



Aprisa **XE**



Software Release Notes

Version 8.8.55

August 2015

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1. Introduction

Aprisa XE software release 8.8.55 is a general availability release.

Introduction

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

RF Variant	Software version	Release date
All	8.6.90	19 th February 2014

This release of Aprisa XE software is:

RF Variant	Software version	Release date
All	8.8.55	10 th August 2015

This document covers the major changes, product enhancements, new functionality, bug fixes and MIB changes since Aprisa XE software version 8.6.90.

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.

Released Files (cont)

File Name	File Type	File Function
modem_7_3_4.cfg	Configuration	Modem Upgrade file (FCC part 90 variants)
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_8_6_1.cfg	Configuration	Modem Upgrade file (FCC part 101 variants)
modem_8_6_2.cfg	Configuration	Modem Upgrade file (IC variants)
compare_oids_8_8_5.cfg	Configuration	List of HSD common parameter OIDs
snmp_exclude_8_8_5.cfg	Configuration	Used by system for Aprisa XS / Aprisa XE OID exclusion
XE_1400_synth.cfg	Configuration	Synthesizer Upgrade file for 1400 MHz frequency band
XE_1400TCVR_synth.cfg	Configuration	Synthesizer Upgrade file for 1400 MHz frequency band - new transceiver
XE_1800_synth.cfg	Configuration	Synthesizer Upgrade file for 1800 MHz frequency band
XE_2000_2500_synth.cfg	Configuration	Synthesizer Upgrade file for 2000, 2500 MHz frequency bands
XE_300_400_type_1_synth.cfg	Configuration	Synthesizer Upgrade file for 300, 400 MHz frequency bands - BB synthesizer
XE_300_400_type_2_synth.cfg	Configuration	Synthesizer Upgrade file for 300, 400 MHz frequency bands - E3 synthesizer
XE_300_400_type_3_synth.cfg	Configuration	Synthesizer Upgrade file for 300, 400 MHz frequency bands - 5 kHz Synthesizer Step
XE_600_700_800_900_synth.cfg	Configuration	Synthesizer Upgrade file for 600, 700, 800, 900 MHz frequency bands
XE_900TCVR_synth.cfg	Configuration	Synthesizer Upgrade file for 900 MHz frequency bands - new transceiver
C-crossconnect_8_8_5.cfg	Configuration	Cross Connect upgrade file
C-crossconnect_8_8_5.jar	Java Application	Cross Connect application - used when running 7.1.4 or later
C-ccapp_exe_8_8_5.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_8_5.img	System	Flash File System (cannot be uploaded)
C-swi_8_8_55_C0.swi	Inventory File	IC variants
C-swi_8_8_55_E0.swi	Inventory File	ETSI Type 1 variants
C-swi_8_8_55_E1.swi	Inventory File	ETSI Type 2 variants
C-swi_8_8_55_EA.swi	Inventory File	ETSI Type 1 variants HSD
C-swi_8_8_55_EB.swi	Inventory File	ETSI Type 2 variants HSD
C-swi_8_8_55_F0.swi	Inventory File	FCC part 90 variants
C-swi_8_8_55_F1.swi	Inventory File	FCC part 101 variants
I_8_8_55_E0.cfg	Configuration	Inventory Configuration File (ETSI Type 1 variants)
I_8_8_55_EA.cfg	Configuration	Inventory Configuration File (HSD ETSI Type 1 variants)
I_8_8_55_E1.cfg	Configuration	Inventory Configuration File (ETSI Type 2 variants)
I_8_8_55_EB.cfg	Configuration	Inventory Configuration File (HSD ETSI Type 2 variants)
I_8_8_55_F0.cfg	Configuration	Inventory Configuration File (FCC part 90 variants)
I_8_8_55_F1.cfg	Configuration	Inventory Configuration File (FCC part 101 variants)
I_8_8_55_C0.cfg	Configuration	Inventory Configuration File (IC variants)
C-alarm_history_8_8_5.cfg	Configuration	Alarm Logging upgrade file
C-alarm_history_8_8_5.jar	Java Application	Alarm Logging application
4RF-MIB.mib	SNMP MIB file	Top level MIB
4RF-COMMON-MIB.mib	SNMP MIB file	Common MIB
4RF-COMMON-TC.mib	SNMP MIB file	Common Textual Conventions MIB
4RF-PRODUCTS-MIB.mib	SNMP MIB file	Products MIB
4RF-SECURITY-MIB.mib	SNMP MIB file	Security MIB
4RF-SESSIONS-MIB.mib	SNMP MIB file	Sessions MIB
4RF-APRISAXE-EVENTS.mib	SNMP MIB file	Aprisa XE Events MIB
4RF-APRISAXE-MIB.mib	SNMP MIB file	Aprisa XE MIB
4RF-APRISAXE-TC.mib	SNMP MIB file	Aprisa XE Textual Conventions MIB

3. Enhancements

3.1. Major Enhancements

QETH Interface Card

In software version 8.8.55, support has been added for the Quad port Ethernet interface card (QETH) supporting 10Base-T or 100Base-TX for transport of user Ethernet traffic.

The QETH features are:

- Layer 2 Ethernet / VLAN Switch conforming to 802.1D/Q supporting standard LAN networks
- Traffic segregation with transparent VLAN and per port VLAN tagging for user and management traffic.
- QoS support for tight traffic control with per packet prioritization, scheduling and priority queuing. Priority can be either per port or per packet and scheduling can be either strict priority or weighted priority. Ingress rate limiting per port (up to 8 Mbit/s) can be used to protect against buffer flooding.

See Aprisa XE User Manual 8.8.55 for more information.

RADIUS Security

In software version 8.8.55, RADIUS security has been added to provide centralized Authentication, Authorization, and Accounting management for users.

RADIUS is a client / server system that secures the Aprisa XE radio network against unauthorized access. It is based on open standard RFCs: RFC 2865/6, 5607, 5080 and 2869.

3.2. Minor Enhancements

SuperVisor Java Security

In software version 8.8.55, all Java security issues have been resolved by eliminating the use of Java applets.

The Cross Connect and the Alarm History Download are both Java applications but do not have security issues. These applications will operate correctly with Java versions 1.6, 1.7 and 1.8.

When the application is requested from SuperVisor, the following warning message will advise the Java Security settings required;



Disable CLI via SNMP

In software version 8.8.55, the Command Line Interface (CLI) can now be disabled with a SNMP command. See the 4RF MIB for more information.

[New Information
Alarm Log
Events](#)

In software version 8.8.55, two new information alarm log events have been added:

- mbSystemCheck – Software was checked and a watchdog was actioned
 - mbSystemStartup – Radio has started after a watchdog was actioned
-

[New Diagnostic
Data Download](#)

In software version 8.8.55, a new interface has been added to SuperVisor Maintenance which downloads diagnostic data. See Aprisa XE User Manual 8.8.55 for more information.

4. Bug Fixes

4.1. Major Bug Fixes

Newer 1.4 GHz Radio Transmitter Fail

Previously with a 1.4 GHz radio terminal delivered after April 2012, the transmitter could fail to operate after a SuperVisor Soft or Hard Reboot. The TX LED would remain green even though the transmitter was not operating. The transmitter would only restore following a radio power cycle.

This problem does not occur with other frequency band radios and 1.4 GHz radios delivered prior to April 2012.

In software version 8.8.55, this problem has been corrected.

Issue #3465

4.2. Minor Bug Fixes

Switch-Over on Common Path Interference

Previously with a protected 1+1 MHSB radio terminal, a switch-over would incorrectly occur if path interference was detected which was common to both paths.

In software version 8.8.55, this problem has been corrected i.e. a switch-over does not occur if common path interference is detected.

Switch-Over on Common Path Interference

Previously, if the radio software was upgraded from version 8.6.87, the mbEEFail alarm would incorrectly be displayed in the alarm table after the first reboot.

In software version 8.8.55, this problem has been corrected.

MHSB Return Loss Alarm

Previously with a protected 1+1 MHSB radio terminal, the return loss alarm was deactivated as it produced too many false readings due to the inaccuracies of the detection mechanism.

In software version 8.8.55, the detection mechanism has been improved and the return loss alarm has been re-instated. When there is disconnection between the TX and the duplexer, the resulting return loss alarm will trigger an alarm and therefore trigger a MHSB switch-over.

Issue #3190

Alarm History Display of SNR and RSSI

Previously, the alarm history RSSI and SNR values were averaged which did not truly reflect the radios state at the time alarms occurred.

In software version 8.8.55, the alarm history RSSI and SNR values are now current readings. If the modem returns a SNR value of > 45 dB, the SNR is displayed as 0 dB.

Issue #2577

[Ethernet Traffic
Loss on Soft
Reboot](#)

Previously with a protected 1+1 MHSB radio terminal, a soft reboot caused a switch-over when the radios restored. This reboot and switch-over stopped Ethernet traffic across the link for approx 1 minute. The other interface card traffic was unaffected.

In software version 8.8.55, when a soft reboot is requested, the switch-over is done before the reboot.

Issue #2221

[SuperVisor
Ethernet 1-4
Quick Links Bug](#)

Previously, clicking on any of the SuperVisor > Interface > Ethernet Settings > Quick Links > Ethernet General Settings > Ethernet 1-4 Quick Links navigated to blank page.

This bug has been corrected In software version 8.8.55.

Issue #3881

[SuperVisor
Default Ethernet
Settings Bug](#)

Previously, clicking on the SuperVisor > Interface > Default Ethernet Settings Apply button did not action the command until it was clicked a second time.

This bug has been corrected In software version 8.8.55.

Issue #3882

[SuperVisor
Modem Mute
Time Bug](#)

Previously, setting the SuperVisor > Terminal > Modem > Modem Mute Time set the actual modem mute time to 1/10 of the number of seconds entered e.g. setting to 100 seconds set the actual modem mute time 10 seconds.

This bug has been corrected In software version 8.8.55.

Issue #3883 and 3807

5. Software Upgrade Process

Software Upgrade Process Steps

The following steps are required for the software upgrade process:

1. Unzip and save the following files to your hard drive:
8.8.55 Software
tftpd32.exe
2. Identify the correct TFTP upgrade type.
3. If the terminals are operating software prior to 8.3.40:
Upload the Root File System
Upload the Motherboard Images.
4. Reboot the terminal.
5. Go through the steps of the TFTP upgrade process.
6. Upgrade for new FXO / FXS and modem images
7. Reboot the terminal.
8. Clear the Java and web browser caches.

If the TFTP upload process fails, an 'Upload Fail' alarm is raised. If the TFTP upload process fails due to a power failure, the alarm is raised upon power recovery.

5.1. Identify the Correct TFTP Upgrade Type

TFTP Upgrade Type

The correct TFTP upgrade type will depend on both the Bootloader Version and the Software Version Type.

Aprisa XE terminals running the older bootloader software (bootloader version 0) have a limitation on the number of software images that can be loaded simultaneously into a terminal.

Identify the Bootloader Version

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 or greater, 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.
 - (4) HSD terminals cannot run with bootloader version 0.
-

Identify the Software Version Type

There are different software version types for the variant compliances; ETSI type 1, ETSI type 1 HSD, ETSI type 2, ETSI type 2 HSD, FCC Part 101, FCC Part 90 and IC.

To determine which Software Version Type is currently installed on the terminal, take note of the 'Software Version' on SuperVisor Summary page. The last three characters indicate the Software Version Type (E0 ETSI shown):

Software Version	8_4_20_E0
Software Status	Standard Software Release
Serial Number	21801450

ETSI Compliance Body

X_X_XX_ E0	The E0 variant supports ETSI (Type 1) 1+0 and MHSB terminals with the same variants as Aprisa XE software version 8.4.40.
X_X_XX_ E1	The E1 variant supports ETSI (Type 2) 1+0 and MHSB terminals with the same variants as Aprisa XE software version 8.4.40 except for the 400 MHz 25 kHz and 50 kHz which has been replaced with 900 MHz 25 kHz and 50 kHz.
X_X_XX_ E0h	The E0h variant supports ETSI (Type 1) Hitless Space Diversity (HSD) terminals with the same variants as Aprisa XE software version 8.4.40.
X_X_XX_ E1h	The E1 variant supports ETSI (Type 2) Hitless Space Diversity (HSD) terminals with the same variants as Aprisa XE software version 8.4.40 except for the 400 MHz 25 kHz and 50 kHz which has been replaced with 900 MHz 25 kHz and 50 kHz.

FCC Compliance Body

X_X_XX_ F0	The F0 variant supports FCC part 90 1+0 and MHSB terminals.
X_X_XX_ F0h	The F0h variant supports FCC part 90 Hitless Space Diversity (HSD) terminals.
X_X_XX_ F1	The F1 variant supports FCC part 101 1+0 and MHSB terminals.
X_X_XX_ F1h	The F1h variant supports FCC part 101 Hitless Space Diversity (HSD) terminals.

IC Compliance Body

X_X_XX_ C0	The C0 variant supports IC 1+0 and MHSB terminals.
X_X_XX_ C0h	The C0h variant supports IC Hitless Space Diversity (HSD) terminals.

Upgrade File Usage

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

Upgrade Version	Upgrade Type	Variant
8_8_55_E0a	Full TFTP upgrade	ETSI TYPE 1
8_8_55_E0	Standard TFTP upgrade	ETSI TYPE 1
8_8_55_E0h	Standard TFTP upgrade	ETSI TYPE 1 HSD
8_8_55_E0p	Partial TFTP upgrade	ETSI TYPE 1
8_8_55_E1a	Full TFTP upgrade	ETSI TYPE 2
8_8_55_E1	Standard TFTP upgrade	ETSI TYPE 2
8_8_55_E1h	Standard TFTP upgrade	ETSI TYPE 2 HSD
8_8_55_E1p	Partial TFTP upgrade	ETSI TYPE 2
8_8_55_F0a	Full TFTP upgrade	FCC Part 90
8_8_55_F0	Standard TFTP upgrade	FCC Part 90
8_8_55_F0p	Partial TFTP upgrade	FCC Part 90
8_8_55_F1a	Full TFTP upgrade	FCC Part 101
8_8_55_F1	Standard TFTP upgrade	FCC Part 101
8_8_55_F1p	Partial TFTP upgrade	FCC Part 101
8_8_55_C0a	Full TFTP upgrade	IC variants
8_8_55_C0	Standard TFTP upgrade	IC variants
8_8_55_C0p	Partial TFTP upgrade	IC variants

5.2. Upload the Root File System

Root File System Upgrade

If the terminals are operating software prior to 8.3.40, upload the Root File System file.

Note: Uploading of image files can only be performed to the local terminal i.e. not via the link to the remote terminal.

1. Logon to the local terminal as admin.
 2. Go to SuperVisor > Local > Maintenance > Upload > Software.
 3. Browse to the 8.8.55 Software folder and select 'C-CC-R-8_8_5.img'.
 4. Click Upload and wait for the upload status to display Succeeded.
 5. Go to SuperVisor > Local > Maintenance > Image Table.
 6. Select Software 'C-CC-R-8_8_5.img' and click edit.
 7. At the command drop down box select activate and click apply.
-

5.3. Upload the Motherboard Images

Check
Motherboard
Image Files

The E1 and E2 motherboard images do not update as part of the TFTP upgrade.

Check if the correct motherboard images are loaded with SuperVisor Local > Maintenance > Image Table.

Example: Radio on V8.4.6 with a Rev C motherboard.

IMAGE TABLE

Index	Type	Status	Image Size	Version	Select
0	Kernel	Active	589980	C-CC-K-8_0_0.img	<input checked="" type="radio"/>
2	Software	Active	2697185	C-CC-R-8_4_6.img	<input type="radio"/>
3	Software	Inactive	2151772	C-CC-R-8_4_5.img	<input type="radio"/>
4	Firmware	Active	141876	C-fpga_E1-0-7-0.img	<input type="radio"/>
7	Firmware	Active	141876	C-fpga_E2-0-5-3.img	<input type="radio"/>

The Motherboard Firmware images for this software version are:

Motherboard Type	Image Files Required
Rev C	C-fpga_E1-0-7-0.img (Motherboard 1) C-fpga_E2-0-5-3.img (Motherboard 2)
Rev D	C-fpga_E1-1-7-4.img (Motherboard 1) C-fpga_E2-1-5-4.img (Motherboard 2)

Upload
Motherboard
Image Files

If the motherboard image files are not correct, upload the relevant image files.

Note: Uploading of image files can only be performed to the local terminal i.e. not via the link to the remote terminal.

1. Logon to the local terminal as admin
2. Go to SuperVisor > Local > Maintenance > Upload > Firmware.
3. Browse to the 8.8.55 Software folder and select 'C-fpga_Ex-x-x-x.img'.
4. Click Upload and wait for the upload status to display Succeeded.
5. Go to SuperVisor > Local > Maintenance > Image Table.
6. Select Software 'C-fpga_Ex-x-x-x.img' and click edit.
7. At the command drop down box select activate and click apply.

5.4. TFTP Upgrade Process

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.

1. Run the TFTP server program and set the 'Current Directory' to the root directory on the Aprisa CD.
 2. Select the SuperVisor menu item Remote > Maintenance > Upload > TFTP Upgrade
 3. Type the IP address of the TFTP server in the **TFTP Server** field.
 4. Type the version number in the **Upgrade Version** field e.g. '8_8_55_E0'.
 5. Click the Apply button and wait for the upgrade process to complete and report 'success'.
 6. Reboot the remote terminal.
 7. Select the SuperVisor menu item Local > Maintenance > Upload > TFTP Upgrade
 8. Type the IP address of the TFTP server in the **TFTP Server** field.
 9. Type the version number in the **Upgrade Version** field e.g. '8_8_55_E0'.
 10. Click the Apply button and wait for the upgrade process to complete and report 'success'.
 11. Reboot the local terminal.
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TFTP Upgrade Types

TFTP Partial Upgrade Process

Run the TFTP upgrade process by typing **8_8_55_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_8_55_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_8_5**' to load images for the newer DFXO and DFXS cards (rev D).
- '**F2_8_8_5**' to load images for all revisions of DFXO and DFXS cards.
- '**F3_8_8_5**' 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_8_55_E0a**' in the Upgrade Version field.
Reboot the terminal.

5.5. Clear the Java and web browser caches

Clear Caches

Once the Software Upgrade process is complete, clear the browser and java caches as described below:

Clear the browser cache (restart browser after clearing the cache)

If using Mozilla Firefox:

1. Go to Tools.
2. Clear Private Data.
3. Select all options.
4. Click clear private data now.

If using Internet Explorer:

1. Go to tools > Internet Options.
2. Under browser history in the general tab click delete.
3. Click delete all.

Clear the java cache

1. Go to your PC control panel.
 2. Open the java application.
 3. Click settings under Temporary Internet Files.
 4. Click delete files.
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