



***Aprisa*** **XE**



# Software Release Notes

Version 8.6.53

July 2011

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## 1. Introduction

### Introduction

The previous Aprisa XE software version release relevant to this release is:

RF Variant	Software version	Release date
All	8.4.62	25 <sup>th</sup> January 2011

This release of Aprisa XE software is:

RF Variant	Software version	Release date
All	8.6.53	12 <sup>th</sup> July 2011

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 8.4.62.

### 4RF Support

Prior to upgrading Aprisa XE terminals with this software, please contact 4RF Customer Support at [support@4rf.com](mailto:support@4rf.com) to obtain the upgrade files and upgrade process.

Where possible, the customer should consider upgrading in a controlled environment before upgrading the entire network.

## 2. Released Files

The following is a list of files released for Aprisa XE software version 8.6.53.

File Name	File Type	File Function
_tftp_Upgrade_Options_&_Modem_Info.txt	Information	Instructions relating to the software release
Rel_8_6_53_E0a.cfg	TFTP Upgrade	Type '8_6_53_E0a' for a 'full' TFTP upgrade for ETSI Type 1 variants
Rel_8_6_53_E0.cfg	TFTP Upgrade	Type '8_6_53_E0' for a 'standard' TFTP upgrade for ETSI Type 1 variants
Rel_8_6_53_E0h.cfg	TFTP Upgrade	Type '8_6_53_E0' for a 'standard' TFTP upgrade for HSD ETSI Type 1 variants
Rel_8_6_53_E0p.cfg	TFTP Upgrade	Type '8_6_53_E0p' for a 'partial' TFTP upgrade for ETSI Type 1 variants
Rel_8_6_53_E1a.cfg	TFTP Upgrade	Type '8_6_53_E1a' for a 'full' TFTP upgrade for ETSI Type 2 variants
Rel_8_6_53_E1.cfg	TFTP Upgrade	Type '8_6_53_E1' for a 'standard' TFTP upgrade for ETSI Type 2 variants
Rel_8_6_53_E1h.cfg	TFTP Upgrade	Type '8_6_53_E1' for a 'standard' TFTP upgrade for HSD ETSI Type 2 variants
Rel_8_6_53_E1p.cfg	TFTP Upgrade	Type '8_6_53_E1p' for a 'partial' TFTP upgrade for ETSI Type 2 variants
Rel_8_6_53_F0a.cfg	TFTP Upgrade	Type '8_6_53_F0a' for a 'full' TFTP upgrade for FCC Part 90 variants
Rel_8_6_53_F0.cfg	TFTP Upgrade	Type '8_6_53_F0' for a 'standard' TFTP upgrade for FCC Part 90 variants
Rel_8_6_53_F0p.cfg	TFTP Upgrade	Type '8_6_53_F0p' for a 'partial' TFTP upgrade for FCC Part 90 variants
Rel_8_6_53_F1.cfg	TFTP Upgrade	Type '8_6_53_F1' for a 'standard' TFTP upgrade for FCC Part 101 variants
Rel_8_6_53_F1a.cfg	TFTP Upgrade	Type '8_6_53_F1a' for a 'full' TFTP upgrade for FCC Part 101 variants
Rel_8_6_53_F1p.cfg	TFTP Upgrade	Type '8_6_53_F1p' for a 'partial' TFTP upgrade for FCC Part 101 variants
F1_8_6_5.cfg	TFTP Upgrade	Used to load images for the newest DFXO and DFXS cards (rev D)
F2_8_6_5.cfg	TFTP Upgrade	Used to load images for all revisions of DFXO and DFXS cards
F3_8_6_5.cfg	TFTP Upgrade	Used to load images for the newest Modem card (rev D)
F_8_6_5.cfg	Control file	Used for TFTP upgrade (FPGA firmware)
FH_8_6_5.cfg	Control file	Used for TFTP upgrade (HSD)
M_8_3_1.cfg	Control file	Used for TFTP upgrade (modem ETSI Type 1)
M_8_3_2.cfg	Control file	Used for TFTP upgrade (modem ETSI Type 2)
M_7_3_4.cfg	Control file	Used for TFTP upgrade (modem FCC part 90)
M_7_3_5.cfg	Control file	Used for TFTP upgrade (modem FCC part 101)
O_8_6_5.cfg	Control file	Used for TFTP upgrade (FPGA firmware old)
P_8_6_5.cfg	Control file	Used for TFTP upgrade (FPGA firmware partial)
R_8_3_0.cfg	Control file	Used for TFTP upgrade process (RF synth files)
S_8_6_5.cfg	Control file	Used for TFTP upgrade process (software)
X_8_6_5.cfg	Control file	Used for TFTP upgrade process (SNMP)
C-fpga_E1-0-7-0.img	Firmware Image	Motherboard 1 rev C image file
C-fpga_E1-1-7-4.img	Firmware Image	Motherboard 1 rev D image file
C-fpga_E2-0-5-3.img	Firmware Image	Motherboard 2 rev C image file
C-fpga_E2-1-5-4.img	Firmware Image	Motherboard 2 rev D image file
C-fpga_E5-0-8-5.img	Firmware Image	QJET image file
C-fpga_E7-1-3-3.img	Firmware Image	Q4EM image file
C-fpga_E7-2-3-3.img	Firmware Image	Q4EM image file
C-fpga_E7-5-0-2.img	Firmware Image	Q4EM image file
C-fpga_E8-1-4-0.img	Firmware Image	DFXO image file
C-fpga_E8-2-4-0.img	Firmware Image	DFXO image file
C-fpga_E8-3-5-3.img	Firmware Image	DFXO image file
C-fpga_E8-4-5-3.img	Firmware Image	DFXO image file
C-fpga_E9-0-4-1.img	Firmware Image	DFXS image file
C-fpga_E9-1-4-2.img	Firmware Image	DFXS image file
C-fpga_E9-2-4-1.img	Firmware Image	DFXS image file
C-fpga_E9-3-4-1.img	Firmware Image	DFXS image file

## Released Files (cont)

File Name	File Type	File Function
C-fpga_EA-0-5-2.img	Firmware Image	Modem image file
C-fpga_EA-1-0-3.img	Firmware Image	Modem image file
C-fpga_EB-0-1-1.img	Firmware Image	QV24 async image file
C-fpga_FB-0-1-3.img	Firmware Image	QV24 sync image file
C-fpga_EC-0-1-4.img	Firmware Image	HSS image file
C-fpga_EC-1-1-7.img	Firmware Image	HSS image file
C-fpga_ED-0-1-0.img	Firmware Image	PSC image file
C-fpga_EE-0-1-0.img	Firmware Image	PIC image file
C-fpga_FA-1-1-0.img	Firmware Image	HSD Modem image file
C-CC-K-6_0_0.img	Kernel Image	Linux Kernel
C-CC-R-8_6_5.img	Software Image	Root File System
modem_8_3_1.cfg	Configuration	Modem Upgrade file (ETSI Type 1 variants)
modem_8_3_2.cfg	Configuration	Modem Upgrade file (ETSI Type 2 variants)
modem_7_3_4.cfg	Configuration	Modem Upgrade file (FCC part 90 variants)
modem_7_3_5.cfg	Configuration	Modem Upgrade file (FCC part 101 variants)
compare_oids_8_6_5.cfg	Configuration	List of HSD common parameter OIDs
snmp_exclude_8_6_5.cfg	Configuration	Used by system for Aprisa Mux / Aprisa XE OID exclusion
XE_300_400_synth.cfg	Configuration	Synthesizer Upgrade file for 300, 400 MHz frequency bands
XE_600_700_800_900_synth.cfg	Configuration	Synthesizer Upgrade file for 600, 700, 800, 900 MHz frequency bands
XE_1400_synth.cfg	Configuration	Synthesizer Upgrade file for 1400 MHz frequency band
XE_1800_synth.cfg	Configuration	Synthesizer Upgrade file for 1800 MHz frequency band (1.8 GHz future release)
XE_2000_2500_synth.cfg	Configuration	Synthesizer Upgrade file for 2000, 2500 MHz frequency bands
C-crossconnect_8_6_5.cfg	Configuration	Cross Connect upgrade file
C-crossconnect_8_6_5.jar	Java Application	Cross Connect application - used when running 7.1.4 or later
C-ccapp_exe_8_6_5.jar	Java Application	Cross Connect (stand alone application)
C-CC-B-7_1_1.srec	System	Bootloader for rev C motherboard (cannot be uploaded)
C-CC-B-8_1_4.srec	System	Bootloader for rev D motherboard (cannot be uploaded)
C-CC-F-8_6_5.img	System	Flash File System (cannot be uploaded)
C-swi_8_6_53_E0.swi	Inventory File	ETSI Type 1 variants
C-swi_8_6_53_E1.swi	Inventory File	ETSI Type 2 variants
C-swi_8_6_53_EA.swi	Inventory File	ETSI Type 1 variants HSD
C-swi_8_6_53_EB.swi	Inventory File	ETSI Type 2 variants HSD
C-swi_8_6_53_F0.swi	Inventory File	FCC part 90 variants
C-swi_8_6_53_F1.swi	Inventory File	FCC part 101 variants
I_8_6_53_E0.cfg	Configuration	Inventory Configuration File (ETSI Type 1 variants)
I_8_6_53_EA.cfg	Configuration	Inventory Configuration File (HSD ETSI Type 1 variants)
I_8_6_53_E1.cfg	Configuration	Inventory Configuration File (ETSI Type 2 variants)
I_8_6_53_EB.cfg	Configuration	Inventory Configuration File (HSD ETSI Type 2 variants)
I_8_6_53_F0.cfg	Configuration	Inventory Configuration File (FCC part 90 variants)
I_8_6_53_F1.cfg	Configuration	Inventory Configuration File (FCC part 101 variants)
C-alarm_history_8_6_5.cfg	Configuration	Alarm Logging upgrade file
C-alarm_history_8_6_5.jar	Java Application	Alarm Logging application
4RF-APRISAXE-EVENTS.mib	SNMP MIB file	Aprisa XE Events MIB
4RF-MIB.mib	SNMP MIB file	Top level MIB
4RF-APRISAXE-MIB.mib	SNMP MIB file	Aprisa XE MIB
4RF-COMMON-MIB.mib	SNMP MIB file	Common MIB
4RF-PRODUCTS-MIB.mib	SNMP MIB file	Products MIB
4RF-APRISAXE-TC.mib	SNMP MIB file	Aprisa XE Textual Conventions MIB
4RF-COMMON-TC.mib	SNMP MIB file	Common Textual Conventions MIB

### 3. Software Upgrade Process

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#### Software Upgrade Process Steps

The following steps are required for the software upgrade process:

1. Unzip and save the following files to your hard drive:  
8.6.53 Software  
tftpd32.exe
2. Identify the correct TFTP upgrade type.
3. If the terminals are operating software prior to 8.3.40:  
Upload the Root File System  
Upload the Motherboard Images.
4. Reboot the terminal.
5. Go through the steps of the TFTP upgrade process.
6. Upgrade for new FXO / FXS and modem images
7. Reboot the terminal.
8. Clear the Java and web browser caches.

If the TFTP upload process fails, an 'Upload Fail' alarm is raised. If the TFTP upload process fails due to a power failure, the alarm is raised upon power recovery.

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### 3.1. Identify the Correct TFTP Upgrade Type

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#### TFTP Upgrade Type

The correct TFTP upgrade type will depend on both the Bootloader Version and the Software Version Type.

Aprisa XE terminals running the older bootloader software (bootloader version 0) have a limitation on the number of software images that can be loaded simultaneously into a terminal.

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#### Identify the Bootloader Version

Determine which bootloader version your terminal is running by using the SuperVisor menu item Maintenance > Support Summary and look for the 'Bootloader Version' number.

- (1) If your terminal is running bootloader version 1 or greater, use the TFTP full upgrade process.
  - (2) If your terminal is running bootloader version 0 and running a software version prior to 7.0.6, use the TFTP partial upgrade process.
  - (3) If your terminal is running bootloader version 0 and running a software version 7.0.6 or later, use the TFTP standard upgrade process.
  - (4) HSD terminals cannot run with bootloader version 0.
-

### Identify the Software Version Type

There are six different software version types; ETSI type 1, ETSI type 1 HSD, ETSI type 2, ETSI type 2 HSD, FCC Part 101 and FCC Part 90.

To determine which Software Version Type is currently installed on the terminal, take note of the 'Software Version' on SuperVisor Summary page. The last three characters indicate the Software Version Type (E0 ETSI shown):



#### ETSI Compliance Body

X_X_XX_ <b>E0</b>	The E0 variant supports ETSI (Type 1) 1+0 and MHSB terminals with the same variants as Aprisa XE software version 8.4.40.
X_X_XX_ <b>E1</b>	The E1 variant supports ETSI (Type 2) 1+0 and MHSB terminals with the same variants as Aprisa XE software version 8.4.40 except for the 400 MHz 25 kHz and 50 kHz which has been replaced with 900 MHz 25 kHz and 50 kHz.
X_X_XX_ <b>E0h</b>	The E0h variant supports ETSI (Type 1) Hitless Space Diversity (HSD) terminals with the same variants as Aprisa XE software version 8.4.40.
X_X_XX_ <b>E1h</b>	The E1 variant supports ETSI (Type 2) Hitless Space Diversity (HSD) terminals with the same variants as Aprisa XE software version 8.4.40 except for the 400 MHz 25 kHz and 50 kHz which has been replaced with 900 MHz 25 kHz and 50 kHz.

#### FCC Compliance Body

X_X_XX_ <b>F0</b>	The F0 variant supports FCC part 90 1+0 and MHSB terminals.
X_X_XX_ <b>F0h</b>	The F0h variant supports FCC part 90 Hitless Space Diversity (HSD) terminals.
X_X_XX_ <b>F1</b>	The F1 variant supports FCC part 101 1+0 and MHSB terminals.
X_X_XX_ <b>F1h</b>	The F1h variant supports FCC part 101 Hitless Space Diversity (HSD) terminals.

## Upgrade File Usage

The following table defines the purpose of the upgrade version files:

Upgrade Version	Upgrade Type	Variant
8_6_53_E0a	Full TFTP upgrade	ETSI TYPE 1
8_6_53_E0	Standard TFTP upgrade	ETSI TYPE 1
8_6_53_E0h	Standard TFTP upgrade	ETSI TYPE 1 HSD
8_6_53_E0p	Partial TFTP upgrade	ETSI TYPE 1
8_6_53_E1a	Full TFTP upgrade	ETSI TYPE 2
8_6_53_E1	Standard TFTP upgrade	ETSI TYPE 2
8_6_53_E1h	Standard TFTP upgrade	ETSI TYPE 2 HSD
8_6_53_E1p	Partial TFTP upgrade	ETSI TYPE 2
8_6_53_F0a	Full TFTP upgrade	FCC Part 90
8_6_53_F0	Standard TFTP upgrade	FCC Part 90
8_6_53_F0p	Partial TFTP upgrade	FCC Part 90
8_6_53_F1a	Full TFTP upgrade	FCC Part 101
8_6_53_F1	Standard TFTP upgrade	FCC Part 101
8_6_53_F1p	Partial TFTP upgrade	FCC Part 101



## 3.2. Upload the Root File System

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### Root File System Upgrade

If the terminals are operating software prior to 8.3.40, upload the Root File System file.

Note: Uploading of image files can only be performed to the local terminal i.e. not via the link to the remote terminal.

1. Logon to the local terminal as admin.
  2. Go to SuperVisor > Local > Maintenance > Upload > Software.
  3. Browse to the 8.6.53 Software folder and select 'C-CC-R-8\_6\_5.img'.
  4. Click Upload and wait for the upload status to display Succeeded.
  5. Go to SuperVisor > Local > Maintenance > Image Table.
  6. Select Software 'C-CC-R-8\_6\_5.img' and click edit.
  7. At the command drop down box select activate and click apply.
-

### 3.3. Upload the Motherboard Images

[Check  
Motherboard  
Image Files](#)

The E1 and E2 motherboard images do not update as part of the TFTP upgrade.

Check if the correct motherboard images are loaded with SuperVisor Local > Maintenance > Image Table.

Example: Radio on V8.4.6 with a Rev C motherboard.

IMAGE TABLE					
Index	Type	Status	Image Size	Version	Select
0	Kernel	Active	589980	C-CC-K-8_0_0.img	<input checked="" type="radio"/>
2	Software	Active	2897185	C-CC-R-8_4_6.img	<input type="radio"/>
3	Software	Inactive	2151772	C-CC-R-8_4_6.img	<input type="radio"/>
4	Firmware	Active	141878	C-fpga_E1-0-7-0.img	<input type="radio"/>
7	Firmware	Active	141878	C-fpga_E2-0-5-3.img	<input type="radio"/>

The Motherboard Firmware images for this software version are:

Motherboard Type	Image Files Required	
Rev C	C-fpga_E1-0-7-0.img	(Motherboard 1)
	C-fpga_E2-0-5-3.img	(Motherboard 2)
Rev D	C-fpga_E1-1-7-4.img	(Motherboard 1)
	C-fpga_E2-1-5-4.img	(Motherboard 2)

[Upload  
Motherboard  
Image Files](#)

If the motherboard image files are not correct, upload the relevant image files.

Note: Uploading of image files can only be performed to the local terminal i.e. not via the link to the remote terminal.

1. Logon to the local terminal as admin
2. Go to SuperVisor > Local > Maintenance > Upload > Firmware.
3. Browse to the 8.6.53 Software folder and select 'C-fpga\_Ex-x-x-x.img'.
4. Click Upload and wait for the upload status to display Succeeded.
5. Go to SuperVisor > Local > Maintenance > Image Table.
6. Select Software 'C-fpga\_Ex-x-x-x.img' and click edit.
7. At the command drop down box select activate and click apply.

### 3.4. TFTP Upgrade Process

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#### TFTP Upgrade Process

To run a TFTP upgrade process (example of ETSI upgrade):

**Note:** Make sure that the SuperVisor Local terminal is the near end terminal. The **Near** end terminal is the terminal that has its ethernet port physically connected to your IP network.

1. Run the TFTP server program and set the 'Current Directory' to the root directory on the Aprisa CD.
  2. Select the SuperVisor menu item Remote > Maintenance > Upload > TFTP Upgrade
  3. Type the IP address of the TFTP server in the **TFTP Server** field.
  4. Type the version number in the **Upgrade Version** field e.g. '8\_6\_53\_E0'.
  5. Click the Apply button and wait for the upgrade process to complete and report 'success'.
  6. Reboot the remote terminal.
  7. Select the SuperVisor menu item Local > Maintenance > Upload > TFTP Upgrade
  8. Type the IP address of the TFTP server in the **TFTP Server** field.
  9. Type the version number in the **Upgrade Version** field e.g. '8\_6\_53\_E0'.
  10. Click the Apply button and wait for the upgrade process to complete and report 'success'.
  11. Reboot the local terminal.
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## TFTP Upgrade Types

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### TFTP Partial Upgrade Process

Run the TFTP upgrade process by typing **8\_6\_53\_E0p** in the Upgrade Version field.

This will perform a partial upgrade which will delete unnecessary image files that might be taking up space in the Image Table (which could prevent a normal upgrade).

Reboot the terminal.

Run a TFTP standard upgrade process on the terminal.

Reboot the terminal again.

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### TFTP Standard Upgrade Process

This TFTP standard upgrade process excludes FPGA images for the newly introduced revisions of the Modem, DFXO and DFXS cards.

Run the TFTP upgrade process by typing **'8\_6\_53\_E0'** in the Upgrade Version field.

If the standard upgrade fails, it may be necessary to make space for the new images by manually deleting 'Inactive' firmware image files.

To delete a firmware image file, select the SuperVisor menu item Maintenance > Image Table, select the firmware image and click on Edit. Set the IMAGE DETAILS Command to 'Delete' and click 'Apply'.

Reboot the terminal.

Additional TFTP upgrade options have been provided to load the new images separately. Run the TFTP upgrade process using the file:

- **'F1\_8\_6\_5'** to load images for the newer DFXO and DFXS cards (rev D).
- **'F2\_8\_6\_5'** to load images for all revisions of DFXO and DFXS cards.
- **'F3\_8\_6\_5'** to load images for the newest Modem card (rev D).

Reboot the terminal again.

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### TFTP Full Upgrade Process

Run the TFTP upgrade process by typing **'8\_6\_53\_E0a'** in the Upgrade Version field.

Reboot the terminal.

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### 3.5. Clear the Java and web browser caches

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#### Clear Caches

Once the Software Upgrade process is complete, clear the browser and java caches as described below:

Clear the browser cache (restart browser after clearing the cache)

If using Mozilla firefox:

1. Go to Tools.
2. Clear Private Data.
3. Select all options.
4. Click clear private data now.

If using Internet Explorer:

1. Go to tools > Internet Options.
2. Under browser history in the general tab click delete.
3. Click delete all.

Clear the java cache

1. Go to your PC control panel.
  2. Open the java application.
  3. Click settings under Temporary Internet Files.
  4. Click delete files.
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## 4. Enhancements

### 4.1. Major Enhancements

#### Ethernet Port Startup

Previously, the radio Ethernet switch ports were enabled when the radio powered up.

In software version 8.6.53, the mode of operation has been changed to disable the Ethernet switch ports until the radio software has completed booting.

This change has been implemented to meet customer requirements.

A hardware modification is required to the Aprisa XE motherboard to enable this enhancement (0 ohm resistor fitted).



If the Aprisa XE motherboard hardware modification has been done, this Aprisa XE software version (8.6.53) will be required to operate the radio. If Aprisa XE software prior to this version is used, the Ethernet ports will not enable. For this reason, an Aprisa XE running software version 8.6.53 cannot be downgraded to an earlier software version.

#### 1800 MHz Support

In software version 8.6.53, support has been added for 1800 MHz radios in channel sizes of 250 and 500 kHz and 1 MHz, 1.75 MHz, 3.5 MHz, 7 MHz and 14 MHz.

### 4.2. Minor Enhancements

None

## 5. Bug Fixes

### 5.1. Major Bug Fixes

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None

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### 5.2. Minor Bug Fixes

#### MHSB Remote Switch Over

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Previously with MHSB terminals, when the SuperVisor > Remote > Maintenance > MHSB > MHSB Control > MHSB Command of 'Force Switchover' was used to switch the active radio on remote terminals, all Ethernet traffic stopped for up to 5 minutes due to the aging time of the address table in the Ethernet switch.

If the SuperVisor > Local > Maintenance > MHSB > MHSB Control > MHSB Command of 'Force Switchover' was used on local terminals or the switch over was performed manually from the Trib Switch, Ethernet traffic was not affected.

In software version 8.6.53, this problem has been resolved by refreshing the address tables after the switch occurs.

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