



Aprisa XE Software Release Notes

8.3.40

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4RF Communications Ltd

Wellington

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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	8.2.10	18 th June 2008

This release of Aprisa XE software is:

RF Variant	Software version	Release date
All	8.3.40	11 th June 2009

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 8.2.10.

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 8.3.40.

File Name	File Type	File Function
_README.txt	Information	Instructions relating to the software release
Rel_8_3_40_E0a.cfg	TFTP Upgrade	Type '8_3_40_E0a' for a 'full' TFTP upgrade for ETSI variants
Rel_8_3_40_E0.cfg	TFTP Upgrade	Type '8_3_40_E0' for a 'standard' TFTP upgrade for ETSI variants
Rel_8_3_40_E0h.cfg	TFTP Upgrade	Type '8_3_40_E0' for a 'standard' TFTP upgrade for HSD ETSI variants
Rel_8_3_40_E0p.cfg	TFTP Upgrade	Type '8_3_40_E0p' for a 'partial' TFTP upgrade for ETSI variants
Rel_8_3_40_F0a.cfg	TFTP Upgrade	Type '8_3_40_F0a' for a 'full' TFTP upgrade for FCC Part 90 variants
Rel_8_3_40_F0.cfg	TFTP Upgrade	Type '8_3_40_F0' for a 'standard' TFTP upgrade for FCC Part 90 variants
Rel_8_3_40_F0p.cfg	TFTP Upgrade	Type '8_3_40_F0p' for a 'partial' TFTP upgrade for FCC Part 90 variants
Rel_8_3_40_F1.cfg	TFTP Upgrade	Type '8_3_40_F1' for a 'standard' TFTP upgrade for FCC Part 101 variants
Rel_8_3_40_F1a.cfg	TFTP Upgrade	Type '8_3_40_F1a' for a 'full' TFTP upgrade for FCC Part 101 variants
Rel_8_3_40_F1p.cfg	TFTP Upgrade	Type '8_3_40_F1p' for a 'partial' TFTP upgrade for FCC Part 101 variants
F1_8_3_0.cfg	TFTP Upgrade	Used to load images for the newest DFXO and DFXS cards (rev D)
F2_8_3_0.cfg	TFTP Upgrade	Used to load images for all revisions of DFXO and DFXS cards
F3_8_3_0.cfg	TFTP Upgrade	Used to load images for the newest Modem card (rev D)
F_8_3_0.cfg	Control file	Used for TFTP upgrade (FPGA firmware)
FH_8_3_0.cfg	Control file	Used for TFTP upgrade (HSD)
M_7_3_0.cfg	Control file	Used for TFTP upgrade (modem ETSI)
M_8_2_0.cfg	Control file	Used for TFTP upgrade (modem HSD ETSI)
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_3_0.cfg	Control file	Used for TFTP upgrade (FPGA firmware old)
P_8_3_0.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_3_4.cfg	Control file	Used for TFTP upgrade process (software)
X_8_3_4.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_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
C-fpga_EA-0-5-2.img	Firmware Image	Modem image file
C-fpga_EA-1-0-2.img	Firmware Image	Modem image file
C-fpga_EB-0-1-1.img	Firmware Image	QV24 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_3_4.img	Software Image	Root File System

Released Files (cont)

File Name	File Type	File Function
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)
modem_8_2_0.cfg	Configuration	Modem Upgrade file (All ETSI variants)
compare_oids_8_3_4.cfg	Configuration	List of HSD common parameter OIDs
snmp_exclude_8_3_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_8_3_4.cfg	Configuration	Cross Connect upgrade file
C-crossconnect_8_3_4.jar	Java Application	Cross Connect application - used when running 7.1.4 or later
C-ccapp_exe_8_3_4.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_3_4.img	System	Flash File System (cannot be uploaded)
C-swi_8_3_40_E0.swi	Inventory File	ETSI variants
C-swi_8_3_40_EA.swi	Inventory File	ETSI variants HSD
C-swi_8_3_40_F0.swi	Inventory File	FCC part 90 variants
C-swi_8_3_40_F1.swi	Inventory File	FCC part 101 variants
I_8_3_40_E0.cfg	Configuration	Inventory Configuration File (ETSI variants)
I_8_3_40_EA.cfg	Configuration	Inventory Configuration File (HSD ETSI variants)
I_8_3_40_F0.cfg	Configuration	Inventory Configuration File (FCC part 90 variants)
I_8_3_40_F1.cfg	Configuration	Inventory Configuration File (FCC part 101 variants)
C-alarm_history_8_3_4.cfg	Configuration	Alarm Logging upgrade file
C-alarm_history_8_3_4.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. 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 13,000 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_3_4.img'. Click Upload.
3. Activate the 'C-CC-R-8_3_4.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_3_40_E0a	Full TFTP upgrade	ETSI
8_3_40_E0	Standard TFTP upgrade	ETSI
8_3_40_E0h	Standard TFTP upgrade	ETSI HSD
8_3_40_E0p	Partial TFTP upgrade	ETSI
8_3_40_F0a	Full TFTP upgrade	FCC Part 90
8_3_40_F0	Standard TFTP upgrade	FCC Part 90
8_3_40_F0p	Partial TFTP upgrade	FCC Part 90
8_3_40_F1a	Full TFTP upgrade	FCC Part 101
8_3_40_F1	Standard TFTP upgrade	FCC Part 101
8_3_40_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. '8_3_40_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_3_40_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_3_40_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_3_40_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_3_0' to load images for the newer DFXO and DFXS cards (rev D).
- 'F2_8_3_0' to load images for all revisions of DFXO and DFXS cards.
- 'F3_8_3_0' 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_3_40_E0a' in the Upgrade Version field.

Reboot the terminal.

4. Major Changes

Major enhancements

Clocking configuration settings

Major bug fixes

None

Minor bug fixes

HSS clocking modes
Soft reboot causing traffic hits

5. System Software

5.1. System Software Changes

None

5.2. System Software Bug Fixes

Soft reboot causing traffic hits

Previously, a terminal soft reboot caused traffic hits on interface cards QV24, Q4EM, DFXO and DFXS interface cards.
This bug has been corrected in software version 8.3.40.

6. SuperVisor

6.1. SuperVisor Enhancements

Clocking configuration settings

Previously, setting the terminal clocking to clock from the network was a multi-step process.
The terminal clock was first set to 'Network' and then an input port had to be defined as the 'primary clock source' or 'secondary clock source' but this could only occur if a cross connection had been setup on the port.
This process often involved switching between screens to setup the terminal clocking.
In software version 8.3.40, the terminal clocking is setup with one screen. See Aprisa XE User Manual 8.3.40 for more information.

128 QAM option

128 QAM was added to 8.2.10 release of SuperVisor as 4RF was preparing to add 128 QAM in the product range. This 128 QAM option has now been removed from SuperVisor. This includes the menu items Local > Terminal > Basic and Local > Alarms > RSSI Thresholds.

QJET unused port settings

Previously, QJET unused ports (PCM Mode off) displayed traffic 'type' of E1 on the QJET Interface Ports Summary. The type has been changed to 'None' for unused ports in software version 8.3.40.

QV24 unused port settings

Previously, QV24 unused ports displayed a 'baud rate' of 300 on the QV24 Port Summary. A value of 'Off' has been added to the V.24 baud rate list so that unused ports display a baud rate of 'off' in software version 8.3.40.

Duplexer parameter entry

Previously, TX and RX frequencies entered could not be completely validated as the duplexer parameters were unknown by SuperVisor.

In software version 8.3.40, the following duplexer parameters are entered into a SuperVisor page Link or Local or Remote > Terminal > Duplexer:

- High port centre frequency (MHz)
- Low port centre frequency (MHz)
- Passband (MHz)
- Transmit High or Transmit Low
- Serial Number

There is now a warning message if the TX or RX frequency entered is outside the operating range of the duplexer passband / terminal channel size. The entered frequency can be accepted or rejected.

These parameters can be re-entered if the duplexer is changed at any time.

Improved alarm history

Previously, the alarm history for the radio was stored in a rolling buffer and could be saved to a *.cvs file with Local or Remote > Alarms > Save History. This alarm history was limited to the last 600 alarms.

In software version 8.3.40, the alarm history has been increased to collect and export the last 13,000 alarms.

Login alarm

In software version 8.3.40, a login alarm and SNMP event is generated to indicate that someone else has logged into and could be working on the same link.

The login alarm and a 'number of users logged in' indicator is shown on SuperVisor summary bar.

Simultaneous changing of remote radio parameters

Previously, if two fundamental radio parameters (RX and TX frequency or modulation) are changed on the remote terminal in the same apply action (simultaneously), only one parameter actually gets changed. This is because the communications link to the remote terminal is lost with the change in radio parameter.

In software version 8.1.02, a two second delay was added between the remote terminal receiving the command and actioning it to allow for subsequent commands to be received before the communications link is lost. This solution only worked if the 2 seconds was long enough for all of the commands to be received at the remote terminal.

In software version 8.3.40, the problem has been solved by the remote terminal not actioning the TX, RX or Mod change OIDs until an 'activate' OID is received.

SNMP users need to be aware that from software version 8.3.40, they have to set this extra OID 'aprisaXETerminalTxRxModActivate' after setting a;

```
aprisaXETransmitterFrequency
aprisaXEReceiverFrequency
aprisaXETerminalModulationState
```

6.2. SuperVisor Bug Fixes

DHCP function not working

The Aprisa XE DHCP function does not work i.e. if the IP Assignment was set to 'DHCP', the Aprisa XE did not seek an IP address from the DHCP server.

The DHCP IP Assignment option was considered unnecessary, so the SuperVisor option Local or Remote or Link > Terminal > Advanced > IP Assignment option has been removed.

The Aprisa XE now always uses a Static IP address.

X.21 Flow Control designations

Previously, the Flow Control handshake line label designation on SuperVisor Local or Remote > Interface > Interface Summary > HSS Port Settings displayed 'RTS CTS mode' for all data interfaces.

In software version 8.3.40, the Flow Control label designation has been changed to 'C I mode' when the data interface is X.21.

7. Cross connections application

7.1. Cross Connections Application Enhancements

Hotline circuit

A 'Hotline' circuit can be provisioned over an Aprisa XE link by using a DFXS interface card at both ends of the link. When one phone goes off hook, the other phone rings and vice versa.

The cross connect application will now allow DFXS to DFXS cross connections to provision the hotline circuit. This cross connection uses a 1 bit CAS protocol (4 wire compatible mode signalling using the A bit) to signal between the DFXS interfaces.

7.2. Cross Connections Application Bug Fixes

HSS clocking modes

Previously in HSS Pipe Mode (DTE to DCE), the designation for mode 5 was shown as
'XTxC → Rx C - 40 kbit/s overhead'

but operated as

'RxC → Rx C - 40 kbit/s overhead'

Mode 7 'RxC → Rx C - 40 kbit/s overhead' has been added to the Cross Connection HSS mode list in software version 8.3.40.

8. SNMP

8.1. SNMP Changes

Simultaneous changing of remote radio parameters

In order to activate changes to TX Freq, RX Freq or Modulation, SNMP users need to be aware that from software version 8.3.40, they have to set this extra OID 'aprisaXETerminalTxRxModActivate' after setting a;

aprisaXETransmitterFrequency

aprisaXEReceiverFrequency

aprisaXETerminalModulationState

Login alarm

There is a new OID 'fourRFSysNumUserSessions' to get the number of users logged into a link.

Duplexer parameters

There are new OIDs for setting and getting the duplexer parameters:

aprisaXEDuplexerHighPortCentreFrequency

aprisaXEDuplexerLowPortCentreFrequency

aprisaXEDuplexerPassBand

aprisaXEDuplexerHighPortUse

aprisaXEDuplexerSerialNumber

aprisaXEDuplexerSettingsGroup

9. SETUP MENU

9.1. Setup Menu Changes

DHCP function not working

Setup Menu item 2) 'Use DHCP configuration' has been deleted due to the removal of the DHCP function from SuperVisor.

10. Recommendations

Java 1.6 JRE

That all PCs running the Aprisa XE support software, SuperVisor and the Cross Connections application be upgraded to Java 1.6 JRE (JVM).
