



Aprisa ***XE***



Software Release Notes

Version 8.4.61

December 2010

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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	8.4.50	24 th March 2010

This release of Aprisa XE software is:

RF Variant	Software version	Release date
All	8.4.61	2 nd December 2010

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 8.4.50.

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

The following is a list of files released for Aprisa XE software version 8.4.61.

File Name	File Type	File Function
_README.txt	Information	Instructions relating to the software release
Rel_8_4_61_E0a.cfg	TFTP Upgrade	Type '8_4_61_E0a' for a 'full' TFTP upgrade for ETSI Type 1 variants
Rel_8_4_61_E0.cfg	TFTP Upgrade	Type '8_4_61_E0' for a 'standard' TFTP upgrade for ETSI Type 1 variants
Rel_8_4_61_E0p.cfg	TFTP Upgrade	Type '8_4_61_E0p' for a 'partial' TFTP upgrade for ETSI Type 1 variants
Rel_8_4_61_E1a.cfg	TFTP Upgrade	Type '8_4_61_E1a' for a 'full' TFTP upgrade for ETSI Type 2 variants
Rel_8_4_61_E1.cfg	TFTP Upgrade	Type '8_4_61_E1' for a 'standard' TFTP upgrade for ETSI Type 2 variants
Rel_8_4_61_E1p.cfg	TFTP Upgrade	Type '8_4_61_E1p' for a 'partial' TFTP upgrade for ETSI Type 2 variants
Rel_8_4_61_F0a.cfg	TFTP Upgrade	Type '8_4_61_F0a' for a 'full' TFTP upgrade for FCC Part 90 variants
Rel_8_4_61_F0.cfg	TFTP Upgrade	Type '8_4_61_F0' for a 'standard' TFTP upgrade for FCC Part 90 variants
Rel_8_4_61_F0p.cfg	TFTP Upgrade	Type '8_4_61_F0p' for a 'partial' TFTP upgrade for FCC Part 90 variants
Rel_8_4_61_F1.cfg	TFTP Upgrade	Type '8_4_61_F1' for a 'standard' TFTP upgrade for FCC Part 101 variants
Rel_8_4_61_F1a.cfg	TFTP Upgrade	Type '8_4_61_F1a' for a 'full' TFTP upgrade for FCC Part 101 variants
Rel_8_4_61_F1p.cfg	TFTP Upgrade	Type '8_4_61_F1p' for a 'partial' TFTP upgrade for FCC Part 101 variants
F1_8_4_6.cfg	TFTP Upgrade	Used to load images for the newest DFXO and DFXS cards (rev D)
F2_8_4_6.cfg	TFTP Upgrade	Used to load images for all revisions of DFXO and DFXS cards
F3_8_4_6.cfg	TFTP Upgrade	Used to load images for the newest Modem card (rev D)
F_8_4_6.cfg	Control file	Used for TFTP upgrade (FPGA firmware)
FH_8_4_6.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_4_6.cfg	Control file	Used for TFTP upgrade (FPGA firmware old)
P_8_4_6.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_4_6.cfg	Control file	Used for TFTP upgrade process (software)
X_8_4_6.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_E1-1-7-3.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_4_6.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_4_6.cfg	Configuration	List of HSD common parameter OIDs
snmp_exclude_8_4_6.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_4_6.cfg	Configuration	Cross Connect upgrade file
C-crossconnect_8_4_6.jar	Java Application	Cross Connect application - used when running 7.1.4 or later
C-ccapp_exe_8_4_6.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_4_6.img	System	Flash File System (cannot be uploaded)
C-swi_8_4_61_E0.swi	Inventory File	ETSI Type 1 variants
C-swi_8_4_61_E1.swi	Inventory File	ETSI Type 2 variants
C-swi_8_4_61_EA.swi	Inventory File	ETSI Type 1 variants HSD
C-swi_8_4_61_EB.swi	Inventory File	ETSI Type 2 variants HSD
C-swi_8_4_61_F0.swi	Inventory File	FCC part 90 variants
C-swi_8_4_61_F1.swi	Inventory File	FCC part 101 variants
I_8_4_61_E0.cfg	Configuration	Inventory Configuration File (ETSI Type 1 variants)
I_8_4_61_EA.cfg	Configuration	Inventory Configuration File (HSD ETSI Type 1 variants)
I_8_4_61_E1.cfg	Configuration	Inventory Configuration File (ETSI Type 2 variants)
I_8_4_61_EB.cfg	Configuration	Inventory Configuration File (HSD ETSI Type 2 variants)
I_8_4_61_F0.cfg	Configuration	Inventory Configuration File (FCC part 90 variants)
I_8_4_61_F1.cfg	Configuration	Inventory Configuration File (FCC part 101 variants)
C-alarm_history_8_4_6.cfg	Configuration	Alarm Logging upgrade file
C-alarm_history_8_4_6.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

3.1. TFTP Upgrade

Alarm History File

Software release 8.3.40, and all future software releases, contains an Alarm History application which is used to collect and export the last 9,000 alarms. A special upgrade procedure is required to initiate the Alarm History application.

When upgrading terminals with software prior to 8.3.40:

1. Login to the near end terminal.
2. Upgrade the Root File System with SuperVisor Local > Maintenance > Upload > Software by and browse to the file 'C-CC-R-8_4_6.img'. Click Upload.
3. Activate the 'C-CC-R-8_4_6.img' with SuperVisor Local > Maintenance > Image Table.
4. Reboot the terminal.
5. Perform the TFTP standard upgrade process.
6. Clear the Java and web browser caches (see Aprisa XE User Manual 'TFTP Upgrade Process').

Upgrade File Usage

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

Upgrade Version	Upgrade Type	Variant
8_4_61_E0a	Full TFTP upgrade	ETSI TYPE 1
8_4_61_E0	Standard TFTP upgrade	ETSI TYPE 1
8_4_61_E0p	Partial TFTP upgrade	ETSI TYPE 1
8_4_61_E1a	Full TFTP upgrade	ETSI TYPE 2
8_4_61_E1	Standard TFTP upgrade	ETSI TYPE 2
8_4_61_E1p	Partial TFTP upgrade	ETSI TYPE 2
8_4_61_F0a	Full TFTP upgrade	FCC Part 90
8_4_61_F0	Standard TFTP upgrade	FCC Part 90
8_4_61_F0p	Partial TFTP upgrade	FCC Part 90
8_4_61_F1a	Full TFTP upgrade	FCC Part 101
8_4_61_F1	Standard TFTP upgrade	FCC Part 101
8_4_61_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 server 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. '8_4_61_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. '8_4_61_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 8_4_61_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 '**8_4_61_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_4_6**' to load images for the newer DFXO and DFXS cards (rev D).
- '**F2_8_4_6**' to load images for all revisions of DFXO and DFXS cards.
- '**F3_8_4_6**' 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 '**8_4_61_E0a**' in the Upgrade Version field.

Reboot the terminal.

4. Enhancements

4.1. Major Enhancements

Q.24 Synchronous Over Sampling Mode

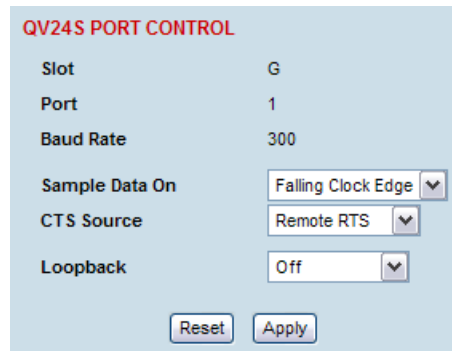
A new over sampling mode has been added to the QV24S synchronous interface.

In synchronous mode, interface data is synchronously mapped to radio capacity using proprietary subrate multiplexing. QV24S interfaces are required at both ends of the circuit.

In over sampling mode, 64 kbit/s of radio capacity is allocated to the circuit and the incoming interface data is sampled at a fixed 64 kHz. This timeslot can be cross connected to an E1 or T1. This over sampling mode can be operated up to 19.2 kbit/s.

There will be some unavoidable distortion in mark space ratios (jitter) of the transported V.24 circuit. This effect will become progressively more significant as the baud rate of the V.24 circuit increases or the number of data conversions increases.

In SuperVisor, the QV24S Port Control has a 'CTS Source' parameter.



QV24S PORT CONTROL	
Slot	G
Port	1
Baud Rate	300
Sample Data On	Falling Clock Edge
CTS Source	Remote RTS
Loopback	Off

Reset Apply

In over sampling mode, the 'CTS Source' 'Remote RTS' option is not available and may cause a SuperVisor error if selected. This error is not traffic affecting and will be corrected in a subsequent software release.

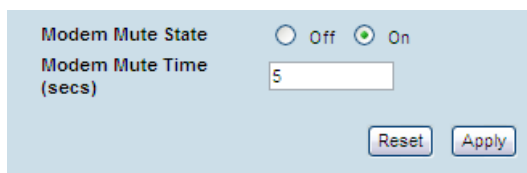
Modem Mute Mode

The Aprisa XE radio always mutes its interface ports when the modem loses lock.

A Modem Mute feature has been added that mutes the interface ports when the modem Reed Solomon forward error correction capability can no longer correct errors.

This can occur when the signal strength of the RF link reduces to within about 2 dB of the theoretical sensitivity of the radio or when the radio is operating well above the sensitivity threshold but is in an environment subject to impulse noise interference on the RF path.

This feature is controlled in SuperVisor Link or Local or Remote > Terminal > Modem Modem Performance Settings. The default setting is off.



The image shows a configuration window for 'Modem Mute State'. It has two radio buttons: 'Off' and 'On', with 'On' selected. Below this is a text field for 'Modem Mute Time (secs)' containing the value '5'. At the bottom right are 'Reset' and 'Apply' buttons.

When the mute activates;

- On the analog cards, Q4EM, DFXS and DFXO, the audio path mutes and the signalling states go idle.
- On the digital cards, QV24 and HSS, it causes an all ones data pattern to be driven on the RXD output line and handshake lines such as RTS / CTS to their off states while on the QJET card it forces the ports to an AIS state.

The Modem Mute feature effectively reduces the radio receiver sensitivity by 2 to 3 dB from its published values but will prevent errors from corrupting the tributary audio circuits.

Note: The Modem Mute feature is only available if the radio modem is Rev D or later.

4.2. Minor Enhancements

None

5. Bug Fixes

5.1. Major Bug Fixes

None

5.2. Minor Bug Fixes

None
