



Aprisa XE Software Release Notes

7.5.03

Copyright © 2005
4RF Communications Ltd
Wellington
New Zealand

April 2007

Table of Contents

1.	Introduction.....	2
2.	Released Files.....	3
3.	Upgrade Process	4
3.1.	TFTP Upgrade	4
3.2.	Synthesizer File Update	6
4.	Major Changes	6
5.	System Software.....	7
5.1.	System Software Bug Fixes	7
6.	SuperVisor.....	8
6.1.	SuperVisor Enhancements	8
6.2.	SuperVisor Bug Fixes	8
7.	Cross connections application	9
7.1.	Cross Connections Application Enhancements	9
7.2.	Cross Connections Application Bug Fixes	9
8.	Backward Compatibility Issues.....	9
9.	Recommendations.....	9

1. Introduction

Introduction

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

RF Variant	Software version	Release date
ETSI	7.3.9	5 th January 2007
FCC part 90	7.4.1	21 st December 2006
FCC part 101	7.4.2	21 st December 2006

This release of Aprisa XE software is:

RF Variant	Software version	Release date
All	7.5.03	3 rd April 2007

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 7.3.9, 7.4.1 and 7.4.2.

4RF Support

Prior to upgrading Aprisa XE terminals with this software, please contact 4RF Customer Support at 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 7.5.03.

File Name	File Type	File Function
README.txt	Information	Instructions relating to the software release
Rel_7_5_03_E0a.cfg	TFTP Upgrade	Type '7_5_03_E0a' for a 'full' TFTP upgrade for ETSI variants
Rel_7_5_03_E0.cfg	TFTP Upgrade	Type '7_5_03_E0' for a 'standard' TFTP upgrade for ETSI variants
Rel_7_5_03_E0p.cfg	TFTP Upgrade	Type '7_5_03_E0p' for a 'partial' TFTP upgrade for ETSI variants
Rel_7_5_03_F0a.cfg	TFTP Upgrade	Type '7_5_03_F0a' for a 'full' TFTP upgrade for FCC Part 90 variants
Rel_7_5_03_F0.cfg	TFTP Upgrade	Type '7_5_03_F0' for a 'standard' TFTP upgrade for FCC Part 90 variants
Rel_7_5_03_F0p.cfg	TFTP Upgrade	Type '7_5_03_F0p' for a 'partial' TFTP upgrade for FCC Part 90 variants
Rel_7_5_03_F1a.cfg	TFTP Upgrade	Type '7_5_03_F1a' for a 'full' TFTP upgrade for FCC Part 101 variants
Rel_7_5_03_F1.cfg	TFTP Upgrade	Type '7_5_03_F1' for a 'standard' TFTP upgrade for FCC Part 101 variants
Rel_7_5_03_F1p.cfg	TFTP Upgrade	Type '7_5_03_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_03a.cfg during TFTP upgrade (FPGA firmware)
M_7_3_0.cfg	Control file	Used by Rel_7_5_03_E0a.cfg during TFTP upgrade (modem ETSI)
M_7_3_4.cfg	Control file	Used by Rel_7_5_03_F0a.cfg during TFTP upgrade (modem FCC part 90)
M_7_3_5.cfg	Control file	Used by Rel_7_5_03_F1a.cfg during TFTP upgrade (modem FCC part 101)
O_7_5_0.cfg	Control file	Used by Rel_7_5_03.cfg during TFTP upgrade (FPGA firmware old)
P_7_5_0.cfg	Control file	Used by Rel_7_5_03p.cfg during TFTP upgrade (FPGA firmware partial)
R_7_5_0.cfg	Control file	Used by Rel_7_5_03a.cfg during TFTP upgrade process (RF synth files)
S_7_5_3.cfg	Control file	Used by Rel_7_5_03a.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_3.img	Software Image	Root File System
C-crossconnect_7_5_3.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_3.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_3.jar	Java Application	Cross Connect - used when running 7.1.4 or later
crossconnect_7_5_3.jar	Java Application	Cross Connect - used when running 7.0.6 or earlier
C-ccapp_exe_7_5_3.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_3.img	System	Flash File System (cannot be uploaded)
C-swi_7_5_03_E0.swi	Inventory File	ETSI variants
C-swi_7_5_03_F0.swi	Inventory File	FCC part 90 variants
C-swi_7_5_03_F1.swi	Inventory File	FCC part 101 variants
I_7_5_03_E0.cfg	Configuration	Inventory Configuration File (ETSI variants)
I_7_5_03_F0.cfg	Configuration	Inventory Configuration File (FCC part 90 variants)
I_7_5_03_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, contains an inventory file (similar to a manifest file) which is used to validate the software files in the terminal.

When upgrading terminals with software prior to 7.5.03, two methods can be used to perform the upgrade:

1. Upgrade the Root File System with SuperVisor Local > Maintenance > Upload > Software and browse to the file 'C-CC-R-7_5_3.img' and click Upload. Reboot the terminal. Perform the TFTP upgrade.
2. Perform the TFTP upgrade twice. The first time it will fail because there is no previous inventory file in the terminal. Reboot the terminal. Repeat the TFTP upgrade.

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

Upgrade Version	Upgrade Type	Variant
7_5_03_E0a	Full TFTP upgrade	ETSI
7_5_03_E0	Standard TFTP upgrade	ETSI
7_5_03_E0p	Partial TFTP upgrade	ETSI
7_5_03_F0a	Full TFTP upgrade	FCC Part 90
7_5_03_F0	Standard TFTP upgrade	FCC Part 90
7_5_03_F0p	Partial TFTP upgrade	FCC Part 90
7_5_03_F1a	Full TFTP upgrade	FCC Part 101
7_5_03_F1	Standard TFTP upgrade	FCC Part 101
7_5_03_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_03_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_03_E0'.

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

Reboot the local terminal.

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.

TFTP partial upgrade process

Run the TFTP upgrade process by typing **7_5_03_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.

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_03_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_03'** to load images for the newest DFXO and DFXS cards (rev D).
- **'F2_7_5_03'** to load images for all revisions of DFXO and DFXS cards.
- **'F3_7_5_03'** to load images for the newest Modem card (rev D).

Reboot the terminal again.

TFTP full upgrade process

Run the TFTP upgrade process by typing **'7_5_03_E0a'** in the Upgrade Version field.

Reboot the terminal.

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

This software is the first Aprisa XE software release to incorporate both ETSI and FCC variants in one build.

Major bug fixes

None

5. System Software

5.1. System Software Bug Fixes

MHSB mode TX power

Previously, when in MHSB mode, the ability of the transmitter to produce the required output power at the antenna may have been impaired due to additional loss through the coaxial switch in the MHSB RF Switch.

In 7.5.03, the TX power range has been reduced by 1dB when in MHSB mode.

FDL not looped back with a line facing loopback

Previously, in framed T1 ESF – DMS mode, the Facility Data Link (FDL) bit was looped back correctly with a 'radio facing loopback' but was not looped back correctly during a 'line facing loopback'.

This has been corrected in 7.5.03.

Change of modem interleaver mode

Previously, changing the modem interleaver mode (Local or Remote > Performance > Summary and Quick Links of Modem Performance Settings) from default to either enabled or disabled caused the failure of remote management communication.

This has been corrected in 7.5.03.

DFXS calibrate

Previously, activating the DXFS 'recalibrate' control caused, the DFXS ports input and output levels to change 0 dBr and the impedance to change to 600 ohms.

If the DFXS port is looped when the terminal is powered up, a recalibrate will occur following an on hook / off hook. This also changed the DFXS ports' settings.

This has been corrected in 7.5.03.

DFXO ringing detection impedance

Previously, the measured DFXO Ringing Detection impedance was lower than the stated specification and the SuperVisor option values of >10 MΩ and 30 kΩ.

The SuperVisor options for DFXO Ringing Detection impedance have been changed to > 1 MΩ and > 12 kΩ in 7.5.03.

QJET AIS on power-up

Previously, when a QJET initialized from power-up, the port transmitted an all zeros state and not AIS and only transmitted AIS after a link break.

AIS should be transmitted by the port on power-up unless there are local connections on the port.

This has been corrected in 7.5.03

6. SuperVisor

6.1. SuperVisor Enhancements

Single software release for variants

Previously, 4RF produced separate software releases for each of the three compliance variants (ETSI, FCC part 90, FCC part 101).

This software release and future releases incorporate the three compliance variants in one software build.

A TFTP upgrade now requires entering the variant type in the 'Upgrade Version' field e.g.

RF Variant	Upgrade Version field
ETSI	7_5_03_E0
FCC part 90	7_5_03_F0
FCC part 101	7_5_03_F1

See the 'TFTP upgrade process' paragraph above.

Software release 7.5.03 and all future software releases, contains an inventory file (similar to a manifest file) which is used to validate the software files in the terminal.

This enhancement was added in 7.5.03.

Alternate Image Table used alarm removed

The 'Alternate Image Table used alarm' and SNMP trap has been removed to prevent an alarm occurring when the terminal is working normally with the correct software.

The Image Table alarm clear option in SuperVisor menu path Link or Local or Remote > Alarms > Clear Alarms has also been removed.

This enhancement was added in 7.5.03.

6.2. SuperVisor Bug Fixes

Display of framed T1 modes

Previously, framed T1 modes on SuperVisor QJET Interface Ports Summary were incorrectly displayed e.g. 'T1 EFS – DMS' displayed as 'T1 ESF16'.

This has been corrected in 7.5.03.

7. Cross connections application

7.1. Cross Connections Application Enhancements

Addition of framed T1 Facility Data Link

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

This enhancement was added in 7.5.03.

Addition of framed T1 FPS and FDL bits in wizard

The Cross Connections Application wizard has been enhanced to allow users to cross connect the framed T1 Frame Pattern Sync (FPS) and Facility Data Link (FDL) bit.

This enhancement was added in 7.5.03.

7.2. Cross Connections Application Bug Fixes

Unframed T1 cross connections

Previously, the Cross Connections Application wizard did not setup unframed T1 cross connections.

This has been corrected in 7.5.03.

8. Backward Compatibility Issues

Hardware Variants

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

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.

9. Recommendations

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).
