



Aprisa XE

POINT-TO-POINT DIGITAL MICROWAVE LINKS

400 MHz licensed band

DATASHEET [FCC]



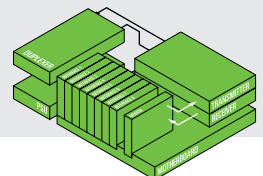
Aprisa XE: maximizing spectrum use and making challenging long distance links possible.

- **Efficient future-proof single-box architecture:** the Aprisa XE's built-in multiplexer and cross-connect eliminate external equipment and minimize the over-the-air requirements, with customer-configurable interface slots integrating all IP, voice and data traffic. Configuration, performance monitoring and diagnostics are easy with the Aviat's embedded web-based element management system, SuperVisor.
- **High capacity:** class-leading spectral efficiency and up to 64 QAM modulation make the maximum use of the available spectrum, with industry leading capacity of up to 88 kbit/s in a 25 kHz channel.
- **Long range:** a single 400 MHz Aprisa XE can link distances in excess of 150 miles, overcoming the problems of water, environmental conditions and topographical obstacles.
- **Carrier-class performance:** Aprisa XE links are engineered to achieve 'five 9s' availability, benefiting from state of the art forward error correction and inherent low latencies, for unrivaled quality of service.
- **Cost effective:** the Aprisa XE has a low total cost of ownership, providing a rapid return on investment by minimizing both capital and operational expenditure.
- **Redundancy options:** Monitored Hot Standby is available for protection in mission-critical applications.
- **Reliable:** the Aprisa XE has an actual MTBF of 95.72 years. It can be relied upon to perform in the harshest and most remote environments.

In Brief

- Licensed 400 MHz frequency band
- Built-in cross-connect and multiplexer
- Up to 88 kbit/s capacity
- 25 kHz channel size
- QPSK to 64 QAM modulation
- Range of 150+ miles
- Industry-leading reliability
- Web server and SNMP management
- All voice, data and IP applications
- MHSB protection option

Future-proof single-box architecture



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Specifications

RF	Band (MHz)	Tuning Range (MHz)	Synthesizer Step Size (kHz)
Frequencies	400	400 – 512	6.25
Modulation Types	Software configurable: 16 / 32 / 64 QAM		
Frequency Stability	Short term ± 1 ppm (environmental effects and power supply variations) Long term ± 2 ppm (aging of crystal oscillators \approx over 5 years)		
Antenna Connection	N-type female 50 ohm		

Transmitter		
Power Output	16 QAM	+17 to +31 dBm
	32 QAM	+16 to +30 dBm
	64 QAM	+15 to +29 dBm

Receiver			
Maximum Input Level	-20 dBm		
Dynamic Range	58 to 87 dB at 10^{-6} BER		
C/I Radio	Co-Channel	16 QAM	better than 20 dB
		32 QAM	better than 23 dB
		64 QAM	better than 27 dB
	First adjacent channel		better than -5 dB
	Second adjacent channel		better than -30 dB

Duplexer (bandpass)	Passband	TX / RX Split	Tuning Range
C0	500 kHz	≥ 5	300, 400

Power Supply	
Input Range	115 / 230 VAC, 50 / 60 Hz ± 12 VDC (10.5 – 18 VDC), ± 24 VDC (20.5 – 30 VDC), ± 48 VDC (40 – 60 VDC)
Power Consumption	53 – 180 W input power (dependent on interface cards fitted and transmitter output power level)

Interfaces	
Ethernet Ports	Integrated 4-port 10 / 100Base-T switch with port-based rate limiting, VLAN tagging and QoS Support
E1 / T1	Quad 120 ohm G.703 / G.704
Data	Quad V.24 asynchronous, synchronous and over sampling mode Single synchronous X.21 / V.35 / RS-449 / RS-530
Analogue	Dual 2-wire FXS / FXO (POTS); Quad 4-wire E&M

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Auxiliary Interfaces	
Alarms	4 external alarm outputs, 2 external alarm inputs
Configuration	Embedded web server with SNMP
Management	Ethernet interface for SuperVisor and SNMP, V.24 setup port
RSSI	Front panel test point

Environmental	
Operating	+14° F to +122° F [-10° C to +50° C]
Storage	-4° F to +158° F [-20° C to +70° C]
Humidity	Maximum 95 % non-condensing

Mechanical	
Rack Mount	19" 2U high (internal duplexer)
Weight	23 lbs (10 kg) typical

Protected Options	
MHSB	≤ 4 dB splitter / cable loss, ≤1 dB TX relay / cable loss (system gain reduced by a maximum of 5 dB)

Compliance	
Radio	FCC CFR 47 Part 90
EMI / EMC	FFCC CFR 47 Part 15, EN 301 489-1, EN 301 489-5
Safety	EN/UL/IEC 62368-1, CB Certified, NRTL listed CSA 253147 applicable for 48 VDC and 24 VDC product variants
Environmental	ETS 300 019-2-3 Class 3.2

System Performance

25 kHz Channel	16 QAM	32 QAM	64 QAM
Capacity ^[1] gross (TS + wayside)	56 (0 TS + 56) kbit/s	72 (1 TS + 8) kbit/s	88 (1 TS + 24) kbit/s
Receiver Sensitivity ^[2]	-105 dBm	-102 dBm	-99 dBm
System Gain ^[2]	136 dB	132 dB	128 dB

NOTES

[1] Capacities are specified as unframed. The management Ethernet capacity must be subtracted from the gross capacity (default 64 kbit/s).

[2] Performance specified at the antenna port for 10-6 BER. Figures for 10-3 BER are typically 1 dB better.

Disclaimer

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