM for a complete explanation of OMC–R commands.

Table 10-3: Shut Down Sector Signaling Functions Procedure For a Circuit BTS		
✓	**Step**	**Action**
AT THE OMCR		
	1	Open a CLI window. Refer to the *Accessing OMC–R CLI Window* section on page 10-2.

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Table 10-3: Shut Down Sector Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		*** IMPORTANT** It is recommended that you redirect subscribers to another sector/carrier and then wait for any active calls to terminate before disabling the sector/carrier.
	2	If you want to redirect subscribers and then wait for any active calls to terminate before disabling the sector/carrier, go to step 3. If you are not concerned about redirecting subscribers and waiting for any active calls to terminate and you just want to disable the sector/carrier, perform steps 13 through 16.
		NOTE The REDIRECT command is used to redirect subscribers to an 800 MHz analog site or to invoke the REDIRECT2 command which is then used to redirect subscribers to a different CDMA carrier frequency. REDIRECT2 is the preferred command if an alternate CDMA carrier is available.
		*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT SECTOR REDIRECT command when restoring signaling operations at the end of the replacement procedure.
	3	View the status of the sector signaling redirect parameters for all carriers equipped for the sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT** Observe the following *typical* system display response for sector 2 (this example shows initial standard values):

```
                                    Access Overload Class Redirect Flags   ROTATE
    CARRIER ID          RETURN        0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER     RECORD    EXP    IGNORE     SYS
(bts-sector-carrier)    IF FAIL       0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)      TYPE     SID    CDMA    ORDERING
--------------------    -------       - - - - - - - - - - - - - - - -      -----      ----     ---    ----    -------
   CARRIER-1-1-1          N          N N N N N N N N N N N N N N N N        4          1        0      N       CUSTOM
```

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Table 10-3: Shut Down Sector Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE This step edits the REDIRECT parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the sector with the failed equipment and onto a different sector, BTS, or system.
	4	Enter the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *<accolc0>*enter **Y**, *<accolc1>*enter **Y**, . . . *<accolc15>*enter **Y** (All Access Overload Classes *must* be set to yes to ensure that all subscribers are redirected.) *<returniffail>* , enter **N** (Must be set to no to ensure that subscribers do not return if redirect is unsuccessful.) *<recordtype>* , enter **1** or **2** (A value of 2 will invoke REDIRECT2 which is used to redirect subscribers to a CDMA channel at a neighbor sector/site. A value of 1 redirects subscribers to an 800 MHz analog site. This example uses 2.) *<expectedsid>* , enter **13** (Use the Area ID the subscriber units should expect to find on the system where they are being redirected. This example uses 13. The valid range is 0 – 32767; the default is 0.) *<ignorecdma>* , enter **Y** *<sysordering>* , enter **CUSTOM** (The system acquisition ordering value tells the mobiles the order to use when attempting to obtain service on the different analog systems. Valid values are: CUSTOM – use custom system selection; AONLY – try the A system only; BONLY – use the B system only; AFIRST – try the A system first. If unsuccessful, try the B system; BFIRST – try the B system first. If unsuccessful, try the A system; AORB – try A or B. If unsuccessful try the alternative system; CUSTOM is the default.) *<rotatetimer>* , enter **4** (Call processing continuously rotates, circular right–shifts, the Y/N values of Access Overload Class Redirect Flags 0 to 9. Values are shifted one flag at the end of the timer period; then timer re–starts. Valid values are 0–255; 4 is the default.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).

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Table 10-3: Shut Down Sector Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	5	View the status of the sector signaling REDIRECT parameters to verify that the applicable sector is ready for global redirect. omc-000000>**DISPLAY SECTOR-**<bts#>**-**<sector#> **REDIRECT** Ensure that the values in the system display response match the values input in Step 4 (see example below).
	6	If 2 was entered for *<recordtype>* in step 4, go to step 7. If 1 was entered for *<recordtype>* in step 4, go to step 10.
	7	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT SECTOR REDIRECT2 command when restoring signaling operations at the end of the replacement procedure. View the status of the sector signaling REDIRECT2 parameters for all carriers equipped for the sector by entering the following command at the prompt: omc-000000>**DISPLAY SECTOR-**<bts#>**-**<sector#> **REDIRECT2** Observe the following *typical* system display response for sector 2 (this example shows initial standard values):

```
                                    Access Overload Class Redirect Flags   ROTATE
     CARRIER ID          RETURN       0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER    RECORD   EXP   IGNORE     SYS
(bts-sector-carrier)     IF FAIL      0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)    TYPE     SID   CDMA     ORDERING
--------------------     -------      - - - - - - - - - - - - - - - -      -----    ----     ----  ---      --------
CARRIER-1-1-1              N          Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y        4        2       13    Y        CUSTOM
```

```
                                                                  REDIRECT CHAN
     CARRIER ID          EXP      BAND
(bts-sector-carrier)     NID      CLASS     1    2    3    4    5    6    7    8    9    10   11   12   13   14   15
--------------------     -----    --------  ---  ---  ---  ---  ---  ---  ---- ---- ---- ---- ---- ---- ---- ---  ----
    CARRIER-1-1-1        65535    CDMA800   -    -    -    -    -    -    -    -    -    -    -    -    -    -    -
```

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Table 10-3: Shut Down Sector Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE This step edits the REDIRECT2 parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the sector with the failed equipment and onto a CDMA channel at a neighbor sector/site.
	8	Enter the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT2 !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *expecting an integer number (from 0 to 65535)* *<EXPNID= ? >* (Use the Network ID the subscriber units should expect to find on the system they are being redirected to. This example uses 555.) *expecting an integer number (from 0 to 2047)* *<CHAN1= ? >, <CHAN2= ? > ... <CHAN15= ?>* (A list of CDMA channels for neighbor sites that the subscriber units can use for redirection. This example uses 200, 350, 400, 725, 75, 175, 100, 575, and 775.) *expecting an enumerated value:* *CDMA1900 CDMA800 CDMA900 JAPANCDMA CDMA2100* *<BANDCLASS= ? >* (Use CDMA1900 for 1.9 GHz systems, and CDMA800 for 800 MHz systems. This example uses CDMA800.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	9	View the status of the sector signaling REDIRECT2 parameters to verify that the sector is ready for maintenance. `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT2** Ensure that the values in the system display response match the values input in Step 8 (see example below).

```
                                                                REDIRECT CHAN
     CARRIER ID          EXP      BAND
(bts-sector-carrier)    NID     CLASS     1    2    3    4    5    6     7     8     9     10    11    12    13    14    15
--------------------  -----  ---------  ---  ---  ---  ---  ---  ---  ----  ----  ----  ----  ----  ----  ----  ---  ----
     CARRIER-1-1-1      555    CDMA800  200  350  400  725  75   175  100   575   775   -     -     -     -     -     -
```

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Table 10-3: Shut Down Sector Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	10	View the existing congestion control parameters for all carriers equipped for the applicable sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF** Observe the following *typical* system display response for sector 2: CARRIER (bts#-sector#-carrier#) 1-1-1 — SET 1 — NEWCALL ALARMFLAG ENABLE — REG ALARMFLAG ENABLE — AGG ALARMFLAG ENABLE — ANALOGREDIRECT DISABLE — GLOBALREDIRECT DISABLE
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is broadcast on the sector paging channel.
	11	Enter the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **ENABLE** (This forces the Global Service Redirect Message to be broadcast on the sector paging channel.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message is sent over the sector paging channels. All subscribers are redirected away from the sector and onto a different system. This effectively shuts down the sector.
	12	Verify that the CONGESTCONF *`globalredirect`* is enabled for each carrier on the sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF** Observe the following *typical* system display response for sector 2: CARRIER (bts#-sector#-carrier#) 1-1-1 — SET 1 — NEWCALL ALARMFLAG ENABLE — REG ALARMFLAG ENABLE — AGG ALARMFLAG ENABLE — ANALOGREDIRECT DISABLE — GLOBALREDIRECT ENABLE

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Table 10-3: Shut Down Sector Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	13	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **STATUS** Observe the following *typical* system response: DEVICE / CBSC / STATUS / Config Data / DEVSYNC Calibration Data / Calibration Sync BTS-1: 1, INS, n/a, n/a, n/a BTSSPAN-1-1: 1, INS, n/a, n/a, n/a BTSLINK-1-1: 1, INS, n/a, n/a, n/a GLI-1-1: 1, INS-ACTIVE, GOOD, n/a, n/a CSA-1-1: 1, INS_ACTIVE, GOOD, n/a, n/a BBX-1-1: 1, INS-ACTIVE, GOOD, GOOD, n/a BBX-1-2: 1, INS-STANDBY, GOOD, GOOD, n/a MCC-1-1: 1, INS, GOOD, n/a, n/a Record the system response for all devices that are OOS_AUTOMATIC.
	14	Wait three minutes to allow any active calls to terminate.
	15	Disable all BBX cards by entering the following command at the prompt: `omc-000000>`**DISABLE BBX-**`bts#-bbx#` **UNC**
	16	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **STATUS** Observe the system response. Verify that the BBX cards have been disabled and are OOS_MANUAL.

Shut Down Carrier Signaling Functions for a Circuit BTS

If a carrier shutdown is required for the FRU replacement and the site is currently under CBSC control, follow the procedure in Table 10-4 to disable the carrier at a circuit BTS.

CAUTION

This carrier shut down procedure takes a carrier out–of–service (OOS) but does not affect the other carriers. To minimize system impact, it may be advisable (but not necessary) to perform this procedure during a maintenance window.

IMPORTANT

The **EDIT CARRIER REDIRECT** or **REDIRECT2** command does NOT affect calls in progress and does NOT move these calls to another sector/carrier. The command only prevents future calls from being originated on the targeted sector/carrier. If active call processing is still taking place in the target sector/carrier, wait for any active calls to terminate before disabling the sector/carrier.

NOTE

Refer to the *System Commands Reference* manual (68P09256A58) part/of *Cellular System Administration CDMA2000 1X* – 99R09255A10 CD–ROM for a complete explanation of OMCR commands.

Table 10-4: Shut Down Carrier Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
AT THE OMC–R		
	1	Open a CLI window. Refer to the *Accessing OMC–R CLI Window* section on page 10-2.
		*** IMPORTANT** It is recommended that you redirect subscribers to another sector/carrier and then wait for any active calls to terminate before disabling the sector/carrier.
	2	If you want to redirect subscribers and then wait for any active calls to terminate before disabling the sector/carrier, go to step 3. If you are not concerned about redirecting subscribers and waiting for any active calls to terminate and you just want to disable the sector/carrier, perform steps 15 through 18.

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Table 10-4: Shut Down Carrier Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE The REDIRECT command is used to redirect subscribers to an 800 MHz analog site or to invoke the REDIRECT2 command which is then used to redirect subscribers to a different CDMA carrier frequency. REDIRECT2 is the preferred command if an alternate CDMA carrier is available.
	3	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT CARRIER REDIRECT command when restoring signaling operations at the end of the replacement procedure. View the status of the carrier signaling REDIRECT parameters for an applicable carrier equipped for a specific sector by entering the following command at the prompt: `omc-000000>`**DISPLAY CARRIER-**`<bts#>`**-**`<sector#>`**-**`<carrier#>` **REDIRECT** Observe the following *typical* system display response for carrier 1, sector 2 (this example shows initial standard values): Access Overload Class Redirect Flags 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 - - - - - - - - - - - - - - - - N N N N N N N N N N N N N N N N CARRIER ID (bts-sector-carrier): CARRIER-1-1-1 RETURN IF FAIL: N ROTATE TIMER (SEC): 4 RECORD TYPE: 1 EXP SID: 0 IGNORE CDMA: N SYS ORDERING: CUSTOM

. . . continued on next page

Table 10-4: Shut Down Carrier Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE This step edits the REDIRECT parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects subscribers assigned to the sector carrier away from the carrier/sector with the failed equipment and onto a different carrier, sector, BTS, or system.
	4	Enter the following command at the prompt: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**-**`<carrier#>` **REDIRECT !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *`<accolc0>`*enter **Y**, *`<accolc1>`*enter **Y**, . . . *`<accolc15>`*enter **Y** (All Access Overload Classes *must* be set to yes to ensure that all subscribers are redirected.) *`<returniffail>`* , enter **N** (Must be set to no to ensure that subscribers do not return if redirect is unsuccessful.) *`<recordtype>`* , enter **1** or **2** (A value of 2 will invoke REDIRECT2 which is used to redirect subscribers to a CDMA channel at a neighbor sector/site. A value of 1 redirects subscribers to an 800 MHz analog site. This example uses 2.) *`<expectedsid>`* , enter **13** (Use the Area ID the subscriber units should expect to find on the system where they are being redirected. This example uses 13. The valid range is 0 – 32767; the default is 0.) *`<ignorecdma>`* , enter **Y** *`<sysordering>`* , enter **CUSTOM** (The system acquisition ordering value tells the mobiles the order to use when attempting to obtain service on the different analog systems. Valid values are: CUSTOM – use custom system selection; AONLY – try the A system only; BONLY – use the B system only; AFIRST – try the A system first. If unsuccessful, try the B system; BFIRST – try the B system first. If unsuccessful, try the A system; AORB – try A or B. If unsuccessful try the alternative system; CUSTOM is the default.) *`<rotatetimer>`* , enter **4** (Call processing continuously rotates, circular right–shifts, the Y/N values of Access Overload Class Redirect Flags 0 to 9. Values are shifted one flag at the end of the timer period; then timer re–starts. Valid values are 0–255; 4 is the default.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).

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Table 10-4: Shut Down Carrier Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	5	View the status of the carrier signaling redirect parameters to verify that the carrier is ready for maintenance. omc-000000>**DISPLAY CARRIER–**<bts#>**–**<sector#>**-**<carrier#> **REDIRECT** Ensure that the values in the system display response match the values input in Step 4 (see example below). Access Overload Class Redirect Flags: 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 / 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CARRIER ID (bts-sector-carrier): CARRIER-1-1-1 RETURN IF FAIL: N ROTATE TIMER (SEC): 4 RECORD TYPE: 2 EXP SID: 13 IGNORE CDMA: Y SYS ORDERING: CUSTOM Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y
	6	Repeat Steps 3 through 5 as required for other sectors with this carrier.
	7	If 2 was entered for <*recordtype*> in step 4, go to step 8. If 1 was entered for <*recordtype*> in step 4, go to step 12.
	8	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT CARRIER REDIRECT2 command when restoring signaling operations at the end of the replacement procedure. View the status of the carrier signaling redirect parameters for the carrier and sector by entering the following command at the prompt: omc-000000>**DISPLAY CARRIER–**<bts#>**–**<sector#>**-**<carrier#> **REDIRECT2** Observe the following *typical* system display response for carrier 1, sector 2 (this example shows initial standard values): REDIRECT CHAN CARRIER ID (bts-sector-carrier): CARRIER-1-1-1 EXP NID: 65535 BAND CLASS: CDMA800 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15: – – – – – – – – – – – – – – –

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Table 10-4: Shut Down Carrier Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
		NOTE This step edits the redirect parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the carrier with the failed equipment and onto a different CDMA carrier frequency.
	9	Enter the following command at the prompt: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**-**`<carrier#>` **REDIRECT2 !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *expecting an integer number (from 0 to 65535)* *<EXPNID= ? >* (Use the Network ID the subscriber units should expect to find on the system they are being redirected to. This example uses 555.) *expecting an integer number (from 0 to 2047)* *<CHAN1= ? >, <CHAN2= ? > ... <CHAN15= ?>* (A list of CDMA channels for neighbor sites that the subscriber units can use for redirection. This example uses 200, 350, 400, 725, 75, 175, 100, 575, and 775.) *expecting an enumerated value:* *CDMA1900 CDMA800 CDMA900 JAPANCDMA CDMA2100* *<BANDCLASS= ? >* (Use CDMA1900 for 1.9 GHz systems, and CDMA800 for 800 MHz systems. This example uses CDMA800.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	10	View the status of the carrier signaling redirect parameters to verify that the sector is ready for maintenance. `omc-000000>`**DISPLAY CARRIER–**`<bts#>`**–**`<sector#>`**-**`<carrier#>` **REDIRECT2** Ensure that the values in the system display response match the values input in Step 9 (see example below).
	11	Repeat Steps 8 through 10 as required for other sectors with this carrier.

```
                                                    REDIRECT CHAN
    CARRIER ID          EXP      BAND
(bts-sector-carrier)   NID     CLASS    1    2    3    4    5    6    7    8    9   10   11   12   13   14   15
--------------------  -----  --------- ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---
  CARRIER-1-1-1        555    CDMA800  200  350  400  725  75   175  100  575  775  -    -    -    -    -    -
```

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Table 10-4: Shut Down Carrier Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	12	View the existing congestion control parameters for the applicable carrier equipped for a specific sector by entering the following command at the prompt: `omc-000000>`**DISPLAY CARRIER-**`<bts#>`**-**`<sector#>`**-**`<carrier#>` **CONGESTCONF** Observe the following *typical* system display response for carrier 1, sector 2: CARRIER (bts#-sector#-carrier#) / SET / NEWCALL ALARMFLAG / REG ALARMFLAG / AGG ALARMFLAG / ANALOGREDIRECT / GLOBALREDIRECT 146-2-1 / 1 / ENABLE / ENABLE / ENABLE / DISABLE / DISABLE
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is broadcast on the sector paging channel of a specific carrier.
	13	Enter the following command at the prompt using the carrier number and the applicable sector number: `omc-000000>`**EDIT CARRIER-**`<bts#>`**-**`<sector#>`**-**`<carrier#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **ENABLE** (This will force the Global Service Redirect Message to be broadcast on the sector paging channel.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message is sent over the sector paging channel. All subscribers are redirected away from the carrier/sector and onto a different system. This effectively shuts down the carrier/sector.
	14	Repeat Steps 12 and 13 as required for other sectors, selecting the proper sector number for the sector# parameter.

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Table 10-4: Shut Down Carrier Signaling Functions Procedure For a Circuit BTS

✓	Step	Action
	15	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Observe the following *typical* system response: DEVICE CBSC STATUS Config Data DEVSYNC Calibration Data Calibration Sync BTS-1 1 INS n/a n/a n/a BTSSPAN-1-1 1 INS n/a n/a n/a BTSLINK-1-1 1 INS n/a n/a n/a MGLI-1-1 1 INS-ACTIVE GOOD n/a n/a CSA-1-1 1 INS_ACTIVE GOOD n/a n/a BBX-1-1 1 INS-ACTIVE GOOD GOOD n/a BBX-1-2 1 INS-STANDBY GOOD GOOD n/a MCC-1-1 1 INS GOOD n/a n/a MCC-1-2 1 INS GOOD n/a n/a MCC-1-3 1 INS GOOD n/a n/a Record the system response for all devices that are OOS_AUTOMATIC.
	16	Wait three minutes to allow any active calls to terminate.
	17	Disable all BBX cards by entering the following command at the prompt: `omc-000000>`**DISABLE BBX–**`bts#–bbx#` **UNC**
	18	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Observe the system response. Verify that the BBX cards on the have been disabled and are OOS_MANUAL.

Restore Site Signaling Operations for a Circuit BTS

Restore site signaling operations according to the procedure in Table 10-5.

Table 10-5: Restore Site Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
AT THE OMCR		
	1	Open a CLI window. Refer to the *Accessing OMC–R CLI Window* section on page 10-2.
	2	Enable the BTS by entering the following command at the prompt: `omc-000000>`**ENABLE BTS-**`<bts#>` **UNC**
	3	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **STATUS** Observe the system response. Make sure that there are not more OOS_AUTOMATIC devices than what was observed in step 13 of the shut down site signaling functions procedure for a circuit BTS Table 10-2. Devices that were previously OOS_AUTOMATIC may now be INS.
	4	If you *did not* redirect subscribers according to the steps in the shut down site signaling functions procedure for a circuit BTS Table 10-2, **STOP** here. If you *did* redirect subscribers according to the steps in the shut down site signaling functions procedure for a circuit BTS Table 10-2, perform the remaining steps of this table.
	5	View the existing congestion control parameters for all carriers equipped for the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **CONGESTCONF** Observe the following *typical* system display response for a BTS:

```
        CARRIER                 NEWCALL      REG        AGG
(bts#-sector#-carrier#)  SET  ALARMFLAG  ALARMFLAG  ALARMFLAG  ANALOGREDIRECT  GLOBALREDIRECT
-----------------------  ---  ---------  ---------  ---------  --------------  --------------
        1-1-1             1    ENABLE     ENABLE     ENABLE        DISABLE         ENABLE
```

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Table 10-5: Restore Site Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is only broadcast on the sector paging channel when there is traffic congestion in the sector.
	6	Enter the following command at the prompt using the applicable BTS number: `omc-000000>`**EDIT BTS –**`<bts#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **DISABLE** (This will revert the Global Service Redirect Message to congestion control.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message will only be sent over the sector paging channels when there is traffic congestion in the sector.
	7	Enter the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **CONGESTCONF** Observe the system display response. Verify that the CONGESTCONF *`globalredirect`* is disabled for each carrier at the BTS.
	8	View the status of the signaling REDIRECT parameters for all carriers equipped for the applicable BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Observe that the values in the system display response should match the values input in step 4 of the shut down site signaling functions procedure for a circuit BTS Table 10-2 (see example below).

```
                                  Access Overload Class Redirect Flags   ROTATE
     CARRIER ID          RETURN     0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER     RECORD    EXP    IGNORE      SYS
(bts-sector-carrier)     IF FAIL    0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)      TYPE     SID    CDMA     ORDERING
--------------------     -------    - - - - - - - - - - - - - - - -      -----      ----     ----    ---     --------
   CARRIER-1-1-1           N        Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y        4          2        13      Y       CUSTOM
```

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Table 10-5: Restore Site Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
		*** IMPORTANT** In this step, use the values recorded in step 3 of the shut down site signaling functions procedure for a circuit BTS Table 10-2 to answer the prompts for the EDIT BTS REDIRECT command; except for record type enter 2. **NOTE** This step shows the entry of initial standard values which is consistent with the original example; except record type must be 2. Your entries may be different.
	9	Restore the values of all REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**EDIT BTS–**`<bts#>` **REDIRECT !** The system will prompt you to enter each command parameter one at a time. Answer the prompts in the following order (Note that the following specified values are consistent with the original example. Yours may be different): *<accolc0>* enter **N**, *<accolc1>*enter **N**, *. . . <accolc15>*enter **N** *<returniffail>* , enter **N** *<recordtype>* , enter **2** *<expectedsid>* , enter **0** *<ignorecdma>* , enter **N** *<sysordering>* , enter **CUSTOM** *<rotatetimer>* , enter **4** The system will display the command that will be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	10	View the status of the signaling REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Ensure that the values in the system display response match the values input by the operator in step 9 (see example below).

```
                                Access Overload Class Redirect Flags
                      RETURN                                                ROTATE  RECORD   EXP   IGNORE    SYS
    CARRIER ID        IF FAIL  0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1              TIMER    TYPE    SID    CDMA   ORDERING
(bts-sector-carrier)           0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5              (sec)
--------------------  -------  - - - - - - - - - - - - - - - -              ------  ------  -----  ------  --------
  CARRIER-1 -1-1        N      N N N N N N N N N N N N N N N N               4       2       0      N       CUSTOM
```

Restore Sector Signaling Operations for a Circuit BTS

Restore sector signaling operations according to the procedure in Table 10-6.

Table 10-6: Restore Sector Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
AT THE OMCR		
	1	Open a CLI window. Refer to the *Accessing OMCR CLI Window* section on page 10-2.
	2	Enable all BBX cards that were disabled in step 15 of the shut down sector signaling functions procedure for a circuit BTS Table 10-2 by entering the following command at the prompt: `omc-000000>`**ENABLE BBX-**`bts#-bbx#` **UNC**
	3	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **STATUS** Observe the system response. Make sure that there are not more OOS_AUTOMATIC devices than what was observed in step 13 of the shut down sector signaling functions procedure for a circuit BTS Table 10-2. Verify that the BBX cards have been enabled and are INS_ACTIVE and INS_STANDBY respectively.
	4	If you *did not* redirect subscribers according to the steps in the shut down sector signaling functions procedure for a circuit BTS Table 10-2, stop here. If you *did* redirect subscribers according to the steps in the shut down sector signaling functions procedure for a circuit BTS Table 10-2, perform the remaining steps of this table.
	5	View the congestion control parameters for all carriers equipped for the applicable sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR-**`<bts#>-<sector#>` **CONGESTCONF** Observe the following *typical* system display response for sector 2:

```
      CARRIER                          NEWCALL        REG            AGG
(bts#-sector#-carrier#)     SET      ALARMFLAG     ALARMFLAG      ALARMFLAG      ANALOGREDIRECT     GLOBALREDIRECT
-----------------------     ---      ---------     ---------      ---------      --------------     --------------
        1-1-1                1        ENABLE        ENABLE         ENABLE          DISABLE            ENABLE
```

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Table 10-6: Restore Sector Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is only broadcast on the sector paging channel when there is traffic congestion in the sector.
	6	Enter the following command at the prompt using the applicable sector number: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF !** The system will prompt you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`* , enter **DISABLE** (This will revert the Global Service Redirect Message to congestion control.) The system will display the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message will only be sent over the sector paging channels when there is traffic congestion in the sector.
	7	Enter the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF** Observe the system display response. Verify that the CONGESTCONF *`globalredirect`* is disabled for each carrier on the sector.
	8	View the status of the sector signaling REDIRECT parameters for all carriers equipped for the applicable sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT** Observe that the values in the system display response should match the values input in step 4 of the shut down sector signaling functions procedure for a circuit BTS Table 10-2 (see example below).

```
                                  Access Overload Class Redirect Flags   ROTATE
     CARRIER ID          RETURN     0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER    RECORD    EXP    IGNORE     SYS
(bts-sector-carrier)     IF FAIL    0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)    TYPE      SID    CDMA     ORDERING
--------------------     -------    - - - - - - - - - - - - - - - -      -----    ----      ----   ---      --------
CARRIER-1-1-1              N        Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y        4        2        13     Y        CUSTOM
```

. . . continued on next page

Table 10-6: Restore Sector Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
		*** IMPORTANT** In this step, use the values recorded in step 3 of the shut down sector signaling functions procedure for a circuit BTS Table 10-2 to answer the prompts for the EDIT SECTOR REDIRECT command; except for record type enter 2. **NOTE** This step shows the entry of initial standard values which is consistent with the original example; except record type must be 2. Your entries may be different.
	9	Restore the values of all REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT !** The system will prompt you to enter each command parameter one at a time. Answer the prompts in the following order (Note that the following specified values are consistent with the original example. Yours may be different): *<accolc0>* enter **N**, *<accolc1>*enter **N**, *. . . <accolc15>*enter **N** *<returniffail>* , enter **N** *<recordtype>* , enter **2** *<expectedsid>* , enter **0** *<ignorecdma>* , enter **N** *<sysordering>* , enter **CUSTOM** *<rotatetimer>* , enter **4** The system will display the command that will be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	10	View the status of the sector signaling REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT** Ensure that the values in the system display response match the values input by the operator in step 9 (see example below).

```
                                  Access Overload Class Redirect Flags   ROTATE
     CARRIER ID          RETURN     0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER     RECORD    EXP    IGNORE     SYS
(bts-sector-carrier)    IF FAIL     0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)      TYPE     SID    CDMA    ORDERING
--------------------    -------     - - - - - - - - - - - - - - - -      -----      ----     ---    ----    -------
    CARRIER-1-1-1           N       N N N N N N N N N N N N N N N N        4          2       0      N       CUSTOM
```

Restore Carrier Signaling Operations for a Circuit BTS

Restore carrier signaling operations according to the procedure in Table 10-7.

Table 10-7: Restore Carrier Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
	1	Open a CLI window. Refer to the *Accessing OMCR CLI Window* section on page 10-2.
	2	Enable all BBX cards that were disabled in step 17 of the shut down carrier signaling functions procedure for a circuit BTS Table 10-4 by entering the following command at the prompt: `omc-000000>`**ENABLE BBX–**`bts#–bbx#` **UNC**
	3	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Observe the system response. Make sure that there are not more OOS_AUTOMATIC devices than what was observed in step 15 of the shut down carrier signaling functions procedure for a circuit BTS Table 10-4. Verify that the BBX cards have been enabled and are INS_ACTIVE and INS_STANDBY respectively.
	4	If you *did not* redirect subscribers according to the steps in the shut down carrier signaling functions procedure for a circuit BTS Table 10-4, stop here. If you *did* redirect subscribers according to the steps in the shut down carrier signaling functions procedure for a circuit BTS Table 10-4, perform the remaining steps of this table.
	5	View the congestion control parameters for all carriers equipped for the applicable sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF** Observe the following *typical* system display response for sector 2:

```
      CARRIER                          NEWCALL       REG           AGG
(bts#-sector#-carrier#)     SET      ALARMFLAG     ALARMFLAG     ALARMFLAG     ANALOGREDIRECT     GLOBALREDIRECT
-----------------------     ---      ---------     ---------     ---------     --------------     --------------
       1-1-1                 1        ENABLE        ENABLE        ENABLE          DISABLE            ENABLE
```

. . . continued on next page

Table 10-7: Restore Carrier Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is only broadcast on the sector paging channel of a specific carrier when there is traffic congestion in the carrier/sector.
	6	Enter the following command at the prompt using one of the applicable carrier number and the applicable sector number: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**–**`<carrier#>` **CONGESTCONF !** The system will prompt you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **DISABLE** (This will revert the Global Service Redirect Message to congestion control.) The system will display the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message will only be sent over the sector paging channel when there is traffic congestion in the carrier/sector.
	7	Repeat step 6 for each remaining sector number disabled in step 14 of the shut down carrier signaling functions procedure for a circuit BTS Table 10-4.
	8	View the status of the carrier signaling redirect parameters to verify the applicable carrier equipped for the specific sector. `omc-000000>`**DISPLAY CARRIER–**`<bts#>`**–**`<sector#>`**–**`<carrier#>` **REDIRECT** Observe that the values in the system display response should match the values input in step 4 of the shut down carrier signaling functions procedure for a circuit BTS Table 10-4.
	9	Enter the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **CONGESTCONF** Observe the system display response. Verify that the CONGESTCONF *`globalredirect`* is disabled for the specific carrier on each the applicable sectors.

Access Overload Class Redirect Flags

CARRIER ID (bts-sector-carrier)	RETURN IF FAIL	0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5	ROTATE TIMER (SEC)	RECORD TYPE	EXP SID	IGNORE CDMA	SYS ORDERING
CARRIER-146-2-1	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM

. . . continued on next page

Table 10-7: Restore Carrier Signaling Operations Procedure For a Circuit BTS

✓	Step	Action
		*** IMPORTANT** In this step, use the values recorded in step 3 of the shut down carrier signaling functions procedure for a circuit BTS Table 10-4 to answer the prompts for the EDIT CARRIER REDIRECT command; except for record type enter 2. **NOTE** This step shows the entry of initial standard values which is consistent with the original example; except record type must be 2. Your entries may be different.
	10	Restore the values of all REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**–**`<carrier#>` **REDIRECT !** The system will prompt you to enter each command parameter one at a time. Answer the prompts in the following order (Note that the following specified values are consistent with the original example. Yours may be different): *<accolc0>* enter **N**, *<accolc1>*enter **N**, *. . . <accolc15>*enter **N** *<returniffail>* , enter **N** *<recordtype>* , enter **2** *<expectedsid>* , enter **0** *<ignorecdma>* , enter **N** *<sysordering>* , enter **CUSTOM** *<rotatetimer>* , enter **4** The system will display the command that will be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	11	Repeat steps 5 and 10, as required, for each remaining sector number disabled in step 14 of the shut down carrier signaling functions procedure for a circuit BTS Table 10-4.
	12	View the status of the signaling REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Ensure that the values in the system display response match the values for the specific carrier on each the applicable sector(s) input by the operator in step 10 (see example below).

```
                                Access Overload Class Redirect Flags
                      RETURN                                              ROTATE  RECORD   EXP   IGNORE    SYS
     CARRIER ID       IF FAIL  0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1            TIMER    TYPE    SID    CDMA   ORDERING
(bts-sector-carrier)            0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5            (sec)
--------------------  -------  - - - - - - - - - - - - - - - -            ------  ------  -----  ------  --------
  CARRIER-1-1-1         N      N N N N N N N N N N N N N N N N             4       2       0      N       CUSTOM
```

Shut Down Site Signaling Functions for a Packet BTS

If a complete site shutdown is required for the FRU replacement, follow the procedure in Table 10-8 to disable the packet BTS site.

CAUTION

This site shut down procedure takes a BTS out–of–service (OOS), but does not affect the other BTSs. To minimize system impact, it may be advisable (but not necessary) to perform this procedure during a maintenance window.

IMPORTANT

The **EDIT BTS REDIRECT** or **REDIRECT2** command does NOT affect calls in progress and does NOT move these calls to another BTS. The command prevents future calls from being originated on the targeted BTS and also redirects subscribers to another site/carrier. If active call processing is still taking place in the target BTS, wait for any active calls to terminate before locking/disabling the BTS resources.

IMPORTANT

The **SHUTDOWN** command does NOT affect calls in progress and does NOT move these calls to another BTS. Shutdown is a camp–on state, it prevents future calls from being originated on the targeted resource and waits for calls to terminate. When the resource becomes idle, it is automatically transitioned to the locked/disabled state. Shutdown does not redirect subscribers to another site/carrier.
Shutdown camp–on time is indefinite. Shutdown can be aborted at anytime by invoking the **LOCK** or **DISABLE** command.

NOTE

Refer to the *System Commands Reference* manual (68P09256A58) part/of *Cellular System Administration CDMA2000 1X* – 99R09255A10 CD–ROM for a complete explanation of OMC–R commands.

Table 10-8: Shut Down Site Signaling Functions Procedure For a Packet BTS

✓	Step	Action
AT THE OMC–R		
	1	Open a CLI window. Refer to the *Accessing OMC–R CLI Window* section on page 10-2.
	2	*** IMPORTANT** It is recommended that you redirect subscribers to another site/carrier and then wait for any active calls to terminate before locking/disabling the BTS. **NOTE** SHUTDOWN and REDIRECT both prevent future calls from being originated on the targeted resource, but only SHUTDOWN waits indefinitely for the calls to terminate. When the resource becomes idle, SHUTDOWN automatically transitions the resource to the locked/disabled state. If you are not concerned about redirecting subscribers and waiting for any active calls to terminate and you just want to lock/disable the BTS, perform step 13 and step 18 only. If you are not concerned about redirecting subscribers but you want to use SHUTDOWN and wait for all active calls to terminate before locking/disabling the BTS, perform step 13, step 16 and step 17. If you want to redirect subscribers and then wait for any active calls to terminate before locking/disabling the BTS, go to step 3.
		NOTE The REDIRECT command is used to redirect subscribers to an 800 MHz analog site or to invoke the REDIRECT2 command which is then used to redirect subscribers to a different CDMA carrier frequency. REDIRECT2 is the preferred command if an alternate CDMA carrier is available.
	3	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT BTS REDIRECT command when restoring signaling operations at the end of the replacement procedure. View the status of the BTS signaling redirect parameters for all carriers equipped for the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Observe the following *typical* system display response for a BTS (this example shows initial standard values):

```
                                Access Overload Class Redirect Flags
                      RETURN                                          ROTATE  RECORD   EXP   IGNORE    SYS
    CARRIER ID        IF FAIL  0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1        TIMER    TYPE    SID    CDMA   ORDERING
(bts-sector-carrier)           0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5        (sec)
--------------------  -------  - - - - - - - - - - - - - - - -      ------  ------  -----  ------  --------
  CARRIER-146-1-1        N     N N N N N N N N N N N N N N N N        4       1       0      N       CUSTOM
```

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Table 10-8: Shut Down Site Signaling Functions Procedure For a Packet BTS

✓	Step	Action
		NOTE This step edits the REDIRECT parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the BTS and onto a different BTS or system.
	4	Enter the following command at the prompt: `omc-000000>`**EDIT BTS–**`<bts#>` **REDIRECT!** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *<accolc0>*enter **Y**, *<accolc1>*enter **Y**, *... <accolc15>* enter **Y** (All Access Overload Classes *must* be set to yes to ensure that all subscribers are redirected.) *<returniffail>* , enter **N** (Must be set to no to ensure that subscribers do not return if redirect is unsuccessful.) *<recordtype>* , enter **1** or **2** (A value of 2 will invoke REDIRECT2 which is used to redirect subscribers to a CDMA channel at a neighbor site. A value of 1 redirects subscribers to an 800 MHz analog site. This example uses 2.) *<expectedsid>* , enter **13** (Use the Area ID the subscriber units should expect to find on the system where they are being redirected. This example uses 13. The valid range is 0 – 32767; the default is 0.) *<ignorecdma>* , enter **Y** *<sysordering>* , enter **CUSTOM** (The system acquisition ordering value tells the mobiles the order to use when attempting to obtain service on the different analog systems. Valid values are: CUSTOM – use custom system selection; AONLY – try the A system only; BONLY – use the B system only; AFIRST – try the A system first. If unsuccessful, try the B system; BFIRST – try the B system first. If unsuccessful, try the A system; AORB – try A or B. If unsuccessful try the alternative system; CUSTOM is the default.) *<rotatetimer>* , enter **4** (Call processing continuously rotates, circular right–shifts, the Y/N values of Access Overload Class Redirect Flags 0 to 9. Values are shifted one flag at the end of the timer period; then timer re–starts. Valid values are 0–255; 4 is the default.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).

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Table 10-8: Shut Down Site Signaling Functions Procedure For a Packet BTS

✓	Step	Action
	5	View the status of the signaling REDIRECT parameters to verify that the applicable BTS is ready for global redirect. `omc-000000>`**DISPLAY BTS-**`<bts#>` **REDIRECT** Ensure that the values in the system display response match the values input in Step 4 (see example below). Access Overload Class Redirect Flags: 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 / 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CARRIER ID (bts-sector-carrier): CARRIER-146-1-1 RETURN IF FAIL: N Access Overload Class Redirect Flags: Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y ROTATE TIMER (SEC): 4 RECORD TYPE: 2 EXP SID: 13 IGNORE CDMA: Y SYS ORDERING: CUSTOM
	6	If 2 was entered for *<recordtype>* in step 4, go to step 7. If 1 was entered for *<recordtype>* in step 4, go to step 10.
	7	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT BTS REDIRECT2 command when restoring signaling operations at the end of the replacement procedure. View the status of the BTS signaling redirect parameters for all carriers equipped for the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS-**`<bts#>` **REDIRECT2** Observe the following *typical* system display response for a BTS (this example shows initial standard values): REDIRECT CHAN CARRIER ID (bts-sector-carrier): CARRIER-146-1-1 EXP NID: 65535 BAND CLASS: CDMA1900 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15: - - - - - - - - - - - - - - -

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Table 10-8: Shut Down Site Signaling Functions Procedure For a Packet BTS

✓	Step	Action
		NOTE This step edits the REDIRECT2 parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the BTS with the failed equipment and onto a CDMA channel at a neighbor site.
	8	Enter the following command at the prompt: `omc-000000>`**EDIT BTS-**`<bts#>` **REDIRECT2!** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *expecting an integer number (from 0 to 65535)* *<EXPNID= ? >* (Use the Network ID the subscriber units should expect to find on the system they are being redirected to. This example uses 555.) *expecting an integer number (from 0 to 2047)* *<CHAN1= ? >, <CHAN2= ? > ... <CHAN15= ?>* (A list of CDMA channels for neighbor sites that the subscriber units can use for redirection. This example uses 200, 350, 400, 725, 75, 175, 100, 575 and 950.) *expecting an enumerated value:* *CDMA1900 CDMA800 CDMA900 JAPANCDMA* *<BANDCLASS= ? >* (Use CDMA1900 for 1.9 GHz systems, and CDMA800 for 800 MHz systems. This example uses CDMA1900.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	9	View the status of the BTS signaling REDIRECT2 parameters to verify that the BTS is ready for maintenance. `omc-000000>`**DISPLAY BTS-**`<bts#>` **REDIRECT2** Ensure that the values in the system display response match the values input in Step 8 (see example below).

```
                                                                REDIRECT CHAN
     CARRIER ID          EXP      BAND
(bts-sector-carrier)    NID      CLASS     1    2    3    4    5    6    7    8    9   10   11   12   13   14   15
--------------------  -----  ---------  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---  ---
   CARRIER-146-1-1      555    CDMA1900  200  350  400  725   75  175  100  575  950    -    -    -    -    -    -
```

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Table 10-8: Shut Down Site Signaling Functions Procedure For a Packet BTS

✓	Step	Action

	10	View the existing congestion control parameters for all carriers equipped for the BTS by entering the following command at the prompt:
		`omc-000000>`**DISPLAY BTS–**`<bts#>` **CONGESTCONF**
		Observe the following *typical* system display response for a BTS:
		`CARRIER NEWCALL REG AGG`
		`(bts#-sector#-carrier#) SET ALARMFLAG ALARMFLAG ALARMFLAG ANALOGREDIRECT GLOBALREDIRECT`
		`146-1-1 1 ENABLE ENABLE ENABLE DISABLE DISABLE`

	11	**NOTE** In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is broadcast on all of the sector paging channels at the BTS. Enter the following command at the prompt using the applicable BTS number: `omc-000000>`**EDIT BTS –**`<bts#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **ENABLE** (This will force the Global Service Redirect Message to be broadcast on all of the sector paging channels at the BTS.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message is sent over the sector paging channels. All subscribers are redirected away from the BTS and onto a different system or CDMA carrier channel. This effectively shuts down the BTS.

	12	Verify that the CONGESTCONF *`globalredirect`* is enabled for each carrier at the BTS by entering the following command at the prompt:
		`omc-000000>`**DISPLAY BTS–**`<bts#>` **CONGESTCONF**
		Observe the following *typical* system display response for a BTS:
		`CARRIER NEWCALL REG AGG`
		`(bts#-sector#-carrier#) SET ALARMFLAG ALARMFLAG ALARMFLAG ANALOGREDIRECT GLOBALREDIRECT`
		`146-1-1 1 ENABLE ENABLE ENABLE DISABLE ENABLE`

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Table 10-8: Shut Down Site Signaling Functions Procedure For a Packet BTS		
✓	**Step**	**Action**
	13	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Record the system response for all devices that are OOS_AUTOMATIC. This information will be used for later reference when restoring site signaling operations.
		NOTE SHUTDOWN and REDIRECT both prevent future calls from being originated on the targeted resource, but only SHUTDOWN waits indefinitely for the calls to terminate. When the resource becomes idle, SHUTDOWN automatically transitions the resource to the locked/disabled state.
	14	If you redirected subscribers but do not want to use SHUTDOWN, go to step 15. If you redirected subscribers and want to use SHUTDOWN, go to step 16.
	15	Wait three minutes to allow any active calls to terminate then go to step 18.
	16	Shutdown all carriers equipped for the BTS by repeatedly entering the following command at the prompt: `omc-000000>`**SHUTDOWN CARRIER–**`<bts#>`**–**`<sector#>`**-**`<carrier#>` Repeat this command for each sector–carrier associated with each carrier.
	17	Observe that the system automatically returns a “Network Element State Change Event” message for each carrier being shutdown. This message shows the old and new states for the carrier. The CARRIER will go from UNLOCKED/ENABLED/ACTIVE to SHUTTINGDOWN/ENABLED/ACTIVE to LOCKED/DISABLED/IDLE. When all BTS carriers shutdown in step 16 are reported as LOCKED/DISABLED/IDLE, the BTS will be reported as UNLOCKED/ENABLED/IDLE. If you determine that it is taking too long for carriers to shutdown and the BTS to transition to UNLOCKED/ENABLED/IDLE state, perform step 18 to abort the shutdown process and LOCK/DISABLE the BTS.
	18	Lock/disable the BTS by entering either of the following commands at the prompt: `omc-000000>`**DISABLE BTS–**`<bts#>` **UNC** `omc-000000>`**LOCK BTS–**`<bts#>`

Shut Down Sector Signaling Functions for a Packet BTS

If a sector shutdown is required for the FRU replacement and the site is currently under CBSC control, follow the procedure in Table 10-9 to disable the sector at a packet BTS.

CAUTION

This sector shut down procedure takes a sector out–of–service (OOS), but does not affect the other sectors. To minimize system impact, it may be advisable (but not necessary) to perform this procedure during a maintenance window.

IMPORTANT

The **EDIT SECTOR REDIRECT** or **REDIRECT2** command does NOT affect calls in progress and does NOT move these calls to another sector/carrier. The command only prevents future calls from being originated on the targeted sector/carrier. If active call processing is still taking place in the target sector/carrier, wait for any active calls to terminate before disabling the sector/carrier.

IMPORTANT

The **SHUTDOWN** command does NOT affect calls in progress and does NOT move these calls to another BTS. Shutdown is a camp–on state, it prevents future calls from being originated on the targeted resource and waits for calls to terminate. When the resource becomes idle, it is automatically transitioned to the locked/disabled state. Shutdown does not redirect subscribers to another site/carrier.
Shutdown camp–on time is indefinite. Shutdown can be aborted at anytime by invoking the **LOCK** or **DISABLE** command.

NOTE

Refer to the *System Commands Reference* manual (68P09256A58) part/of *Cellular System Administration CDMA2000 1X* – 99R09255A10 CD–ROM for a complete explanation of OMC–R commands.

Table 10-9: Shut Down Sector Signaling Functions Procedure For a Packet BTS

✓	Step	Action
AT THE OMC–R		
	1	Open a CLI window. Refer to the *Accessing OMC–R CLI Window* section on page 10-2.
	2	*** IMPORTANT** It is recommended that you redirect subscribers to another sector/carrier and then wait for any active calls to terminate before locking/disabling the sector/carrier. **NOTE** SHUTDOWN and REDIRECT both prevent future calls from being originated on the targeted resource, but only SHUTDOWN waits indefinitely for the calls to terminate. When the resource becomes idle, SHUTDOWN automatically transitions the resource to the locked/disabled state. If you are not concerned about redirecting subscribers and waiting for any active calls to terminate and you just want to lock/disable the sector/carrier, perform step 13 and step 18 only. If you are not concerned about redirecting subscribers but you want to use SHUTDOWN and wait for all active calls to terminate before locking/disabling the sector/carrier, perform step 13, step 16 and step 17. If you want to redirect subscribers and then wait for any active calls to terminate before locking/disabling the sector/carrier, go to step 3.
		NOTE The REDIRECT command is used to redirect subscribers to an 800 MHz analog site or to invoke the REDIRECT2 command which is then used to redirect subscribers to a different CDMA carrier frequency. REDIRECT2 is the preferred command if an alternate CDMA carrier is available.
	3	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT SECTOR REDIRECT command when restoring signaling operations at the end of the replacement procedure. View the status of the sector signaling redirect parameters for all carriers equipped for the sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT** Observe the following *typical* system display response for sector 1 (this example shows initial standard values):

```
                                  Access Overload Class Redirect Flags   ROTATE
     CARRIER ID          RETURN     0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER     RECORD    EXP    IGNORE     SYS
(bts-sector-carrier)    IF FAIL     0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)      TYPE     SID     CDMA    ORDERING
--------------------    -------     - - - - - - - - - - - - - - - -      -----      ----     ---     ----    --------
    CARRIER-1-2-1           N       N N N N N N N N N N N N N N N N        4          1       0       N       CUSTOM
```

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Table 10-9: Shut Down Sector Signaling Functions Procedure For a Packet BTS

✓	Step	Action
		NOTE This step edits the REDIRECT parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the sector with the failed equipment and onto a different sector, BTS, or system.
	4	Enter the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *<accolc0>*enter **Y**, *<accolc1>*enter **Y**, . . . *<accolc15>*enter **Y** (All Access Overload Classes *must* be set to yes to ensure that all subscribers are redirected.) *<returniffail>* , enter **N** (Must be set to no to ensure that subscribers do not return if redirect is unsuccessful.) *<recordtype>* , enter **1** or **2** (A value of 2 will invoke REDIRECT2 which is used to redirect subscribers to a CDMA channel at a neighbor sector/site. A value of 1 redirects subscribers to an 800 MHz analog site. This example uses 2.) *<expectedsid>* , enter **13** (Use the Area ID the subscriber units should expect to find on the system where they are being redirected. This example uses 13. The valid range is 0 – 32767; the default is 0.) *<ignorecdma>* , enter **Y** *<sysordering>* , enter **CUSTOM** (The system acquisition ordering value tells the mobiles the order to use when attempting to obtain service on the different analog systems. Valid values are: CUSTOM – use custom system selection; AONLY – try the A system only; BONLY – use the B system only; AFIRST – try the A system first. If unsuccessful, try the B system; BFIRST – try the B system first. If unsuccessful, try the A system; AORB – try A or B. If unsuccessful try the alternative system; CUSTOM is the default.) *<rotatetimer>* , enter **4** (Call processing continuously rotates, circular right–shifts, the Y/N values of Access Overload Class Redirect Flags 0 to 9. Values are shifted one flag at the end of the timer period; then timer re–starts. Valid values are 0–255; 4 is the default.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).

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<table>
<tr><th colspan="3">Table 10-9: Shut Down Sector Signaling Functions Procedure For a Packet BTS</th></tr>
<tr><th>✓</th><th>Step</th><th>Action</th></tr>
<tr><td></td><td>5</td><td>
View the status of the sector signaling REDIRECT parameters to verify that the applicable sector is ready for global redirect.

omc–000000>**DISPLAY SECTOR–**<bts#>**–**<sector#> **REDIRECT**

Ensure that the values in the system display response match the values input in Step 4 (see example below).

```
                                           Access Overload Class Redirect Flags   ROTATE
     CARRIER ID          RETURN              0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1       TIMER     RECORD    EXP    IGNORE      SYS
(bts-sector-carrier)     IF FAIL             0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5       (SEC)      TYPE     SID     CDMA    ORDERING
--------------------     -------             - - - - - - - - - - - - - - - -       -----      ----    ----     ---     --------
CARRIER-1-2-1               N                Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y         4          2      13       Y       CUSTOM
```
</td></tr>
<tr><td></td><td>6</td><td>
If 2 was entered for <recordtype> in step 4, go to step 7.
If 1 was entered for <recordtype> in step 4, go to step 10.
</td></tr>
<tr><td></td><td>7</td><td>

*** IMPORTANT**

Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT SECTOR REDIRECT2 command when restoring signaling operations at the end of the replacement procedure.

View the status of the sector signaling REDIRECT2 parameters for all carriers equipped for the sector by entering the following command at the prompt:

omc–000000>**DISPLAY SECTOR–**<bts#>**–**<sector#> **REDIRECT2**

Observe the following *typical* system display response for sector 1 (this example shows initial standard values):

```
                                                           REDIRECT CHAN
     CARRIER ID          EXP      BAND
(bts-sector-carrier)    NID     CLASS     1     2     3     4     5     6      7      8      9     10     11     12     13     14   15
--------------------   -----  ---------  ---   ---   ---   ---   ---   ---   ----   ----   ----   ----   ----   ----   ----   ---  ----
  CARRIER-146-2-1      65535  CDMA1900   -   -     -   -     -     -      -      -      -      -      -      -      -      -    -
```
</td></tr>
</table>

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Table 10-9: Shut Down Sector Signaling Functions Procedure For a Packet BTS

✓	Step	Action
		NOTE This step edits the REDIRECT2 parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the sector with the failed equipment and onto a CDMA channel at a neighbor sector/site.
	8	Enter the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT2 !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *expecting an integer number (from 0 to 65535)* *<EXPNID= ? >* (Use the Network ID the subscriber units should expect to find on the system they are being redirected to. This example uses 555.) *expecting an integer number (from 0 to 2047)* *<CHAN1= ? >, <CHAN2= ? > ... <CHAN15= ?>* (A list of CDMA channels for neighbor sites that the subscriber units can use for redirection. This example uses 200, 350, 400, 725, 75, 175, 100, 575 and 950.) *expecting an enumerated value:* *CDMA1900 CDMA800 CDMA900 JAPANCDMA* *<BANDCLASS= ? >* (Use CDMA1900 for 1.9 GHz systems, and CDMA800 for 800 MHz systems. This example uses CDMA1900.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	9	View the status of the sector signaling REDIRECT2 parameters to verify that the sector is ready for maintenance. `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT2** Ensure that the values in the system display response match the values input in Step 8 (see example below). REDIRECT CHAN CARRIER ID (bts-sector-carrier) / EXP NID / BAND CLASS / 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 CARRIER-146-2-1 555 CDMA1900 200 350 400 725 75 175 100 575 950 – – – – – –

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Table 10-9: Shut Down Sector Signaling Functions Procedure For a Packet BTS

✓	Step	Action

	10	View the existing congestion control parameters for all carriers equipped for the applicable sector by entering the following command at the prompt:
		`omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF**
		Observe the following *typical* system display response for sector 1:
		`CARRIER (bts#-sector#-carrier#) SET NEWCALL ALARMFLAG REG ALARMFLAG AGG ALARMFLAG ANALOGREDIRECT GLOBALREDIRECT`
		`146-2-1 1 ENABLE ENABLE ENABLE DISABLE DISABLE`

		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is broadcast on the sector paging channel.
	11	Enter the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **ENABLE** (This forces the Global Service Redirect Message to be broadcast on the sector paging channel.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message is sent over the sector paging channels. All subscribers are redirected away from the sector and onto a different system. This effectively shuts down the sector.

	12	Verify that the CONGESTCONF *globalredirect* is enabled for each carrier on the sector by entering the following command at the prompt:
		`omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF**
		Observe the following *typical* system display response for sector 1:
		`CARRIER (bts#-sector#-carrier#) SET NEWCALL ALARMFLAG REG ALARMFLAG AGG ALARMFLAG ANALOGREDIRECT GLOBALREDIRECT`
		`146-2-1 1 ENABLE ENABLE ENABLE DISABLE ENABLE`

	13	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Record the system response for all devices that are OOS_AUTOMATIC.

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Table 10-9: Shut Down Sector Signaling Functions Procedure For a Packet BTS		
✓	**Step**	**Action**
		NOTE SHUTDOWN and REDIRECT both prevent future calls from being originated on the targeted resource, but only SHUTDOWN waits indefinitely for the calls to terminate. When the resource becomes idle, SHUTDOWN automatically transitions the resource to the locked/disabled state.
	14	If you redirected subscribers but do not want to use SHUTDOWN, go to step 15. If you redirected subscribers and want to use SHUTDOWN, go to step 16.
	15	Wait three minutes to allow any active calls to terminate then go to step 18.
	16	Shutdown all carriers equipped for the target sector at the BTS by repeatedly entering the following command at the prompt: `omc-000000>`**SHUTDOWN CARRIER–**`<bts#>-<sector#>-<carrier#>` Repeat this command for each sector–carrier associated with the target sector.
		NOTE When a BBX is keyed, it is in an UNLOCKED/ENABLED/ACTIVE state. When a BBX is in an UNLOCKED/ENABLED/IDLE state, it is dekeyed and INS_STANDBY. As long as the sector–carrier associated with the BBX is LOCKED/DISABLED/IDLE, the BBX cannot be keyed. Also the redundant BBX does not switchover for an INS_STANDBY primary BBX.
	17	Observe that the system automatically returns a “Network Element State Change Event” message for each carrier after it is shutdown. This message shows the old and new states for the carrier. The CARRIER will go from UNLOCKED/ENABLED/ACTIVE to SHUTTINGDOWN/ENABLED/ACTIVE to LOCKED/DISABLED/IDLE. When each BTS carrier shutdown in step 16 is reported as LOCKED/DISABLED/IDLE, the primary BBXs associated with the target sector–carrier will be reported as UNLOCKED/ENABLED/IDLE. If you determine that it is taking too long for carriers to shutdown and the associated primary BBXs to transition to UNLOCKED/ENABLED/IDLE state, perform step 18 to abort the shutdown process and LOCK/DISABLE the carriers.
	18	Lock/disable all carriers equipped for the target sector at the BTS by repeatedly entering either of the following commands at the prompt: `omc-000000>`**DISABLE CARRIER–**`<bts#>-<sector#>-<carrier#>` **UNC** `omc-000000>`**LOCK CARRIER–**`<bts#>-<sector#>-<carrier#>` Repeat the command for each sector–carrier associated with the target sector.

Shut Down Carrier Signaling Functions for a Packet BTS

If a carrier shutdown is required for the FRU replacement and the site is currently under CBSC control, follow the procedure in Table 10-10 to disable the carrier at a packet BTS.

CAUTION

This carrier shut down procedure takes a carrier out–of–service (OOS) but does not affect the other carriers. To minimize system impact, it may be advisable (but not necessary) to perform this procedure during a maintenance window.

IMPORTANT

The **EDIT CARRIER REDIRECT** or **REDIRECT2** command does NOT affect calls in progress and does NOT move these calls to another sector/carrier. The command only prevents future calls from being originated on the targeted sector/carrier. If active call processing is still taking place in the target sector/carrier, wait for any active calls to terminate before disabling the sector/carrier.

IMPORTANT

The **SHUTDOWN** command does NOT affect calls in progress and does NOT move these calls to another BTS. Shutdown is a camp–on state, it prevents future calls from being originated on the targeted resource and waits for calls to terminate. When the resource becomes idle, it is automatically transitioned to the locked/disabled state. Shutdown does not redirect subscribers to another site/carrier.

Shutdown camp–on time is indefinite. Shutdown can be aborted at anytime by invoking the **LOCK** or **DISABLE** command.

NOTE

Refer to the *System Commands Reference* manual (68P09256A58) part/of *Cellular System Administration CDMA2000 1X* – 99R09255A10 CD–ROM for a complete explanation of OMC–R commands.

Table 10-10: Shut Down Carrier Signaling Functions Procedure For a Packet BTS

✓	Step	Action
AT THE OMC–R		
	1	Open a CLI window. Refer to the *Accessing OMC–R CLI Window* section on page 10-2.
	2	*** IMPORTANT** It is recommended that you redirect subscribers to another sector/carrier and then wait for any active calls to terminate before locking/disabling the sector/carrier. **NOTE** SHUTDOWN and REDIRECT both prevent future calls from being originated on the targeted resource, but only SHUTDOWN waits indefinitely for the calls to terminate. When the resource becomes idle, SHUTDOWN automatically transitions the resource to the locked/disabled state. If you are not concerned about redirecting subscribers and waiting for any active calls to terminate and you just want to lock/disable the sector/carrier, perform step 15 and step 20 only. If you are not concerned about redirecting subscribers but you want to use SHUTDOWN and wait for all active calls to terminate before locking/disabling the sector/carrier, perform step 15, step 18 and step 19. If you want to redirect subscribers and then wait for any active calls to terminate before locking/disabling the sector/carrier, go to step 3.
		NOTE The REDIRECT command is used to redirect subscribers to an 800 MHz analog site or to invoke the REDIRECT2 command which is then used to redirect subscribers to a different CDMA carrier frequency. REDIRECT2 is the preferred command if an alternate CDMA carrier is available.

	3	*** IMPORTANT**
		Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT CARRIER REDIRECT command when restoring signaling operations at the end of the replacement procedure.
		View the status of the carrier signaling REDIRECT parameters for an applicable carrier equipped for a specific sector by entering the following command at the prompt:
		`omc-000000>`**DISPLAY CARRIER–**`<bts#>-<sector#>-<carrier#>` **REDIRECT**
		Observe the following *typical* system display response for carrier 1, sector 1 (this example shows initial standard values):
		`Access Overload Class Redirect Flags  ROTATE`
		`CARRIER ID  RETURN  0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1  TIMER  RECORD  EXP  IGNORE  SYS`
		`(bts-sector-carrier)  IF FAIL  0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5  (SEC)  TYPE  SID  CDMA  ORDERING`
		`CARRIER-146-1-1  N  N N N N N N N N N N N N N N N N  4  1  0  N  CUSTOM`

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Table 10-10: Shut Down Carrier Signaling Functions Procedure For a Packet BTS

✓	Step	Action
		NOTE This step edits the REDIRECT parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects subscribers assigned to the sector carrier away from the carrier/sector with the failed equipment and onto a different carrier, sector, BTS, or system.
	4	Enter the following command at the prompt: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**-**`<carrier#>` **REDIRECT !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *`<accolc0>`*enter **Y**, *`<accolc1>`*enter **Y**, . . . *`<accolc15>`*enter **Y** (All Access Overload Classes *must* be set to yes to ensure that all subscribers are redirected.) *`<returniffail>`* , enter **N** (Must be set to no to ensure that subscribers do not return if redirect is unsuccessful.) *`<recordtype>`* , enter **1** or **2** (A value of 2 will invoke REDIRECT2 which is used to redirect subscribers to a CDMA channel at a neighbor sector/site. A value of 1 redirects subscribers to an 800 MHz analog site. This example uses 2.) *`<expectedsid>`* , enter **13** (Use the Area ID the subscriber units should expect to find on the system where they are being redirected. This example uses 13. The valid range is 0 – 32767; the default is 0.) *`<ignorecdma>`* , enter **Y** *`<sysordering>`* , enter **CUSTOM** (The system acquisition ordering value tells the mobiles the order to use when attempting to obtain service on the different analog systems. Valid values are: CUSTOM – use custom system selection; AONLY – try the A system only; BONLY – use the B system only; AFIRST – try the A system first. If unsuccessful, try the B system; BFIRST – try the B system first. If unsuccessful, try the A system; AORB – try A or B. If unsuccessful try the alternative system; CUSTOM is the default.) *`<rotatetimer>`* , enter **4** (Call processing continuously rotates, circular right–shifts, the Y/N values of Access Overload Class Redirect Flags 0 to 9. Values are shifted one flag at the end of the timer period; then timer re–starts. Valid values are 0–255; 4 is the default.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).

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Table 10-10: Shut Down Carrier Signaling Functions Procedure For a Packet BTS

✓	Step	Action
	5	View the status of the carrier signaling redirect parameters to verify that the carrier is ready for maintenance. omc-000000>**DISPLAY CARRIER–**<bts#>**–**<sector#>**-**<carrier#> **REDIRECT** Ensure that the values in the system display response match the values input in Step 4 (see example below). Access Overload Class Redirect Flags: 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 CARRIER ID (bts-sector-carrier): CARRIER-146-1-1 RETURN IF FAIL: N Access Overload Class Redirect Flags: Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y ROTATE TIMER (SEC): 4 RECORD TYPE: 2 EXP SID: 13 IGNORE CDMA: Y SYS ORDERING: CUSTOM
	6	Repeat Steps 3 through 5 as required for other sectors with this carrier.
	7	If 2 was entered for *<recordtype>* in step 4, go to step 8. If 1 was entered for *<recordtype>* in step 4, go to step 12.
	8	*** IMPORTANT** Record the values shown in the following system display response. These values are used to answer the prompts for the EDIT CARRIER REDIRECT2 command when restoring signaling operations at the end of the replacement procedure. View the status of the carrier signaling redirect parameters for the carrier and sector by entering the following command at the prompt: omc-000000>**DISPLAY CARRIER–**<bts#>**–**<sector#>**-**<carrier#> **REDIRECT2** Observe the following *typical* system display response for carrier 1, sector 1 (this example shows initial standard values): CARRIER ID (bts-sector-carrier): CARRIER-146-1-1 EXP NID: 65535 BAND CLASS: CDMA1900 REDIRECT CHAN 1: –

. . . continued on next page

Table 10-10: Shut Down Carrier Signaling Functions Procedure For a Packet BTS

✓	Step	Action
		NOTE This step edits the redirect parameters so that the Global Service Redirect Message to be broadcast on the paging channel redirects all subscribers away from the carrier with the failed equipment and onto a different CDMA carrier frequency.
	9	Enter the following command at the prompt: `omc-000000>`**EDIT CARRIER-**`<bts#>-<sector#>-<carrier#>` **REDIRECT2 !** The system prompts you to enter each command parameter value one at a time. Answer the prompts in the following order: *expecting an integer number (from 0 to 65535)* *<EXPNID= ? >* (Use the Network ID the subscriber units should expect to find on the system they are being redirected to. This example uses 555.) *expecting an integer number (from 0 to 2047)* *<CHAN1= ? >, <CHAN2= ? > ... <CHAN15= ?>* (A list of CDMA channels for neighbor sites that the subscriber units can use for redirection. This example uses 200, 350, 400, 725, 75, 175, 100, 575 and 950.) *expecting an enumerated value:* *CDMA1900 CDMA800 CDMA900 JAPANCDMA* *<BANDCLASS= ? >* (Use CDMA1900 for 1.9 GHz systems, and CDMA800 for 800 MHz systems. This example uses CDMA1900.) The system displays the command to be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	10	View the status of the carrier signaling redirect parameters to verify that the sector is ready for maintenance. `omc-000000>`**DISPLAY CARRIER-**`<bts#>-<sector#>-<carrier#>` **REDIRECT2** Ensure that the values in the system display response match the values input in Step 9 (see example below).
	11	Repeat Steps 8 through 10 as required for other sectors with this carrier.

			REDIRECT CHAN														
CARRIER ID (bts-sector-carrier)	EXP NID	BAND CLASS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CARRIER-146-1-1	555	CDMA1900	200	350	400	725	75	175	100	575	950	-	-	-	-	-	-

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Table 10-10: Shut Down Carrier Signaling Functions Procedure For a Packet BTS

✓	Step	Action

	12	View the existing congestion control parameters for the applicable carrier equipped for a specific sector by entering the following command at the prompt:
		`omc-000000>`**DISPLAY CARRIER–**`<bts#>`**–**`<sector#>`**-**`<carrier#>` **CONGESTCONF**
		Observe the following *typical* system display response for carrier 1, sector 1:
		`CARRIER (bts#-sector#-carrier#) SET NEWCALL ALARMFLAG REG ALARMFLAG AGG ALARMFLAG ANALOGREDIRECT GLOBALREDIRECT`
		`146-1-1 1 ENABLE ENABLE ENABLE DISABLE DISABLE`

	13	**NOTE** In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is broadcast on the sector paging channel of a specific carrier. Enter the following command at the prompt using the carrier number and the applicable sector number: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**-**`<carrier#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **ENABLE** (This will force the Global Service Redirect Message to be broadcast on the sector paging channel.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message is sent over the sector paging channel. All subscribers are redirected away from the carrier/sector and onto a different system. This effectively shuts down the carrier/sector.
	14	Repeat Steps 12 and 13 as required for other sectors, selecting the proper sector number for the sector# parameter.
	15	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Record the system response for all devices that are OOS_AUTOMATIC.
	16	**NOTE** SHUTDOWN and REDIRECT both prevent future calls from being originated on the targeted resource, but only SHUTDOWN waits indefinitely for the calls to terminate. When the resource becomes idle, SHUTDOWN automatically transitions the resource to the locked/disabled state. If you redirected subscribers but do not want to use SHUTDOWN, go to step 17. If you redirected subscribers and want to use SHUTDOWN, go to step 18.

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Table 10-10: Shut Down Carrier Signaling Functions Procedure For a Packet BTS		
✓	**Step**	**Action**
	17	Wait three minutes to allow any active calls to terminate then go to step 20.
	18	Shutdown the target carrier on all sectors equipped for the BTS by repeatedly entering the following command at the prompt: `omc-000000>`**SHUTDOWN CARRIER–**`<bts#>-<sector#>-<carrier#>` Repeat this command for each sector–carrier associated with the target carrier.
		NOTE When a BBX is keyed, it is in an UNLOCKED/ENABLED/ACTIVE state. When a BBX is in an UNLOCKED/ENABLED/IDLE state, it is dekeyed and INS_STANDBY. As long as the sector–carrier associated with the BBX is LOCKED/DISABLED/IDLE, the BBX cannot be keyed. Also the redundant BBX does not switchover for an INS_STANDBY primary BBX.
	19	Observe that the system automatically returns a “Network Element State Change Event” message for each carrier after it is shutdown. This message shows the old and new states for the carrier. The CARRIER will go from UNLOCKED/ENABLED/ACTIVE to SHUTTINGDOWN/ENABLED/ACTIVE to LOCKED/DISABLED/IDLE. When each BTS carrier shutdown in step 18 is reported as LOCKED/DISABLED/IDLE, the primary BBXs associated with the target sector–carrier will be reported as UNLOCKED/ENABLED/IDLE. If you determine that it is taking too long for carriers to shutdown and the associated primary BBXs to transition to UNLOCKED/ENABLED/IDLE state, perform step 20 to abort the shutdown process and LOCK/DISABLE the carriers.
	20	Lock/disable the target carrier on all sectors equipped for the BTS by repeatedly entering either of the following commands at the prompt: `omc-000000>`**DISABLE CARRIER–**`<bts#>-<sector#>-<carrier#>` **UNC** `omc-000000>`**LOCK CARRIER–**`<bts#>-<sector#>-<carrier#>` Repeat the command for each sector–carrier associated with the target carrier.

Restore Site Signaling Operations for a Packet BTS

Restore site signaling operations according to the procedure in Table 10-11.

Table 10-11: Restore Site Signaling Operations Procedure For a Packet BTS

✓	Step	Action
AT THE OMCR		
	1	Open a CLI window. Refer to the *Accessing OMCR CLI Window* section on page 10-2.
	2	Unlock/enable the BTS by entering either of the following commands at the prompt: omc-000000>**ENABLE BTS-**<bts#> **UNC** omc-000000>**UNLOCK BTS-**<bts#>
	3	Observe that the system automatically returns a "Network Element State Change Event" message for the BTS. These messages show the old and new states for the devices. The new state should be UNLOCKED/ENABLED/ACTIVE.
	4	Display the status of all devices at the BTS by entering the following command at the prompt: omc-000000>**DISPLAY BTS-**<bts#> **STATUS** Observe the system response. Make sure that there are not more OOS_AUTOMATIC devices than what was observed in step 13 of the shut down site signaling functions procedure for a packet BTS Table 10-8. Devices that were previously OOS_AUTOMATIC may now be INS.
	5	If you *did not* redirect subscribers according to the steps in the shut down site signaling functions procedure for a packet BTS Table 10-8, stop here. If you *did* redirect subscribers according to the steps in the shut down site signaling functions procedure for a packet BTS Table 10-8, perform the remaining steps of this table.
	6	View the existing congestion control parameters for all carriers equipped for the BTS by entering the following command at the prompt: omc-000000>**DISPLAY BTS-**<bts#> **CONGESTCONF** Observe the following *typical* system display response for a BTS:

```
        CARRIER                 NEWCALL      REG        AGG
(bts#-sector#-carrier#)  SET  ALARMFLAG  ALARMFLAG  ALARMFLAG  ANALOGREDIRECT  GLOBALREDIRECT
-----------------------  ---  ---------  ---------  ---------  --------------  --------------
        146-1-1            1    ENABLE     ENABLE     ENABLE        DISABLE         ENABLE
        146-1-2            1    ENABLE     ENABLE     ENABLE        DISABLE         ENABLE
        146-2-1            1    ENABLE     ENABLE     ENABLE        DISABLE         ENABLE
        146-2-2            1    ENABLE     ENABLE     ENABLE        DISABLE         ENABLE
        146-3-1            1    ENABLE     ENABLE     ENABLE        DISABLE         ENABLE
        146-3-2            1    ENABLE     ENABLE     ENABLE        DISABLE         ENABLE
```

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Table 10-11: Restore Site Signaling Operations Procedure For a Packet BTS

✓	Step	Action
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is only broadcast on the sector paging channel when there is traffic congestion in the sector.
	7	Enter the following command at the prompt using the applicable BTS number: `omc-000000>`**EDIT BTS –**`<bts#>` **CONGESTCONF !** The system prompts you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **DISABLE** (This will revert the Global Service Redirect Message to congestion control.) The system displays the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message will only be sent over the sector paging channels when there is traffic congestion in the sector.
	8	Enter the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **CONGESTCONF** Observe the system display response. Verify that the CONGESTCONF *`globalredirect`* is disabled for each carrier at the BTS.
	9	View the status of the signaling REDIRECT parameters for all carriers equipped for the applicable BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Observe that the values in the system display response should match the values input in step 4 of the shut down site signaling functions procedure for a packet BTS Table 10-8 (see example below).

CARRIER ID (bts-sector-carrier)	RETURN IF FAIL	Access Overload Class Redirect Flags 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5	ROTATE TIMER (SEC)	RECORD TYPE	EXP SID	IGNORE CDMA	SYS ORDERING
CARRIER-146-1-1	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM
CARRIER-146-1-2	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM
CARRIER-146-2-1	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM
CARRIER-146-2-2	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM
CARRIER-146-3-1	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM
CARRIER-146-3-2	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM

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Table 10-11: Restore Site Signaling Operations Procedure For a Packet BTS

✓	Step	Action
		*** IMPORTANT** In this step, use the values recorded in step 3 of the shut down site signaling functions procedure for a packet BTS Table 10-8 to answer the prompts for the EDIT BTS REDIRECT command; except for record type enter 2. **NOTE** This step shows the entry of initial standard values which is consistent with the original example; except record type must be 2. Your entries may be different.
	10	Restore the values of all REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**EDIT BTS–**`<bts#>` **REDIRECT !** The system will prompt you to enter each command parameter one at a time. Answer the prompts in the following order (Note that the following specified values are consistent with the original example. Yours may be different): *<accolc0>* enter **N**, *<accolc1>*enter **N**, *. . . <accolc15>*enter **N** *<returniffail>* , enter **N** *<recordtype>* , enter **2** *<expectedsid>* , enter **0** *<ignorecdma>* , enter **N** *<sysordering>* , enter **CUSTOM** *<rotatetimer>* , enter **4** The system will display the command that will be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	11	View the status of the signaling REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Ensure that the values in the system display response match the values input by the operator in step 10 (see example below).

```
                                  Access Overload Class Redirect Flags
                        RETURN                                                    ROTATE   RECORD    EXP    IGNORE     SYS
     CARRIER ID         IF FAIL  0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1                  TIMER     TYPE     SID     CDMA    ORDERING
(bts-sector-carrier)              0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5                  (sec)
--------------------  -------  - - - - - - - - - - - - - - - -                  ------  ------  -----  ------  ---------
  CARRIER-146-1-1        N     N N N N N N N N N N N N N N N N                    4       2       0      N       CUSTOM
  CARRIER-146-1-2        N     N N N N N N N N N N N N N N N N                    4       2       0      N       CUSTOM
  CARRIER-146-2-1        N     N N N N N N N N N N N N N N N N                    4       2       0      N       CUSTOM
  CARRIER-146-2-2        N     N N N N N N N N N N N N N N N N                    4       2       0      N       CUSTOM
  CARRIER-146-3-1        N     N N N N N N N N N N N N N N N N                    4       2       0      N       CUSTOM
  CARRIER-146-3-2        N     N N N N N N N N N N N N N N N N                    4       2       0      N       CUSTOM
```

Restore Sector Signaling Operations for a Packet BTS

Restore sector signaling operations according to the procedure in Table 10-12.

Table 10-12: Restore Sector Signaling Operations Procedure For a Packet BTS

✓	Step	Action
AT THE OMCR		
	1	Open a CLI window. Refer to the *Accessing OMCR CLI Window* section on page 10-2.
	2	Unlock/enable all sector–carriers equipped for the target sector at the BTS by repeatedly entering either of the following commands at the prompt: `omc-000000>`**ENABLE CARRIER–**`<bts#>-<sector#>-<carrier#>` **UNC** `omc-000000>`**UNLOCK CARRIER–**`<bts#>-<sector#>-<carrier#>` Repeat the command for each sector–carrier associated with the target sector.
	3	Observe that the system automatically returns a "Network Element State Change Event" message for each CARRIER device and its associated BBX. These messages show the old and new states for the devices. The new state should be UNLOCKED/ENABLED/ACTIVE.
	4	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Observe the system response. Make sure that there are not more OOS_AUTOMATIC devices than what was observed in step 13 of the shut down sector signaling functions for a packet BTS Table 10-9.
	5	If you *did not* redirect subscribers according to the steps in the shut down sector signaling functions procedure for a packet BTS Table 10-9, stop here. If you *did* redirect subscribers according to the steps in the shut down sector signaling functions procedure for a packet BTS Table 10-9, perform the remaining steps of this table.
	6	View the congestion control parameters for all carriers equipped for the applicable sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>-<sector#>` **CONGESTCONF** Observe the following *typical* system display response for sector 2:

```
      CARRIER                          NEWCALL        REG          AGG
(bts#-sector#-carrier#)      SET      ALARMFLAG    ALARMFLAG    ALARMFLAG    ANALOGREDIRECT    GLOBALREDIRECT
-----------------------      ---      ---------    ----------   ----------   --------------    --------------
      146-2-1                 1       ENABLE       ENABLE       ENABLE       DISABLE           ENABLE
      146-2-2                 1       ENABLE       ENABLE       ENABLE       DISABLE           ENABLE
```

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Table 10-12: Restore Sector Signaling Operations Procedure For a Packet BTS

✓	Step	Action
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is only broadcast on the sector paging channel when there is traffic congestion in the sector.
	7	Enter the following command at the prompt using the applicable sector number: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF !** The system will prompt you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`* , enter **DISABLE** (This will revert the Global Service Redirect Message to congestion control.) The system will display the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message will only be sent over the sector paging channels when there is traffic congestion in the sector.
	8	Enter the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **CONGESTCONF** Observe the system display response. Verify that the CONGESTCONF *`globalredirect`* is disabled for each carrier on the sector.
	9	View the status of the sector signaling REDIRECT parameters for all carriers equipped for the applicable sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT** Observe that the values in the system display response should match the values input in step 4 of the shut down sector signaling functions procedure for a packet BTS Table 10-9 (see example below).

CARRIER ID (bts-sector-carrier)	RETURN IF FAIL	Access Overload Class Redirect Flags 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5	ROTATE TIMER (SEC)	RECORD TYPE	EXP SID	IGNORE CDMA	SYS ORDERING
CARRIER-1-2-1	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM
CARRIER-1-2-2	N	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	4	2	13	Y	CUSTOM

. . . continued on next page

Table 10-12: Restore Sector Signaling Operations Procedure For a Packet BTS

✓	Step	Action
		*** IMPORTANT** In this step, use the values recorded in step 3 of the shut down sector signaling functions procedure for a packet BTS Table 10-9 to answer the prompts for the EDIT SECTOR REDIRECT command; except for record type enter 2. **NOTE** This step shows the entry of initial standard values which is consistent with the original example; except record type must be 2. Your entries may be different.
	10	Restore the values of all REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**EDIT SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT !** The system will prompt you to enter each command parameter one at a time. Answer the prompts in the following order (Note that the following specified values are consistent with the original example. Yours may be different): *<accolc0>* enter **N**, *<accolc1>*enter **N**, *. . . <accolc15>*enter **N** *<returniffail>* , enter **N** *<recordtype>* , enter **2** *<expectedsid>* , enter **0** *<ignorecdma>* , enter **N** *<sysordering>* , enter **CUSTOM** *<rotatetimer>* , enter **4** The system will display the command that will be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	11	View the status of the sector signaling REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>`**–**`<sector#>` **REDIRECT** Ensure that the values in the system display response match the values input by the operator in step 10 (see example below).

```
                                  Access Overload Class Redirect Flags   ROTATE
    CARRIER ID          RETURN      0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER     RECORD    EXP    IGNORE     SYS
(bts-sector-carrier)    IF FAIL     0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)     TYPE      SID    CDMA     ORDERING
--------------------    -------     - - - - - - - - - - - - - - - -      -----     ----      ---    ----     -------
   CARRIER-1-2-1          N         N N N N N N N N N N N N N N N N       4         2         0      N        CUSTOM
   CARRIER-1-2-2          N         N N N N N N N N N N N N N N N N       4         2         0      N        CUSTOM
```

Restore Carrier Signaling Operations for a Packet BTS

Restore carrier signaling operations according to the procedure in Table 10-13.

Table 10-13: Restore Carrier Signaling Operations Procedure For a Packet BTS

✓	Step	Action
AT THE OMCR		
	1	Open a CLI window. Refer to the *Accessing OMCR CLI Window* section on page 10-2.
	2	Unlock/enable the target carrier on all sector–carriers equipped for the BTS by repeatedly entering either of the following commands at the prompt: `omc-000000>`**ENABLE CARRIER–**`<bts#>-<sector#>-<carrier#>` **UNC** `omc-000000>`**UNLOCK CARRIER–**`<bts#>-<sector#>-<carrier#>` Repeat the command for each sector–carrier associated with the target carrier.
	3	Observe that the system automatically returns a "Network Element State Change Event" message for each CARRIER device and its associated BBX. These messages show the old and new states for the devices. The new state should be UNLOCKED/ENABLED/ACTIVE.
	4	Display the status of all devices at the BTS by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **STATUS** Observe the system response. Make sure that there are not more OOS_AUTOMATIC devices than what was observed in step 15 of the shut down carrier signaling functions procedure for a packet BTS Table 10-10.
	5	If you *did not* redirect subscribers according to the steps in the shut down carrier signaling functions procedure for a packet BTS Table 10-10, stop here. If you *did* redirect subscribers according to the steps in the shut down carrier signaling functions procedure for a packet BTS Table 10-10, perform the remaining steps of this table.
	6	View the congestion control parameters for all carriers equipped for the applicable sector by entering the following command at the prompt: `omc-000000>`**DISPLAY SECTOR–**`<bts#>-<sector#>` **CONGESTCONF** Observe the following *typical* system display response for sector 2:

```
      CARRIER                          NEWCALL        REG          AGG
(bts#-sector#-carrier#)      SET      ALARMFLAG    ALARMFLAG    ALARMFLAG    ANALOGREDIRECT    GLOBALREDIRECT
-----------------------      ---      ---------    ----------   ----------   --------------    --------------
       146-2-1                1        ENABLE       ENABLE       ENABLE        DISABLE           ENABLE
       146-2-2                1        ENABLE       ENABLE       ENABLE        DISABLE           ENABLE
```

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Table 10-13: Restore Carrier Signaling Operations Procedure For a Packet BTS

✓	Step	Action
		NOTE In this step, you will change the value of the Global Service Redirection Flag (GLOBALREDIRECT) in the congestion control parameters so that the Global Service Redirect Message is only broadcast on the sector paging channel of a specific carrier when there is traffic congestion in the carrier/sector.
	7	Enter the following command at the prompt using one of the applicable carrier number and the applicable sector number: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**–**`<carrier#>` **CONGESTCONF !** The system will prompt you to enter each control parameter value one at a time. Skip through the prompts until you get to the following: *`<globalredirect>`*, enter **DISABLE** (This will revert the Global Service Redirect Message to congestion control.) The system will display the values of the control parameters. Verify that only the GLOBALREDIRECT value changed. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the change. Now the Global Service Redirection Message will only be sent over the sector paging channel when there is traffic congestion in the carrier/sector.
	8	Repeat step 7 for each remaining sector number disabled in step 14 of the shut down carrier signaling functions procedure for a packet BTS Table 10-10.
	9	Enter the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **CONGESTCONF** Observe the system display response. Verify that the CONGESTCONF *`globalredirect`* is disabled for the specific carrier on each the applicable sectors.
	10	View the status of the carrier signaling redirect parameters to verify the applicable carrier equipped for the specific sector. `omc-000000>`**DISPLAY CARRIER–**`<bts#>`**–**`<sector#>`**–**`<carrier#>` **REDIRECT** Observe that the values in the system display response should match the values input in step 4 of the shut down carrier signaling functions procedure for a packet BTS Table 10-10.

```
                                  Access Overload Class Redirect Flags   ROTATE
     CARRIER ID          RETURN     0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1      TIMER    RECORD   EXP   IGNORE     SYS
(bts-sector-carrier)    IF FAIL     0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      (SEC)     TYPE    SID   CDMA    ORDERING
--------------------    -------     - - - - - - - - - - - - - - - -      -----     ----    ----   ---    --------
CARRIER-146-2-1           N         Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y        4         2       13     Y      CUSTOM
```

. . . continued on next page

Table 10-13: Restore Carrier Signaling Operations Procedure For a Packet BTS

✓	Step	Action
		*** IMPORTANT** In this step, use the values recorded in step 3 of the shut down carrier signaling functions procedure for a packet BTS Table 10-10 to answer the prompts for the EDIT CARRIER REDIRECT command; except for record type enter 2. **NOTE** This step shows the entry of initial standard values which is consistent with the original example; except record type must be 2. Your entries may be different.
	11	Restore the values of all REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**EDIT CARRIER–**`<bts#>`**–**`<sector#>`**–**`<carrier#>` **REDIRECT !** The system will prompt you to enter each command parameter one at a time. Answer the prompts in the following order (Note that the following specified values are consistent with the original example. Yours may be different): *<accolc0>* enter **N**, *<accolc1>*enter **N**, *. . . <accolc15>*enter **N** *<returniffail>* , enter **N** *<recordtype>* , enter **2** *<expectedsid>* , enter **0** *<ignorecdma>* , enter **N** *<sysordering>* , enter **CUSTOM** *<rotatetimer>* , enter **4** The system will display the command that will be sent. Verify the command syntax. `omc-000000>Accept [yes/no]?` Enter **Y** to accept the command or **N** to go back and enter the correct value(s).
	12	Repeat steps 5 and 11, as required, for each remaining sector number disabled in step 14 of the shut down carrier signaling functions procedure for a packet BTS Table 10-10.
	13	View the status of the signaling REDIRECT parameters by entering the following command at the prompt: `omc-000000>`**DISPLAY BTS–**`<bts#>` **REDIRECT** Ensure that the values in the system display response match the values for the specific carrier on each the applicable sector(s) input by the operator in step 11 (see example below).

```
                                  Access Overload Class Redirect Flags
                        RETURN                                                  ROTATE   RECORD    EXP    IGNORE    SYS
     CARRIER ID         IF FAIL  0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1                TIMER    TYPE     SID     CDMA   ORDERING
(bts-sector-carrier)              0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5                (sec)
--------------------    -------  - - - - - - - - - - - - - - - -     ------   ------  -----   ------  --------
  CARRIER-146-1-1          N     N N N N N N N N N N N N N N N N       4        2       0       N       CUSTOM
  CARRIER-146-1-2          N     N N N N N N N N N N N N N N N N       4        2       0       N       CUSTOM
  CARRIER-146-2-1          N     N N N N N N N N N N N N N N N N       4        2       0       N       CUSTOM
  CARRIER-146-2-2          N     N N N N N N N N N N N N N N N N       4        2       0       N       CUSTOM
  CARRIER-146-3-1          N     N N N N N N N N N N N N N N N N       4        2       0       N       CUSTOM
  CARRIER-146-3-2          N     N N N N N N N N N N N N N N N N       4        2       0       N       CUSTOM
```

Notes

Chapter 11: Basic Troubleshooting

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