



# **Aprisa XE Software Release Notes**

## **7.4.1**

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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
FCC part 90	7.3.4	13 <sup>th</sup> October 2006

This release of Aprisa XE software is:

RF Variant	Software version	Release date
FCC part 90	7.4.1	21 <sup>st</sup> December 2006

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 7.3.4.

### 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

**Releases Files** The following is a list of files released for Aprisa XE software version 7.4.1.

File Name	File Type	File Function
README.txt	Information	Instructions relating to the software release
Rel_7_4_1a.cfg	TFTP Upgrade	Full TFTP upgrade - used when running 7.2.x or later
Rel_7_4_1.cfg	TFTP Upgrade	Standard TFTP upgrade - used when running 7.2.x or later
Rel_7_4_1p.cfg	TFTP Upgrade	Partial TFTP upgrade - used when running 7.2.x or later
release_7_4_1a.cfg	TFTP Upgrade	Full TFTP upgrade - used when running 7.1.x or earlier
release_7_4_1.cfg	TFTP Upgrade	Standard TFTP upgrade - used when running 7.1.x or earlier
release_7_4_1p.cfg	TFTP Upgrade	Partial TFTP upgrade - used when running 7.1.x or earlier
F1_7_4_1.cfg	TFTP Upgrade	Used to load images for the newest DFXO and DFXS cards (rev D)
F2_7_4_1.cfg	TFTP Upgrade	Used to load images for all revisions of DFXO and DFXS cards
F3_7_4_1.cfg	TFTP Upgrade	Used to load images for the newest Modem card (rev D)
F_7_4_1.cfg	TFTP Upgrade	Used by Rel_7_4_1a.cfg during TFTP upgrade (FPGA firmware)
M_7_4_1.cfg	TFTP Upgrade	Used by Rel_7_4_1a.cfg during TFTP upgrade (modem)
O_7_4_1.cfg	TFTP Upgrade	Used by Rel_7_4_1.cfg during TFTP upgrade (FPGA firmware old)
P_7_4_1.cfg	TFTP Upgrade	Used by Rel_7_4_1p.cfg during TFTP upgrade (FPGA firmware partial)
R_7_4_1.cfg	TFTP Upgrade	Used by Rel_7_4_1a.cfg during TFTP upgrade process (RF synth files)
S_7_4_1.cfg	TFTP Upgrade	Used by Rel_7_4_1a.cfg during TFTP upgrade process (software)
C-fpga_E1-0-7-0.img	Firmware Image	Motherboard 1 image file
C-fpga_E2-0-5-3.img	Firmware Image	Motherboard 2 image file
C-fpga_E5-0-7-3.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_E8-1-4-0.img	Firmware Image	DFXO image file
C-fpga_E8-2-4-0.img	Firmware Image	DFXO image file
C-fpga_E8-3-5-2.img	Firmware Image	DFXO image file
C-fpga_E9-0-4-0.img	Firmware Image	DFXS image file
C-fpga_E9-1-4-0.img	Firmware Image	DFXS image file
C-fpga_E9-2-4-0.img	Firmware Image	DFXS image file
C-fpga_EA-0-5-1.img	Firmware Image	Modem image file
C-fpga_EA-1-0-0.img	Firmware Image	Modem image file
C-fpga_EB-0-1-0.img	Firmware Image	QV24 image file
C-fpga_EC-0-1-3.img	Firmware Image	HSS image file
C-fpga_EC-1-1-6.img	Firmware Image	HSS image file
C-CC-K-6_0_0.img	Kernel Image	Linux Kernel
C-CC-R-7_4_1.img	Software Image	Root File System
C-crossconnect_7_4_1.cfg	Configuration	Cross Connect upgrade file
modem_7_3_4.cfg	Configuration	Modem Upgrade file (last digit is independent of software version)
modem versions.txt	Readme file	List of modem versions vs RF variants
snmp_exclude_7_4_1.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_2000_2500_synth.cfg	Configuration	Synthesizer Upgrade file for 2000, 2500 MHz frequency bands
C-crossconnect_7_4_1.jar	Java Application	Cross Connect - used when running 7.1.4 or later
crossconnect_7_4_1.jar	Java Application	Cross Connect - used when running 7.0.6 or earlier
C-ccapp_exe_7_4_1.jar	Java Application	Cross Connect (stand alone application)
C-CC-B-7_1_1.srec	System	Bootloader (cannot be uploaded)
C-CC-F-7_4_1.img	System	Flash File System (cannot be uploaded)
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
4RF-APRISAXE-EVENTS.mib	SNMP MIB file	Aprisa XE Events MIB

## 3. Upgrade Process

### 3.1. TFTP Upgrade

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#### TFTP upgrade process

To run a TFTP upgrade process:

**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.

Run the TFTP program and set the 'Current Directory' to the root directory on the Aprisa CD.

Select the SuperVisor menu item Remote > Maintenance > Upload > TFTP Upgrade

Type the IP address of the TFTP server in the **TFTP Server** field.

Type the version number in the **Upgrade Version** field e.g. '**7\_4\_1**'.

Click the Apply button and wait for the upgrade process to complete and report 'success'.

Reboot the remote terminal.

Select the SuperVisor menu item Local > Maintenance > Upload > TFTP Upgrade

Type the IP address of the TFTP server in the **TFTP Server** field.

Type the version number in the **Upgrade Version** field e.g. '**7\_4\_1**'.

Click the Apply button and wait for the upgrade process to complete and report 'success'.

Reboot the local terminal.

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#### TFTP upgrade process types

Aprisa XE terminals running the older Bootloader software have a limitation on the number of software images that can be loaded simultaneously into a terminal.

First, 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, 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.

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#### TFTP partial upgrade process

Run the TFTP upgrade process by typing **7\_4\_1p** 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 '7\_4\_1' 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\_7\_4\_1' to load images for the newest DFXO and DFXS cards (rev D).
- 'F2\_7\_4\_1' to load images for all revisions of DFXO and DFXS cards.
- 'F3\_7\_4\_1' 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 '7\_4\_1a' in the Upgrade Version field.

Reboot the terminal.

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### 3.2. Synthesizer File Update

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#### Synthesizer Files Update

Synthesizer files can now be updated without the need for a new software release.

When upgrading terminals that are currently running software version 7.0.6 or earlier, the Synthesizer File appropriate for the terminal frequency band, must be uploaded to each terminal before doing the TFTP software upgrade.

Frequency Band	Synthesizer File (to be installed)
300 MHz	XE_300_400_synth.cfg
400 MHz	XE_300_400_synth.cfg
600 MHz	XE_600_700_800_900_synth.cfg
700 MHz	XE_600_700_800_900_synth.cfg
800 MHz	XE_600_700_800_900_synth.cfg
900 MHz	XE_600_700_800_900_synth.cfg
1400 MHz	XE_1400_synth.cfg
2000 MHz	XE_2000_2500_synth.cfg
2500 MHz	XE_2000_2500_synth.cfg

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## 4. Major Changes

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#### Major enhancements

Changes to Framed T1 modes in the Cross Connections Application.

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#### Major bug fixes

None

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**5. System Software**

**5.1. System Software Bug Fixes**

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None

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**6. SuperVisor**

**6.1. SuperVisor Enhancements**

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None

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**6.2. SuperVisor Bug Fixes**

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None

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## 7. Cross connections application

### 7.1. Cross Connections Application Enhancements

#### Enhanced Framed T1

The framed T1 modes have been changed to clarify the various modes of operation:

Previous mode (7.3.5 and 7.3.6)	Current mode (7.4.1)	
T1 - SF	T1 SF - PTS	Super Frame Pass Thru Signalling
T1 – SF 4	T1 SF - DMS	Super Frame DeMultiplexed Signalling CAS AB bits
T1 – ESF	T1 ESF - PTS	Extended Super Frame Pass Thru Signalling
T1 – ESF 4	Use T1 – ESF 16	
T1 – ESF 16	T1 ESF - DMS	Extended Super Frame DeMultiplexed Signalling CAS ABCD bits

**Pass Thru Signalling** provides cross connection of the entire framed T1 timeslot between T1 ports (including the inherent robbed bit signalling). This is the most efficient method of transporting a framed T1 over the radio link as no additional radio link capacity is required to transport the signalling because the CAS is not demultiplexed.

To maintain multi frame alignment between two framed T1 ports in PTS mode, a FPS (Frame Pattern Sync) bit is required to be cross connected between the two framed T1 ports. This FPS bit requires an additional 8 kbit/s of radio link capacity.

**DeMultiplexed Signalling** allows the cross connection of framed T1 ports to other interface ports e.g. to a Q4EM or HSS. An additional 8 kbit/s of radio link capacity is required to transport each CAS bit over the radio link.

In T1 ESF - DMS mode, the FDL (Facility Data Link) can be cross connected between the two framed T1 ports if required. This FDL bit requires an additional 8 kbit/s of radio link capacity.

This enhancement was added in 7.4.1.

### 7.2. Cross Connections Application Bug Fixes

None



## 8. Backward Compatibility Issues

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### Hardware Variants

Any hardware variant of Aprisa XE terminal can be upgraded with this software.

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### Link Software

Aprisa XE radio links with different software versions can exist in the same network, however, both terminals of an individual link must be running the same software version.

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## 9. Recommendations

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### Java 1.5 JRE

That all PCs running the Aprisa XE support software, SuperVisor and the Cross Connections application be upgraded to Java 1.5 JRE (JVM).

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