System Release 7.17
ASTRO® 25
INTEGRATED VOICE AND DATA

Software Download Manager

NOVEMBER 2016

MN003227A01-A

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Document History

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About Software Download Manager

This manual provides information to use the Software Download Manager to **transfer only**, **install only**, or **transfer and install** software in an ASTRO® 25 Repeater subsystem, a High Performance Data (HPD) subsystem, an Simulcast subsystem, an STRV Subsystem, or ASTRO® 25 Express System. Software Download operations can be performed locally at a site or through the Network Management subsystem. Operations can be performed on all devices at a site or individually as part of a single operation depending on the location of the equipment and availability of the network supporting the devices.

What Is Covered In This Manual?

This manual contains the following chapters:

- Software Download Manager Description on page 23 provides an overview of the Software Download Manager application.
- Software Download Manager Operation on page 25 details tasks that you perform once the Software Download Manager application is installed and operational on your system.
- Software Download Manager Troubleshooting on page 61 provides fault management and troubleshooting information relating to the Software Download Manager application.
- Software Download Manager Reference on page 69 contains supplemental reference information relating to the Software Download Manager application.

Helpful Background Information

Motorola Solutions offers various courses designed to assist in learning about the system. For information, go to http://www.motorolasolutions.com/training to view the current course offerings and technology paths.

Related Information

See the following documents for associated information about the radio system.

Related Information	Purpose
Standards and Guidelines for Communication Sites	Provides standards and guidelines that should be followed when setting up a Motorola communications site. Also known as the R56 manual. This may be purchased on CD 9880384V83, by calling the North America Parts Organization at 800-422-4210 (or the international number: 302-444-9842).
System Overview and Documentation	For an overview of the ASTRO® 25 system documentation, open the graphical user interface for the ASTRO® 25 system documentation set and select the **System Documentation Overview** link. This opens a file that includes: • ASTRO® 25 system release documentation descriptions • ASTRO® 25 system diagrams

Related Information	Purpose
	For an additional overview of the system, review the architecture and descriptive information in the manuals that apply to your system configuration.

Chapter 1

Software Download Manager Description

This chapter provides a high-level description of the Software Download Manager application and the function it serves on your system.

1.1 Software Download Manager Overview

The Software Download Manager (SWDL) is used to **transfer only**, **install only**, or **transfer and install** software for the following subsystems:

- ASTRO® 25 Repeater subsystem
- High Performance Data (HPD) subsystem
- Circuit Simulcast subsystem
- Trunked IP Simulcast subsystem
- STRV subsystem
- Conventional Sites (Conventional Hub Sites and Conventional Base Radio Sites)
- Console Site (VPM)
- ASTRO® 25 Express System

Software Download operations can be performed locally at a site or through the Network Management subsystem. Operations can be performed on all devices at a site or individually as part of a single device operation depending on the location of the equipment and availability of the network supporting the devices. Software download operations can also be performed simultaneously for multiple sites or single devices.

NOTICE:
A Simulcast subsystem, an ASTRO® 25 Repeater site subsystem, an HPD subsystem, an STRV Subsystem, an ASTRO Express (single-site trunking) subsystem or an IP Simulcast subsystem is also referred to as a site.

The ASTRO®25 Express system is a single-site, standalone P25 Phase 1 compliant (FDMA) trunking system. The Conventional site devices are supported only in the single device mode.

1.2 Software Download Manager Purpose

SWDL allows you to perform following tasks:

- Download software to a single instance of a device (such as one base station) that has been disconnected from the radio network.
- Obtain device SWDL Transfer Mode information.
- Update the software on newly added channels or subsites in a secure manner.
- Determine software and hardware versions on target devices.
- Purge (delete) a software version from selected target devices.
- Obtain device IP information.

- Query the site controllers for the number of channels and/or subsites in the subsystem.
- Audit a session using historical information recorded by Software Download Manager.
- Upgrade multiple sites in a system from one computer.
- Install all channels at a site (SWDL can install multiple channels simultaneously).

Chapter 2

Software Download Manager Operation

This chapter explains how the Software Download Manager application works in the context of your system.

2.1 Types of Operations

The Software Download Manager performs four types of operations:

- Transfer Only Operation on page 25
- Install Only Operation on page 26
- Transfer and Install Operation on page 26
- Change VLAN

To monitor the progress of Transfer and Install operations, SWDL receives progress updates from target devices. The Software Download Manager also creates and stores historical information about each task and operation in log files.

NOTICE: In case of accidental reboot during SWDL operation, you need to repeat the operation

2.1.1 Transfer Only Operation

The Transfer Only operation transfers (but does not install) new versions of software. The Transfer Only option is offered because transferring software takes an hour or more while the Install Only operation takes a few minutes. Transfer Only operations can occur at any time because the call processing is not interrupted.

Data transfer can be performed by:

- Clear SWDL – transfer operations without security, based on the File-Transfer Protocol (FTP)
- Secure SWDL – transfer operations are authenticated and encrypted, based on the Secure File-Transfer Protocol (SFTP)

CAUTION: Before initiating the transfer only operation, SWDL connects to a site in a zone to discover all devices. The transfer mode of all devices is displayed in the SWDL window. It is important that all devices have the same SWDL Transfer Mode. Otherwise, the SWDL will flag a mismatch of the SWDL Transfer Modes across site devices.

2.1.1.1 Secure Software Download

The Configuration/Service Software (CSS) can be used to configure the SWDL transfer mode of a device using the **Remote Access/Login Banner Screen**, one device at a time. In a trunking system, the Unified Network Configurator (UNC) can be used to schedule and configure a system-wide SWDL transfer mode as **Clear** or **Secure** for all the devices in the system at once using the **System Configuration** screen. After the SWDL credentials are initially configured, user intervention is not required during the SWDL process.

For information on how to configure the SWDL transfer mode as clear or secure, see the *Unified Network Configurator* manual and “Secure Remote Access Configuration” in *CSS Online Help*.

2.1.2
Install Only Operation

The Install Only operation installs software that has already been transferred to the device. Only the software that has already been transferred using SWDL can be installed.

2.1.3
Transfer and Install Operation

The Transfer and Install operation executes both the transfer and installation of new software without user intervention.

For information about the secure SWDL transfer mode, see Secure Software Download on page 25.

2.1.4
Change VLAN Operation

Software Download Manager prevents any operation when all devices in a Prime Site LAN or Subsite LAN are not in the same VLAN; this is called a split VLAN condition.

To move selected devices to alternate VLAN, see Changing VLAN Operation on page 29

2.2
Download to Subsystems and Devices

The Software Download Manager application can be used to download software to:

- All supported devices at a site or subsystem
- A subset of supported devices at a site or subsystem
- A single supported device at a site or subsystem

If present in the system, the Unified Network Configurator (UNC) is used to configure devices in the system as a clear SWDL transfer mode device or a secure SWDL transfer mode device, prior to implementing a SWDL transfer operation using the SWDL Manager application. For procedures on how to configure the secure SWDL transfer mode for individual devices, see the ASTRO® 25 system manual for the relevant device.

When an RF site combines older hardware from earlier releases (such as a QUANTAR® station or STR 3000 Base Radio that support only a clear SWDL transfer) with G-Series devices (hardware that supports both clear and secure SWDL transfer modes), configure a **Clear** system-wide SWDL transfer mode in the UNC or CSS to maintain a consistent transfer mode at the site. See “Managing the Software Download Transfer Mode” in the *Unified Network Configurator* manual.

Systems requiring a **Secure** setting for the system-wide SWDL transfer mode and containing RF sites combining older hardware with G-Series devices, must first have a **Clear** system-wide SWDL transfer mode configured for all G-Series devices, prior to implementing a SWDL transfer operation. Once the SWDL transfer operation is complete, configure a **Secure** SWDL transfer mode for all G-series devices in this type of RF site. This process can be automated by using configlets in the UNC. See "Setting the SWDL Transfer Mode of Site Devices Using Configlet" in the *Unified Network Configurator* manual.

There are two methods to implement software download:

- **Centralized Software Download**

  This method allows you to transfer and install application software from a centralized location over the network. The Software Download Manager application resides on a Network Management

Client PC or a PC loaded with the Configuration/Service Software (CSS) application where you can select device types targeted for software download. Centralized Software Download allows you to select the zone, site, device types, and the type of software download operation to perform.

- **Single Device Software Download**

  This method allows you to transfer and install software to a single instance of a device (such as one base radio, etc.) that is not connected to the radio network. This feature gives self-maintained organizations the ability to install different versions of software. Your organization can also test alignment and field-replaceable units (FRUs) on a device that is not a part of the radio network. Single device software download is done from a PC installed with the CSS application.

2.2.1 Subset of Device Types in a Subsystem

Software Download Manager supports the following subsystems and site types:

- Circuit Simulcast Subsystem
- IP Simulcast Trunking Subsystem
- HPD Site
- ASTRO® 25 Repeater Site
- ASTRO® 25 Express Trunking
- Conventional Sites (Conventional Hub Sites and Conventional Base Radio Sites)
- STRV Subsystem,
- Console Site (VPM)

The following table shows a subset of devices for each site or subsystem and shows the software download mode supported.

NOTICE:
For faster software downloads on a simulcast system with a large number of subsites and a low bandwidth site link between the master site and prime site, it is recommended that SWDL be initiated from the prime site.

For details of which NM Client or Service Laptop locations can perform software downloads to each site type, see the *Service Access Architecture* manual.

Table 1: Subset of Device Types in a Subsystem

Site Type	Hardware	Device	Mode
Circuit Simulcast	GCP 8000	Site Controller	Single Device Mode / Site Mode
	ASTRO-TAC® 9600	Comparator	
	GTR 8000 (QUANTAR* STR 3000**)	Base Radio	
IP Simulcast Trunking	GCP 8000	Site Controller	Single Device Mode / Site Mode
	GCM 8000	Comparator	
	GTR 8000	Base Radio	
	GPB 8000	Reference Distribution Module (optional)	

Table continued…

Site Type	Hardware	Device	Mode
HPD	GCP 8000	HPD Site Controller	Single Device Mode / Site Mode
	GTR 8000	HPD Base Radio	
ASTRO® 25 Repeater	GCP 8000	Repeater Site Controller	Single Device Mode / Site Mode
	GTR 8000 (QUANTAR, STR 3000***)	ASTRO® 25 Site Repeater	
IP Conventional Resources (at any site type including Hub and BR sites)	GCP 8000	Conventional Site Controller	Single Device Mode
	GCM 8000	Conventional Comparator	
	GTR 8000 (STR 3000)	Conventional Base Radio (Conventional Repeater)	
	GPW 8000		
Console Voice Processor Module ASTRO® 25 Express support			Single Device Mode
ASTRO Express Trunking	GTR 8000	Base Radio	Single Device Mode
	GCP 8000	Site Controller	Single Device Mode

*QUANTAR was used for 800 MHz, UHF and VHF

** STR 3000 was used for 700 and 800 MHz

***STR 3000 was used for 700 MHz only

2.3 Downloading/Upgrading Device Software for a Site or Subsystem

Prerequisites:
To see all subsystem devices to which you can download a software, see Subset of Device Types in a Subsystem on page 27.

CAUTION: Do not make configuration or service changes to devices at a site currently involved in a software download operation. Manually changing Virtual Local Area Network (VLAN) information on a device during a software download operation causes failures. Notify all the concerned parties before beginning a software download operation.

CAUTION: Before initiating the transfer only operation, SWDL connects to a Site in the Zone to discover all devices. The transfer mode of all devices is displayed in the SWDL window. It is important that all devices have the same SWDL Transfer Mode. Otherwise, the SWDL will flag a mismatch of the SWDL Transfer Modes across site devices. Do not change the SWDL Transfer Mode from Secure to Clear or Clear to Secure during the software download.

When and where to use: Use the procedures in this process to download software to all supported devices in an entire subsystem. This will include devices listed in Subset of Device Types in a Subsystem on page 27 that support Site Mode.

Process:

1. If you want to change the location of the file set configuration files from their default locations, see Changing Folder Location (Default and Non-Default) on page 29.
2. Open SWDL. See Connecting to the Software Download Manager Application on page 33.

3 Use the File to set up the Software Depot file sets. See Software Depot File Manager on page 34.

4 Perform software download operation. See Software Download Operations - Subsystems and Sites on page 38.

2.4 Changing Folder Location (Default and Non-Default)

When and where to use:
To change the default and non-default folder location, modify the **applparams.cfg** configuration file parameters, as described in the following procedure.

Procedure:

1 Locate the **applparams.cfg** file:

- `C:\Users\Public\Documents\Motorola\CSS\A7.17\swdl` on Windows Vista Business edition and Windows 7

NOTICE: The paths listed are the default locations of the applparams.cfg file depending on your computer configuration, the path may vary.

2 Double-click the **applparams.cfg** file.

A prompt appears requesting that an application must be identified to open the applparams.cfg file.

3 In the **Attributes** section, clear the **Read-only** check box, and click **OK**.

You can now modify the applparams.cfg file.

4 Double-click the **applparams.cfg** file.

A prompt appears requesting you to identify the application which can open the applparams.cfg file.

5 From the list box, select **Notepad** and click **OK**.

The applparams.cfg file opens in the text editor.

6 Scroll to the bottom of the text and add or modify the `SWDepotPath` parameter. An example of the parameter value is `SWDepotPath=D:\swdepot`

NOTICE:
By default, SWDL uses **SWDepotPath =**

`C:\ProgramData\Motorola\Swdl\swdepot` on Windows Vista Business edition and on Windows 7

7 Save and close the **applparams.cfg** file.

2.5 Changing VLAN Operation

Use change VLAN operation to fix split VLAN condition.

Procedure:

1 In the **Site View** tab, select the devices you want to move to the new VLAN.

2 Perform one of the following actions:

- Right-click on the selected device, and select **Change VLAN**.

- From the **Action** menu, select **Change VLAN**.

3 In the **Warning** dialog box, click **OK**.

The selected devices moved to the new VLAN.

2.6 Hard Drive Folder Structure

The Software Download Manager application transfers subsystem software to different device types. Each device has a predetermined subfolder name for a centralized and single device software download, that cannot be modified.

2.7 DNS File Creation

A Domain Name Server (DNS) text file contains a list of non-standard Internet Protocol (IP) addresses. The SWDL uses this file to locate subsystem devices.

NOTICE: It is only necessary to create a DNS file if your subsystem is using **non-standard IP addresses** for the subsystem devices.

Follow a specific format for the file content when creating the DNS file. The file can contain the following:

- **Comment lines** – Comment lines contain only blank spaces or have an ASCII # or **!** as the first non-blank space character.
- **Host Name IP definitions** – Each **host name = IP address** line describes one subsystem device and identifies the associated IP address.

  The line format is: `device(n).site (n).zone (n)=IPaddress`, where **(n)** is a whole number.

See also Host Name Conventions for a DNS File on page 30.

2.7.1 Host Name Conventions for a DNS File

In the **Example** column in the following table, blank spaces can only be positioned before the host name. Do not use blank spaces within the host name or IP address. In the following example, a device definition (bold and in parentheses) is given for each device type available.

NOTICE: The ASTRO® 25 Express System does not employ DNS.

Table 2: Host Name Conventions for a DNS File

Site Type	Device	Example
Circuit Simulcast	ssc(n) = site controller	ssc1.site3.zone4= < `IP address`>
	chan(n) = primary comparator	chan4.site5.zone7= < `IP address`>
	chan(n)b = secondary comparator	chan4b.site5.zone7= < `IP address`>
	lss(n).ss(n) = simulcast base radio station (n) in subsite (n)	lss11.ss1.site5.zone7= < `IP address`>

Table continued…

Site Type	Device	Example
IP Simul-cast Trunk-ing	ssc(n) = site controller	ssc1.site3.zone4= < IP address>
	chan(n) = primary comparator	chan4.site5.zone7= < IP address>
	chan(n)b = secondary comparator	chan4b.site5.zone7= < IP address>
	z(x)s(y)(m)ichan(n).ipss(m) x-zone = base radio y-site, m-subsite, n-device ID	**z001s00101ichan01.ipss1.site1.zone 1**
	z(x)s(y)(m)rdm(n).ipss(m) = reference distribution module x-zone, y-site, m-subsite, n-device ID	**z001s00101rdm1.ipss1.site1.zone1**
ASTRO® 25 Repeater subsystem	isc(n) = repeater site controller for ASTRO® 25 Repeater Site	isc1.site1.zone1= < IP address>
	chan(n) = site repeater for ASTRO® 25 Repeater Site	chan1.site1.zone1= < IP address>
HPD	dsc(n) = HPD site controller	dsc2.site2.zone3= < IP address> or dsc1.site1.zone1= < IP address>
	hpdchan(n) = HPD base radio	hpdchan2.site2.zone3= < IP address> or hpdchan1.site1.zone1= < IP address>

2.8

Loading a DNS File

Loading DNS information takes 30 seconds or longer. The Software Download Manager cannot perform any other operations until the DNS information is loaded. If multiple DNS text files are loaded, only the last file loaded is valid.

For information on how to create a DNS text file, see DNS File Creation on page 30.

NOTICE: The ASTRO® 25 Express System does not employ DNS.

Procedure:

1 From the **Software Download Manager** main window menu bar, select **Action** → **Load DNS**.

The **Select DNS File** dialog box appears.

2 Find the appropriate DNS host file in the list and click **Select**.

The Software Download Manager application starts loading DNS information. The Information dialog box appears.

3 Click **OK** on the Information dialog box.

When the DNS information is loaded, the Information dialog box appears, stating that the loading is complete.

4 Click **OK**.

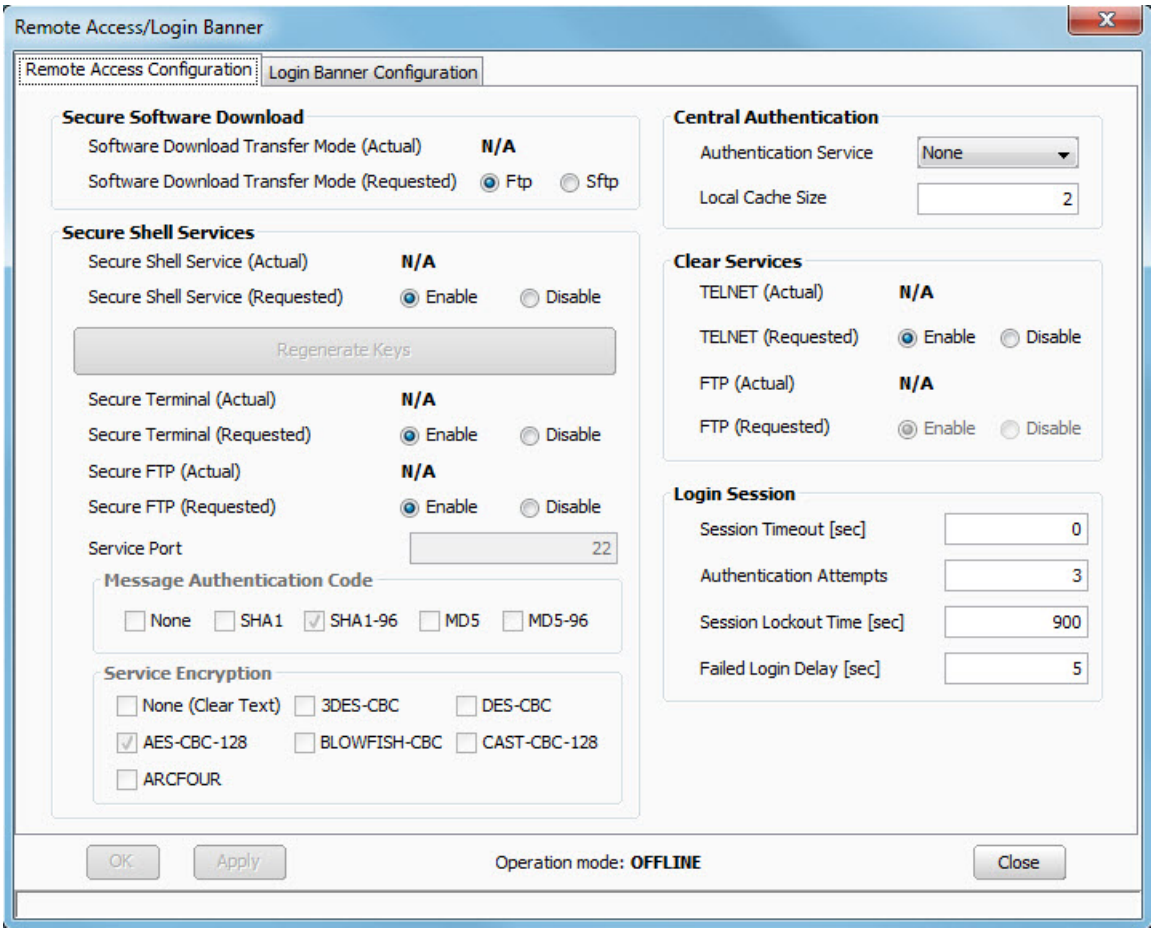
2.9

Setting the Software Download Transfer Mode Using CSS

Procedure:

1. Connect to the device using CSS through an Ethernet port link. See "Connecting to a device through an Ethernet connection" in the *CSS Online Help*.
2. From the **Security** menu, select **Device Security Configuration**, and then select **Remote Access/Login Banner (Ethernet)**.

   Figure 1: Remote Access Configuration Tab



   The Remote Access/Login Banner screen appears displaying the Remote Access Configuration tab.

3. In the **Software Download Transfer Mode (Requested)** field, choose either FTP (clear) or SFTP (secure), then click **OK**.

   NOTICE: When you choose **SFTP**, the Secure Shell Service and Secure FTP service are automatically set.

2.10

Connecting to the Software Download Manager Application

Procedure:

1 Double-click the **A7.17 Software Download Manager** icon on the desktop.

The main Software Download window opens.

2 Import a fileset by using the Software Depot File. Perform the following actions:

If…	Then…
If there is a DNS Server in the system,	select **Action** → **Use DNS Server**.
If there is no DNS Server in the system,	select **Action** → **Use Standard ASTRO IPs**.
If connecting to a DNS Server in a Trunking Subsystem (Tsub),	perform the following actions: **a** Select **Action** → **Use DNS Server**. **b** Select **Action** → **DNS Override**. **c** In the **Override DNS Server** window, enter the IP address for the DNS Server. **d** Click **OK**.

3 In the **Software Download Manager**, in the **Summary** tab, select a tab you want to add:

If…	Then…
If you click Open Site Mode,	perform the following actions: **a** From the drop-down list, select the **zone**, **site**, and **subsite number** (where applicable), and click **Connect**. **NOTICE:** Verify that you have selected the correct zone. The SWDL application does not have any zone security restrictions and allows you to pick any zone. SWDL is connected to the site. The **Site View** tab in the Site Status section displays the devices of the subsystem and the status of each device. **b** Continue with step 4
If you click Open Single Device Mode,	perform the following actions: **a** In the **Set Device IP Address** field, type the IP address of the device and click **Connect**. SWDL is connected to the device. The Device Information section displays the type of device and the software version. **b** Continue with step 4

NOTICE: Using one instance of the SWDL application it is possible to conduct up to ten SWDL operations simultaneously. Note that you can not open two instances of the SWDL application at the same time.

4 If you make changes to correct problems found during subsystem validation, click **Disconnect**, and **Connect** again to update SWDL with the changes.

2.11

Software Depot File Manager

The Software Depot File Manager window shows all the file sets referenced in the Software Depot configuration file, in a table format. The items in the table are grouped according to the application type.

The Software Depot is located on your hard drive. It contains all the configuration files and the file sets that SWDL uses to perform the SWDL operations.

The File Manager window contains the following information:

Label
The software label associated with each component in the File table. It is the name that is visible in the **Software Component** (**Version (Index)**) drop-down list when you are performing a software download operation to an application type.

Application Type
The device type associated with each component in the File table.

Fileset Version
The software version information associated with each component in the File table.

See also Opening a Software Depot File Manager Window on page 34.

2.11.1

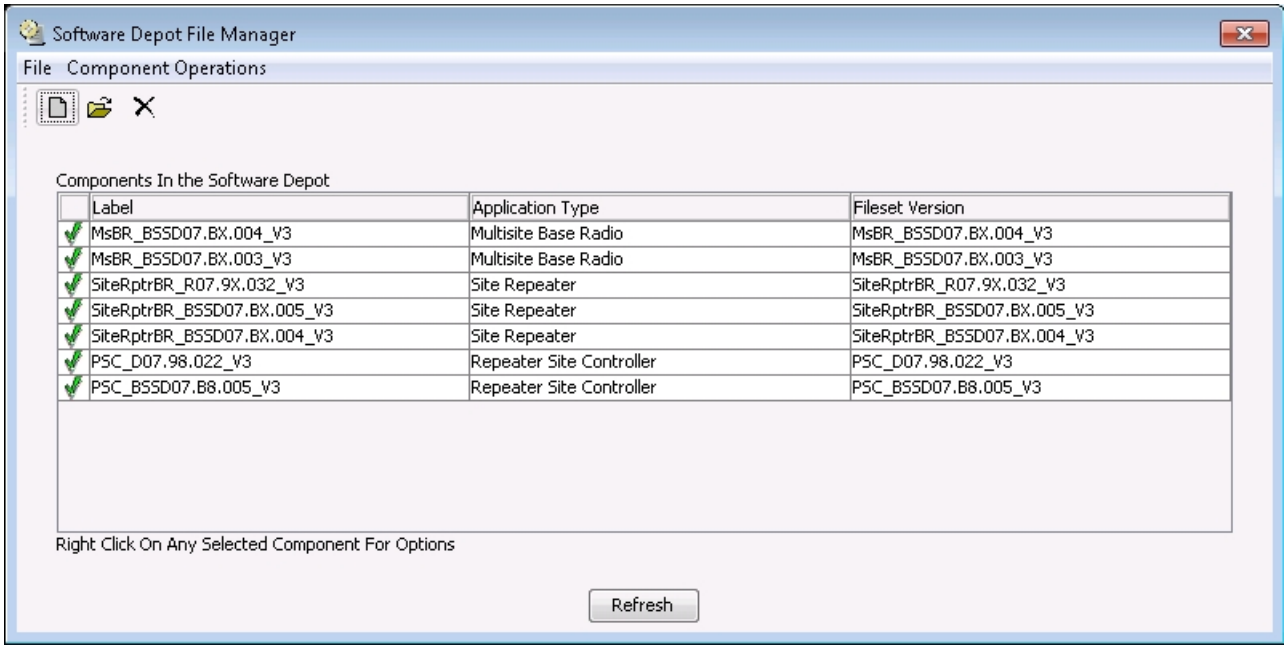
Opening a Software Depot File Manager Window

Procedure:

1 From the Software Download main window File menu, select **File Manager**.

The **Software Depot File Manager** window appears.

Figure 2: File Manager Window



2 If the message window shows, click **OK**:

```
There are no components in the SWDEPOT.
```

```
Do you want to import them from old location (c:\SWDEPOT)?
```

NOTICE: Wait until the system copies all the file sets.

Software Depot File opens with the file sets already in the new location.

2.11.2

Importing a Component into a Software Depot

NOTICE: In addition to importing the fileset configuration file from the distribution media, the import operation also creates a component corresponding to the imported fileset.

Procedure:

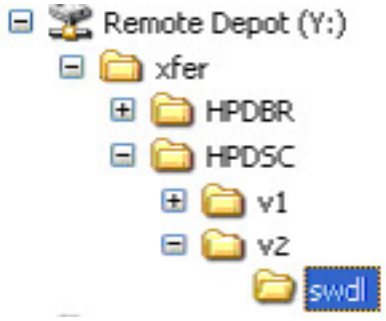
1 In the **Software Depot File Manager** window, select **Component Operations → Import Fileset**.

The Import a Component Into the Software Depot dialog box appears.

2 In the **Configuration File Path** text box, enter the file path or click **Browse** to navigate to the file path of the configuration file you want to use. You can select one of four configuration files:

swdepot.cfg
Remote Software Depot configuration file on the distribution media. It is the same as the swdepot.cfg file in the Software Depot, except that the `depotpath` parameter is assigned the path of the directory that contains the corresponding fileset configuration file (for example, swdl.cfg), relative to this file.
For a file structure example of importing the software fileset configuration, save a file from the CD to drive Y.

Figure 3: Remote Depot File Structure



If the **swdepot.cfg** is placed at the root of the Y drive, the `depotpath` parameter for the swdl.cfg file located under v2 is xfer/HPDSC/v2.

swdl.cfg
Software fileset configuration file from SWDL Software Depot distribution media.

swdlv1.cfg
Software fileset configuration file from SWDL Software Depot distribution media. SNMPv1 is used for this configuration file.

swdlv3.cfg
Software fileset configuration file from SWDL Software Depot distribution media. SNMPv3 is used for this configuration file.

NOTICE: If a selected device supports both **SNMPv1** and **SNMPv3**, two files are available: **swdlv1.cfg** and **swdlv3.cfg**. If a selected device supports only **SNMPv3**, only **swdl.cfg** file is available.

3 In the **Software Fileset Version** drop-down list, select a software fileset version for the device type.

The application type for the selected software fileset version is displayed in the dialog box.

4 In the **Component Label** text box, enter a unique name for the new component or click **Generate** for an auto-generated label.

Generate uses the software fileset version string.

The Component Label is the name that is visible in the **Software Version** (Version (Index)) drop-down list when you are performing a software download operation for a selected **Application Type**.

5 Perform one of the following actions:

- Click **OK** to accept the changes and exit the dialog box.
- Click **Cancel** to exit the dialog box without changing.

NOTICE:
In case of corrupted fileset the following message appears:

```
File Integrity Check failed.
Please make sure the fileset is not corrupted
and repeat the import operation.
```

Change a damaged fileset for the correct one.

Reading the fileset may take some time, as indicated by the hourglass symbol (depends on the PC and fileset).

2.11.3
Adding New Component

Procedure:

1 In the **Software Depot File Manager** window, from the **Component Operations** menu, select **Add New Component**.

The **Add New Component dialog** box appears.

2 In the **Application Type** drop-down list, select an application type.

The software file set version for the selected device type is displayed in the dialog box.

3 In the **Component Label** text box, enter a unique name for the new component or click **Generate** for an auto generated label.

Generate uses the software file set version string.

The Component Label is the name that is visible in the **Software Version** (Version (Index)) drop-down list when you are performing a software download operation for a selected **Application Type**.

4 Perform one of the following actions:

- Click **OK** to accept the changes and exit the dialog box.
- Click **Cancel** to exit the dialog box without changing.

2.11.4
Obtaining Details of Component

Procedure:

1. In the **Software Depot File Manager** window, select a component.
2. From the **Component Operations** menu, select **Details of Component**.

The **Software Depot Component Details** dialog box containing a detailed attribute list for the selected component appears.

2.11.5
Editing a Component

Procedure:

1. In the **Software Depot File Manager** window, select a row representing a component that you want to edit.
2. From the **Component Operations** menu, select **Edit Component**, or click the **edit** command button.

   The **Edit an Existing Component** dialog box appears.
3. In the **Application Type** drop-down list, select an application type.

   The software fileset version for the selected application type is displayed in the dialog box.
4. In the **Component Label** text box, enter a unique name for the new component or click **Generate** for an auto generated label.

   Generate uses the software fileset version string.

   The Component Label is the name that is visible in the Software Version (Version (Index)) drop-down list when you are performing a software download operation for the selected **Application Type**.
5. Click **OK** to exit the **Edit an Existing Component** dialog box.

2.11.6
Deleting a Component

Procedure:

1. In the **Software Depot File Manager** window, select a row representing a component that you want to delete from the File Manager table and the software depot configuration file.
2. From the **Component Operations** menu, select **Delete Component** or click the **delete** command button (the X icon button).

   The **Confirm Delete Operation** dialog box appears.
3. In the **Confirm Delete Operation** dialog box, perform one of the following actions:
   - If you want to delete the selected component, click **Yes**
   - If you want to cancel the delete operation, click **No**

2.12 Software Download Operations - Subsystems and Sites

You can download software to all supported devices in an entire subsystem, which includes devices listed in Subset of Device Types in a Subsystem on page 27 that support Site Mode.

IMPORTANT:
Site Mode operations support Trunking and HPD only.

For conventional devices, software upgrade is performed using SWDL Single Device Mode. The IP addresses of devices are set manually.

Install software during low call times because it interrupts call processing and causes momentary outages as channels are installed. Transferring software does not affect call processing and can be performed any time.

If a redundant-preferred Comparator is unavailable during Site Mode software download, the single-device method for software download needs to be performed before subsequently connecting it to the site switch and powering it up. If the single-device method for software download is not performed in this manner, when the redundant-preferred Comparator becomes available and active it will have the wrong software version which will cause the Site Controller to malfunction the channel associated with the comparator even if the non-preferred Comparator is available.

2.12.1 SNMP Version Detection

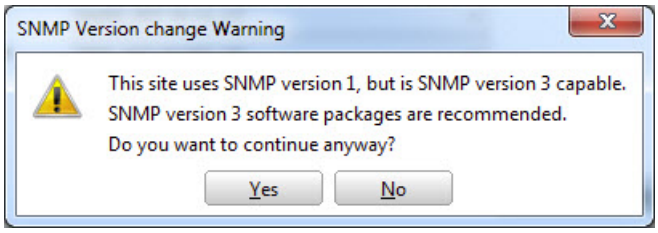
When performing software download operations (transfer/install/transfer and install) for a site, it is recommended that the SNMP software version installed on all the devices match. The software download manager checks the SNMP version in the software fileset and warns the user when a mismatch is detected.

The following three scenarios cause a warning message to appear:

1. The fileset contains SNMPv1, the site is SNMPv1, but the site is SNMPv3 capable.
2. The fileset contains SNMPv1 but the site is SNMPv3
3. The fileset contains SNMPv3 but the site is SNMPv1

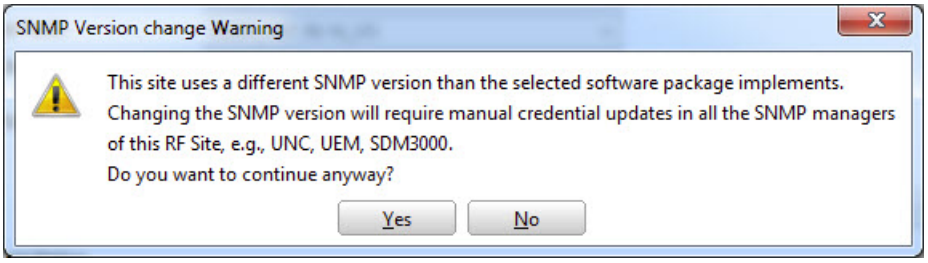
For scenario 1, the following warning appears when the software version selected for the operation contains a software fileset that is newer:

Figure 4: SNMP Version Change Warning for Newer Version



For scenarios 2 and 3, the following warning appears when the software version selected for the operation contains a software fileset that differs from what is installed on the running devices:

Figure 5: SNMP Version Change Warning for Different Version



See *SNMP* manual for modifying SNMPv3 credentials.

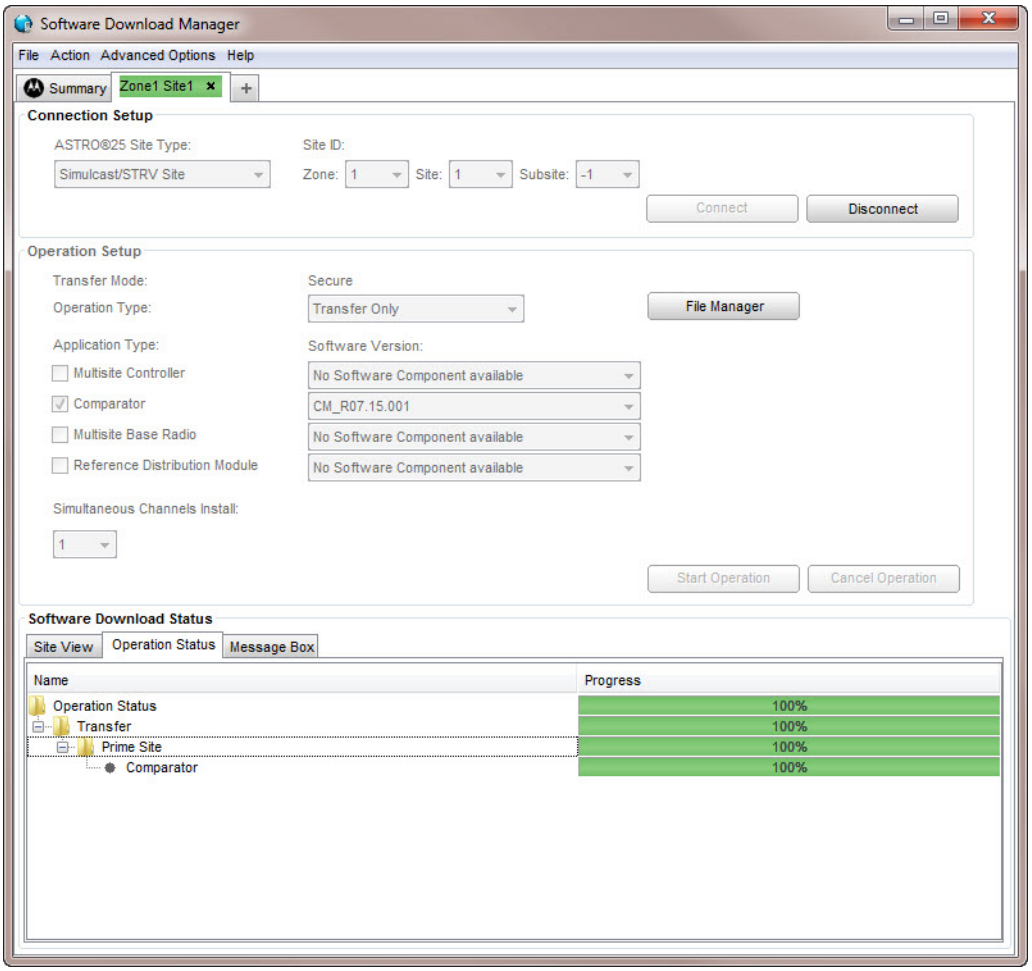
2.12.2
Transfer Only - Subsystem Operation

In a Simulcast / IP Simulcast subsystem, the Transfer Only operation transfers software to a proxy device. The other devices at the subsite (see Figure 14: Simulcast Subsystem with Dual LAN Subsites Block Diagram on page 70) crossload the same software during the transfer operation.

In an ASTRO® 25 Repeater subsystem, only the proxy device negotiates with SWDL, and the other devices (see Figure 15: ASTRO 25 Repeater Site / ASTRO Express Site Block Diagram) on page 71) manage their own transfers. Choose the device type and software version. The SWDL application automatically determines the device that receives the software for the transfer operation and the order the devices are installed.

The **Advanced Options** menu is used to select the type of transfer for site mode or single device mode. By default, Sequential Transfer is selected. See Advanced Options Menu on page 79 for details.

Figure 6: Transfer Only Operation



To minimize subsystem downtime, transfer and subsequent crossloading of software is done while the site is still trunking.

CAUTION:
Do not make configuration or service changes to a subsystem that is in a software download operation. Manually changing VLAN information on a device during a software download operation can cause Transfer and Install operation failures. Notify all concerned parties before beginning a software download operation.

Before initiating the transfer only operation, SWDL connects to a Site in the Zone to discover all devices. The transfer mode of all devices is displayed in the SWDL window. It is important that all devices have the same SWDL Transfer Mode. Otherwise, the SWDL will flag a mismatch of the SWDL Transfer Modes across site devices. Do not change the SWDL Transfer Mode from Secure to Clear or Clear to Secure during the software download.

The ASTRO 7.4 and later releases of the GCP 8000 Site Controller, GTR 8000 Base Radio, and GCM 8000 Comparator software provide a configurable login session idle timeout. The default value of this parameter is 0 seconds (no timeout enforced). If this configuration parameter on a device has a value between 1 second and 300 seconds (5 minutes), Software Download transfers may fail. As a result, all devices at a site may not receive the new software release. To avoid this issue, before starting the Software Download transfer, change the idle session timeout parameter to 300 seconds (5 minutes) or greater, or change it to zero to disable the idle timeout enforcement. This parameter is found in CSS on the Security / Device Security Configuration / Remote Access screen. After the transfer is complete, restore the idle session timeout to its original value, if required by the organization's policies.

2.12.2.1

Performing Transfer Only - Subsystem Operation

Prerequisites: Select an IP resolution method from the Software Download Manager main window (see Obtain Device IP Information on page 54).

When and where to use: Use this procedure to transfer software to supported devices in an entire subsystem.

Procedure:

1. Open the Software Download Manager application and establish a connection.

   See Connecting to the Software Download Manager Application on page 33

2. Ensure that the correct **Transfer Mode** (Secure or Clear) is configured.

   The current mode is displayed in the **Site View** tab. See Transfer Mode Values on page 95.

3. From the **Advanced Options** menu, select either **Sequential Transfer** (Default) or **Simultaneous Transfer**.

   See Advanced Options Menu on page 79 for descriptions.

4. From the Operation Setup section, select **Transfer Only** as the Operation Type.

   NOTICE: If you choose to download to the Multisite Base Radio device, see ASTRO-TAC Receiver Subsites in a Simulcast Subsystem on page 58.

5. For the **Application Type**, select the relevant device(s) check box.

6. For the **Software Version**, select the relevant software for each selected device.

7. Click **Start Operation**.

   NOTICE: If the **Start Operation** button is grayed out, SWDL has determined that there is a problem performing this operation to the selected devices. The button becomes active, when appropriate Operation Setup details are selected.

8. In the countdown window that appears, click **Proceed** to continue or **Cancel** to stop the operation.

   NOTICE:
   In case of corrupted fileset the following message appears:

   ```
   File Integrity Check failed. The current SWDL Operation will be
   aborted.
   Please make sure the fileset is not corrupted and repeat the
   transfer operation.
   ```

   If a fileset is damaged, the Transfer operation stops. Import a correct fileset and repeat the operation.

   If the transfer was successful, the Operation Status bar displays green.

   If the transfer failed, the Operation Status bar displays red.

Postrequisites:

- For the procedure to force re-transfer of software that exists on the device, see Purging a Software Version on page 53.
- For more information on APIs, see API Process on page 73.

2.12.3

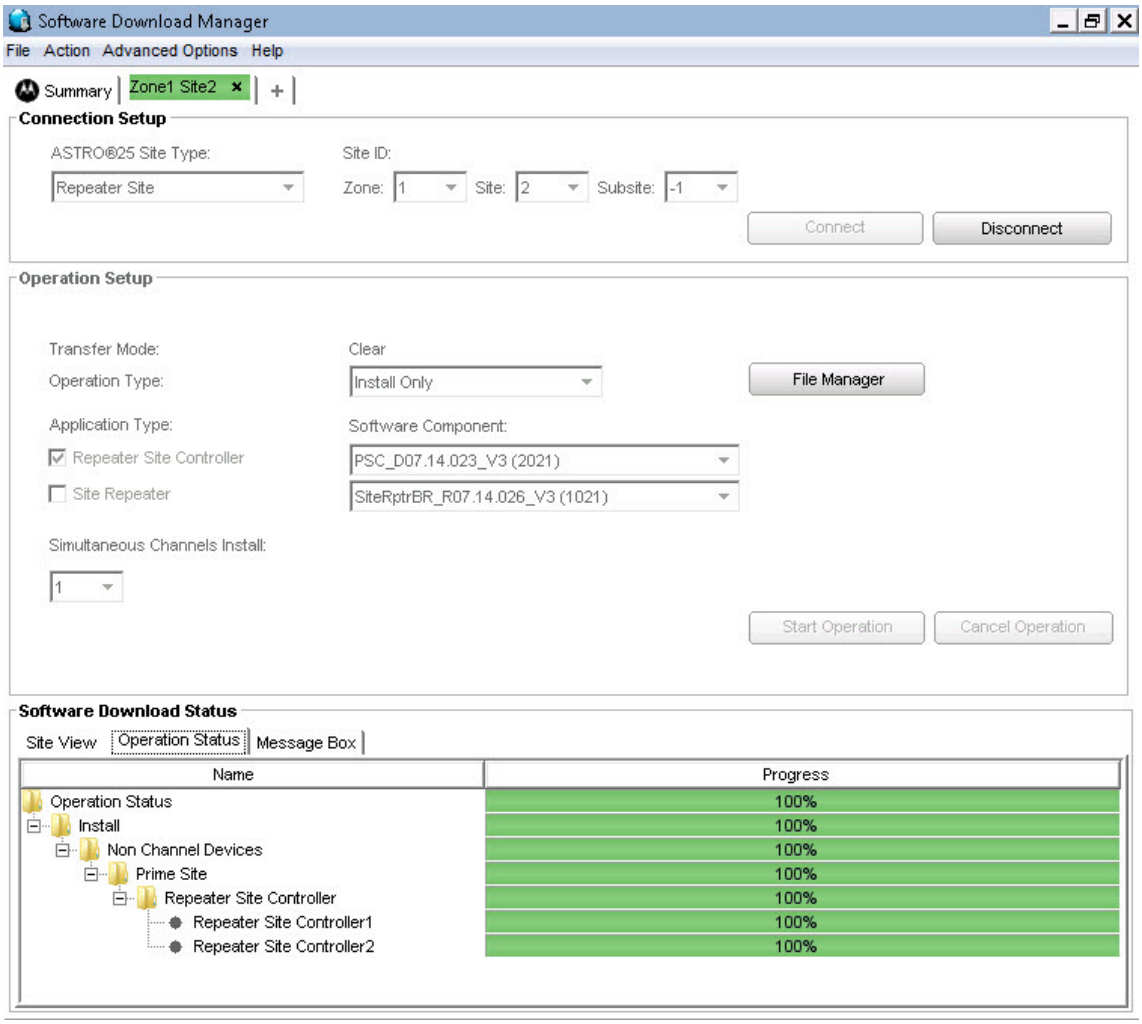
Install Only - Subsystem Operation

The Install Only operation installs software that has already been transferred to the device. Only software that has already been transferred using the SWDL application can be installed. Once the Install operation begins, it cannot be stopped. Simultaneous Channels Install option enables to select the number of channels that are installed simultaneously. If the first channel batch fails to install, see Installation Failure Troubleshooting on page 61.

For a Multisite subsystem, the first installation is done on a proxy device selected by SWDL, and then on the remainder of the non-proxy devices.

If a channel is disabled, SWDL still tries to install it. If that channel is not functional, set the channel to **unconfigured** using the CSS application before using SWDL to do any software download operations. Failure to change a malfunctioning channel to **unconfigured** causes installation failures.

Figure 7: Install Only Operation



CAUTION:
If a call is in progress when a channel is upgraded, the call is dropped. If multiple channels begin to fail, the site could go out of wide area trunking and potentially into failsoft. As long as a site's Minimum To Trunk (MTT) is met, the site remains in wide area trunking.

If the site consists of only one control-capable channel during upgrade, this channel temporarily goes out of service, thus putting the site in failsoft for a short time.

Do not make configuration or service changes to a subsystem that is in a software download operation. Manually changing VLAN information on a device during a software download operation can cause Transfer and Install operation failures.

Notify all concerned parties before beginning a software download operation.

NOTICE:
To maintain site functionality during the installation, SWDL picks the control channel as the last channel for installation.

During the Install portion of a Software Download Manager, monitor the channel status using Unified Event Manger (UEM). Do not use ZoneWatch, as it may report the channel status incorrectly. After the software download completes, the controller will report the correct status for all channels.

2.12.3.1

Performing Install Only - Subsystem Operation

IMPORTANT: During the install operation, the site can go into failsoft.

Prerequisites: Select an IP resolution method from the Software Download Manager main window (see Obtain Device IP Information on page 54).

When and where to use: Use this procedure to install software to supported devices in an entire subsystem.

Procedure:

1. Open the Software Download Manager application and establish a connection.

   See Connecting to the Software Download Manager Application on page 33.

2. Ensure that the correct **Transfer Mode** (Secure or Clear) is configured.

   The current mode is displayed in the **Site View** tab. See Transfer Mode Values on page 95

3. From the Operation Setup section, select **Install Only** as the Operation Type.
4. For the **Application Type**, select the relevant device(s) check box.
5. For the **Software Version**, select the relevant software for each selected device.
6. From the **Simultaneous Channels Install** drop-down list, select the number of channels you want to install simultaneously.
7. Click **Start Operation**.

   NOTICE: If the **Start Operation** button is grayed out, SWDL has determined that there is a problem performing this operation to the selected devices. The button becomes active, when appropriate Operation Setup details are selected.

8. In the countdown window that appears, click **Proceed**.

   If the install was successful, the Operation Status bar displays green.

   If the install failed, the Operation Status bar displays red.

2.12.4

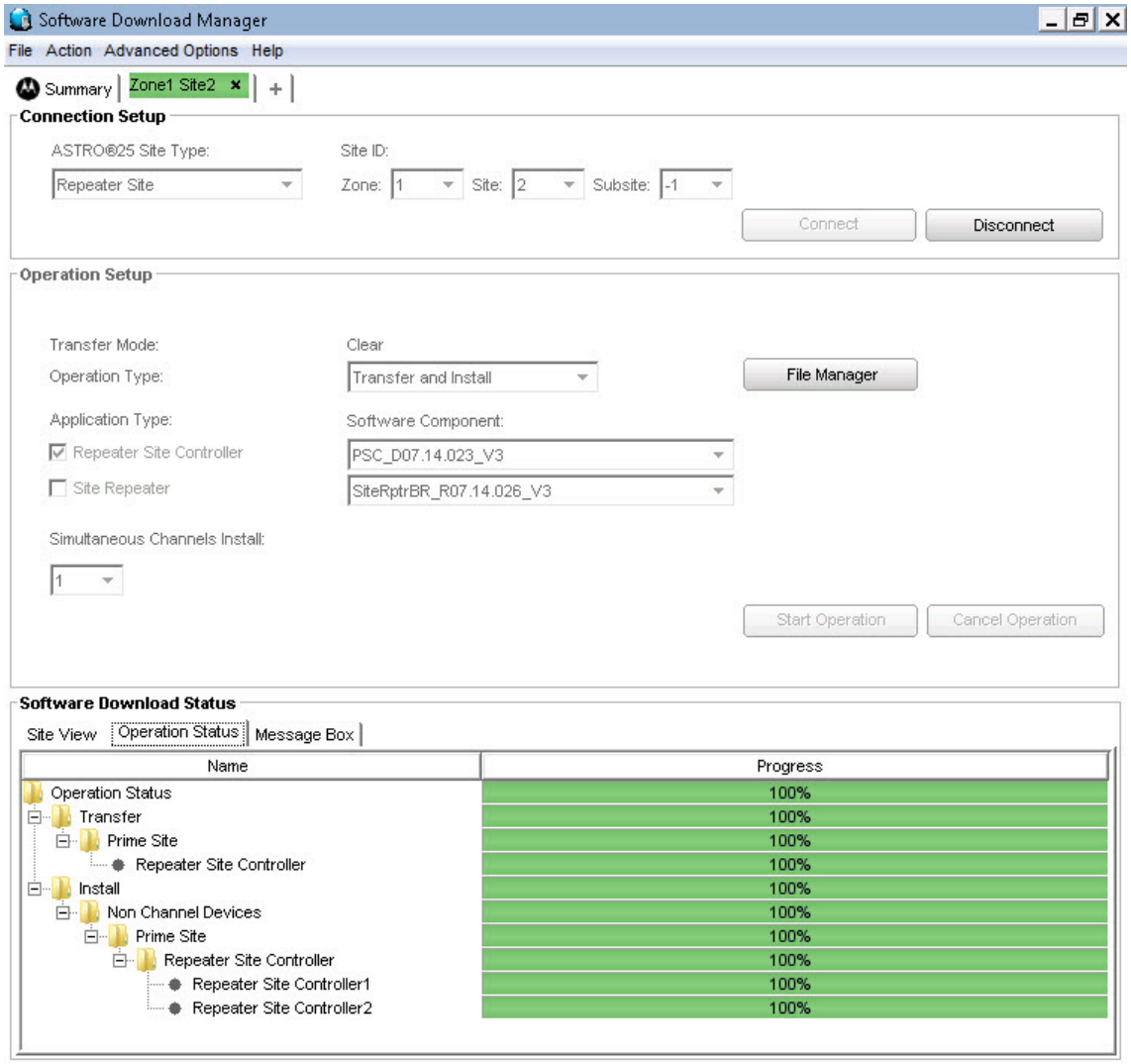
Transfer and Install - Subsystem Operation

The Transfer and Install operation includes both the transfer and installation of new software. The Install operation occurs immediately after the Transfer operation. If you cancel the operation during Transfer, or if a failure occurs during Transfer, the Transfer operation always finishes, but the Install operation is not invoked. The Install operation cannot be interrupted or canceled. Before attempting to install the software, correct the failure and re-transfer the software to ensure that it is valid.

If a channel is disabled, SWDL still tries to perform a Transfer and Install operation to that channel.

The **Advanced Options** menu is used to select the type of transfer for site mode or single device mode. By default, Sequential Transfer is selected. See Advanced Options Menu on page 79 for details.

Figure 8: Transfer and Install Operation



CAUTION:
If a call is in progress when a channel is upgraded, the call is dropped. If multiple channels begin to fail, the site could go out of wide area trunking and potentially into failsoft. As long as a site's Minimum To Trunk (MTT) is met, the site remains in wide area trunking. If the site consists of only one control-capable channel during upgrade, this channel temporarily goes out of service, thus putting the site in failsoft for a short time.

Do not make configuration or service changes to a subsystem that is in a software download operation. Manually changing VLAN information on a device during a software download operation can cause Transfer and Install operation failures.

Notify all concerned parties before beginning a software download operation.

NOTICE:
To maintain site functionality during the installation, SWDL picks the control channel as the last channel for installation.

During the Install portion of a software download, monitor the channel status using UEM. Do not use ZoneWatch, as it may report the channel status incorrectly. After the software download completes, the controller will report the correct status for all channels.

You choose the device type and software, but the SWDL application chooses the device to transfer the software to and the order in which the devices are installed.

2.12.4.1
Performing Transfer and Install - Subsystem Operation

IMPORTANT:
Any channel at a site that is not functioning properly or disabled must be set to **unconfigured** using the Configuration Service/Software (CSS) application before performing a transfer and install operation. Failure to set the channel to **unconfigured** causes installation failures.

Once a channel is repaired or enabled, set it to **configured** and repeat the transfer and install operation.

A site can go into failsoft during the install operation.

Prerequisites: Select an IP resolution method from the Software Download Manager main window (see Obtain Device IP Information on page 54).

When and where to use: Use this procedure to transfer and install software to supported devices in an entire subsystem. Perform a Transfer and Install operation during low call traffic periods.

Procedure:

1. Open the Software Download Manager application and establish a connection.

   See Connecting to the Software Download Manager Application on page 33.

2. Ensure that the correct **Transfer Mode** (Secure or Clear) is configured.

   The current mode is displayed in the **Site View** tab, for details see Transfer Mode Values on page 95.

3. From the **Advanced Options** menu, select either **Sequential Transfer** (Default) or **Simultaneous Transfer**.

   See Advanced Options Menu on page 79 for descriptions.

4. From the Operation Setup section, select **Transfer and Install** as the Operation Type.
5. For the **Application Type**, select the relevant device(s) check box.
6. For the **Software Version**, select the relevant software for each selected device.
7. Click **Start Operation**.

NOTICE:
If the **Start Operation** button is grayed out, SWDL has determined that there is a problem performing this operation to the selected devices. The button becomes active, when appropriate Operation Setup details are selected.

If you choose to download to the Multisite Base Radio device, see ASTRO-TAC Receiver Subsites in a Simulcast Subsystem on page 58

If a fileset is damaged, the Transfer operation stops. Import a correct fileset and repeat the operation.

8 In the countdown window that appears, click **Proceed** to continue or **Cancel** to stop the operation.

NOTICE: The Transfer operation begins first. After the transfer is successfully completed, SWDL begins the Install operation.

If the transfer was successful, the Operation Status bar displays green.

If the transfer failed, the Operation Status bar displays red.

2.13 Software Download Operations – Single Device

The Single Device Mode is used to transfer and/or install software to a single device for a device connected to the radio network or for a device that has been physically removed from the radio network.

If the device has been physically removed from the radio network (for example a conventional stand-alone repeater or a device in an ASTRO Express site) the device being downloaded needs to have IP connectivity to the PC running the SWDL Manager application. Ensure that there is no IP connectivity between the device being targeted for the download and any other radio system device.

Device types supported by the Single Device Mode are listed in Subset of Device Types in a Subsystem on page 27.

You can also perform the following operations to a single device:

- Upgrade the version of the software running on the device
- Convert the software application type on supported hardware devices
- Upgrade the file set information of the proxied device on its proxy (Not used with an ASTRO Express site)

Table 3: Converting the Software Application Type on Supported Hardware Device

Device	
The supported hardware devices on which you can convert the software application type separately:	
	Multisite Base Radio
	HPD Base Radio
	Site Repeater
	Conventional Base Radio
The supported hardware devices on which you can convert the software application type between each other:	
	Multisite Controller

Table continued…

Device
Repeater Site Controller
HPD Site Controller
Comparator
Conventional Comparator
Conventional Site Controller
Reference Distribution Module

2.13.1

Converting a Single Device

The SWDL conversion option allows you to change the software application type on supported hardware devices.

NOTICE: Converting a single device is possible only for a Transfer and Install operation.

Prerequisites: Check the currently supported hardware devices on which you can convert the software application listed in Software Download Operations – Single Device on page 46.

When and where to use: The type of software downloaded to a device determines its function (base station, repeater, etc.) Use this procedure to convert a single device from one function to another function by selecting the appropriate application type using the Software Download Manager application.

NOTICE:
For Multi-Site Controller and Repeater Site Controller:

Before downgrading from an ASTRO 7.16 system release, ensure that the **MotoZSS** user account is deleted from the SNMPv3 User Configuration. See the *G-Series Equipment System Release Configuration* manual for a detailed procedure.

Procedure:

1. Open **Single Device Mode** tab.
2. In the **Set Device IP Address** field, type the IP address of the device you want to convert and click **Connect**.
3. From the **Select an Option** drop-down list, select **Convert**.
4. From the **Application Type** drop-down list, select the application you want to convert.
5. From the **Software Version** drop-down list, select the appropriate software version.
6. Click **Start Operation**.
7. In the countdown window that appears, click **Proceed** to continue or **Cancel** to stop the operation.

   If the transfer was successful, the device progress bar in the Operation Status tab displays green.

   If the transfer failed, the device progress bar displays red.

2.13.2

Performing Proxy Upgrade on a Single Device

The single device SWDL application allows you to upgrade the proxied file set software on supported proxy devices. This operation allows configuration of a device before inserting it into the radio network.

NOTICE: This procedure is not used with an ASTRO Express site.

Procedure:

1. Open **Single Device Mode** tab.
2. In the **Set Device IP Address** field type the IP address of the device for which you want to perform Proxy Upgrade Operation, and click **Connect**.
3. From the **Select an Option** drop-down list, select **Proxy Upgrade**.
4. From the **Operation Type** drop-down list, select one of the following operations:
   - **Transfer**
   - **Install**
   - **Transfer and Install**
5. From the **Application Type** drop-down list, select the appropriate application (device) type.
6. From the **Software Version** drop-down list, select the appropriate software version.
7. From the **Bank Selection** drop-down list, select the bank.

   NOTICE: Selecting **Automatic** for storing the software in the bank is more suitable for the device.
8. Click **Start Operation**.
9. In the countdown window that appears, click **Proceed** to continue or **Cancel** to stop the operation.

   If the transfer was successful, the device progress bar in the Operation Status tab displays green.

   If the transfer failed, the device progress bar displays red.

2.13.3 Updating Software on a Single Device

Procedure:

1. Open **Single Device Mode** tab.
2. In the **Set Device IP Address** field, type the IP address of the device you want to upgrade and click **Connect**.
3. From the **Select an Option** drop-down list, select **Upgrade**.
4. From the **Operation Type** drop-down list, select one of the following operations:
   - **Transfer**
   - **Install**
   - **Transfer and Install**
5. From the **Application Type** drop-down list, select the application (device) type you want to upgrade.
6. From the **Software Version** drop-down list, select the appropriate software version.
7. From the **Bank Selection** drop-down list, select the bank.

   NOTICE: Selecting **Automatic** for storing the software in the bank is more suitable for the device.
8. Click **Start Operation**.

9 In the countdown window that appears, click **Proceed** to continue or **Cancel** to stop the operation.

If the transfer was successful, the device progress bar in the Operation Status tab displays green.

If the transfer failed, the device progress bar displays red.

2.13.4

Obtaining More Information about Failures

SWDL can provide to the user more detailed information about failures occurring during the transfer or install operations. The information about failure is read directly from devices and interpreted for the user.

IMPORTANT: If a redundant-preferred Comparator is unavailable during Site Mode software download, the single-device method for software download needs to be performed before subsequently connecting it to the site switch and powering it up. If the single-device method for software download is not performed in this manner, when the redundant-preferred Comparator becomes available and active it will have the wrong software version which will cause the Site Controller to malfunction the channel associated with the comparator even if the non-preferred Comparator is available.

Procedure:

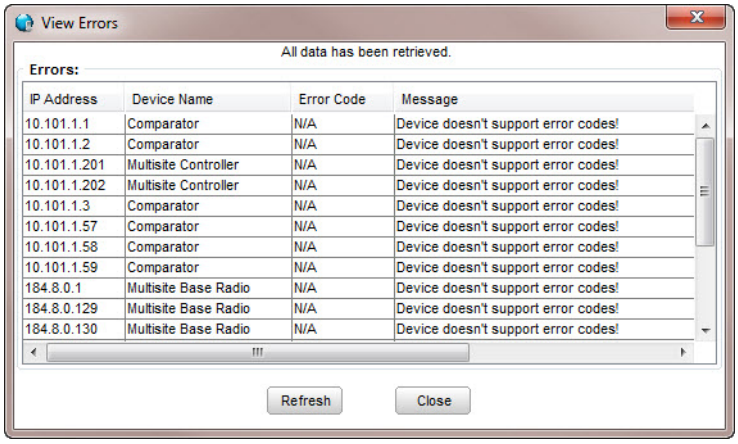
1 Open the Software Download Manager application and establish a connection.

See Connecting to the Software Download Manager Application on page 33.

2 From the Software Download Manager main window, select **Action** → **View Errors**.

NOTICE: View Errors is grayed out if the subsystem is not validated.

Figure 9: View Errors Dialog Box



3 Wait until all information is retrieved from all devices.

One of the following messages are displayed in the upper part of the dialog box:

`All data has been retrieved.`

This message informs that SWDL was able to communicate with all devices.

`Error occurred while retrieving data!`

This message informs that SWDL was not able to communicate with all devices.

4 Scroll through the records to identify any errors that may exists.

The devices in the table can be identified by their IP address and device name.

5 Click **Close**.

2.14 Session Audit with Log Files

Audits are turned on by default at the start of the SWDL application. All auditing information is placed in text files or logs. These text files contain valuable troubleshooting information. At any time, audits can also be started from the command line. You can also change the audit level, where higher levels provide more detail.

To start the SWDL application with audits turned off, see Changing Audit Level at Application Startup on page 51.

2.14.1 Log Files

The operation logs provide a history of the actions that occurred during an SWDL session. The log files store the following information:

- timestamp (indicating the time at which the operation is scheduled to start)
- identifier for the operation
- type of target site, subsite, and/or target devices
- identifier of target site, subsite, and/or target devices
- status of the operation
- operation total time
- operation ID
- operation start time
- operation completion time
- software version on devices
- channel batches
- operations details

A log directory is created on the hard drive, as follows:

- If you are using a Network Management Client, find the log files at: `C:\Users\Public\Documents\Motorola\Swdl` on Windows Vista Business Edition and Windows 7.
- If you are using a PC with CSS, find the log files at `C:\Users\Public\Documents\Motorola\CSS\A7.17\swdl`: on Windows 7.

2.14.2 Cleaning Log Files

NOTICE: Periodically archiving and deleting log records from the hard drive is recommended.

Procedure:

1 From the main window, select **Action** → **Clean Log Files**.

2 In the **Confirm Operation** dialog box, click **Yes**.

The **Information** window appears.

3 Click **OK**.

2.14.3

Changing Audit Level at Application Startup

Procedure:

1 Locate the **applparams.cfg** file:

NOTICE: The paths listed are the default locations of the **applparams.cfg** file. Depending on your computer configuration, the path may vary.

- If you are using a Network Management Client, find the **applparams.cfg** at `C:\Users\Public\Documents\Motorola\Swdl` on Windows Vista Business Edition and Windows 7.
- If you are using a PC with CSS, find the **applparams.cfg** file at `C:\Users\Public\Documents\Motorola\CSS\A7.17\swdl` on Windows Vista Business Edition and Windows 7.

2 Double-click the **applparams.cfg** file.

A prompt appears requesting you to identify the application which can open the applparams.cfg file.

3 From the list box, select **Notepad** and click **OK**.

NOTICE: The `AuditLevel` parameter can be set within a range of `1` to `15`, where `1` is the lowest amount of detail and `15` is the highest amount of detail. The default setting for the `AuditLevel` parameter is `8`.

The applparams.cfg file opens in the text editor.

4 Save and close the applparams.cfg file.

2.15

Connecting to a Site Locally

Prerequisites: Contact your system administrator to obtain:

- IP addresses
- Account usernames and passwords

When and where to use: Use these steps to connect locally to a Multisite Prime Site, an ASTRO® 25 Repeater Site, or an HPD Site. Connecting locally is especially useful when first setting up the subsystem (also called a site) devices while the network is unavailable, such as during site construction or if the network is out of service due to failure. Subset of Device Types in a Subsystem on page 27 lists the RF devices that can be accessed.

CAUTION: The connections to the LAN switch should be done as stated in the procedure below. Otherwise, voice traffic at the site can be adversely affected during the transfer.

Procedure:

1 Connect the computer to the site LAN switch:

IMPORTANT: Failure to connect to the proper prime site LAN switch may result in the loss of audio on a 10Base-2 comparator LAN while performing a software transfer.

If…	Then…
If a subsite is Dual-LAN,	connect to the Reference Distribution Module, acting as a switch (the old switches in a sub-site are removed).

If…	Then…
If you want to perform transfer operation for Base Radio or Conventional Site Controller,	connect the PC to the LAN switch for site controller 1, directly connected to the prime site router.
If you want to perform transfer operation for Site Controller, Comparator, Repeater Site Controller, ASTRO® 25 Site Repeater, HPD Site Controller, GCP 8000 Site Controller, GCM 8000 Comparator, GTR 8000 Base Radio, GPB 8000 Reference Distribution Module, or HPD Base Radio,	perform the following actions: **a** Use the Configuration/Service Software (CSS) application to determine the Standby Site Controller. **b** Connect the PC to the same LAN switch as the Standby Site controller.

For Transfer operations, the connection port depends on the device type software.

2 Determine the IP addresses for the site to which you are connected. The IP address is in the format of `10.10<x>.<y>.<z>`, where:

<x > is a Zone (1 to 7)

<y > is a Site (1 to 100)

<z > is a Host ID (1 to 255)

See DNS File Creation on page 30 for details.

3 Set the computer IP address to one that is on the same LAN as the Site Controller.

NOTICE: Choose a host ID that is not currently used. Generally, the Site Controllers have host IDs of 200 (in Geo-Redundant IP Simulcast prime site), 201 and 202. Comparators have host IDs of 1 to 30, redundant Comparators have host IDs of 57 to 84, 98 and 99. Recommended numbers are between 186 and 196. Do not use Dynamic Host Configuration Protocol (DHCP) to obtain an address.

4 Reboot the computer to make the new IP address active.

5 When the new IP address is available, open SWDL and select the appropriate IP resolution method for the site you wish to download.

2.16 Obtaining Software Version Information

Version information includes the software version residing on the device, and the state of the software (whether it was transferred or both transferred and installed). Devices on the LAN are crossloaded with the software when a transfer occurs. Therefore, when getting the version information for a device type, you can select any device of that type in the subsystem.

Procedure:

1 Perform one of the following actions:

- Connect to a site. See Connecting to the Software Download Manager Application on page 33
- Connect to a single device. See Connecting to the Software Download Manager Application on page 33

2 From the Software Download Manager, select **Action → Get Version**.

A window opens listing all the versions of the software available on the selected device. The window may have one or two tabs, depending on the device selected. The second tab shows version information on the selected proxy of a device.

3 For more details about the software versions on the selected device, click the **Details** button.

4 Perform one of the following actions:

- Click the **Overview** button to return to the previous (Overview) window.
- Close the window to return to the Software Download Manager main window.

2.17

Purging a Software Version

SWDL does not re-transfer software that exists on a device. You can force a re-transfer of the software by purging the original software from the device.

CAUTION: Use caution when purging software. If a device is using specific software files, the files are considered in use. Some devices allow you to purge the in use bank. If you purge an in use bank, and the device resets before a successful re-transfer, then the device does not contain any subsystem software. If a device does not allow a purge or an error occurs during a purge, the **Cause** field of the **Version Information** window does not change.

When purging software from a site controller or repeater site controller, the software on both the primary and secondary devices is purged. For base radios, go to a single base radio at each subsite and purge the software. The base radio cross-purges at the site.

Base radios, ASTRO® 25 Site Repeaters, GCP 8000 Site Controller, GCM 8000 Comparator, GTR 8000 Base Radio, Repeater Site Controllers, and GPB 8000 Reference Distribution Module crossload purge requests between devices. The GCP 8000 Site Controller and GCM 8000 Comparator do not support this capability.

Prerequisites: To check device type and software location after transfer to perform a purge operation see Location of a Purge Software on page 54.

When and where to use:
Purging software marks a particular version of software (fileset with its component files) as purged or deleted. Only software versions that were previously transferred can be purged using the SWDL application.

Procedure:

1 In the **Site Mode** tab, choose the appropriate Zone and Site, and click **Connect**.

2 In the **Site View** tab at the bottom of the window, select a device.

3 From the Software Download Manager, select **Action** → **Get Version**.

A window opens listing all versions of software available on the selected device. The window may have one or two tabs, depending on the device selected. The second tab shows version information on the selected proxy of a device.

4 Right-click the version that you want to purge, and select **Purge** from the pop-up menu.

5 Click **Yes** in the confirmation window.

IMPORTANT:
Site controllers do not allow you to purge software currently running on the device.

Purging software on a comparator causes a re-transfer of the software from the site controller.

The selected software version is purged from the selected device.

6 In the **Cause** column, verify that the status is changed to reflect the purge.

After a purge, the Cause column changes to **Purge Command Issued**

2.17.1

Location of a Purge Software

The following table lists the device type and software location after transfer to perform a purge operation. ASTRO® 25 Site Repeaters and Repeater Site Controllers crossload purge requests between devices, but the Site Controllers do not have this capability.

Table 4: Location of a Purge Software

Device Type	Software Location
Repeater Site Controller	Prime Site LAN
ASTRO® 25 Site Repeater	Prime Site LAN
HPD Site Controller	Prime Site LAN
HPD Base Radio	Prime Site LAN
Site Controller	Prime Site LAN
Comparator	Prime Site LAN
Multisite Base Radio	Subsite (LAN)
Conventional Site Controller	Standalone
GCP 8000 Site Controller	Prime Site LAN
GCM 8000 Comparator	Prime Site LAN
GTR 8000 Base Radio	Subsite (LAN)
GPB 8000 Reference Distribution Module	Subsite (LAN)
Conventional Comparator	Standalone, Prime Site LAN
Voice Processor Module	Standalone

2.18

Opening the Configuration/Service Software (CSS)

When and where to use: Use this procedure to launch the Configuration Service/Software (CSS) application. The CSS application can be launch by navigating through the installed programs on your PC or by double-clicking on the **A7.17 Configuration Service Software** icon on the desktop.

Procedure:

1. In Windows 7, click **Start** and select **All Programs**.
2. From the **Motorola** folder, select **Configuration/Service Software for A7.17**.
3. Select **A7.17Configuration Service Software (CSS)**.

2.19

Obtain Device IP Information

There are 3 ways to obtain device IP Information:

- If you are working from a Network Management Client, a Domain Name Server (DNS) is used to resolve each device IP in the subsystem.
- When a DNS server is not accessible, select **Action**

  Use Standard ASTRO IPs from the **Software Download Manager** main window.

- When a DNS server is not accessible and you are using a non-standard IP scheme, create a DNS file. See DNS File Creation on page 30. For details on how to load DNS information, see Loading a DNS File on page 31

NOTICE: Use the same IP resolution method for all sites.

2.19.1

Connecting to a Device

In Single Device Mode you can connect to a single device using its IP address. To acquire IP address use the procedure below.

NOTICE: To switch to Single Device Mode, in the **Summary** tab, click **Open Single Device Mode**.

Procedure:

1. Open the CSS. See Opening the Configuration/Service Software (CSS) on page 54.
2. From the **Tools** menu select **Connection Configuration**.

   The Connection Screen dialog box appears.
3. From the Connection Type field select **Ethernet**.
4. Click **Fetch DNS** button.

   DNS IP Address Calculation screen appears.
5. Enter the **Zone** and **Site** IDs.
6. Select **Conventional Site Controller** or **Conventional Base Radio** in particular configuration in **Device** list.
7. Click **OK**.

   Hostname gets generated in the Device IP address field of the Connection Screen.
8. Make a note of that text string that is displayed in the Device IP Address box Fully Qualified Domain Name (FQDN).
9. Click **Cancel** on the **Connection** screen.
10. Close the CSS application window.
11. Press the **Windows icon key** + R to open the Run dialog box and type `nslookup <FQDN>`.Use this IP address for **Single Device upgrade** of that Conventional device.

    IP address of the device is displayed.

2.20

Channel Addition to a Subsystem

When a new channel is added to an existing subsystem, perform the Transfer and Install operation. Because the SWDL application only allows you to select a Zone, Site, and Device Type for the transfer and install, you cannot install only a single channel.

NOTICE: When applying this procedure in an ASTRO® 25 subsystem, the added ASTRO® 25 Site Repeater must be in the same VLAN as the GCP 8000 Repeater Site Controller

2.20.1

Adding a Channel and Installing Software - Base Radio

Prerequisites: When applying the following procedure in an ASTRO® 25 subsystem, the added ASTRO® 25 Site Repeater must be in the same VLAN as the Repeater Site Controller.

When and where to use: Use this process to add a channel and install base radio software for a Simulcast subsystem, ASTRO 25 Repeater Site, HPD site or ASTRO Express site.

Procedure:

1. Install the new channel:
   a. Connect the hardware for the new channel.
   b. Configure the channel through the Unified Network Configurator (UNC) or the CSS application.
   c. Verify the new channel configuration.

   IMPORTANT: If the status of the new channel is **unconfigured**, SWDL does not recognize it in the subsystem.
2. Import the software files from the CD to the hard drive.

   The device chosen as a proxy checks the version of software to see if it exists on the device. The proxy determines if the software version exists on the subsite and informs all other devices to crossload the specified software version.
3. Perform one of the following actions:
   - In a Simulcast subsystem, perform a Transfer Only operation to the Multisite Base Radio.
   - In an ASTRO® 25 Repeater subsystem or ASTRO Express site, perform an ASTRO® 25 Repeater Site Transfer Only operation to the site.

     The device chosen as a proxy checks the version of software to see if it exists on the device. The proxy determines if the software version exists on the site and informs all other devices to crossload the specified software version.
   - In an HPD subsystem, perform an HPD Site Transfer Only operation to the site.
4. Perform an Install Only operation.

2.20.2

Adding a Channel and Installing a Software on the ASTRO-TAC 9600 Comparator

Procedure:

1. Install the new channel:
   a. Connect the hardware for the new channel.
   b. Configure the channel through the UNC or the CSS application.
   c. Verify the new channel configuration.

   IMPORTANT: If the status of the new channel is **unconfigured**, SWDL does not recognize it in the subsite.
2. Install the comparator:
   a. Verify that the comparator is configured on the same VLAN as the rest of the site controllers and comparators.

b Verify that the site controller has the correct version of the comparator software marked as **in use**.

c Connect the comparator hardware to the LAN.

The current software is crossloaded to the comparator from the site controller when the appropriate VLAN is set on the new comparator.

2.20.3

Adding a Channel and Installing Software on the GCM 8000 Comparator

IMPORTANT: If a redundant-preferred Comparator is unavailable during Site Mode software download, the single-device method for software download needs to be performed before subsequently connecting it to the site switch and powering it up. If the single-device method for software download is not performed in this manner, when the redundant-preferred Comparator becomes available and active it will have the wrong software version which will cause the Site Controller to malfunction the channel associated with the comparator even if the non-preferred Comparator is available.

Procedure:

1 Install the new channel:

a Connect the hardware for the new channel.

b Configure the channel through the UNC or the CSS application.

c Verify the new channel configuration.

IMPORTANT: If the status of the new channel is **unconfigured**, SWDL does not recognize it in the subsite.

2 Install the comparator software. For details see Performing Install Only - Subsystem Operation on page 43

NOTICE: Remember to connect the laptop PC to the port using an Ethernet patch cable and set the IP address of the laptop to the same subnet as the GCM 8000 Comparator, first.

The GCM 8000 Comparator is loaded with the new software.

2.21

Adding a Subsite to a Simulcast Subsystem

The SWDL attempts transfer to one proxy device at each subsite. The base radio chosen as a proxy checks for a relevant version of software. If subsites exist, the proxy determines that the relevant software is installed and does not transfer it again. Only the new subsite that does not have software gets the full transfer.

The transfer to existing subsites takes approximately 10 minutes or less. The new subsite takes the standard amount of time to transfer and crossload to all the non-proxy base radios. When the transfer is complete, install the new software.

This section is not applicable to ASTRO® 25 Repeater subsystems.

IMPORTANT: Do **not** purge the software from the existing subsites before performing the transfer.

Procedure:

1. Connect and install the hardware for the new subsite.
2. Configure new subsites using UNC or the CSS application.
3. Verify that the new subsite is configured and its status is **not** unconfigured.

   NOTICE: The SWDL only upgrades subsites and channels that are **not** unconfigured.

4. Using the File import the file sets to the hard drive of a computer. See Importing a Component into a Software Depot on page 35.
5. Perform a base radio Transfer and Install operation to the new subsite.

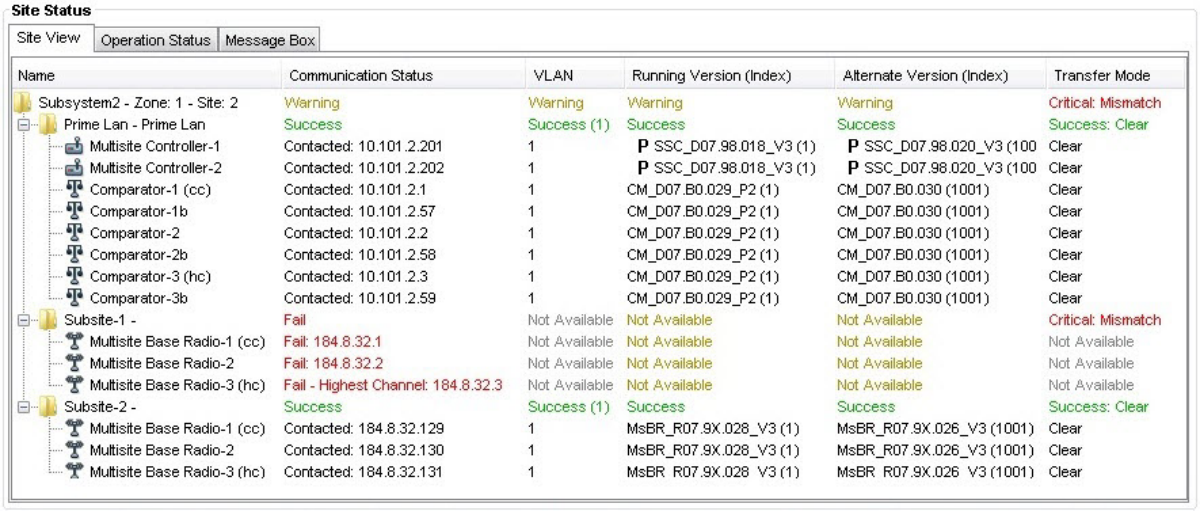
2.22 ASTRO-TAC Receiver Subsites in a Simulcast Subsystem

A Simulcast subsystem can have Multisite subsites that are comprised entirely of ASTRO-TAC ® 9600 Receivers. ASTRO-TAC® 9600 Receivers are not capable of Internet Protocol (IP) communication and thus cannot be upgraded using SWDL. The SWDL cannot distinguish between subsites that are SWDL-capable, but are not IP communicating, and ASTRO-TAC® 9600 receiver subsites. Therefore, it is necessary to remove the ASTRO-TAC® 9600 Receiver subsites from the list of targeted subsites before an SWDL transfer or install operation.

When connecting to a subsystem, SWDL polls each device within the subsystem for connectivity. If any given device within a subsite does not respond, it means that it is either an ASTRO-TAC® 9600 Receiver or SWDL was unable to make a connection with the device. If all devices within a subsite fail to respond, this subsite may contain only ASTRO-TAC® 9600 Receivers. The SWDL cannot proceed with an operation on an ASTRO-TAC® 9600 Receiver subsite.

Once you have connected to a Multisite subsystem, if there are ASTRO-TAC® 9600 Receiver subsites or non-responding subsites in your subsystem, a message in the Site View tab of the Software Download Manager main window appears, see Figure 10: Message for Non-Responding Devices on page 58.

Figure 10: Message for Non-Responding Devices



NOTICE: Check the warning messages displayed in the **Message Box** tab. For more information on subsystem validation issues, see Site View tab on page 92.

If all the non-responsive subsites are ASTRO-TAC® 9600 subsites, then select **Action** → **Remove all ASTRO-TAC Subsites**. This removes all non-responsive subsites from the operation.

CAUTION: Do not continue the operation if any of the subsites are not ASTRO-TAC® 9600 receiver subsites. If you do, subsites that should be SWDL targets are skipped, causing those subsites to be out of sync with the rest of the subsites in the subsystem.

2.23 VPM Upgrade Using Console SWDL

Console SWDL is a lite-version with no GUI used to perform VPM upgrade.

Console SWDL displays information about progress update on standard output. Transfer progress update is displayed upon every progress update coming from the VPM device. Console SWDL also displays information upon starting and finishing install phase. All the information displayed by the Console SWDL can be routed to the log file (silent mode); – -l/--log switch is used for that.

After finishing VPM upgrade, Console SWDL returns system error code. The following text is displayed:

```
Console SWDL returned with code: <error code> (<error description>)
```

NOTICE: If Console SWDL return with code 0, it means that operation completed successfully. Any non zero error code means that some problem occurred.

For details on Console SWDL errors see Console SWDL Command and Error Codes on page 101.

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Chapter 3

Software Download Manager Troubleshooting

This chapter provides fault management and troubleshooting information relating to Software Download Manager application.

3.1 In-Session Status

CAUTION: Be careful when manually clearing a device, as unexpected results occur if a device is involved in two or more software download operations.

The In-Session feature is used to prevent devices from being involved in more than one SWDL session at a time.

When an operation is in progress, the involved device status is set to **In-Session**. This indicates, to any additional SWDL contacting the device, that the device is currently involved in an operation and is not available for download or install. If the In-Session status was not cleared or a second SWDL tries to contact the device, then a warning is displayed.

If the device was not cleared properly due to a failed software download operation or other problem, you can manually clear the device and start over.

3.2 Installation Failure Troubleshooting

IMPORTANT: Performing a reinstallation of previous software versions, without moving the devices to one virtual LAN (VLAN), can cause unpredictable results. In site trunking, ensure that the channels assigned as control channels are moved last.

For details on moving devices at site to one VLAN, see Changing VLAN Operation on page 29

3.3 Fixing a Transfer Failure

Process:

1. Check status in the version table to see the cause of failure. See Obtaining Software Version Information on page 52.
2. If cross-transfer failed, check that all devices on the LAN are accessible. If the Software Depot is not found, check that all files referenced in the **swdl.cfg** file exist on the hard drive.
3. Purge failed transfer file set version. See Purging a Software Version on page 53.
4. Restart the transfer operation. See Transfer Only - Subsystem Operation on page 39.

3.4 Split VLAN Condition

When all devices in a Prime LAN or Subsite LAN are not in the same VLAN, this is called a split VLAN condition.

The SWDL detects a split VLAN when doing a subsystem validation, and prevents any operation on a LAN with a split VLAN condition.

The split VLAN condition is displayed in Site Mode tab, in the VLAN column of the Site View tab. The value in the parentheses (#) is the VLAN on which most the devices reside.

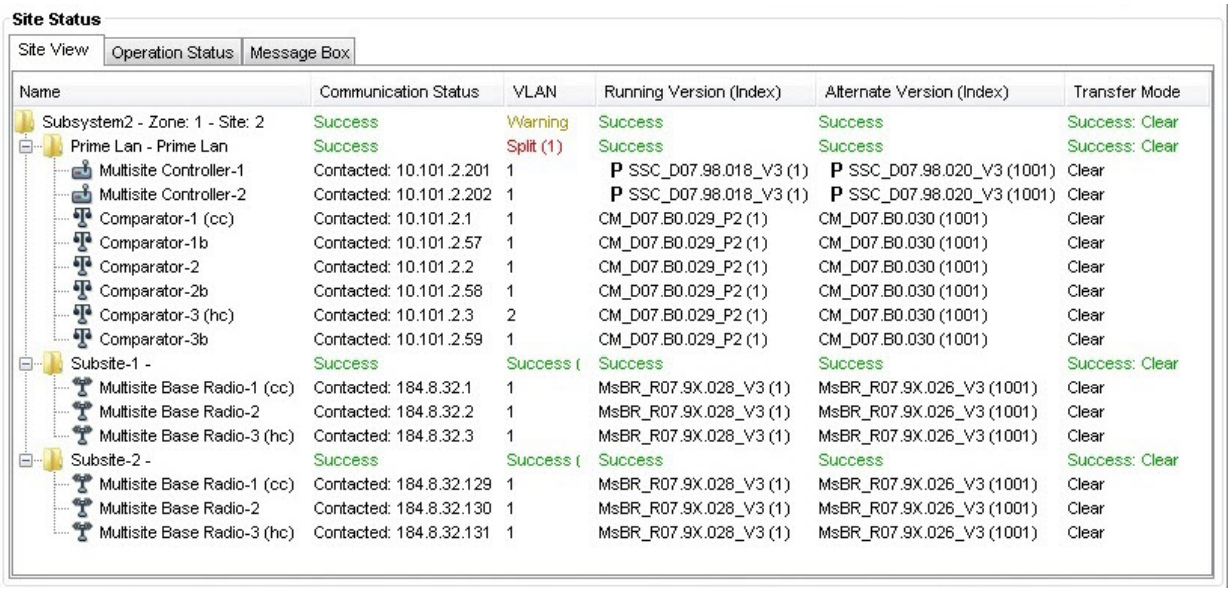
A split VLAN condition is most likely the result of incorrect resolution of a failed software download installation operation. During site trunking, if an operation fails and the active control channel is moved to the alternate VLAN while leaving control-capable channels on the initial VLAN, this could cause two active control channels to exist. Only one of the control channels is valid, causing radio interaction with the site to be unpredictable.

Use one of the following operations to fix split VLAN condition:

- Changing VLAN Operation on page 29
- Changing VLAN using CSS on page 62

The following figure is an example of a split VLAN condition in a Simulcast Site. For more information on subsystem validation issues, see Site View tab on page 92

Figure 11: Example of the Split VLAN Condition in Simulcast Site



3.4.1
Changing VLAN using CSS

Procedure:

1. Connect to the original active site controller with the CSS application and read the configuration.
2. Select **Service → VLAN Screen** to determine which VLAN this site controller is on. Move all devices to this VLAN once the procedure is complete.
3. Move all comparators, **except** the current control channel, to the VLAN noted in step 2:
   - **a** Connect to the comparator with CSS and read its configuration.
   - **b** Open the VLAN screen from the service menu.
   - **c** Check VLAN value:
   - If the current VLAN matches the desired VLAN, move all the comparators to the VLAN noted in step 2.

- If the current VLAN does **not** match, enter the VLAN number from step 2, and click **OK**. This causes the comparator to switch VLANs.

4 Move the comparator that is the control channel to the VLAN noted in step 2.

5 Connect to the standby site controller with CSS and read its configuration.

6 Open the VLAN screen from the service menu, and perform one of the following actions:

- If the current VLAN matches the VLAN noted in step 2, continue to step 7.
- If the current VLAN does **not** match,enter the VLAN number from and click **OK**. This causes the site controller to reset and change VLANs.

7 Make sure that all the site controllers and comparators indicate the same VLAN number. This order ensures that the site does not enter a condition where it has two active control channels.

NOTICE: Although the error condition can occur only in site trunking, this cleanup procedure is recommended regardless of trunking state.

Postrequisites:

NOTICE: For more information on how to repair a split VLAN condition, also see Installation Failure Troubleshooting on page 61 and Fixing a Transfer Failure on page 61.

3.5 Checking for a Link Failure

A link failure may cause a transfer or install operation to take an excessive amount of time to complete.

Process:

1 If you suspect that a Transfer or Install operation is taking too long to complete, check the link status of the target site using the fault management application.

NOTICE: The timeout for the Transfer API is 36 hours for clear transfer, and 41 hours for secure transfer. The timeout for the Install API is one hour.

2 If a link to an SWDL target device is down, you may choose exit and restart SWDL in order to perform software download on another subsystem.

NOTICE: It is not possible to cancel a Transfer operation. The Transfer operation may continue to proceed on the subsystem with the failed link even though you exited SWDL. There is a possibility that it may still succeed, depending on the nature of the link failure (for example, the link failure could be intermittent).

3 After restarting SWDL, you can attempt to connect to the subsystem with the failed link and view the Validate table to check for version mismatches among the devices.

NOTICE: It is not possible to re-initiate a Transfer to the subsystem until it exits SWDL mode by itself and the link failure is corrected.

3.6 SFTP User Authentication Failure Check

In case of an SFTP user authentication failure, the transfer operation is not possible.

Possible causes:

- Problem with a device, to which you transfer files. All messages in the **Message Box** tab, that inform about the authentication problems should come from the identified by the IP address devices (from devices, that participated in that transfer).

- A problem with the blocked account for the SFTP user, caused by an attack, or illegal use of the SFTP server by unauthorized person. To state this, go to the **Message Box** tab to see messages about attempting authentication from the unknown devices identified by the IP address.

Possible messages concerning the SFTP authentication:

- `SFTP authentication for device with IP: x.x.x.x successful.`
- `SFTP authentication for device with IP: x.x.x.x failed.`

Where `X.X.X.X` is the device's IP address.

3.7 An initVerIndex API Failure Verification

If the initVerIndex API fails, verify that the file set version for the device type is valid and not the active file set.

3.8 Receiving Notification of the Inability to Receive SNMP Traps

When and where to use: The Software Download Manager application is not able to receive the SNMP traps. None of the UDP ports configured as potential SNMP trap ports are available. A message box appears, containing a list of the configured UDP ports that Software Download Manager attempted and failed to bind to.

Process:

1. Open the Software Download Manager and validate your subsystem. See Connecting to the Software Download Manager Application on page 33.
2. Select an operation. See Types of Operations on page 25.
3. Select version of at least one device type.
4. Select **Start Operation**.

   A warning message about the inability to receive SNMP traps appears.

5. Perform one of the following actions:

If…	Then…
If you click Yes in the dialog box,	the operation continues without receiving traps and polls for status.
If you click No in the dialog box,	**a** A message indicating that the operation does not continue appears. **NOTICE:** The dialog box also displays a suggested resolution for making a UDP port available on which to receive SNMP traps, along with a list of the configured UDP ports that SWDL attempted and failed to bind to. **b** In the dialog box, click **OK** to return to the operation setup screen. **c** Select **Start Operation**, with the same or modified operation setup selections.

3.9

Resolution for Authentication Failures

If you use wrong credentials, there is an authentication failure. To resolve the failures that occur due to authentication problems, be aware of the following factors:

- When the IP of a device changes, its respective SNMPv3 settings are reset. After changing the IP, make sure that the credentials are set up properly. For details, see the *SNMPv3* manual.
- Passphrases are case sensitive.
- After using correct passphrases if the authentication fails, then check if the device is running.
- All devices in the site should have same credentials and run on the same SNMP version.

3.10

Active Network Connection Failure

Software Download Manager (SWDL) operations require an active network connection. Failure to maintain an active network connection can result in communication failures.

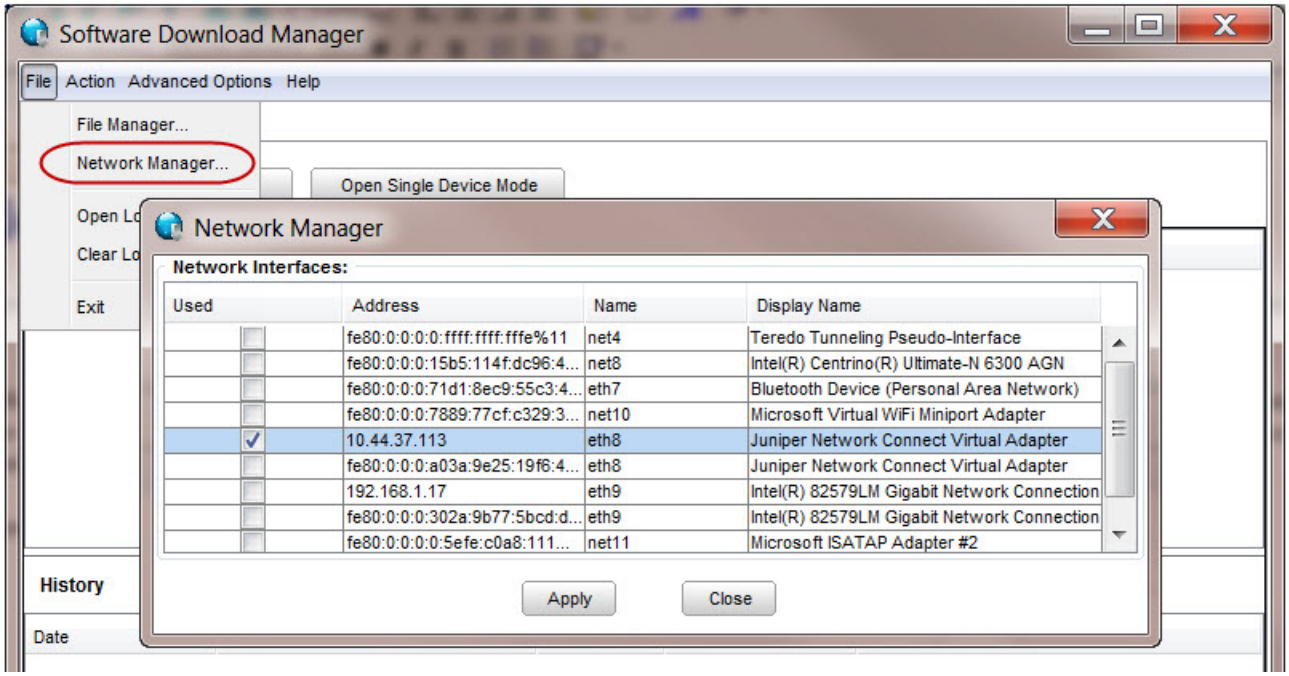
Issue:

Once Software Download Manager is launched and a connection is established, if the active network connection changes, any new SWDL operations fail. For example, a laptop with two network interface cards is used to establish a connection with the Software Download Manager application. Moving the Ethernet cable from one interface card to another, while Software Download Manager is open, causes new SWDL operations to fail.

Resolution:

After changing the active network interface on the PC, use the **Network Manager** screen to select the new active network interface.

Figure 12: Network Manager



3.11 FRU Replacement Running Software from the Wrong Bank or Index

When FRU replacements are performed, the user must ensure that the new hardware component is running the same software version from the same bank or index at the RF site.

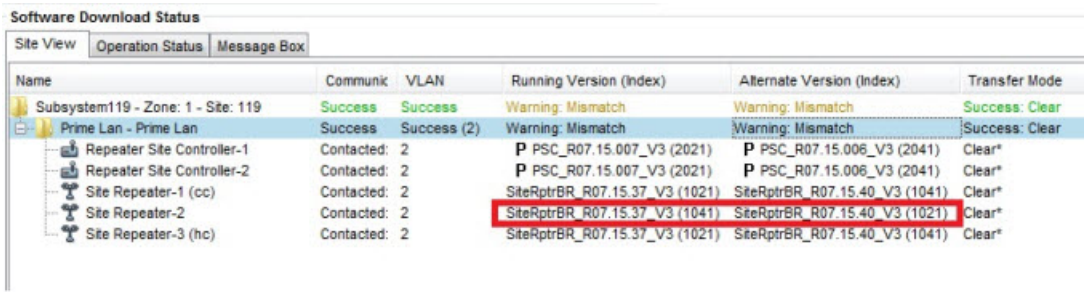
Issue:

Once a FRU replacement is performed, the FRU may be running the same software version as the rest of the RF Site, but from the wrong bank or index. For example, from the **Software Download Status** screen, most devices have the running version in bank 1 (index 1021), but one device has the running version in bank 2 (index 1041).

Resolution:

After the FRU replacement, perform a Site Transfer and Install operation with the running software version to correct this condition. See Software Download Index Mismatch Scenarios on page 67 for more scenarios.

Figure 13: Software Download Status



3.11.1 Wrong Type of Fileset Error

Issue:

When connecting to a device or RF site with the Software Download Manager, the version may be reported as “Wrong Type of Fileset”. This error can occur if a FRU is replaced in the site, and then a single device transfer is performed on that device. Software versions on other devices on the network become invalid.

Resolution:

After a FRU replacement, perform a single device Transfer and Install while disconnected from the RF site network. Then, connect to the site and perform a Site Transfer and Install to align banks and indices. See Software Download Index Mismatch Scenarios on page 67 for more scenarios.

3.11.2

Software Download Index Mismatch Scenarios

The following table provides index mismatch scenarios for the Software Download Manager, along with connection statuses and corrective actions:

Table 5: Index Mismatch Scenarios

Software Download Connect Status	Example / Details	Corrective Actions
Running Bank has a Mismatch, Alternate Bank is Green	New software has correctly transferred to Alternate Bank	Perform Install of Alternate Bank software.
Running Bank is Green, Alternate Bank has a Mismatch		Perform Transfer and Install of new software version.
Running and Alternate Banks show a Mismatch. All devices have the same indices for the same software versions.	Example: Version A is always running on Index 1021 on all devices. All devices have the correct software present, but some are running from the alternate bank.	Proceed with Install of Alternate Bank software.
Running and Alternate Banks show a Mismatch. Not all devices have the same indices for the same software versions.	Example: Version A is running on index 1021 on some devices, but other devices are running on index 1041.	Perform Transfer and Install of new software version.

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Chapter 4

Software Download Manager Reference

This chapter contains supplemental reference information relating to Software Download Manager application.

4.1 Subsystem Upgrade

In a Multisite subsystem, an ASTRO® 25 Repeater subsystem, ASTRO Express site, and an HPD subsystem, it is possible to install software on multiple channels simultaneously. The number of channels is specified before install operation.

When a channel software upgrade occurs on a Simulcast subsystem, the base radio that incorporates that channel is also processed along with the comparator for that channel. For example, if channel 3 was being upgraded, then the base radio 3 at each of the subsites, along with the comparator for channel 3, would be installed simultaneously.

In an ASTRO® 25 Repeater subsystem , ASTRO Express site, or an HPD subsystem, each ASTRO® 25 Site Repeater or HPD Base Radio corresponds to one channel. For example, if the ASTRO® 25 Repeater subsystem contains 15 ASTRO® 25 Site Repeaters, it then comprises 15 channels.

To upgrade an entire subsystem, all the devices in the subsystem (site controllers, comparators, and base radios for a Simulcast subsystem; Repeater Site Controllers and ASTRO® 25 Site Repeaters for an ASTRO® 25 Repeater Site or ASTRO Express Site; site controllers and base radios for an HPD site; site controller, base radio, comparator, and reference distribution module for an IP Simulcast subsystem) must be upgraded as a unit. After you transfer the software to each device type, you can perform the installation.

During transfer on a **Simulcast subsystem**, a proxy is selected for each device type at each LAN (prime sites and remote sites). Site controllers proxy for comparators, and reference distribution modules are proxy for base radios (if available in a subsite). The proxy crossloads the software to other devices on the LAN.

During transfer on an **IP Simulcast subsystem**, a proxy is selected for each device type at each LAN (prime sites and remote sites). Site controllers proxy for comparators, base radios proxy for each other in non-dual LAN and reference distribution modules proxy for base radios in dual LAN. The proxy crossloads the software to other devices on the LAN.

During transfer on an **ASTRO® 25 Repeater subsystem** or **ASTRO Express Site**, one of the repeater site controllers is selected as proxy for both repeater site controller and ASTRO® 25 Site Repeater device types on the site, and this proxy negotiates with SWDL. Each device type then manages its own transfer to receive the new software.

During transfer on an **HPD subsystem**, one of the HPD Site Controllers is selected as proxy for both HPD Site Controller and HPD Base Radio device types on the site, and this proxy negotiates with SWDL. Each device type then manages its own transfer to receive the new software.

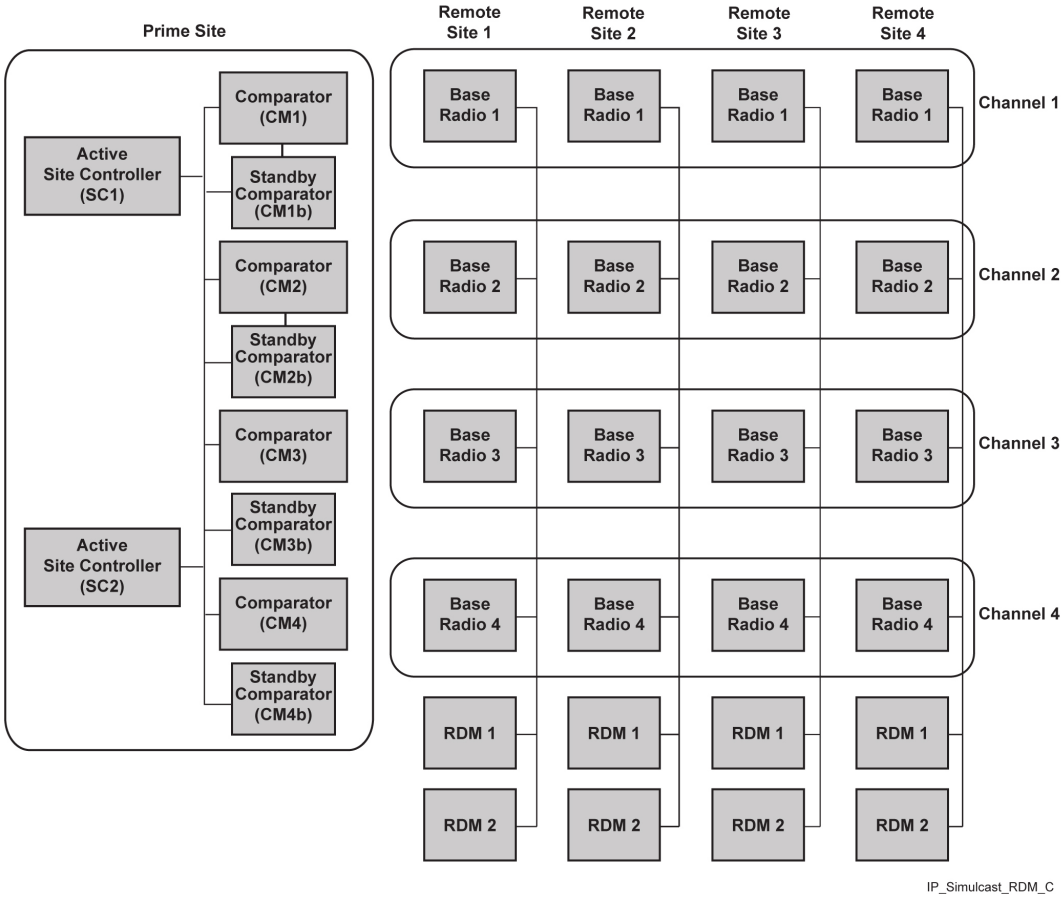
4.1.1 Simulcast Subsystem

A basic block diagram of the **Simulcast Subsystem** with SC1 as the primary site controller, SC2 as the secondary site controller, and CM1, CM2, CM3, CM4 as the required primary comparators, and

CM-1b, CM-2b, CM-3b, CM-4b as the optional secondary comparators is shown in the following figure. One of these comparators is associated with the control channel (also if present, its secondary comparator is associated with the control channel). For detailed information about the secondary comparator, see the *Trunked IP Simulcast Subsystem – Prime Site* and *GCM 8000 Comparator* manuals. The example shows four remote sites (subsites) with four base radios in each. On each remote site (subsite), the base radio associated with the control channel comparator is used as the control channel station.

For an **IP Simulcast Subsystem**, when the Dual LAN High Availability feature is implemented at an IP Simulcast Remote Sites, the GTR 8000 Expandable Site Subsystem(s) uses GPB 8000 Reference Distribution Module devices which interface to GPS Receivers. The Software Download Manager supports single device or site level software downloads to the GPB 8000 Reference Distribution Module.

Figure 14: Simulcast Subsystem with Dual LAN Subsites Block Diagram



Reference Distribution Modules and secondary comparators shown in this figure are optional. For details about prime sites with secondary comparators, see the *Trunked IP Simulcast Subsystem – Prime Site* manual.

The Prime Site shown in this figure is the subnetwork consisting of all site controllers and comparators, and is known as the Simulcast prime site. A Remote Site is a group of directly connected base radios, and is known as a subsite or Simulcast remote site. A Channel, as shown in this figure, is the entire group of base radios belonging to a specific RF channel and its associated comparator or comparators, and is known as a Simulcast channel. Each base radio belongs to a different subsite or Simulcast remote site.

IMPORTANT: If a redundant-preferred Comparator is unavailable during Site Mode software download, the single-device method for software download needs to be performed before subsequently connecting it to the site switch and powering it up. If the single-device method for software download is not performed in this manner, when the redundant-preferred Comparator becomes available and active it will have the wrong software version which will cause the Site Controller to malfunction the channel associated with the comparator even if the non-preferred Comparator is available.

NOTICE:
The Software Download Manager Single Device Mode is used to support a conventional simulcast subsystem.

To support the Simulcast Subsystem, Software Download Manager communicates with the Site Controller to determine the number of subsites and the number of channels. Software Download Managerconsiders a channel or subsite to be accessible if its status is not unconfigured. This means that the Simulcast infrastructure must be set up using the Configuration/Service Software (CSS) application or a Network Management Client before software download is performed on the Simulcast subsystem and that all site controllers, comparators, and base radios in the entire subsystem are configured and are SWDL compatible.

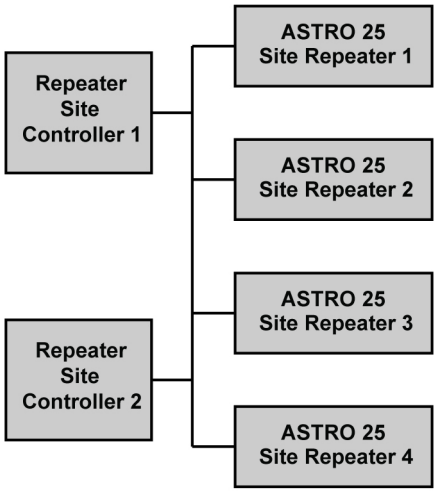
NOTICE: The Software Download Manager utilizes the **Geographic Redundancy** site controller parameter to determine if a third site controller is present at the site. If **Geographic Redundancy** is enabled on the active site controller, the Software Download Manager includes the 3rd site controller as a managed device of the entire IP Simulcast Subsystem software download.

NOTICE: For geographically redundant prime sites, a site software download should not be attempted while SC3, the third Site Controller, is in the active state.

4.1.2
ASTRO 25 Repeater Site or ASTRO Express Site

The Figure 15: ASTRO 25 Repeater Site / ASTRO Express Site Block Diagram) on page 71 figure shows a block diagram of the ASTRO® 25 Repeater Site subsystem. repeater site controller 1 is the active repeater site controller, Repeater Site Controller 2 is the standby repeater site controller, and SiteRptr1 through SiteRptr4 are the ASTRO® 25 Site Repeaters. One of these ASTRO® 25 Site Repeaters is associated with the control channel.

Figure 15: ASTRO 25 Repeater Site / ASTRO Express Site Block Diagram)

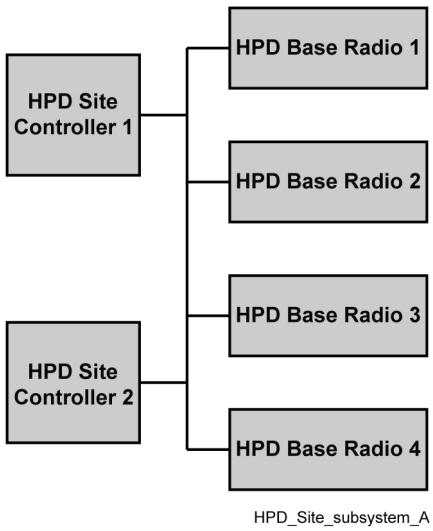


4.1.3
HPD Site Subsystem

NOTICE: An HPD site can be colocated with a Simulcast subsystem or an ASTRO® 25 Repeater subsystem.

The Figure 16: HPD Site Subsystem Block Diagram on page 72 figure shows a block diagram of the HPD Site subsystem. HPDSC1 is the active site controller, HPDSC2 is the standby site controller, and HPDBR1 through HPDBR4 are the required HPD Base Radios. One of these HPD Base Radios is associated with the control channel.

Figure 16: HPD Site Subsystem Block Diagram



4.1.4
Single Transmitter Receiver Voting (STRV) Subsystem

STRV subsystem is a new configuration that consists of a multisite prime site, a single transmit remote site, and one or more receive-only remote sites. This site can be configured for simulcast/non-simulcast operation.

4.2
Virtual LANs (VLANs)

Devices implement virtual LANs (VLANs). VLANs allow device types running different software to participate in a radio call. During the Install operation, a proxy for each LAN is selected and moved to a new VLAN and installed with new software. After the proxy device is successfully installed and moved to the new VLAN, subsequent devices are moved to the same VLAN as the proxy, to be updated to the new software. The redundant Site Controller is always selected as the proxy and installed first, before the active Site Controller.

Some devices support auto VLAN placement, in which a device type can automatically determine the VLAN to which the device on the LAN should go to when a device is rebooted. When a device on the LAN reboots (outside of a software download session), all devices on that LAN collaborate to determine the VLAN to which to move the device. Base radios, ASTRO® 25 Site Repeaters, and repeater site controllers support auto VLAN placement, but site controllers and comparators do not. These devices require the CSS application to accomplish VLAN placement.

4.3
Software Download Manager File Transfer Status Definitions

To view the file-transfer status of software that has been transferred, see Obtaining Software Version Information on page 52The file set statuses are:

- **In Use** – This is the software the device is currently running.
- **Present** – This software was previously transferred and installed on the device. Another version was installed since this version was the **In Use** version.
- **Invalid** – A command was not received by the device.
- **Transferred** – This software was transferred to the device.

CAUTION: Do not attempt to install software with an **Invalid** status. Instead, purge the invalid file set and transfer the software again.

4.4
Software Download Manager Operation Status View

To monitor the progress of Transfer and Install operations, Software Download Managerreceives progress updates from target devices that show the rate of progress and completion percentage of the software download. For information regarding software version information, see Obtaining Software Version Information on page 52.

Operation and task views refresh automatically as a result of operation and task status changes. For details, see the *Software Download Manager Online Help*.

4.5
Software Download Manager Historical Information

The Software Download Manager application creates and stores historical information about each task and operation in log files. See Log Files on page 50.

4.6
API Process

Table 6: Definition of API Process

API Process	Definition
Register API	The Software Download Manager registers with the target to receive traps. The status window only shows that this API has been executed. For this method, success or failure is not shown. If the Register API fails, Software Download Manager does not get traps. Software Download Manager waits the timeout period and then polls the target. Software Download Manager operations take longer, but the operation's outcome does not change based on traps not being received.
Start Download API	This method puts the target into software download mode. The target does not know whether a Transfer or an Install takes place. The Start Download API can be rejected if the device is already in an Software Download Manager session.
Delete API	Performed before Transfer API, this method looks at the version table on the target and determines where to transfer the new software.

Table continued…

API Process	Definition
Transfer API	The Software Download Manager tells the target where to find the files to transfer. The target establishes an FTP or SFTP connection and pulls the software down to it.
Finish API	The target shifts out of software download mode.
Deregister API	Like Register API, the status window only shows that this method has been executed. If the deregister fails, the target automatically deregisters Software Download Manager at the end of the timeout period.
Prepare API	Only the proxy devices to be installed go through the Prepare API process.
Install API	The Install API process performs the actual installation of the new software. Only the proxy devices to be installed go through the Install API process.
Go API	Go API resets the target so that it comes up under the new software. This method is a full reboot. Only the proxy devices to be installed go through the Go API process.
VLANit API	The proxy devices installed go through all the Install APIs. The subsequent channels are moved to the new VLAN through the VLANit command. A target resets during the VLANit method. This functionality is target-specific.
init Version API	In order for a version to be installed, it is first transferred and a record of it is stored in the device's version table. This API process ensures that the index in the version table that the user selected to be installed matches the version on each of the devices' version tables.
init Agent API	Some agents proxy for other agents. This API process ensures that the Software Download Manager agent table has an entry for the agent that is about to participate in an Software Download Manager operation.

NOTICE:
Each API process applies to a single device only. In order to execute the same method on multiple devices, the API process is called iteratively for the desired number of times. The target device interprets commands sent to it by Software Download Manager through the API Processes.

If timeout is **N/A** the process times out in one minute or less.

The order in which the API Processes are called differs depending on the type of operation and the type of device. For the API process order for each type of operation, see Order of API Process for Transfer Operation on page 74, Order of API Process for an Install Operation to a Proxy Device on page 75, and Order of API Process for an Install Operation to a Non-Proxy Device on page 75.

4.6.1
Order of API Process for Transfer Operation

Table 7: Order of API Process for Transfer Operation

API Process	Time Out
initAgent	N/A
Register API	N/A
Start Download API	20 seconds
Delete API	N/A

Table continued…

API Process	Time Out
Transfer API	36 hours (for clear transfer) 41 hours (for secure transfer)
Finish API	1 minute
Deregister API	1 minute

4.6.2
Order of API Process for an Install Operation to a Proxy Device

Table 8: Order of API Process for an Install Operation to a Proxy Device

API Process	Time Out
initAgent	N/A
initVersion	N/A
Register API	N/A
Start Download API	N/A
Prep to Install API	10 minutes
Install API	1 minute
Go API	30 minutes
Finish API	1 minute
Deregister API	1 minute

4.6.3
Order of API Process for an Install Operation to a Non-Proxy Device

Table 9: Order of API Process for an Install Operation to a Non-Proxy Device

API Process	Time Out
initAgent	N/A
initVersion	N/A
Start Download API	N/A
VLANit API	30 minutes
Finish API	1 minute
Deregister API	1 minute

4.7
Software Download Manager Terms and Definitions

Table 10: Software Download Manager Terms and Definitions

Term	Definition
Conventional Site Controller	Site Controller when used in a Conventional Site.
Crossload	The loading of software from one device to another device of the same type. Crossloading allows the subsystem to maintain the latest software version on each device type. For some devices, crossloading is done automatically. For other devices, it is initiated with the Software Download Manager Transfer operation.
DHCP	Dynamic Host Configuration Protocol.
File	A window that shows all the file sets referenced in the Software Depot configuration file, in a table format.
HPD Base Radio	Base Radio used within an HPD subsystem.
HPD Controller	HPD Controller, a device within the HPD subsystem.
Multisite Base Radio	Base Radio used within a Multisite subsystem.
Multisite Controller	Multisite Controller, a device within the Multisite subsystem.
Operation	A task performed on selected devices specified through the Software Download Manager application.
Proxy	A proxy is needed for devices that do not negotiate their own software download process. The proxy offers two main functions: • Negotiates with the Software Download Manager application during the operation • Stores the software version and passes it to the device
Repeater Site Controller	A site controller within the ASTRO® 25 Repeater subsystem.
SiteRptr	A device within an ASTRO® 25 Repeater subsystem.
SWDL	Software Download Manager.
Target Device	A Multisite subsystem device, ASTRO® 25 repeater site device, or Conventional Repeater receiving the software download.
VLAN	A method of separating devices to prevent them from communicating with each other during the Software Download Manager process.
GCP 8000 Site Controller	GCP 8000 Site Controller provides a way for console and radio users at the Dispatch Console site to maintain communications over resources local to that site when the console site is unable to maintain wide area operation. This hardware can be used for circuit or IP-based simulcast. It requires two chassis with one control card module on each. It is a standalone configuration.
GCM 8000 Comparator	The GCM 8000 device supports up to 32 simulcast subsites. It can support voting operation and both non-simulcast or simulcast operation for IP conventional channels. It can also support voting operation and simulcast operation

Table continued…

Term	Definition
	only for IP trunking channels. This device is available in standalone configuration with one or two channels per chassis.
GTR 8000 Base Radio	GTR 8000 Base Radio is a standalone repeater. It includes transceiver, power amplifier, power supply, chassis, and backplane. It supports HPD, circuit based and IP-based Simulcast, IP Simulcast and conventional operation, . Site Repeater System Software is supported when it is integrated into existing QUANTAR® Site.
GPB 8000 Reference Distribution Module	The GBP 8000 Reference Distribution module provides Ethernet switching and site reference distribution to support a Dual LAN (High Availability) configuration at the IP Simulcast remote site with GTR 8000 Expandable Site Subsystem.
Voice Processor Module (VPM)	VPM is a device that combines the functions of a voice card, encryption card, and a general purpose input/output module in an MCC 7500 Console subsystem. VPM provides the necessary interfaces to connect analog devices to the MCC 7500 digital console and it is responsible for audio routing between the dispatch operator, peripherals, and the local network. It contains both digital and analog (audio) circuits to support the secure and clear voice processing.
Conventional IP Comparator	An ASTRO® 25 radio communication device that supports the voting operation of IP conventional channels.
File Manager	A window that shows all the filesets in the Software Depot.
GCP 8000 Repeater Site Controller	A site controller within the ASTRO® 25 Express System.
ASTRO®25 Site Repeater (GTR 8000 Repeater Base Radio)	A device within an ASTRO® 25 Express System.

4.8 Software Download Manager Online Help Reference

The Software Download Manager application user interface is comprised of the following windows and window elements:

- File Menu on page 78
- Action Menu on page 78
- Advanced Options Menu on page 79
- Site Mode Tab on page 80
  - Site Mode Tab Command Buttons on page 84
- Software Depot File Manager Window on page 84
  - File Manager Window Command Buttons on page 85
- Import Component Into the Software Depot Dialog Box on page 86
- Add New Component Dialog Box on page 87
- Edit Component Dialog Box on page 88
- Error and Warning Message Codes on page 89
- Site View tab on page 92

- Communication Status on page 93
- VLAN Status on page 94
- Version Status on page 94
- Proxy Software/Version Table on page 95
- Transfer Mode Values on page 95
- Get Version Dialog Box on page 96
- Operation Status tab and Message Box tab on page 97
- View Errors Dialog Box on page 97
- Single Device Mode Tab on page 98
  - Single Device Mode Tab Command Buttons on page 100
- Console SWDL Command and Error Codes on page 101
- Software Download Manager Error Messages on page 103
  - Unrecoverable Error Messages on page 103
  - File Error Messages on page 104

4.8.1
File Menu

Table 11: Action Menu

Option	Description
File Manager...	Opens **Software Depot File Manager**. For details see Software Depot File Manager Window on page 84
Network Manager...	Opens **Network Manager**. For detail see Network Dialog Box on page 86
Open Logs Directory	Opens a folder containing Software Download Manager logs.
Clear Logs	Removes log files from the hard drive. **NOTICE:** A pop-up warning asks you for confirmation before proceeding. Periodically archiving and deleting log records from the hard drive is recommended.

4.8.2
Action Menu

Table 12: Action Menu

Option	Description
Load DNS file	Loads DNS information.

Table continued...

Option	Description
	NOTICE: Find the appropriate DNS host file in the list and click **Select**. Loading DNS information takes 30 seconds or longer. The Software Download Manager cannot perform any other operations until the DNS information is loaded. If multiple DNS files are loaded, only the last file loaded is valid.
Use Standard ASTRO IPs (non-Tsub)	Obtains IP addresses based on the standard algorithm. **NOTICE:** For ASTRO® 25 LE Multisite subsystems, do not use the **Use Standard ASTRO IPs** option because the standard IP scheme for ASTRO® 25 LE is different from the standard ASTRO® 25 system. Use the **Load DNS** option instead to load an ASTRO® 25 LE configured DNS file.
Use DNS Server	Obtains IPs from the DNS server.
DNS Override	The **DNS Overrride** option is used to define the IP address for the DNS server used for sites in a Trunking Subsystem (Tsub). When enabled, the DNS Server IP specified in the **Override DNS Server** window overrides the OS configured DNS Server.
Change VLAN	Changes VLAN of the devices selected in the Site View tab.
Get Version	Opens the **Get Version Dialog Box** to obtain specific software file set and device information for the selected application type. The **Get Version Dialog Box** displays information for the devices selected in the Site View tab or the Single Device Mode tab.
View Errors	Displays the **View Errors** dialog box showing detailed description of failures reported by contacted devices.
Clear Message Box	Clears the **Message Box** tab
Expand All	Expands the site tree in the **Site View** tab and **Operation Status** tab.
Collapse All	Collapses the site tree in the **Site View** tab and **Operation Status** tab.
Use Only SNMPv1	Software Download Manager uses SNMPv1 protocol to communicate with the devices.
Override Restriction	Makes it possible to start blocked operations.
Remove All ASTRO-TAC Subsites	Removes all non-responsive subsites in the subsystem.

4.8.3
Advanced Options Menu

The **Advanced Options** menu is used to select the type of transfer for site mode or single device mode. By default, **Sequential Transfer** is selected. The following warning message is displayed when **Simultaneous Transfer** is selected:

WARNING: System link bandwidths are typically sized to accommodate maximum voice traffic with unused capacity available to support low priority device transfer operation on a best effort basis. Performing multiple transfer options on a live system may result in some device transfer failures due to transfer timeouts or packet loss caused by higher priority voice traffic or excessive low priority transfer traffic on any shared links.

The Diffie-Hellman group exchange is used for all secure sequential and simultaneous transfers for device supporting Diffie-Hellman group exchange.

Table 13: Advanced Options Menu

Option	Description
Sequential Transfer (Default selection)	Only one SWDL file transfer operation is active at any one time on a given WAN link. Each TCP session consumes all available WAN link bandwidth. For example: While one transfer is in progress without a WAN link (crossload phase), a second transfer can be active without the need to wait for the crossload phase transfer to complete.
Simultaneous Transfer	All SWDL file transfer operations are active at the same time. All TCP sessions dynamically share WAN link bandwidth. The rate at which the individual files transfers is determined through flow control and congestion control of the transport layer.
Generate SSH Moduli	All secure sequential and simultaneous transfers use the Diffie-Hellman group exchange. Diffie-Hellman group exchange enhances the security of Secure Shell (SSH) protocol initial key exchange. The **Generate SSH Moduli** option allows the user to generate a new list of moduli (cryptographic group) to replace the default list. The generation of a new SSH Moduli can take 20 to 30 minutes to complete. Each secure transfer operation uses a different moduli selected at random from the list.

4.8.4
Site Mode Tab

NOTICE: Site mode operations support Trunking and HPD only.

Table 14: Site Mode Tab

Field	Default	Range	Description
Connection Setup			
ASTRO® 25 Site Type	Simulcast/STRV Site	Simulcast/STRV Site, Repeater Site, or HPD Site	Select the type of site for SWDL to look for.
Simulcast/STRV Site – Select Site ID			

Table continued…

Field	Default	Range	Description
Zone	1	1 to 7	Select zone from drop-down list for which software version information is to be obtained.
Site	1	1 to 64	Select site from drop-down list for which software version information is to be obtained.
Repeater Site – Select Site ID			
Zone	1	1 to 7	Select zone from drop-down list for which software version information is to be obtained.
Site	1	1 to 150	Select site from drop-down list for which software version information is to be obtained.
HPD Site – Standalone or Co-Located Site ID			
Zone	1	1 to 7	Select zone from drop-down list for which software version information is to be obtained.
Site	1	1 to 150 (for Standalone HPD sites) 1 to 64 (for Co-Located HPD sites)	Select site from drop-down list for which software version information is to be obtained.
Subsite	0	1 to 32	Select subsite from drop-down list for which software version information is to be obtained. Simulcast subsites that have HPD base radios require the user to choose a non-zero subsite ID. For a single site or a prime site HPD base radio, choose `zero`.
Operation Setup			
Transfer Mode	**Secure**	N/A	N/A
Operation Type	Transfer and Install	• Transfer Only • Install Only • Transfer and Install	Select one of the following software download operations from the drop-down list: • **Transfer Only**: this operation transfers (but does not install) new versions of software. Transferring software takes an hour or more. The Transfer Only operation can occur at any time since call processing is not interrupted.

Table continued…

Field	Default	Range	Description
			• **Install Only**: this operation installs software that has already been transferred to the device. Installing takes several minutes. Only software that has already been transferred using Software Download Manager can be installed. • **Transfer and Install**: this operation includes both the transfer and installation of new software. The Install occurs immediately after the Transfer operation. Transferring software takes an hour or more, while installing only takes several minutes. If you cancel the Transfer and Install operation during the Transfer operation, the Transfer operation finishes to ensure that incomplete files are not installed on a device. If a failure occurs during the Transfer operation, the Install does not occur. The Transfer and Install operation cannot be stopped during the Install operation.
Application Type	N/A	• Conventional Repeater • 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distribution Module • Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller • Site Repeater	Select the check box to select the device for a software download.

Table continued...

Field	Default	Range	Description
		• Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	
Software Component	N/A	N/A	Select the software component transfer and/or installed to the appropriate application type from the drop-down list. This is the label that you have given to a specific device when you imported or created a component using the File. **NOTICE:** The name for this field changes to **Version (Index)** for Install Only operations.
Simultaneous Channels Install	1	1 to **xx** (where xx is the number of channels available at the site)	Select the number of channels to install simultaneously.
Site Status			
Site View tab	N/A	N/A	Displays the tree table for the structure of the site and associated information. This table displays the status of the subsites and subsite devices. For details see Site View tab on page 92
Operation Status tab	N/A	N/A	Displays Transfer, Install, and Change VLAN operations.
Message Box tab	N/A	N/A	Displays detailed information about the Transfer, Install, and Change VLAN operations.

NOTICE: If the device supports SNMPv3 protocol, a pop-up window appears displaying the security level option. Enter your authentication password and encryption password if the chosen security level requires inserting these credentials. See the *SNMPv3* manual for additional information.

4.8.4.1
Site Mode Tab Command Buttons

Table 15: Site Mode Tab Command Buttons

Command Button	Description
Connect/ Cancel Connect	Finds a valid site controller at the selected zone and site and determines the subsystem type. Set the correct IP resolution method before connecting to the subsystem. SWDL contacts all of the devices in the subsystem and performs a validation to determine its state. When the **Connect** button is selected, it changes to **Cancel Connect**. Cancel Connect allows the user to cancel the current connection command.
Disconnect	Disconnects Software Download Manager from the site.
File Manager	Opens Software Depot File Manager window.
Start Operation	Begins the selected operation (Transfer Only, Install Only, or Transfer and Install).
Cancel Operation	Cancels the running operation. When you cancel during a Transfer and Install operation, only the devices receiving the transfer command complete. The transfer to all other devices is cancelled and the Install operation does not begin.

4.8.5
Software Depot File Manager Window

Table 16: File Manager Window

Field	Default	Range	Description
Components in the Software Depot			
Label	N/A	N/A	The component label associated with the Application Type and the Fileset Version in the File table. This is the name that is visible in the **Software Component (Version (Index))** drop-down list when you are performing a software download operation to an application type.
Application Type	N/A	• Conventional Repeater • 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distribution Module	The application type associated with each component in the File table.

Table continued...

Field	Default	Range	Description
		• Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller • Site Repeater • Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	
Fileset Version	N/A	N/A	The software version information associated with each component in the File table.

4.8.5.1
File Manager Window Command Buttons

Table 17: File Manager Window Command Buttons

Command Button	Description
Add New Component	Opens the **Add New Component** window.
Details of Component	Shows details of the selected component.
Edit Component	Opens the **Edit Component** dialog box for the selected component from the File table. **NOTICE:** Select a component row to perform this operation.
Delete	Opens the **Confirm Delete Operation** dialog box. You can choose to remove the selected component from the File table and the Software Depot configuration file by clicking **Yes**, or cancel the deletion by clicking **No**. **NOTICE:** Select a component row to perform this operation.

4.8.6
Network Dialog Box

Table 18: Network Dialog Box

Column	Description
Used	A check box is placed next to the active Network Interface Card (NIC). Only one card is used by the Software Download Manager application at a given time.
Address	The IP address of the NIC.
Name	NIC name as seen by the computer.
Display Name	NIC name used by the vendor.

4.8.7
Import Component Into the Software Depot Dialog Box

Table 19: Import Component Into the Software Depot Dialog Box

Field	De-fault	Range	Description
The Setup Connect			
Configura-tion File Path	N/A	N/A	Click **Browse** to select the path to the following configuration files: • swdepot.cfg • swdl.cfg • swdlv3.cfg
		NOTICE: Most devices support SNMPv3. If the device does not support SNMPv3, choose SNMPv1.	
Software Fileset Ver-sion	N/A	N/A	Select the component software file set version from the drop-down list.
Application Type	N/A	• Conventional Repeater • 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distri-bution Module • Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller	(Read-only) Displays the application type corresponding to the software file set version selected

Table continued…

Field	Default	Range	Description
		• Site Repeater • Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	
Component Label	N/A	N/A	Enter a unique name for the new component or click **Generate** for an auto generated label. **Generate** uses the software file set version string. The **Component Label** is the name that appears in the **Software Component (Version (Index))** drop-down list when you are performing a software download operation to an application type.

4.8.8

Add New Component Dialog Box

Table 20: Add New Component Dialog Box

Field	Default	Range	Description
The Setup Connect			
Application Type	N/A	• Conventional Repeater • 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distribution Module • Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller • Site Repeater • Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	Select the application type that you would like to create from the available components in the drop-down list.

Table continued…

Field	Default	Range	Description
Version	N/A	N/A	Select the component software file set version from the drop-down list.
Component Label	N/A	N/A	Enter a unique name for the new component or click **Generate** for an auto generated label. **Generate** uses the software file set version string.
			The **Component Label** is the name that appears in the **Software Component (Version (Index))** drop-down list when you are performing a software download operation to an application type.

4.8.9
Edit Component Dialog Box

Table 21: Edit Component Dialog Box

Field	Default	Range	Description
The Setup Connect			
Application Type	N/A	• Conventional Repeater • 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distribution Module • Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller • Site Repeater • Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	Select the application type that you would like to edit from the available components in the drop-down list.

Table continued…

Field	Default	Range	Description
Version	N/A	N/A	Select the component software file set version from the drop-down list.
Component Label	N/A	N/A	Enter a unique name for the new component or click **Generate** for an auto generated label. **Generate** uses the software file set version string.
			The **Component Label** is the name that appears in the **Software Component (Version (Index))** drop-down list when you are performing a software download operation to an application type.

4.8.10

Error and Warning Message Codes

Table 22: Error and Warning Message Codes

Message	Explanation	Possible Cause	Impact
`WARNING: All devices are capable of secure transfer mode but are configured for unsecure clear mode. For secure management of the System, secure transfer mode should be configured and utilized on the devices. The secure transfer mode configuration may be set via the UNC or CSS.`	All devices are capable of secure transfer mode but are configured for unsecured clear mode. For secure management of the System, secure transfer mode should be configured and utilized on the devices.	All devices are capable of secure transfer mode but are configured for unsecured clear mode.	Transfer in the Clear mode is possible, but transferred data and passwords are unsecured. This has negative impact on system security.
`Transfer operation is disabled due to mismatch in transfer mode configuration.`	Before initiating Transfer, the SWDL application connects to the Zone and Site, and discovers all the	The SWDL Transfer Modes across site devices are not the same.	If the Transfer Mode mismatch occurs in the Site, the Transfer operation and Transfer and Install operation cannot be performed.

Table continued...

Message	Explanation	Possible Cause	Impact
All devices must use the same transfer protocol.	devices. The transfer mode of all the devices are then displayed in the SWDL window. It is important that all devices have the same SWDL Transfer Mode.		
No devices with versions have been selected for download	In order to start a software download operation, at least one application type and its version has to be selected.	• The device is selected for operation without an associated version. • No device has been selected for download.	SWDL cannot continue with an operation unless a device and its corresponding version are selected
On one or more LANs there exists a split VLAN condition.	One or more VLANs in the subsystem are in a split condition.	Not all of the devices at a site or subsite are on the same VLAN.	Any operation performed on a LAN with a split VLAN condition fails. SWDL prevents any operation on a LAN with a split VLAN condition. To resolve a split VLAN condition, all devices must manually be placed onto the same VLAN.
A site controller in the subsystem is non-responsive at the expected IP address. An operation cannot be performed.	Two responsive site controllers (active and standby) are required in the subsystem to perform an operation.	• Incorrect site controller IP address in the DNS file. • Network communication issue. • The site controller is resetting.	Any operation fails and is therefore prevented.
WARNING: One or more devices in the subsystem were non-responsive at their expected IP address. Some operations may be blocked. Select “Override Restriction” from Action menu to proceed.	One or more devices in the subsystem were non-responsive at their expected IP address.	• Incorrect device IP address in the DNS file. • Network communication issue. • The device is resetting.	• Ttransfer operation: these devices are not to be crossloaded with the selected software version file set • Install operation: the channels that contain the non-responsive devices will fail the install.

Table continued...

Message	Explanation	Possible Cause	Impact
One or more devices on the highest channel were non-responsive at their expected IP address.	The highest channel is the one that contains proxy devices.	• Incorrect device IP address in the DNS file. • Network communication issue. • The device is resetting.	Transfer operation: the non-responsive device will not be crossloaded with the selected software version file set.
One or more subsites have no responsive devices. If all these are ASTRO-TAC® 9600 Receiver subsites, click 'Remove all ASTRO-TAC Subsites' in 'Action' menu to proceed with the current operation.	Software Download Manager does not support ASTRO-TAC® 9600 subsites. If one of the subsites is an ASTRO-TAC® 9600 receiver, the **Start Operation** button is not available and Software Download Manager cannot proceed with an operation. In the **Action** menu, select **Remove All ASTRO-TAC Subsites** to remove the ASTRO-TAC® 9600 receivers from the list before you can continue.	• ASTRO-TAC Receiver devices are not IP capable and cannot respond to SWDL • Incorrect IP address in the DNS file. • Network communication issue, causing all devices in the subsite LAN to be non-responsive. • All devices in the subsite LAN are resetting or powered off.	SWDL by default blocks the operation because it is not able to determine that a subsite with no responsive devices is an ASTRO-TAC® 9600 Receiver subsite.
No sites or subsites were contacted. Will not be able to start an operation to a subsite LAN device.	In the event that a device in a subsite LAN is selected for download, and no subsites can be contacted, SWDL cannot continue with the operation.	• Incorrect IP address in the DNS file. • Network communication issue, causing all devices in the subsite LAN to be non-responsive. • All devices in the subsite LAN are resetting or powered off.	SWDL by default blocks a download operation to a subsite device if none of the subsites can be contacted.
WARNING: At least one LAN has a device version string and/or index mismatch.	Indicates that some devices have mismatched versions.	Non-matching versions found.	A version mismatch on a LAN indicates that a specific version file set is not available in all devices. This can affect the success of an install operation if that version is selected.

4.8.11

Site View tab

Table 23: Site View tab

Column	Description
Name	Identifies the subsystem structure and individual device IPs. Each node of the tree represents an element of the subsystem. The nodes of the tree are: • **Site Node**: a site node represents the overall status of a subsystem. • **LAN Node**: a LAN node represents the overall status of a LAN of devices within the subsystem. • **Device Node**: each physical device in the subsystem is represented with a Device Node.
Communication Status	Summarizes the connectivity status for each device or collection of devices that each node represents. Each device within the subsystem is contacted and verified to be of the expected type and the summary is represented as follows: • For a Device Node, the Communication Status represents the connectivity of one device represented by that node. • The LAN Node represents the overall connectivity of all devices in the LAN represented by that node. • The Site Node represents a summary of the overall connectivity of all LANs within the subsystem. See VLAN Status on page 94.
VLAN	Indicates the status of the VLAN values for all devices of the subsystem. • For a Device Node, the VLAN of that device is shown, if available. • The LAN Node represents the consistency of the VLAN values of all devices in the LAN represented by that node. If a split VLAN is detected, it is shown here. • The Site Node represents a summary of the overall VLAN consistency of each individual LAN in the subsystem. See VLAN Status on page 94.
Running Version [Bank]	Indicates the version of software running on each device in the subsystem and from what Bank. • For a Device Node, the software version running on that device is shown, if available. • The LAN Node represents the consistency of the running version on all devices in the LAN represented by that node. If a mismatch of the running version on similar devices is detected, it is shown here. • The Site Node represents a summary of the overall running version consistency of each individual LAN in the subsystem. See Version Status on page 94.
Bank 1 Software	Indicates the version of software available in Bank 1 for the device listed under the Name column. The Running Version column indicates which software is currently active and running and from what Bank.
Bank 2 Software	Indicates the version of software available in Bank 2 for the device listed under the Name column. The Running Version column indicates which software is currently active and running and from what Bank.
Transfer Mode	Indicates the current device's mode, depending on the configuration.

Column	Description
	• For a Device this represents a current transfer mode. • The LAN Node represents match of conditions (transfer mode) in a LAN. If a mismatch is discovered, the appropriate information is displayed. • The Site Node represents a summary of mode matches in every LAN in the subsystem. See Transfer Mode Values on page 95.

4.8.11.1
Communication Status

Table 24: Communication Status

Node Type	Communication Status	Description
Site Node	Success	Indicates all devices on all LANs were successfully contacted and confirmed as the expected application type.
	Warning	Indicates some devices that either were non-responsive at the expected IP address, or have an unexpected application type. This indicates that the operation could fail, depending on the application type selected as a target of the operation.
LAN Node	Success	Indicates all devices on this LAN were successfully contacted and confirmed as the expected application type.
	Fail	Indicates some or all of the devices in this LAN were non-responsive at the expected IP address.
	Fail - Highest Channel	Indicates the highest channel device in this LAN was non-responsive at the expected IP address.
Device Node	Contacted	Indicates the device was successfully contacted and confirmed as the expected application type.
	Fail	Indicates the device was non-responsive at the expected IP address.
	Fail – Wrong Device	Indicates the device was successfully contacted but it is not the expected application type.
	Fail – Highest Channel	Indicates the highest channel device was non-responsive at the expected IP address.

4.8.11.2
VLAN Status

Table 25: VLAN Status

Node Type	VLAN Status	Description
Site Node	Success	Indicates all devices in each LAN are on the same VLAN.
	Warning	Indicates that SWDL was either unable to determine the VLAN value for some devices, or a split VLAN condition exists on at least one LAN.
LAN Node	1 or 2	Indicates that all devices in the LAN are on the same VLAN. The number is the ID of the VLAN on which all of the devices reside.
	Split(#)	Indicates that this LAN has a split VLAN condition. A split VLAN condition exists when not all devices on a LAN reside on the same VLAN. The value in the parentheses (#) is the VLAN on which the majority of the devices reside.
Device Node	1 or 2	Indicates the VLAN on which the device resides.
	Not Available	Indicates the VLAN for the device could not be determined. This is either because the device was non-responsive, or was not the expected application type.

4.8.11.3
Version Status

Table 26: Version Status

Node Type	Version Status	Description
Site Node	Success	Indicates that all devices in each LAN are on the same VLAN.
	Warning Mismatch	Indicates that SWDL was either unable to determine the VLAN value for some devices, or a split VLAN condition exists on at least one LAN.
LAN Node	Success	Indicates that all devices in the LAN are on the same VLAN. The number is the ID of the VLAN on which all of the devices reside.
	Warning Mismatch	Indicates that this LAN has a split VLAN condition. A split VLAN condition exists when not all devices on a LAN reside on the same VLAN. The value in the parentheses (#) is the VLAN on which the majority of the devices reside.
Device Node	(The software version)	Indicates the running or alternate software version. For some devices the version status is displayed in a combo box. These devices are proxies for other application types and contain information regarding the running and alternate versions of the proxied devices where:

Table continued…

Node Type	Version Status	Description
		• **P** indicates the software version and index of the proxy device. • **nP** indicates the software version and index of the proxied device.
	Not Available	Indicates the software version of the device could not be determined. This is either because the device was non-responsive, or was not the application type expected.

4.8.11.4
Proxy Software/Version Table

For some devices the version status is displayed in a combo box. These devices are proxies for other device types and contain information regarding the running and alternate versions of the proxied devices.

Table 27: Proxy Software/Version Table

Parameter	Description
P	Software file set version/index of the proxy device type application configured on the proxy device.
nP	Software file set version/index of the non-proxy (also known as proxied) device type application configured on the proxy device.

4.8.11.5
Transfer Mode Values

Table 28: Transfer Mode Values

Mode	Value	Description
Site Node / LAN Node	Critical: Mismatch	Devices in all LANs have a Transfer mismatch.
	Success: Clear	Devices in all LANs are configured in the Clear Transfer mode.
	Success: Secure	Devices in all LANs are configured in the Secure Transfer mode.
	Not Available	Indicates the Transfer Mode for the devices that could not be determined. This is either because the devices were non-responsive, or were not the expected application type.
Device Node	Clear	A device supported in the Clear Transfer Mode.
	Clear*	A device supported in the Secure Transfer Mode, but currently configured in the Clear Mode.
	Secure	A device supported in the Secure Transfer Mode.

Table continued…

Mode	Value	Description
	Disabled	A device does not support the Transfer operation.
	Not Available	Indicates the Transfer Mode for the device could not be determined. This is either because the device was non-responsive, or was not the expected application type.
Single Device Mode	Secure	A device operates in the Secure Mode.
	Clear	A device operates in the Clear Mode.
	Disabled	A device does not support the Transfer operation.

4.8.12
Get Version Dialog Box

Table 29: Get Version Dialog Box

Field	Default	Range	Description
Zone	1	1 to 7	(Read Only) View the zone number where the selected device is located.
Site	1	Valid Range: • Multisite subsystem: 1 to 64 • ASTRO® 25 Repeater Site: 1 to 150 • HPD Site: 1 to 150	(Read Only) View the site number where the selected device is located.
Application Type	The last selected application type	Convert Software Application: • Conventional Repeater • 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distribution Module • Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller • Site Repeater • Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	Select the application type (for a software download) from the drop-down list.

Table continued…

Field	Default	Range	Description
LAN	1	1 to 32	(Read Only) View the subsite where the selected device is located. This field is only applicable to a Multisite subsystem base radio device.
Device ID	1	N/A	Select a specific device within the LAN.

4.8.13

Operation Status tab and Message Box tab

The Operation Status tab displays Transfer, Install, and Change VLAN operation status. The Message Box tab displays detailed information about the Transfer, Install, and Change VLAN operations.

Table 30: Operation Status tab

Field	Default	Range	Description
Transfer			
Primary Site	N/A	Varies depending on Site Name.	(Read Only) View the transfer progress of the primary site, shown by a green bar. A red bar indicates a failure.
non-Primary Site(s)	N/A	Varies depending on Site Name.	(Read Only) View the transfer progress of the non-Primary site(s), shown by a green bar. A red bar indicates a failure.
Install			
Non Channel Devices	N/A	N/A	(Read Only) View the install progress (green bar) of the non-channel devices. A red bar indicates a failure.
Channel 1 (Chn1)	N/A	N/A	(Read Only) Indicates the installation status for channel 1...n.

NOTICE: You can have 1 or more channels; the number of channels depends on the site configuration.

4.8.14

View Errors Dialog Box

Table 31: View Errors Dialog Box

Column	Description
IP Address	The IP address of a device.
Device Name	The name of a device.
Error Code	The error code reported by a device.
Message	The message description for the error code.

4.8.15
Single Device Mode Tab

Table 32: Single Device Mode Tab

Field	Default	Range	Description
Connection Setup			
Set Device IP Address	N/A	N/A	Provide the IP Address of the device you want to connect to. If you are connected to a selected device, this field becomes “read only” and you can view the IP address for the selected device.
Device Information			
Software Type	N/A	• Conventional Repeater • 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distribution Module • Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller • Site Repeater • Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	(Read Only) Shows the device that Software Download Manager is connected to.
Software Version	N/A	N/A	(Read Only) Shows the software version that is used.
Select an Option	Upgrade	• Convert • Upgrade • Proxy Upgrade	You can perform the following operations to a single device: • Convert the software application type on supported hardware devices • Upgrade the version of the software running on the device

Table continued…

Field	Default	Range	Description
			• Upgrade the file set information of the proxied device on its proxy
Operation Setup			
Transfer Mode	N/A	• Secure • Clear	A device operates in the Secure Mode.
Operation Type	Transfer and Install	• Transfer Only • Install Only • Transfer and Install	Select one of the following software download operations from the drop-down list: **Transfer Only**: This operation transfers (but does not install) new versions of software. Transferring software usually takes half, but it can take more. The Transfer Only operation can occur at any time since call processing is not interrupted. **Install Only**: This operation installs software that has already been transferred to the device. Installing takes several minutes. Only software that has already been transferred using Software Download Manager can be installed. **Transfer and Install**: This operation includes both the transfer and installation of new software. The Install occurs immediately after the Transfer operation. Transferring software usually takes half, but it can take more. Installing only takes several minutes. If you cancel the Transfer and Install operation during the Transfer operation, the Transfer operation continues until it finishes, but the Install operation does not start. If a failure occurs during the Transfer operation, the Install operation does not start. The Transfer and Install operation cannot be stopped during the Install operation.
Application Type	The last selected application type	Upgrade/Convert Software Application: • Conventional Repeater	Select the application type for a software download from the drop-down list.

Table continued…

Field	Default	Range	Description
		• 3600 Multisite Base Radio • Voice Processor Module • GPB 8000 Reference Distribution Module • Conventional GCM 8000 Comparator • Conventional Base Radio • Conventional Site Controller • HPD Base Radio • HPD Site Controller • Site Repeater • Repeater Site Controller • Comparator • Multisite Controller • Multisite Base Radio	
Software Version	N/A	Software versions available for the selected Application Type.	Select the software version you want to use.
Bank Selection	Automatic	• Automatic • Bank 1 • Bank 2	For storing software, select Bank 1 or Bank 2. If you select Automatic, the more suitable bank for your selected device is chosen.
IMPORTANT: Select the same bank to store software for single devices to be used in the same subsite. For example, if two site controllers are planned to be in one subsite, both should have a given software on Bank 1 or both should have a given software on Bank 2.			
Site Status			
Operation Status tab	N/A	N/A	Displays Transfer and Install operations status.
Message Box tab	N/A	N/A	Displays detailed information about Transfer and Install operations.

4.8.15.1

Single Device Mode Tab Command Buttons

Table 33: New Single Device Mode Tab Command Buttons

Command Button	Description
Connect/ Cancel Connect	Connects Software Download Manager to the device.

Table continued…

Command Button	Description
	When the **Connect** button is selected, it changes to **Cancel Connect**. Cancel Connect allows the user to cancel the current connection command.
Disconnect	Disconnects Software Download Manager from the device.
File Manager	Opens **Software Depot File Manager** window. For details see Software Depot File Manager Window on page 84
Start Operation	Begins the selected operation (Transfer Only, Install Only, or Transfer and Install). To start another operation you need to disconnect from the device and connect once again.
Cancel Operation	Cancels the running operation. When you cancel during Transfer and Install operation, the transfer continues until it finishes, but the Install operation does not begin.

4.8.16

Console SWDL Command and Error Codes

The console SWDL command is used by the console team to upgrade VPMs. At the beginning of every output from a console SWDL command, the software versions residing on the VPM bangs are displayed, as follows:

```
Running version: VPM_D7.15.02.00
```

```
Alternate version: VPM_R7.14.01.00
```

```
usage: ConsoleSwdl [-h] [-n <networkInterface>] [-s <securityLevel>]
 [-A <authKey>] [-X <privKey>] [-I <device IP>] [-v <version>] [-f <path to
fileset>]
 [-o <operationType>] [-l <log file> [-force]
```

Examples:

```
ConsoleSwdl.exe -i 11.20.30.111 –n 10.20.30.40 –v VPM_R7.9.00.10
```

```
ConsoleSwdl.exe -i 1.2.30.223 ,--networkInterface 10.20.30.40 –f C:\filesets
\VPM_R7.9.00.10\swdl\swdl.cfg
```

```
ConsoleSwdl.exe -n 10.20.30.40 -s authPriv -A authpassword –X privpassword –
ip 1.2.30.223 --version VPM_R7.9.00.10
```

```
ConsoleSwdl.exe --ip 1.2.30.223 –n 10.20.30.40 --version VPM_R7.9.00.10 -o
t --log C:\logs\log.txt
```

```
ConsoleSwdl.exe --ip 1.2.30.223 –n 10.20.30.40 --version VPM_R7.9.00.10 --
operation transferinstall --force
```

```
ConsoleSwdl.exe  -i 11.20.30.111 –n 10.20.30.40 –o connect
```

```
ConsoleSwdl.exe  -i 11.20.30.111  -o connect
```

Table 34: Console SWDL commands

Command	Description
-h,--help	Prints help message.
-n,--networkInterface <networkInterface>	IP address of network interface card used by SWDL (This command is mandatory for ASTRO system release 7.15 and earlier.).
-s,--securityLevel <securityLevel>	SNMPv3 security level (noAuthNoPriv, authNoPriv or authPriv). If it is omitted, the security level will be set to default value: noAuthNoPriv.

Table continued…

Command	Description
-A,--authKey <authKey>	Authentication password.
-X,--privKey <privKey>	Privacy password.
-i,--ip <device IP>	IP address of the VPM device.
-v,--version <version>	Fileset name (this fileset has to be already imported to SWDL depot), e.g. VPM_R7.9.00.10. Only one of options -v or -f should be chosen.
-f,--fileset <path to file-set>	Path to swdl.cfg in the fileset to be imported. Only one of options -v or -f should be chosen.
-o,--operation <opera-tionType>	Operation type: transfer(t), install(i), transferinstall(ti), or connect(c). Default: transferinstall
-l,--log <log file>	Log file (silent mode - logging to file, not on standard output).
-force,–force	Forces operation (whether the requested fileset is already transferred/ installed or not).

Table 35: Error codes

Error Code	Description
0	Success
1	Configuration error (can be e.g. log4j configuration error, incorrect log file, incorrect network interface, etc.)
2	Incorrect command line parameters
3	Imported fileset configuration file does not exist
4	Imported fileset configuration file invalid
5	Filesets cannot be retrieved from depot
6	Second SWDL instance is running
7	No valid device can be contacted at the specified IP Address
8	Authorization failed
9	Incorrect fileset checksum
10	Operation initialization error
11	Transfer error
12	Install error

4.9
Software Download Manager Error Messages

This section describes errors that can occur when performing operations in SWDL.

4.9.1
Unrecoverable Error Messages

Table 36: Unrecoverable Error Messages

Error Message	Possible Cause
`Malformed packet: contact Motorola.`	More devices are selected for download than the file set version information available (for example, you select two devices for download but only enter the file set version for one).
`Requested file sets not found.`	The file set selected is not available in the Software Depot.
`File not found.`	The file cannot be located by SWDL.

`Subsystem build error.`
`For a single device Software Download operation, check that the IP entered is valid and the device type selected is correct.`
`For centralized SWDL, check zone and site information and check that the correct IP resolution method has been selected if Domain Name Server (DNS) is not available.`
	Some possible causes are:
	• An invalid zone ID passed into the buildZone method for the RSBuilder class.
	• An exception returned from the buildSubsystem method of the RSBuilder.
	• A REQUESTSTATUS_FAILED message returned from the buildSubsystem method of the RSBuilder - tests described in parentheses:
	(Device mismatch - different MIB than device selected by user).
	(Invalid IP - no simulator started).
	(Connection lost - simulator stopped after operation started).
	(No entry in MIB version table).

`Unsupported transaction – contact Motorola.`	You have selected a transaction other than TRANSFER, INSTALL, or TRANSFER_AND_INSTALL.
`General error – contact Motorola.`	The Operation is not able to start a thread.
`Subsystem not found – contact Motorola.`	The subsystem type is invalid. The range of this variable is constrained by the SWDL interface.
`Get Version request failed to find device or any of its proxies.`	You have entered an incorrect zone and/or site for a Get Version operation. For a single device software download, you have entered an invalid IP address for a Get Version operation.
`No configuration information available for device type selected.`	An invalid file was entered in the file selection box when browsing to get version information for a download.

Table continued…

Error Message	Possible Cause
`Subsystem Unconfigured. No channels and/or subsites have been configured through the CSS application or Network.`	Ensure that these subsystem parameters are configured properly. Set all devices in the subsystem to be configured using the CSS application.
`Unable to set the In-session flags of the devices in the specified subsystem.`	Some possible causes are: • The subsystem is configured to send back an error when trying to set the In-session flags. • You selected **No** when queried by the program if you want to clear the flags when they are already set.
`Version Table Error`	This message appears when SWDL cannot retrieve an agent's version table. The version table includes the VLAN number, running/alternate version string, version index, and so forth.
`Wrong type file set`	This message appears when value of appropriate OID (1.3.6.1.4.1.161.3.5.1.7) is not equal to 6 (file set).
`Wrong operation status`	This message appears when the file set is valid but the value of OID (...13) is not one of following numbers: 3 (in Use), 2 (Present) or 4 (Transferred).
`Wrong location ID`	This message appears when the file set is valid (6), operation status is good, but the location ID is wrong. Location ID is the number of the bank where the software resides. It should be equal to 1 (RAM) for the Running or Alternate version.

4.9.2
File Error Messages

Table 37: File Error Messages

Error Message	Possible Causes	Solution
`Error compiling user choices: No file set Versioning Failure of Progress Meter Appearance selected`	You attempted to create components for application types whose file sets are not present in the Software Depot.	File sets should be imported into the Software Depot using the **Import file set** dialog in order to see them in the versions combo-box.
`The file C:\swdepot.remote\xfer\HPDBR\v1\swdl\swdl is not a valid file in your file system. Please try again.`	You selected an invalid filename for import. The SWDL only allows the following files for import: • swdepot.cfg • swdl.cfg • swdlv3.cfg	Choose only one of {swdl.cfg, or swdepot.cfg} for import.

Table continued...

Error Message	Possible Causes	Solution
NOTICE: Most devices support SNMPv3. If the device does not support SNMPv3, choose SNMPv1.		
`Fileset Import Failed: The file sets were successfully transferred, but there was an error in autogenerating the configuration file C:\swdepot\swdepot.cfg`	• The file permission for swdepot.cfg has been changed to **read-only**. • The directory in which swdepot.cfg is placed has write-protected/restricted access.	Ensure that you have permissions to create/modify a file in the directory specified in the `SWDEPOTPATH` parameter in applparams.cfg. See “Changing Folder Location (Default and Non-Default)”.
`Fileset Import Failed: Error Details: E:\swdepot\xfer\CM\v1\b1_4.bin (The parameter is incorrect). The file set components are not added to the Software Depot configuration file.`	• The FTP / SFTP server login directory set in the users.dat file either does not exist or is write-protected. • The directory in which swdepot.cfg is placed has write-protected/restricted access.	Ensure that you have appropriate space/permissions to create/modify a file in the directory specified in the users.dat file. See “Changing Folder Location (Default and Non-Default)”.
`Retrieving the file sets from the remote Depot returned the error: Error during parsing C:\HPDSC_SWDL\swdl\swdl.cfg. Parser error: Found more than one file set declaration in the file C:\HPDSC_SWDL\swdl\swdl.cfg.between line numbers: 18 and 27 line 18: FileSetName=“HPD Site Controller" line 27: HardwareId=“0x04,0x05,0x06" Please contact the System Administrator to solve this problem.`	The file set configuration file has more than one `FileSet` declaration. The SWDL considers file set configuration files with more than one file set component as invalid.	Remove any redundant/unnecessary `FileSet` declarations in the file set configuration file.

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