



# **Aprisa XE Software Release Notes**

## **7.5.04**

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## 1. Introduction

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### Introduction

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

RF Variant	Software version	Release date
All	7.5.03	3 <sup>rd</sup> April 2007

This release of Aprisa XE software is:

RF Variant	Software version	Release date
All	7.5.04	28 <sup>th</sup> August 2007

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 7.5.03.

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### 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.

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## 2. Released Files

**Releases Files** The following is a list of files released for Aprisa XE software version 7.5.04.

File Name	File Type	File Function
README.txt	Information	Instructions relating to the software release
Rel_7_5_04_E0a.cfg	TFTP Upgrade	Type '7_5_04_E0a' for a 'full' TFTP upgrade for ETSI variants
Rel_7_5_04_E0.cfg	TFTP Upgrade	Type '7_5_04_E0' for a 'standard' TFTP upgrade for ETSI variants
Rel_7_5_04_E0p.cfg	TFTP Upgrade	Type '7_5_04_E0p' for a 'partial' TFTP upgrade for ETSI variants
Rel_7_5_04_F0a.cfg	TFTP Upgrade	Type '7_5_04_F0a' for a 'full' TFTP upgrade for FCC Part 90 variants
Rel_7_5_04_F0.cfg	TFTP Upgrade	Type '7_5_04_F0' for a 'standard' TFTP upgrade for FCC Part 90 variants
Rel_7_5_04_F0p.cfg	TFTP Upgrade	Type '7_5_04_F0p' for a 'partial' TFTP upgrade for FCC Part 90 variants
Rel_7_5_04_F1a.cfg	TFTP Upgrade	Type '7_5_04_F1a' for a 'full' TFTP upgrade for FCC Part 101 variants
Rel_7_5_04_F1.cfg	TFTP Upgrade	Type '7_5_04_F1' for a 'standard' TFTP upgrade for FCC Part 101 variants
Rel_7_5_04_F1p.cfg	TFTP Upgrade	Type '7_5_04_F1p' for a 'partial' TFTP upgrade for FCC Part 101 variants
F1_7_5_0.cfg	TFTP Upgrade	Used to load images for the newest DFXO and DFXS cards (rev D)
F2_7_5_0.cfg	TFTP Upgrade	Used to load images for all revisions of DFXO and DFXS cards
F3_7_5_0.cfg	TFTP Upgrade	Used to load images for the newest Modem card (rev D)
F_7_5_0.cfg	Control file	Used by Rel_7_5_04a.cfg during TFTP upgrade (FPGA firmware)
M_7_3_0.cfg	Control file	Used by Rel_7_5_04_E0a.cfg during TFTP upgrade (modem ETSI)
M_7_3_4.cfg	Control file	Used by Rel_7_5_04_F0a.cfg during TFTP upgrade (modem FCC part 90)
M_7_3_5.cfg	Control file	Used by Rel_7_5_04_F1a.cfg during TFTP upgrade (modem FCC part 101)
O_7_5_0.cfg	Control file	Used by Rel_7_5_04.cfg during TFTP upgrade (FPGA firmware old)
P_7_5_0.cfg	Control file	Used by Rel_7_5_04p.cfg during TFTP upgrade (FPGA firmware partial)
R_7_5_0.cfg	Control file	Used by Rel_7_5_04a.cfg during TFTP upgrade process (RF synth files)
S_7_5_4.cfg	Control file	Used by Rel_7_5_04a.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_5_4.img	Software Image	Root File System
C-crossconnect_7_5_4.cfg	Configuration	Cross Connect upgrade file
modem_7_3_0.cfg	Configuration	Modem Upgrade file (ETSI 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)
snmp_exclude_7_5_4.cfg	Configuration	Used by system for Aprisa Mux / Aprisa XE OID exclusion
modem versions.txt	Readme file	List of modem versions vs RF variants
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_5_4.jar	Java Application	Cross Connect - used when running 7.1.4 or later
crossconnect_7_5_4.jar	Java Application	Cross Connect - used when running 7.0.6 or earlier
C-ccapp_exe_7_5_4.jar	Java Application	Cross Connect (stand alone application)
C-CC-B-7_1_1.srec	System	Bootloader (cannot be uploaded)
C-CC-F-7_5_4.img	System	Flash File System (cannot be uploaded)
C-swi_7_5_04_E0.swi	Inventory File	ETSI variants
C-swi_7_5_04_F0.swi	Inventory File	FCC part 90 variants
C-swi_7_5_04_F1.swi	Inventory File	FCC part 101 variants
I_7_5_04_E0.cfg	Configuration	Inventory Configuration File (ETSI variants)
I_7_5_04_F0.cfg	Configuration	Inventory Configuration File (FCC part 90 variants)
I_7_5_04_F1.cfg	Configuration	Inventory Configuration File (FCC part 101 variants)
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. Upgrade Process

### 3.1. TFTP Upgrade

#### Software inventory file

Software release 7.5.03 and all future software releases, contain an inventory file (similar to a manifest file) which is used to validate the software files in the terminal. A special upgrade procedure is required to initiate the inventory file feature.

When upgrading terminals with software prior to 7.5.03:

1. Upgrade the Root File System with SuperVisor Local > Maintenance > Upload > Software by and browse to the file 'C-CC-R-7\_5\_3.img'. Click Upload.
2. Activate the 'C-CC-R-7\_5\_4.img' with SuperVisor Local > Maintenance > Image Table.
3. Reboot the terminal.
4. Perform the TFTP standard upgrade process.

#### Upgrade file usage

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

Upgrade Version	Upgrade Type	Variant
7_5_04_E0a	Full TFTP upgrade	ETSI
7_5_04_E0	Standard TFTP upgrade	ETSI
7_5_04_E0p	Partial TFTP upgrade	ETSI
7_5_04_F0a	Full TFTP upgrade	FCC Part 90
7_5_04_F0	Standard TFTP upgrade	FCC Part 90
7_5_04_F0p	Partial TFTP upgrade	FCC Part 90
7_5_04_F1a	Full TFTP upgrade	FCC Part 101
7_5_04_F1	Standard TFTP upgrade	FCC Part 101
7_5_04_F1p	Partial TFTP upgrade	FCC Part 101

#### 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.

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\_5\_04\_E0'.

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\_5\_04\_E0'.

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\_5\_04\_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 **'7\_5\_04\_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\_7\_5\_04'** to load images for the newest DFXO and DFXS cards (rev D).
- **'F2\_7\_5\_04'** to load images for all revisions of DFXO and DFXS cards.
- **'F3\_7\_5\_04'** 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\_5\_04\_E0a'** in the Upgrade Version field.

Reboot the terminal.

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### 3.2. Synthesizer File Update

#### 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

## 4. Major Changes

#### Major enhancements

Support for new ADPCM chip on analogue interface cards Q4EM, DFXO and DFXS.

#### Major bug fixes

None

## 5. System Software

### 5.1. System Software Changes

#### New ADPCM chip

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The AT1004 ADPCM chip used on the analogue interface cards Q4EM, DFXO and DFXS has been discontinued by the manufacturer.

The replacement ADPCM chip AT1008 required system software changes to enable it to function correctly.

The new ADPCM chip has been implemented on the following interface card versions:

Q4EM    B05

DFXO    D01

DFXS    D01

If ADPCM coding is used on the analogue interface cards, system software 7.5.04 or greater is required to operate the AT1008 ADPCM chips.

If 64 kbit/s PCM coding is used on the analogue interface cards, this system software 7.5.04 is not required.

In 7.5.04, support was added for the new ADPCM chip on the analogue interface cards.

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### 5.2. System Software Bug Fixes

#### MIB compiler errors

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Previously, when compiling the Aprisa XE MIB with the MG-Soft MIB compiler there were some errors and warnings.

This was due to MG-Soft MIB compiler being much stricter than both Castle Rock and SimpleTester.

In 7.5.04, these compile errors and warnings have been corrected.

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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

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None

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### 7.2. Cross Connections Application Bug Fixes

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None

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## 8. Backward Compatibility Issues

### Hardware Variants

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

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### Link Software

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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

### Java 1.5 JRE

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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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