



Aprisa **SR**



Software Release Notes

Version 1.6.3

March 2014

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1. Introduction

Introduction

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

Software Version	Release Date
1.6.2	16 th October 2013

This release of Aprisa SR software is:

Software Version	Release Date
1.6.3	27 th March 2014

This document covers the major changes, product enhancements, new functionality, and bug fixes since Aprisa SR software version 1.6.2.

2. Released Files

Release Files

The following is a list of files released for Aprisa SR Software Version 1.6.3

File Name	File Type	File Function
asraduc_25u	ADUC Code	Discriminator micro controller code UHF 25 kHz radios
asraduc_25v	ADUC Code	Discriminator micro controller code VHF 25 kHz radios
asraduc_625v	ADUC Code	Discriminator micro controller code VHF 6.25 kHz radios
asraduc_u	ADUC Code	Discriminator micro controller code UHF 12.5 kHz radios
asraduc_v	ADUC Code	Discriminator micro controller code VHF 12.5 kHz radios
asrapp	Upgrade App Code	Used to initiate radio software upgrade
asrboot	Bootloader	Used to initiate radio software startup
asrmain	Application Code	Main radio system software
asrrootfs	Root File System	Catalog of system files
asrver	Version File	Release build version
version.txt	Public Version File	Release information

3. Software Enhancements

3.1. Major Enhancements

6.25 kHz Channel Size

In software version 1.6.3 support has been added for a FCC VHF 6.25 kHz channel size which provides a gross capacity of 4800 bit/s.

This channel size is available in the VHF 135-175 MHz band.

See Aprisa SR User Manual 1.6.3 for more information.

3.2. Minor Enhancements

Return Loss Monitored Parameter

In software version 1.6.3, a monitored parameter 'Last TX Packet Return Loss' has been added to monitor the transmitter return loss. This parameter applies to VHF radios only.

This parameter can be used to determine the degree of match between the radio Antenna port and the feeder cable / antenna.

See Aprisa SR User Manual 1.6.3 SuperVisor > In-Service Commissioning > Antenna Matching for more information.

4. Software Bug Fixes

4.1. Major Bug Fixes

[Slow Repeater Operation](#)

Previously, with repeater operation, SCADA messages were resent when the response message did not come back in time. This problem was caused by high latencies through the repeater.

This problem has been fixed in software version 1.6.3 by optimising the AES encryption, and correcting problem delays in Popnet and the networking stack.

NOTE: To get the maximum performance on single repeater network, the Network Repeaters Proximity should be set to Separated Coverage – see Aprisa SR User Manual 1.6.3 SuperVisor > Terminal > Device > Network Repeaters Proximity.

Bug # 2743 and 3026; version 1.5.1

4.2. Minor Bug Fixes

[Firefox 27 HTTPS Problem](#)

Previously, Firefox version 27 and later versions could not communicate with the Aprisa SR when using the HTTPS protocol, (using SSL).

This problem was caused by an operation incompatibility between Firefox 27 and the HTTP server code.

This problem has been fixed in software version 1.6.3.

Bug # 3094; version 1.6.1

5. Known Issues

Remote Protected Station Date / Time Sync Issue

Issue

When SuperVisor 'Broadcast Time' is used to distribute the date and time from the base station to all remote stations, the standby radio in an Aprisa SR 1+1 remote protected station does not get a date / time update. Supervisor will indicate a date / time conflict between the remote active and standby station by highlighting the time field in red. This issue not affect the operation of the radio or user traffic.

Workaround

From SuperVisor, select the remote protected station Terminal > Device screen. Change the Time to the current time and click save. The time conflict will be cleared.

This is a known issue and will be fixed in a later software version release.

Issue # 2516; version 1.6.0

User Login Informational Event

Issue

The user login status (success or fail) is not being recorded in the Informational events.

This is a known issue and will be fixed in a later software version release.

Issue # 2696; version 1.6.0

Repeater Radio LED Indication

Issue

Intermittently, repeater radio 'RF' and 'DATA' LEDs may not indicate the correct states.

The 'RF' LED flashing green should indicate the RF path RX is active. The 'DATA' LED flashing green should indicate Tx Data or Rx Data on the serial port.

This issue does not affect user traffic.

This is a known issue and will be fixed in a later software version release.

Issue # 2703; version 1.6.0

Remote
Protected
Station Software
Distribution
Issue

Issue

When distributing a software pack from a protected base station to remote stations and repeater stations, using the SuperVisor Software > Remote Distribution process, the software distribution is successful on repeater and active remote radios but intermittently, the standby remote radio may not get the new software.

Workaround

If the software is not distributed to the standby remote radio, follow either one of the two solution options to overcome this issue:

1. Repeat the software distribution step using SuperVisor > Software > Remote Distribution menu or.
2. Transfer the software from the active radio to the standby radio using the relevant SuperVisor > Software > Secondary File Transfer > To Secondary Radio or Primary File Transfer > To Primary Radio

This is a known issue and will be fixed in a later software version release.

Issue # 2715; version 1.6.0

6. Hardware Enhancements

None

7. Radio Software Upgrade

Software Upgrade Method

If your Aprisa SR network / radio is running software version 1.4.1 or later, you can use the Enhanced Software Upgrade Method on page 7.

If your Aprisa SR network / radio is running a software version previous to 1.4.1, you must use the Single Radio Upgrade Boot Method on page 10.

The radio software must be identical on all radios in the Aprisa SR network.

7.1. Enhanced Software Upgrade Method

Upgrade Type

A software upgrade can be performed on a single radio or an entire Aprisa SR network.

If you have an existing network of Aprisa SR radios, follow the procedure 'Network Software Upgrade'.

If you have a single Aprisa SR radio requiring upgrade, follow the procedure 'Single Radio Upgrade File Transfer Method'.

If the Aprisa SR radio is part of an Aprisa SR Protected Station, follow the procedure 'Protected Station Software Upgrade'.

See the Aprisa SR User Manual 1.6.3 for more information.

Note: If a radio has been configured for a Protection Type of 'Redundant' or 'Serial Data Driven Switching' (see Aprisa SR User Manual 'Terminal > Operating Mode'), and that radio is no longer part of a Protected Station, the Protection Type must be changed to 'None' before the radio software upgrade can be achieved with the 'Radio Software Upgrade Process'.

7.1.1. Network Software Upgrade



File Transfer Method

This process allows customers to upgrade their Aprisa SR network from the central base station location without need for visiting remote sites.

The Software Pack is loaded into the base station with the file transfer process and distributed via the radio link to all remote stations.

When all remote stations receive the Software Pack version, the software can be remotely activated on all remote stations.

Process Steps

1. Unzip the software pack in to the root directory of a USB flash drive.
2. Insert the USB flash drive into the Host Port .
3. Using File Transfer, load the software pack into the base station (see SuperVisor > Software > File Transfer).
4. Remove the USB flash drive from the Host Port .
5. Distribute the software to the entire network of remote radios (see SuperVisor > Software > Remote Distribution).

Note: The distribution of software to remote stations does not stop customer traffic from being transferred. However, due to the volume of traffic, the software distribution process may affect customer traffic.

Software distribution traffic is classified as 'management traffic' but does not use the Ethernet management priority setting. Software distribution traffic priority has a fixed priority setting of 'very low'.

6. Activate the software on the entire network of remote radios (see SuperVisor > Software > Remote Activation).

Note: When the new software activates on the remote radios, all link communication from the base station to the remote will be lost. The base station will attempt to re-establish connectivity to the remote radios for the new version verification but this will fail. However, when the new software activates on the remote radios, the remote radio will reboot automatically and link communication will restore when the base station software is activated.

When the Remote Activation process gets to the 'Remote Radios On New Version' step, don't wait for this to complete but proceed to step 7

7. Activate the software on the base station radio (see SuperVisor > Software > Manager).
8. When the base station restarts with the new software, rediscover the nodes (see SuperVisor > Maintenance > Advanced > Discover Nodes).
9. Check that all remote radios are now running on the new software (see SuperVisor > Network Table).



7.1.2. Single Radio Upgrade File Transfer Method

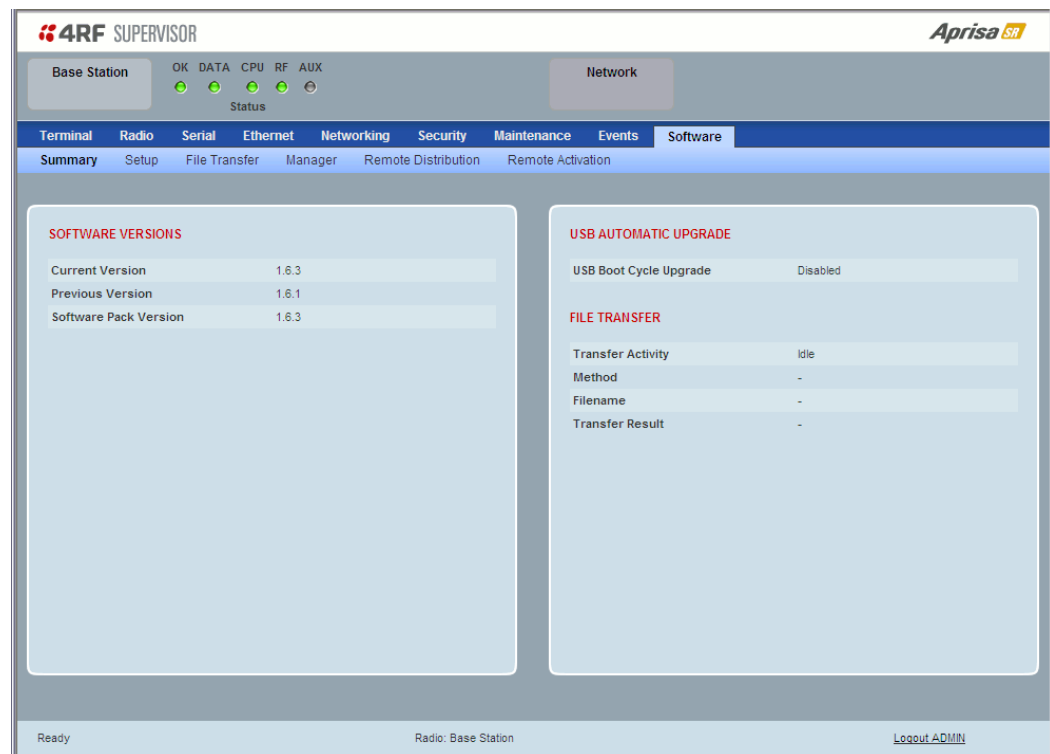
File Transfer Method

This process allows customers to upgrade a single Aprisa SR radio.

The Software Pack is loaded into the radio with the file transfer process and activated.

Process Steps

1. Unzip the software pack in to the root directory of a USB flash drive.
2. Insert the USB flash drive into the Host Port .
3. Using File Transfer, load the software pack into the radio (see SuperVisor > Software > File Transfer).
4. Remove the USB flash drive from the Host Port .
5. Activate the software on the radio (see SuperVisor > Software > Manager). This can take up to a few minutes.
6. The new software version can be verified with SuperVisor > Software > Summary Current Version.




Upgrade Did Not Start

If the upgrade process did not start, the Aprisa SR could already be operating on the version of software on the USB flash drive. This will be indicated by flashing display panel OK LED and then the OK, DATA and CPU will light steady green.

If any display panel LED flashes red or is steady red during the upgrade process, it indicates that the upgrade has failed. This could be caused by incorrect files on the USB flash drive or a radio hardware failure.

7.2. Single Radio Upgrade Boot Method

Method



The Aprisa SR radio software is upgraded simply by plugging a USB flash drive containing the new software into the USB A host port  on the Aprisa SR front panel and power cycling the radio.

Procedure

To minimize disruption of link traffic and prevent your radios from being rendered inoperative, please follow the procedures described in this section together with any additional information or instructions supplied with the upgrade package.

The radio software must be identical on all radios in the Aprisa SR network.

Process Steps

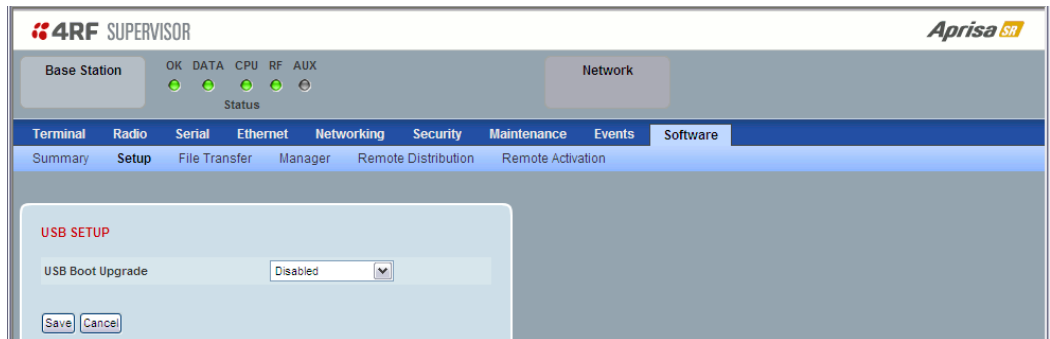
1. Check that the SuperVisor USB Boot Upgrade setting is set to 'Load and Activate' (see SuperVisor > Software > Setup).
 2. Unzip the software release files in to the root directory of a USB flash drive.
 3. Power off the Aprisa SR and insert the USB flash drive into the Host Port .
 4. Power on the Aprisa SR.
 5. The software upgrade process is complete when the OK LED lights solid orange. This can take about 2 minutes.
 6. Remove the USB flash drive from the Host Port .
 7. Power cycle the Aprisa SR.
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Upgrade Did Not Start

If the USB boot upgrade process did not start, the Aprisa SR could already be operating on the version of software on the USB flash drive. This will be indicated by flashing display panel OK LED and then the OK, DATA and CPU will light steady green.

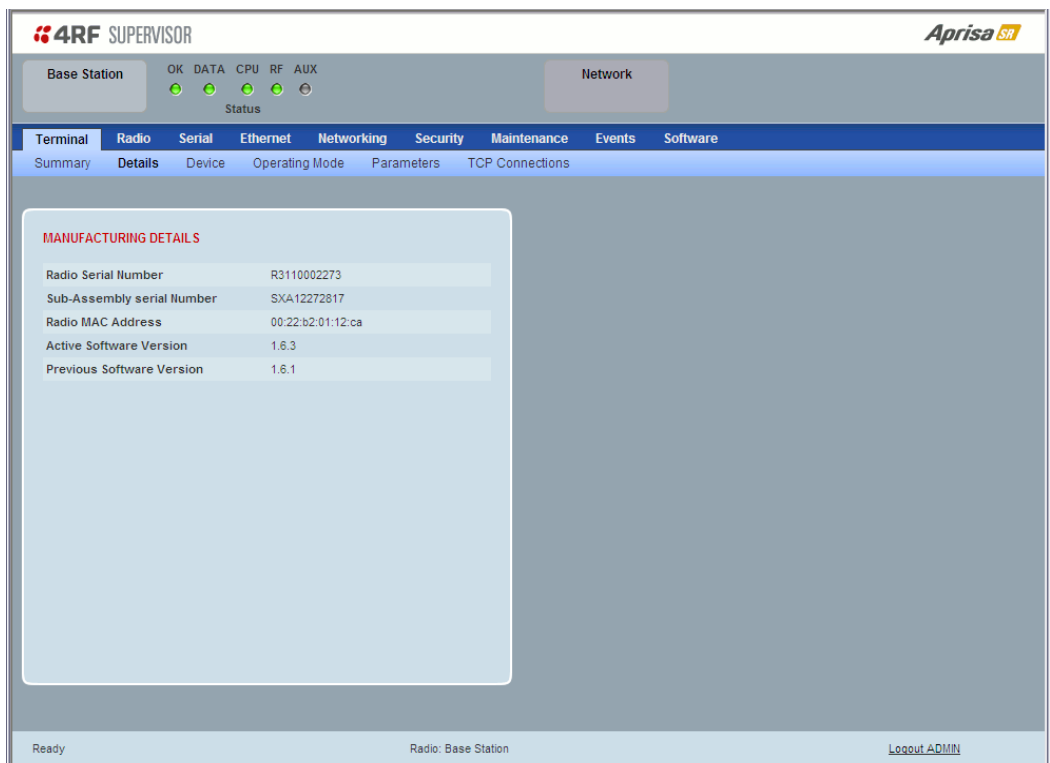
If any display panel LED flashes red or is steady red during the upgrade process, it indicates that the upgrade has failed. This could be caused by incorrect files on the USB flash drive or a radio hardware failure.

Check that the SuperVisor USB Boot Upgrade setting is set to 'Load and Activate'.



Check the Result

Login in to SuperVisor and select Terminal > Details to view the Active and Previous software versions.





7.2.1. Protected Station Software Upgrade

Procedure

The Protected Station software upgrade can be achieved without disruption to traffic.

This procedure assumes that the Primary radio is active and the Secondary radio is standby.

Process Steps

1. Using the Hardware Manual Lock switch, force the primary radio to active.
 2. Insert the USB flash drive with the new software release into the secondary radio Host Port .
 3. Power cycle the secondary radio. The radio will be upgraded with the new software.
 4. When the secondary radio upgrade is completed, remove the USB flash drive, power cycle the secondary radio and wait for it to become standby.
 5. Using the Hardware Manual Lock switch, force the secondary radio to active.
 6. Insert the USB flash drive with the new software release into the primary radio Host Port .
 7. Power cycle the primary radio. The radio will be upgraded with the new software.
 8. When the primary radio upgrade is completed, remove the USB flash drive, power cycle the primary radio and wait for it to become standby.
 9. Set the Hardware Manual Lock switch to the Auto position. The secondary radio will remain active and the primary radio will remain standby. To set the primary radio to active, use the hardware lock switch to select the primary radio and wait for it to become active, then set the hardware manual lock switch to the Auto position.
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