

## 5. Set up the Aprisa SR+ Protected Station

Login using the IP address of either the primary or secondary radio (do not use the PVIP address for login). All parameters will be automatically synchronized on both radios.

The Aprisa SR+ has a factory default Terminal Operating Mode of Remote Station.

A single radio or a protected station in the Aprisa SR+ network must be setup as a base station. The other radios or protected stations in the Aprisa SR+ network are setup as remote stations or repeater stations.

Set the Ethernet Operating Mode and the Compliance Mode required.

Set the unique radio Network ID to be the same in your entire network including the Base Station ID.

Set the Aprisa SR+ TX Frequency, RX Frequency, TX Power and Channel Size to comply with your site license.

Set the Antenna Port Configuration required.

You can now configure the remaining protected station and network parameters and settings. For more information, please refer to the Aprisa SR+ User Manual available from the 4RF website <https://www.4rf.com/secure> (login required).

Reboot both Primary and Secondary radios and restore the Hardware Manual Lock switch is set to AUTO.

The Aprisa SR+ Protected Station is ready to operate.

## 6. Monitor the Aprisa SR+ Protected Station signal strength

When the network is installed, the radio signal strength can be monitored on remote stations by setting the radio to Test Mode.

To enter Test Mode, press and hold the TEST button on front panel until all the LEDs flash green (about 3 - 5 seconds).

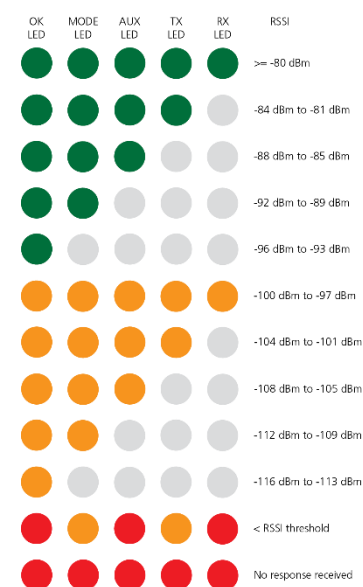
In Test Mode, the LED Display panel presents a real time visual display of the RSSI. This can be used to adjust the antenna for optimum signal strength.

Note: The response time is variable and can be up to 5 seconds.

To exit Test Mode, press and hold the TEST button until all the LEDs flash red (about 3 - 5seconds).

If the network is operating correctly, the LEDs will show:

- Active radio - the OK, MODE and AUX LEDs will be light green and the TX and RX LEDs will be solid or flash green.
- Standby radio - the OK will light green, the MODE LED will light orange, the AUX LED will light green and the TX and RX LEDs will light green (steady).



# Quick Start Guide

## Aprisa SR+ Protected Station

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Follow these steps to setup your Aprisa SR+ Protected Station:

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## 1. Check the box contents \*

The Aprisa SR+ Protected Station is shipped to you in a box containing the following:



Aprisa SR+ Protection Station:

- One Aprisa SR+ Protected Station containing two Aprisa SR+ radios pre cabled to the protection switch with product options of:
  - (1) Standard Protected Station - single antenna with or without duplexer (part number suffix ends with AA)
  - (2) Dual antenna Protected Station - dual antenna with or without duplexer (part number suffix ends with DA)
  - (3) Power supply input of 48 VDC (part number suffix ends with AB or DB)
- Two rack mounting brackets
- Two 2 pin female power connectors
- One 4 pin female remote control connector

## 2. Install the Aprisa SR+ Protected Station and connect the protection earth

The Aprisa SR+ Protected Station is designed to mount in a standard 19" rack.



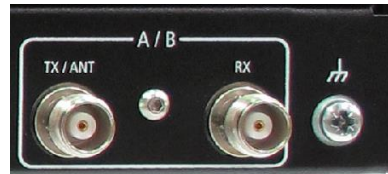
Rack mounted Aprisa SR+ Protected Station without duplexer



Rack mounted Aprisa SR+ Protected Station with duplexer

The Aprisa SR+ Protected Station has an earth connection point on the bottom right of the chassis. Use the supplied M4 screw to earth the enclosure to a protection earth.

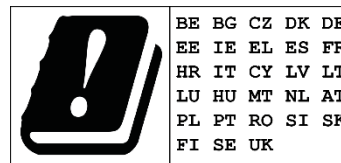
The antenna feeder cable should use grounding kits for lightning protection as specified or supplied by the coaxial cable manufacturer to properly ground or bond the cable outer.



Note \* When the spare Aprisa SR+ Protection Switch is supplied (APST-XPSW-*nnn*), the item includes the Aprisa SR+ Protection Switch chassis, mounting brackets, 2x power connectors, 1x remote control connector but no radios.

**Note:** The Aprisa SR+ radio operates within frequency bands that require a site license be issued by the radio regulatory authority with jurisdiction over the territory in which the equipment is being operated. It is the responsibility of the user, before operating the equipment, to ensure that where required the appropriate license has been granted and all conditions attendant to that license have been met.

Hereby, 4RF Limited declares that the Aprisa SR+ digital radio is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the internet address <http://www.4rf.com/library/en>.



## 3. Connect the antenna and apply power to the Aprisa SR+ Protected Station

Connect the antenna to the Protected Station antenna port (TNC female connector). If the antenna is not available, terminate the TX/ANT A/B antenna port with a TNC male 50 ohm terminator (10 Watts min). If the Protected Station is the dual antenna option, then both TX/ANT A/B antenna ports / terminators must be connected.

**Warning:** Do not directly connect the two radio antenna ports without attenuation of at least 40 dB. The receiver can be damaged if signals greater than +10 dBm are applied to the antenna port.

The Aprisa SR+ Protected Station has two possible power supply input options nominal 12 VDC (+10 VDC and +30 VDC negative earth) and nominal 48 VDC (18 to 60 VDC floating) and consumes up to 42 Watts. Two power connectors (Molex 2 pin female) are supplied fitted to the Protected Station. Wire your power source to the two power connectors (- / +) and plug the connectors into the Protected Station. The connector screws can be fastened to secure the connectors.



**Note:** The radio fuses will blow if the connected power supply is over voltage or the polarity is reversed. Spare fuses are located on the Protection Switch board (see the 'Replacing Protection Switch Fuses' section of the Aprisa SR+ User Manual).

Turn your power source on. All the LEDs on both radios will flash orange for one second and then change to:

- Active radio - the OK, MODE and AUX LEDs will light green and the TX and RX LEDs will light green (steady or flashing).
- Standby radio - the OK, TX, RX and AUX LEDs will light green and the MODE LED will flash green.

## 4. Connect to the Aprisa SR+ Protected Station

Ensure that the Hardware Manual Lock switch is set to radio A (this is a factory default setting). This prevents random switching when changing the radio settings.

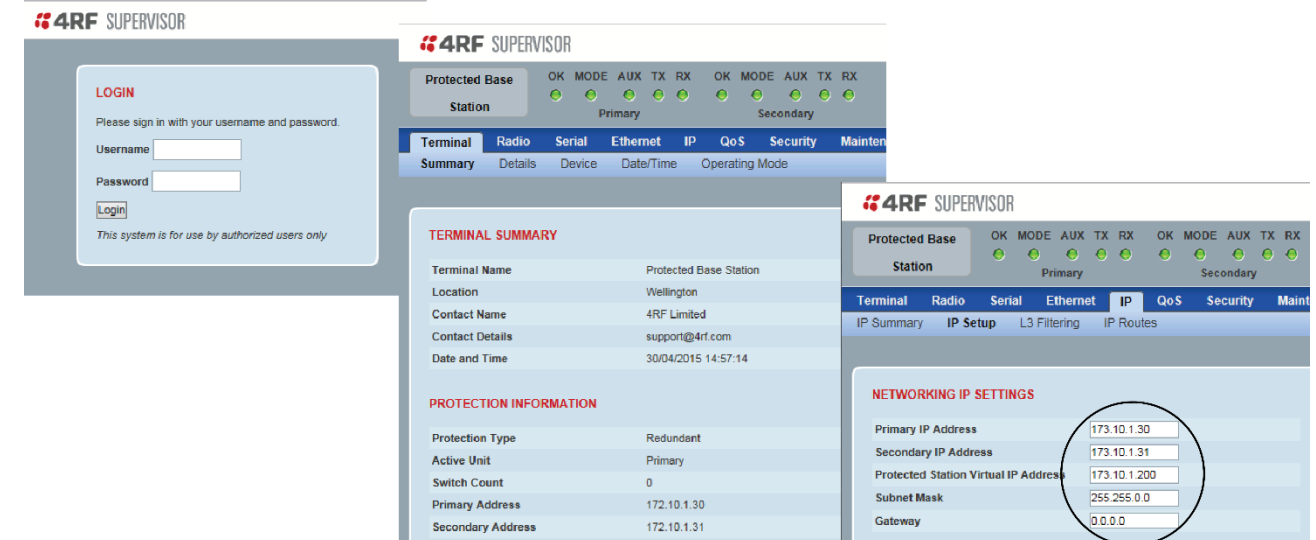
The Aprisa SR+ primary radio (radio A) in the Protected Station has a factory default IP address of 169.254.50.10 and the secondary Aprisa SR+ radio (radio B) in the Protected Station has a factory default IP address of 169.254.50.20, both with a subnet mask of 255.255.0.0.

- Set up your PC for a compatible IP address e.g. 169.254.50.1 with a subnet mask of 255.255.0.0.
- Connect your PC network port to one of the Aprisa SR+ Protected Station Ethernet ports (1 to 4 depending on product option). Open a browser and enter <http://169.254.50.10>.

Note: The Aprisa SR+ has a self signed security certificate which may cause the browser to prompt a certificate warning. It is safe to ignore the warning and continue. The valid certificate is 'Issued By: 4RF-APRISA' which can be viewed in the browser.

- Login to the primary radio with the default login 'admin' and password 'admin'.
- Each radio in the network and both radios in the Protected Station must be setup with unique IP addresses on the same subnet.

Set the Primary IP address and the Secondary IP address to network compatible IP addresses. Set the Protected Station Virtual IP Address. This is the IP Address of the active radio used in both bridge and router modes. Set the Subnet mask and Gateway.



If the IP addresses of radios in the protected station are unknown for some reason, they can be shown or changed via the Command Line Interface (CLI) on the radios MGMT USB ports. USB to UART Bridge VCP Drivers are required to connect the radio USB port to your PC. You can download and install the relevant driver from <https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>. Set the PC serial port to 38,400 baud, 8 data bits, no parity and 1 stop bit, with no hardware flow control.

- Open the protected station drawer by sliding it from the front
- Connect your PC USB port to the primary Aprisa SR+ (A) MGMT USB port.
- Login to the radio with the default login 'admin' and password 'admin'.
- At the command prompt >> type 'cd APRISASR-MIB-4RF' and enter
- At the command prompt >> type 'ls Terminal' and enter to show the existing IP address
- At the command prompt >> type 'set termEthController1IpAddress xxx.xxx.xxx.xxx' and enter to change the IP address.

The Protected Station is configured in the 4RF factory as a protected station. If for some reason it is not setup as a Protected Station, please see 'Creating a Protected Station' in the Aprisa SR+ User Manual.