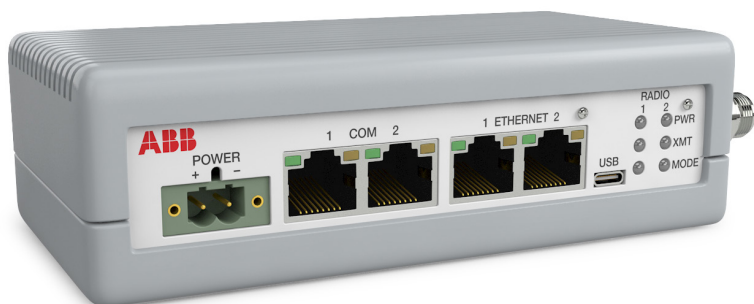


ArcheOS 7000 Series

Licensed 700 MHz PTMP/PTP radios



ArcheOS licensed band point-to-multipoint (PTMP) and point-to-point (PTP) radios provide reliable, around-the-clock wireless connectivity to remote endpoints at low to medium speeds. Every ArcheOS radio can serve as a master, a repeater or a remote endpoint.

ArcheOS 7000 series radios are dual band 757 – 758 MHz and 787 – 788 MHz software defined radios. Multiple complex modulation schemes allow for data transfer rates from 10 kbps to 1 Mbps using 12.5 kHz to 250 kHz channel widths. ArcheOS 7000 series radios support conducted output power of up to 10 W.

Enclosed products

Product name	Radios	Ethernet ports	Serial ports	Description
ArcheOS 7222	2	2	2	Dual 700 MHz radios Ethernet and serial
ArcheOS 7122	1	2	2	Single 700 MHz radio, Ethernet and serial

Transmitter

Frequency range	757 – 758 MHz/787 – 788 MHz
Conducted output power	up to 10 W
Range - line of sight	70+ miles
Modulation	MSK, QPSK, 8-PSK, 16-QAM, 32-QAM
Data rate	10 kbps to 1 Mbps
Channel width	12.5 kHz, 25 kHz, 50 kHz, 100 kHz, 200 kHz, 250 kHz
Frequency stability	1.0 ppm
Duty cycle	Continuous
Output impedance	50 Ohms

Receiver

Channel width (kHz)	Modulation	Data rate (kbps)	Sensitivity (dBm)
12.5	MSK	10	-113
	QPSK	23	-109
	8-PSK	34	-104
	16-QAM	45	-100
	32-QAM	57	-94
25	MSK	19	--113
	QPSK	36	-107
	8-PSK	52	-102
	16-QAM	70	-98
	32-QAM	87	-93
50	MSK	39	-110
	QPSK	71	-105
	8-PSK	101	-99
	16-QAM	137	-93
	32-QAM	175	-89
100	MSK	76	-108
	QPSK	160	-103
	8-PSK	240	-97
	16-QAM	320	-91
	32-QAM	400	-87

Receiver (continued)

Channel width (kHz)	Modulation	Data rate (kbps)	Sensitivity (dBm)
200	MSK	153	-105
	QPSK	320	-102
	8-PSK	480	-94
	16-QAM	640	-91
	32-QAM	800	-87
250	MSK	194	-104
	QPSK	403	-101
	8-PSK	605	-95
	16-QAM	806	-91
	32-QAM	1008	-87

Data transmission

Error Detection	Up to 32-bit CRC, X ² ECC, retransmit on error
Serial interface Speed	Up to 921.6 kbps
Data Connector	4 x RJ-45
Data interfaces	2 x 10/100 Ethernet, 2 x RS232/422/485 Serial

Power/Physical

Operating Voltage	12 – 32 VDC +/- 10%
Transmit Current (1w/3w)	Average mA @ 12 VDC single radio: 460/593mA dual radio: 490/620mA
RF Connector	TNC
Dimensions (L x W x H)	6.625" (168 mm) x 3.45" (88 mm) x 1.835" (47 mm)
Weight	1.46 lbs enclosed, 663 grams

Wireless approvals

FCC

Environmental specifications

Operating temperature range	-40°C to +75°C
Humidity	95% @ 40°C non-condensing
Location	UL Class 1 , Division 2, Groups A, B, C and D; T3C

Management

SNMP V3
SuprOS carrier-class NMS support

Security

AES 128/256-bit encryption
Password authentication
VLAN network segregation

Warranty

Five (5) year hardware warranty
Software and hardware maintenance plans available

Unique capabilities

- **High Speed** 10 kbps to 1 Mbps over-the-air throughput. ArcheOS's DSM technology offers the industry's highest throughput in a 12.5 kHz channel at 56.7 kbps.
- **Dual Band** 757 – 758 MHz/787 – 788 MHz frequency band support with a single radio.
- **Dual Radio** Support for optional second RF module in a single enclosure (ArcheOS 7222) provides enhanced repeater functionality, higher throughput rates and multi-band/multi-frequency operation
- **Ethernet Switch** Two independent Ethernet ports, each with full VLAN support and configurable as access ports, trunks, or mixed.
- **Serial Bridge** Seamless integration for hybrid networks utilizing both Ethernet and legacy serial devices.
- **ArcheOS Master Station** Hot standby dual radio station increases network reliability with automatic access point failover

ABB Inc.
3055 Orchard Drive
San Jose, CA 95134
USA

sales.wireless@nam.abb.com

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