



Aprisa XE Software Release Notes

8.1.02

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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	8.0.03	19 th November 2007

This release of Aprisa XE software is:

RF Variant	Software version	Release date
All	8.1.02	20 th December 2007

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 8.0.03.

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 8.1.02.

File Name	File Type	File Function
README.txt	Information	Instructions relating to the software release
Rel_8_1_02_E0a.cfg	TFTP Upgrade	Type '8_1_02_E0a' for a 'full' TFTP upgrade for ETSI variants
Rel_8_1_02_E0.cfg	TFTP Upgrade	Type '8_1_02_E0' for a 'standard' TFTP upgrade for ETSI variants
Rel_8_1_02_E0h.cfg	TFTP Upgrade	Type '8_1_02_E0' for a 'standard' TFTP upgrade for HSD ETSI variants
Rel_8_1_02_E0p.cfg	TFTP Upgrade	Type '8_1_02_E0p' for a 'partial' TFTP upgrade for ETSI variants
Rel_8_1_02_F0a.cfg	TFTP Upgrade	Type '8_1_02_F0a' for a 'full' TFTP upgrade for FCC Part 90 variants
Rel_8_1_02_F0.cfg	TFTP Upgrade	Type '8_1_02_F0' for a 'standard' TFTP upgrade for FCC Part 90 variants
Rel_8_1_02_F0p.cfg	TFTP Upgrade	Type '8_1_02_F0p' for a 'partial' TFTP upgrade for FCC Part 90 variants
Rel_8_1_02_F1.cfg	TFTP Upgrade	Type '8_1_02_F1' for a 'standard' TFTP upgrade for FCC Part 101 variants
Rel_8_1_02_F1a.cfg	TFTP Upgrade	Type '8_1_02_F1a' for a 'full' TFTP upgrade for FCC Part 101 variants
Rel_8_1_02_F1p.cfg	TFTP Upgrade	Type '8_1_02_F1p' for a 'partial' TFTP upgrade for FCC Part 101 variants
F1_8_1_2.cfg	TFTP Upgrade	Used to load images for the newest DFXO and DFXS cards (rev D)
F2_8_1_2.cfg	TFTP Upgrade	Used to load images for all revisions of DFXO and DFXS cards
F3_8_1_2.cfg	TFTP Upgrade	Used to load images for the newest Modem card (rev D)
F_8_1_2.cfg	Control file	Used by Rel_8_1_02a.cfg during TFTP upgrade (FPGA firmware)
FH_8_1_2.cfg	Control file	Used by Rel_8_1_02h.cfg during TFTP upgrade (HSD)
M_7_3_0.cfg	Control file	Used by Rel_8_1_02_E0a.cfg during TFTP upgrade (modem ETSI)
M_7_3_4.cfg	Control file	Used by Rel_8_1_02_F0a.cfg during TFTP upgrade (modem FCC part 90)
M_7_3_5.cfg	Control file	Used by Rel_8_1_02_F1a.cfg during TFTP upgrade (modem FCC part 101)
M_8_0_1.cfg	Control file	Used by Rel_8_1_02_E0h.cfg during TFTP upgrade (modem HSD ETSI)
M_8_0_2.cfg	Control file	Used by Rel_8_1_02_F0h.cfg during TFTP upgrade (modem FCC part 90 HSD)
M_8_0_3.cfg	Control file	Used by Rel_8_1_02_F1h.cfg during TFTP upgrade (modem FCC part 101 HSD)
O_8_1_2.cfg	Control file	Used by Rel_8_1_02.cfg during TFTP upgrade (FPGA firmware old)
P_8_1_2.cfg	Control file	Used by Rel_8_1_02p.cfg during TFTP upgrade (FPGA firmware partial)
R_8_1_2.cfg	Control file	Used by Rel_8_1_02a.cfg during TFTP upgrade process (RF synth files)
S_8_1_2.cfg	Control file	Used by Rel_8_1_02a.cfg during TFTP upgrade process (software)
X_8_1_2.cfg	Control file	Used by Rel_8_1_02a.cfg during TFTP upgrade process (SNMP)
C-fpga_C5-0-8-5.img	Firmware Image	SJET image file
C-fpga_D5-0-8-5.img	Firmware Image	DJET image file
C-fpga_E1-0-7-0.img	Firmware Image	Motherboard 1 rev C image file
C-fpga_E1-1-7-2.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_E8-3-5-2.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-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_1_2.img	Software Image	Root File System

Released Files (cont)

File Name	File Type	File Function
C-crossconnect_8_1_2.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)
modem_8_0_1.cfg	Configuration	Modem Upgrade file (HSD ETSI variants)
compare_oids_8_1_2.cfg	Configuration	List of HSD common parameter OIDs
snmp_exclude_8_1_2.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_1_2.jar	Java Application	Cross Connect - used when running 7.1.4 or later
crossconnect_8_1_2.jar	Java Application	Cross Connect - used when running 7.0.6 or earlier
C-ccapp_exe_8_1_2.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_2.srec	System	Bootloader for rev D motherboard (cannot be uploaded)
C-CC-F-8_1_2.img	System	Flash File System (cannot be uploaded)
C-swi_8_1_02_E0.swi	Inventory File	ETSI variants
C-swi_8_1_02_EA.swi	Inventory File	HSD ETSI variants
C-swi_8_1_02_F0.swi	Inventory File	FCC part 90 variants
C-swi_8_1_02_FA.swi	Inventory File	FCC part 90 variants HSD
C-swi_8_1_02_F1.swi	Inventory File	FCC part 101 variants
C-swi_8_1_02_FB.swi	Inventory File	FCC part 101 variants HSD
I_8_1_02_E0.cfg	Configuration	Inventory Configuration File (ETSI variants)
I_8_1_02_EA.cfg	Configuration	Inventory Configuration File (HSD ETSI variants)
I_8_1_02_F0.cfg	Configuration	Inventory Configuration File (FCC part 90 variants)
I_8_1_02_FA.cfg	Configuration	Inventory Configuration File (FCC part 90 variants HSD)
I_8_1_02_F1.cfg	Configuration	Inventory Configuration File (FCC part 101 variants)
I_8_1_02_FB.cfg	Configuration	Inventory Configuration File (FCC part 101 variants HSD)
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-8_1_2.img'. Click Upload.
2. Activate the 'C-CC-R-8_1_2.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
8_1_02_E0a	Full TFTP upgrade	ETSI
8_1_02_E0	Standard TFTP upgrade	ETSI
8_1_02_E0h	Standard TFTP upgrade	HSD ETSI
8_1_02_E0p	Partial TFTP upgrade	ETSI
8_1_02_F0a	Full TFTP upgrade	FCC Part 90
8_1_02_F0	Standard TFTP upgrade	FCC Part 90
8_1_02_F0p	Partial TFTP upgrade	FCC Part 90
8_1_02_F0h	Standard TFTP upgrade	FCC Part 90 HSD
8_1_02_F1a	Full TFTP upgrade	FCC Part 101
8_1_02_F1	Standard TFTP upgrade	FCC Part 101
8_1_02_F1p	Partial TFTP upgrade	FCC Part 101
8_1_02_F1h	Standard TFTP upgrade	FCC Part 101 HSD

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_1_02_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_1_02_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_1_02_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_1_02_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_1_02' to load images for the newest DFXO and DFXS cards (rev D).
- 'F2_8_1_02' to load images for all revisions of DFXO and DFXS cards.
- 'F3_8_1_02' 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_1_02_E0a' in the Upgrade Version field.

Reboot the terminal.

4. Major Changes

Major enhancements

Support for increased ethernet capacity and replacement FLASH memory.

Major bug fixes

None

5. System Software

5.1. System Software Changes

Increased Ethernet capacity

The new rev D motherboard is capable of supporting a maximum of 49152 kbit/s Ethernet capacity.

Software version 8.1.02 will provide support for the increased ethernet capacity.

Increased FLASH memory capacity

The AMD MirrorBit FLASH has been made obsolete by the manufacturer.

The rev D motherboard footprint has been changed to support the newer Spansion FLASH memory.

Software version 8.1.02 will provide support for the replacement FLASH memory on the new rev D motherboard but will also run on the previous rev C motherboard.

5.2. System Software Bug Fixes

SNMP obsolete OIDs

Some SNMP OIDs are obsolete or no longer required but their status has not been changed from 'current' to 'obsolete' in the MIB.

In software version 8.1.02, a SNMP config file (snmp_obsolete_exclude.conf) has been included, which will make appropriate entries in the snmpd.conf file at run time.

Ethernet storm during RF loopback

When an RF loopback is activated, the ethernet path is disabled to prevent ethernet loopbacks.

Currently, if the radio RF loopback is activated and then the radio is rebooted, when the radio software restores, the RF loopback reactivates but the software is unaware of the RF loopback. The ethernet is consequently in loopback causing a broadcast storm.

In software version 8.1.02, the RF loopback is deactivated when the radio is rebooted.

6. SuperVisor

6.1. SuperVisor Enhancements

Improved alarm history

Currently the alarm history for the radio is limited to 128 alarms, of which only 50 are displayed through SuperVisor, with the remainder available only via SNMP.

In software version 8.1.02, an alarm history file will be generated in memory which can be downloaded as required.

The last 600 alarms are stored in a rolling buffer which can be saved as a *.csv file (default filename is savedAlarmHistory.csv).

Performance history

In software version 8.1.02, link performance history data is stored in a rolling buffer which can be saved as a *.csv file. The maximum history data buffer is 1 week of 1 hour records and the last hour is displayed in minute records.

The parameters saved are:

- Date / Time
 - SNR (minimum over period)
 - SNR (average over period)
 - SNR (maximum over period)
 - RSSI (minimum over period)
 - RSSI (average over period)
 - RSSI (maximum over period)
 - BER (value at end of period)
 - UCEs count (value at end of period)
 - Transmitter temperature (value at end of period)
-

6.2. SuperVisor Bug Fixes

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 sec delay has been added between receiving the command and actioning it to allow for subsequent commands to be received before the communications link is lost.

7. Cross connections application

7.1. Cross Connections Application Enhancements

CAS spare bit control

The Aprisa XE can currently provide E1 CAS to DFXS circuits using the 1 bit '4 wire compatible' signalling mode (uses the CAS A bit) but to enable some exchange DTIs to operate, we must be able to set the state of the spare CAS bits sent to the exchange.

In software version 8.1.02, the cross connections application allows the state of QJET CAS bits to be set on all channels on an E1 (PCM30 modes only).

e.g. the standard 1 bit protocol spare bit pattern is BCD = 101.

7.2. Cross Connections Application Bug Fixes

HSS data rate unit missing

The HSS data rate setup box does not show the units of entry.

In software version 8.1.02, the HSS data label includes the unit 'kbit/s'.

Also, all references of 'bps' have been changed to the correct ITU unit 'bit/s'.

7.3. Setup Menu Changes

'Reset to defaults' menu option removed

The Setup menu item 8 'Reset to defaults', was a global settings reset which reset many radio settings. These included ethernet settings, SNMP settings, IP Address settings and WebServer settings. Restoring the settings was a difficult process.

In software version 8.1.02, the 'Reset to defaults' function has been removed and the menu item 8 has been renamed to 'Not used'. If item 8 is selected, the text 'This option is not used' is now displayed and the user is returned to the main menu.

The individual settings can be reset to defaults with the following commands:

The ethernet settings can be reset to defaults with:

10) Configure Ethernet 1) Reset Ethernet to defaults

The SNMP settings can be reset to defaults with:

4) Configure SNMP 5) Reset to defaults

The WebServer settings can be reset to defaults with:

7) Reset web server users

The IP Address settings can be changed with:

3) Configure IP addresses

8. 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).
