Aprisa SR Ordering Guide

Products and Services
Standard Terms and Conditions of Sale Apply

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Contents

1. Product and Services Overview

4RF Limited offers a complete menu of products and services for the Aprisa SR product range. A summary of our offerings is illustrated below.

Products		
Radio Terminals	Aprisa SR	The Aprisa SR is available in the 400 to 470 MHz and 136 to 174 MHz frequency bands, with a 6.25 kHz (VHF FCC / IC only), 12.5 kHz or 25 kHz operating channel.
	Aprisa SR Product Options	The Aprisa SR is available in standard or protected (1+1) configurations with single or dual antenna port options.
Accessories	A range of accessories including power supplies, cables and product manuals are available.	
Network Management	All 4RF products support the Simple Network Management Protocol (SNMP). Network management options include standard off the shelf network managers or MIB integration support.	

Services	
Service Options	4RF offers a wide range of services.
	These comprise training, technical support, radio link and network engineering, factory acceptance testing, network integration, installation and commissioning, repair and return, extended warranties and customized service level agreements.

2. Aprisa SR Product Ordering

Aprisa SR Radios

Branding and Product Identification

Aprisa SR radios are ordered and configured according to the part numbering protocol specified below. The first two characters identify the product branding. The second two characters identify the product Aprisa SR.

Please follow this part numbering protocol when ordering Aprisa SR radios.

APSR-ZBBB-CCC-DD-VV-AAOO

Branding (AP)

Product Identifier (SR)

Radio Configuration (Z)
See details on page 5

Frequency Band (BBB)
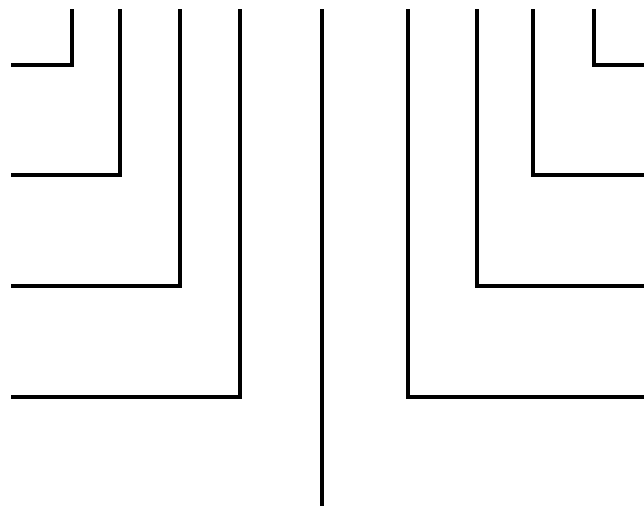See details on page 6

Channel Size (CCC)
See details on page 6

Product options (OO)
See details on page 8

Compliance Body (AA)
See details on page 7

Power Supply (VV)
See details on page 7

Antenna Port Options (DD)
See details on page 7

Radio Configuration (Z)

The Aprisa SR is available in three product configurations.

Each radio contains an embedded web server application, SuperVisor, to enable element management using a web browser, such as Mozilla Firefox and Microsoft® Internet Explorer.

Option	Description	Radio
N	Aprisa SR non-protected radio, software configurable to operate as a base station, repeater or remote station.	
R	Aprisa SR protected station, software configurable to operate as a base station, repeater or remote station. The Aprisa SR protected station comprises two Aprisa SR radios and a protection switch.	
D	Aprisa SR data driven protected base station, provides radio and RS-232 serial port user interface protection for Aprisa SR radios when configured as a base station. The Aprisa SR data driven protected station comprises two standard Aprisa SR dual antenna port option radios and two external duplexers mounted on 19" rack mounting shelves.	

Replace Z in the part number with the required radio configuration.

Frequency Band (BBB)

The Aprisa SR is available in the following frequency bands:

Option	Frequency Band	Frequency Tuning Range
136	136 MHz	136 – 174 MHz
400	400 MHz	400 – 470 MHz

The Aprisa SR tunes over the full frequency range.

Replace BBB in the part number with the required frequency band.

Channel Size (CCC)

The Aprisa SR is available in the following operating channel sizes:

ETSI

Option	Channel Size	Gross Radio Capacity
012	12.5 kHz	9.6 kbit/s
025	25 kHz	19.2.kbit/s

FCC / IC

Option	Channel Size	Gross Radio Capacity
006 (Note 1)	6.25 kHz	4.8 kbit/s
012	12.5 kHz	9.6 kbit/s
025	25 kHz	19.2.kbit/s

Note 1: VHF frequency band only.

The channel sizes are hardware dependent and cannot be changed in software. The capacities shown are the gross radio link capacity data rate available.

Replace CCC in the part number with the required operating channel size.

Antenna Port Options (DD)

The Aprisa SR is available with a single or dual antenna port option.

Option	Description	Terminal
SO	Single antenna port terminal	
DO	Dual antenna port terminal; provides a separate transmit and receive antenna connection to support external duplexers or filters.	

Replace DD in the part number with the required antenna port option.

Power Supply (VV)

The Aprisa SR has an integrated power supply and the nominal input voltage for a radio is +13.8 VDC (negative earth) with an input voltage range of +10 to +30 VDC. The maximum power input is 30 W.

The default identifier is 12.

Compliance Body (AA)

The Aprisa SR is designed to be compliant with specifications and standards from the European Telecommunications Standards Institute (ETSI), the Federal Communications Commission (FCC) and Industry Canada (IC) for radio performance and safety.

Option	Description
ET	Tested and compliant to ETSI standards.
FC	Tested and compliant to FCC standards.
IC	Tested and compliant to Industry Canada standards.

Replace AA in the part number with the option for the required compliance body.

Product Options (OO)

It is possible to select if the radio is enabled to transport RS-232, serial and Ethernet user data or serial data only. The following product options can be selected at time of order:

Option	Description
AA	Radio is enabled for RS-232 serial and Ethernet user data.
A1	Radio is enabled for RS-232 serial user data only. Ethernet can be used for management traffic only.

Replace OO in the part number with the required product option.

Accessories

Feature Licence

It is possible to upgrade a previously purchased serial only radio for Ethernet operation through the activation of a software licence key.

Part Number	Description
APSA-LSRF-FET	4RF SR Acc, Licence, Feature, Ethernet Traffic

Power Supplies and Fuses

Part Number	Description
APSA-P230-030-24-TS	4RF SR Acc, PSU, 230 VAC, 30W, 24 VDC, -10 to +60C
APSA-P230-048-24-TE	4RF SR Acc, PSU, 230 VAC, 48W, 24 VDC, -20 to +75C
APSA-P230-060-24-TS	4RF SR Acc, PSU, 230 VAC, 60W, 24 VDC, -10 to +60C
APSA-P48D-050-24-TA	4RF SR Acc, PSU, 48 VDC, 50W, 24 VDC, 0 to +50C
APSA-FNAN-453-05-02	4RF SR Acc, Fuse, Nano SMF, 453 Series, 5A, 2 items

Mounting Hardware

Part Number	Description
APSA-MBRK-DIN	4RF SR Acc, Mounting, Bracket, DIN Rail
APSA-MR19-X1U	4RF SR Acc, Mounting, 19" Rack Mount Shelf, 1U

Duplexers Kits

Radio Duplexer Kits

Part Number	Description
APSA-KDUP-135-N0-BR	4RF SR Acc, Kit, Dupl, 135-175 MHz, s4.6 MHz, p0.5 MHz, BR
APSA-KDUP-400-B1-BR	4RF SR Acc, Kit, Dupl, 400-470 MHz, s5 MHz, p 0.5 MHz, BR

Protected Station Duplexer Kits

APSA-KDUP-135-N0-PS	4RF SR Acc, Kit, Dupl, 135-175 MHz, s4.6 MHz, p0.5 MHz, PS
APSA-KDUP-400-B1-PS	4RF SR Acc, Kit, Dupl, 400-470 MHz, s5 MHz, p0.5 MHz, PS

Note: Please contact 4RF to discuss alternative duplexer frequency spacing.

Cables and Connectors

Part Number	Description
APSA-IFCA-232-10	4RF SR Acc, Cable, Interface, RJ45 to DB9 RS232F, 10m
APSA-IFCA-USB-01	4RF SR Acc, Cable, Interface, USB A to USB micro B, 1m
APSA-RTNM-SMM-P5	4RF SR Acc, RF Cable, TNC male, SMA male, 0.5m
APSA-CPH4-FEM-01	4RF SR Acc, Connector, Phoenix 4 pin, Female, 1 item

Protection Switch

Part Number	Description
APSP-XPSW	4RF SR Spare, Protection Switch (incl. 2 sets switch cables)
APSP-XPSC-ST6	4RF SR Spare, Protection Switch Cables, Set Of 6

Demonstration Kit

The Aprisa SR demonstration kit is supplied pre-configured as a point-to-multipoint network and contains all the equipment needed to demonstrate and evaluate the performance and management capabilities of the Aprisa SR.

The kit contains three Aprisa SR radios mounted on a removable, rigid chassis, housed in a rugged protective case for ease of transportation. Cables, attenuators and an RF splitter are included to establish the radio path, and a power supply for all radios is provided.

The kit can be supplied with VHF or UHF radios with 12.5 kHz or 25 kHz operating channels.

Aprisa SR Demonstration Kit

Part Number	Description
APSA-K136-012-SO-AC-ETPD	4RF SR Acc, Kit, 136-174 MHz, 12.5 kHz, SO, AC PSU, ET, Demo
APSA-K136-025-SO-AC-ETPD	4RF SR Acc, Kit, 136-174 MHz, 25 kHz, SO, AC PSU, ET, Demo
APSA-K400-012-SO-AC-ETPD	4RF SR Acc, Kit, 400-470 MHz, 12.5 kHz, SO, AC PSU, ET, Demo
APSA-K400-025-SO-AC-ETPD	4RF SR Acc, Kit, 400-470 MHz, 25 kHz, SO, AC PSU, ET, Demo

Documentation

Part Number	Description
APSA-DMAN-XHC	4RF SR Acc, Documentation, User Manual, Hard Copy

Network Management

4RF offers a range of network management solutions, including server and software options. Options include:

SNMPc

Part Number	Description
APNM-MBAS	A package of the product MIB and supporting documentation with detail to the monitoring (alarm) level only. Includes up to 4 hours of engineering support.
APNM-MADV	A package of on-site engineering support and documentation. Charged per day pro-rata based on number of days required.
APNM-PMPW-NPC	IBM PC (incl. monitor, keyboard, mouse) with SNMPc workgroup edition installed, pre-configured for basic operation, supporting a single user for small to medium sized networks. Limited to 1000 managed elements.
APNM-PMPE-NPC	IBM PC, (incl. monitor, keyboard, mouse) with SNMPc Enterprise edition installed, pre-configured for basic operation supporting a scalable multi-user environment. Includes SNMPc server license, 10 remote console licenses and 10 remote poller licenses.
APNM-PMPE-NSV	IBM 19inch rack mount server (incl. monitor, keyboard, mouse) with SNMPc Enterprise edition installed, pre-configured for basic operation supporting for a scalable multi-user environment.
APNM-PMPE-NSB	Two IBM 19inch rack mount servers (incl. monitor, keyboard, mouse) with SNMPc Enterprise edition installed, pre-configured for basic operation in a backed up configuration.
APNM-SMPW	Single user version for managing small to medium sized networks running on a single system and supports one user. Limited to 1000 managed elements.
APNM-SMPE	SNMPc Enterprise edition provides for a scalable multi-user environment. Includes SNMPc server license, 10 remote console licenses and 10 remote poller licenses.

AirSync5

Part Number	Description
APNM-IAS5-DWS-LN	2 x Tower Server (incl single 22-24" monitor, keyboard, mouse) with installed AirSync5 NMS software for large sized network. License limited to 1000 Aprisa elements. Requires purchasing part number APNM-SAS5-XML for any new increase of 1000 Aprisa elements license (i.e. N x 1,000 license increments (N=1..15) of Aprisa managed elements). Includes 1 year annual updates and support for AirSync5 software (warranty for hardware available from supplier) Does not include shipment
APNM-IAS5-DWS-MN	Desktop/Workstation (incl 22-24" monitor, keyboard, mouse) with installed AirSync5 NMS software for medium sized network. Licensed limited to 1,000 Aprisa managed elements. Includes 1 year annual updates and support for AirSync5 software (warranty for hardware available from supplier) Does not include shipment
APNM-IAS5-DWS-SN	2 x Tower Server (incl single 22-24" monitor, keyboard, mouse) with installed AirSync5 NMS software for small sized network. Licensed limited to 500 Aprisa managed elements. Includes 1 year annual updates and support for AirSync5 software (warranty for hardware available from supplier) Does not include shipment
APNM-IAS5-RMT-SV-LN	2 x Rack mount server (incl single 22-24" monitor, keyboard, mouse) with installed AirSync5 NMS software for large sized network. License limited to 1000 Aprisa elements. Requires purchasing part number APNM-SAS5-XML for any new increase of 1000 Aprisa elements license (i.e. N x 1,000 licence increments (N=1..15) of Aprisa managed elements). Includes 1 year annual updates and support for AirSync5 software (warranty for hardware available from supplier) Does not include shipment
APNM-IAS5-RMT-SV-MN	Rack mount server (incl 22-24" monitor, keyboard, mouse) with installed AirSync5 NMS software for medium sized network. Licensed limited to 1,000 Aprisa managed elements. Includes 1 year annual updates and support for AirSync5 software (warranty for hardware available from supplier) Does not include shipment
APNM-IAS5-RMT-SV-SN	2 x Rack mount server (incl single 22-24" monitor, keyboard, mouse) with installed AirSync5 NMS software for small sized network. Licensed limited to 500 Aprisa managed elements. Requires purchasing part number APNM-SAS5-XML for any new increase of 1000 Aprisa elements license. Includes 1 year annual updates and support for AirSync5 software (warranty for hardware available from supplier)
APNM-SAS5-XML	AirSync5 NMS software for medium-large sized networks (1,000 elements) running on a dual server. License limited to 1000 Aprisa elements. Requires purchasing this part number for any new increase of 1000 Aprisa elements up to 15,000 elements (i.e. N x 1,000 increments (N=1..15) of Aprisa managed elements). Includes 1 year annual updates and support Electronic delivery
APNM-SAS5-XML-US-Y1	AirSync5 software for medium-large network Annual Updates and Support

3.   Services

General

4RF Limited has a world class services team and can offer a vast range of services to facilitate the best possible linking solution for your needs. Services include:

- RF design, Path profile analysis and engineering reports
- Customer site engineering surveys, audits and support
- Training courses from basic introduction to advanced
- Project management, installation and commissioning services
- Network Management System (NMS) solutions, including design, engineering and training

Please contact 4RF or your local 4RF sales director to discuss options and pricing on these services or any other service orientated work.

Full details of the terms and conditions for all engineering services are provided in 4RF's Terms and Conditions.

Training

Part Number	Description
APSV-XTRA-SRF-OF	4RF Service, Training, SR 2-day, at 4RF (max 8 trainees)
APSV-XTRA-SRF-CU	4RF Service, Training, SR 2-day, at Customer Site (max 8 trainees)
APSV-XTRA-NMS-OF	4RF Service, Training, NMS Standard 2-day, at 4RF (max 8 trainees)
APSV-XTRA-NMS-CU	4RF Service, Training, NMS Standard 2-day, at Customer Site (max 8 trainees)
APSV-XTRA-STU	4RF Service, Training, Additional Trainee

Notes:

1. For courses held at customer premises all 4RF trainer expenses are charged additionally including travel, freight and equipment, accommodation, meals, and local transport.
2. For courses held at 4RF, all trainee / student expenses are the responsibility of the customer.
3. The courses are for a maximum of 8 trainees. For course sizes in excess of 8 trainees, an additional fee applies per trainee.

Full conditions of all training courses are given in 4RF's Engineering Services Terms and Conditions.

Technical Support

The following discountable charges are to be read in conjunction with the Technical Support terms and conditions.

Part Number	Description
APSV-XTEC-OFF-HR	4RF Service, Tech Support, Office, per hour
APSV-XTEC-OFF-DY	4RF Service, Tech Support, Office, per day
APSV-XTEC-FLD-DY	4RF Service, Tech Support, Field, per day
APSV-XTEC-EMG-DY	4RF Service, Tech Support, Emergency Field, per day

Notes:

1. Field or Site visits are charged per day or part thereof.

2. If resolution of the issue identifies faulty 4RF equipment, charges may be refunded as described in the terms and conditions.

3. 4RF Engineer expenses are charged additionally including travel, accommodation, meals, local transport, equipment and freight.

Engineering Services

Services

Part Number	Description
APSV-XENG-RFE-HR	4RF Service, Engineering, RF, per hour
APSV-XENG-RFE-DY	4RF Service, Engineering, RF, per day
APSV-XENG-NET-HR	4RF Service, Engineering, Network, per hour
APSV-XENG-NET-DY	4RF Service, Engineering, Network, per day
APSV-XENG-FAT-DY	4RF Service, Engineering, Factory Acceptance Test, per day
APSV-XENG-ICO-DY	4RF Service, Engineering, Inst. & Commissioning, per day
APSV-XENG-NMO	4RF Service, Engineering, Network Monitoring
APSV-XENG-PMG-DY	4RF Service, Engineering, Project Management, per day
APSV-XENG-EXP-DY	4RF Service, Engineering, Expenses, per day
APSV-XENG-EXP-TR	4RF Service, Engineering, Expenses, Travel
APSV-XENG-TRA-DY	4RF Service, Engineering, Travel, per day
APSV-XENG-TRA-AF	4RF Service, Engineering, Travel, Airfares

Notes:

1. 4RF Engineer expenses are charged additionally including travel, accommodation, meals, local transport, equipment and freight.

Path Profiles

Part Number	Description
APSV-XENG-PTH-P1	4RF Service, Engineering, Path Profiles, <10 profiles
APSV-XENG-PTH-P2	4RF Service, Engineering, Path Profiles, 10-30 profiles
APSV-XENG-PTH-P3	4RF Service, Engineering, Path Profiles, >30 profiles

Notes:

1. The charge covers the individual path profiles and the associated report, detailing the following:

   - A plot of each individual path profile.
   - A full link budget indicating the theoretical availability according to the ITU standard recommendations.
   - A summary listing the main components and performance expectation for the link.
   - Additional information or observations specific to each path which can include:
   - Potential reflection and multi-path analysis.
   - Recommendations on alternate radio variants, antennas and feeder systems.

2. 4RF will produce the most accurate report possible based on the supplied information however we are not responsible for differences in actual performance compared with the expected performance as detailed in the report.

3. 4RF does not warrant or guarantee the performance defined in path reports produced without an associated 4RF site and path survey. A 4RF site and path survey can considerably improve the accuracy of the report and resultant performance predictions.

Repair and Return

General

The following charges and notes are to be read in conjunction with the Repair Terms and Conditions (supplied on request) and Standard Terms and Conditions of 4RF. Where there is a difference between the two documents, the Repair Terms and Conditions apply.

Notes:

1. Extended warranty is for 4RF manufactured products. Extended warranties for products not manufactured by 4RF will be considered on a case by case basis at 4RF's sole discretion.

2. The customer is responsible for freight to 4RF (DDU).

3. All items returned for repairs require a completed RMA form and if 'out-of-warranty' a customer purchase order.

4. Units returned to 4RF will be extensively tested. Any units found to be 'No Fault Found' will be charged for as listed.

5. Expedited repair and standard advanced replacement services are dependent on materials availability and are provided at 4RF's discretion.

6. Items may be assessed beyond economic repair (BER) by 4RF. Customers will be notified and work ceased pending a decision on replacement or extended repair price.

Extended Warranty

The standard warranty for the Aprisa SR is 15 months from date of shipment; additional, extended warranty periods are available to purchase at time of order.

Part Number	Description
APSV-XREP-EWR-PS-Y3	4RF Service, Repair, Ext Warranty Aprisa SR, Protected Station, 3 Years
APSV-XREP-EWR-PS-Y1	4RF Service, Repair, Ext Warranty Aprisa SR, Protected Station, 1 Year
APSV-XREP-EWR-BR-Y3	4RF Service, Repair, Ext Warranty Aprisa SR, BR, 3 Years
APSV-XREP-EWR-BR-Y1	4RF Service, Repair, Ext Warranty Aprisa SR, B R, 1 Year

Aprisa SR Repair

Part Number	Description
APSV-XREP-ASR-RD	4RF Service, Repair, Aprisa SR, Radio
APSV-XREP-ASR-PW	4RF Service, Repair, Aprisa SR, Protection Switch

General Repair Services

Part Number	Description
APSV-XREP-EXR	4RF Service, Repair, Expedited Repair (additional fee)
APSV-XREP-NFF-TR	4RF Service, Repair, No Fault Found, Terminal

Standard Advanced Replacement Service

Part Number	Description
APSV-XREP-ADV-TR	4RF Service, Repair, Advanced Replacement, Terminal

Guaranteed Advanced Replacement Service (GARS)

Part Number	Description
APSV-XREP-GAR	4RF Service, Repair, Guaranteed Replacement Service (per item listed on the schedule, per annum)

Service Level Agreements

Part Number	Description
APSV-XSLA-L00	4RF Service, Service Level Agreement, Bronze
APSV-XSLA-L01	4RF Service, Service Level Agreement, Silver
APSV-XSLA-L02	4RF Service, Service Level Agreement, Gold
APSV-XSLA-L03	4RF Service, Service Level Agreement, Platinum

As standard, all our customers are entitled to our 'Bronze' service level agreement. Upgrading to silver, gold and platinum service level agreements enable customers receive additional and preferential levels of service

Please refer to 4RF's Engineering Services Terms and Conditions for details of service level agreements.