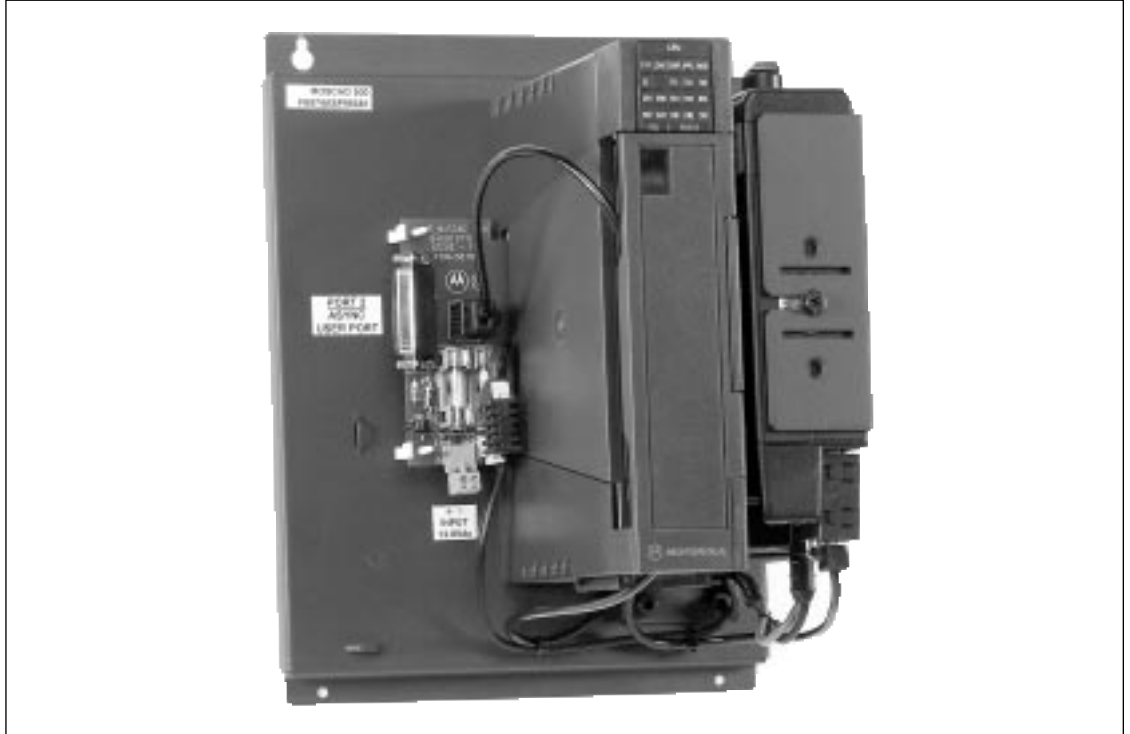


MOSCAD 500

Fixed Data Radio Modem

The MOSCAD 500 is a Fixed Radio Modem based on the Motorola MOSCAD CPU module. It satisfies the need for communications between data devices over many types of Motorola radio infrastructures.



FEATURES

Operation

The MOSCAD 500 accepts asynchronous serial data (the transported protocol) through the RS-232 interface, places the data into packets of 150 bytes or less, and broadcasts the data over the radio communications system to all other MOSCAD 500 units. The receiving units *unpack* the data and forward it to the connected data device.

- ▶ *Data operation on conventional or trunked radio infrastructures in all frequency ranges is provided.*

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Protocol

MDLC, the native protocol of the MOSCAD 500, is specifically developed for use on two-way radio communication systems. This packet-type protocol conforms to the OSI seven layer reference model.

- ▶ *Data communications will be successful because the protocol is designed for the harsh two-way radio environment.*
- ▶ *Data in packets easily handles long messages.*

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CPU

The CPU module of the MOSCAD 500 is itself a computer with RAM, ROM, and a real-time clock. The module is programmed to encapsulate virtually any ASCII or Binary byte-oriented data format, transport that data successfully over a two-way radio system, and reproduce the data at the receiving unit.

- ▶ *Connectivity to most existing RTUs is easily accomplished because of the flexibility provided by the MOSCAD CPU.*

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RS-232 Interface

A standard DB-25F connector permits easy connection to the RS-232 communication port on the associated data terminal.

- ▶ *A standard physical interface eases equipment connectivity.*

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MOSCAD 500

Fixed Data Radio Modem

SPECIFICATIONS

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Order	Conventional Radio:	F6973ASP96581 F6954ASP96581 F6974ASP96581 F6956ASP96581	136-142, 142-174 MHz 20 watt splinter or standard channels (DFM standard) 450-470 MHz 4 watt (FSK standard) 403-430, 450-470 MHz 20 watt (DFM standard) 928-960 MHz 5 watt MAS (FSK standard)
	Trunked Radio:	F6984ASP96581 F6985ASP96581 F6986ASP96581 F6987ASP96581	403-430, 450-470 MHz 20 watt (DPSK standard) 800 MHz range (not 821) 15 watt (DPSK standard) 900 MHz range 12 watt (DPSK standard) 800 MHz range MCS2000 15 watt (DPSK standard)
	Options:	V356 V370	Converts DFM or DPSK to FSK emission Converts DFM or FSK to DPSK emission
Data Interface<D>	Data Speed:	300, 1200, 2400, 4800, or 9600 bps	
	Bits & Parity:	E,7,1; E,7,2; O,7,1; O,7,2; N,8,1; N,8,2; E,8,1; O,8,1 (parity, # data bits, # stop bits)	
	Supported Signals:	Tx, Rx, Gnd (required); RTS, CTS (available); DCD on when transmitting data	
Transported Data Protocol Requirements			
	Byte-oriented:	Asynchronous binary or ASCII conforming to the parity/bit requirements above	
	Addressing:	Must be included within the transported protocol—MOSCAD 500 broadcasts data to all.	
	Delays:	Single packets transmitted in << 2 seconds (typical), longer when radio channel is busy Multiple packet sessions may be expected to introduce time gaps in the reproduced data stream	
	Timing:	Response time expectations in Originate-Reply may have to be relaxed to tolerate busy channel delays	
Radio Data Speeds			
	Conventional:	<i>Dependent upon infrastructure and FCC license:</i> 9.6 kbps on 900 MHz MAS (consult Factory) 4.8 kbps (DFM) on VHF, UHF, or 800 MHz when no repeaters are present (FCC F1 emission used); 2.4 kbps (FSK) on VHF, UHF, or 800 MHz when repeaters are present (FCC F2 emission used); 1.2 kbps (DPSK) on VHF splinter channels (FCC F2 emission used)	
	Trunked:	2.4 kbps (FSK) on single-site 800 MHz systems with no control consoles; 1.2 kbps (DPSK) on UHF systems, multi-site 800 MHz systems, 900 MHz systems, or any system with control consoles	
Power Consumption			
	4 watt:	1.10 amp @ 13.6 Vdc	
	5 watt:	2.66 amp @ 13.6 Vdc	
	>10 watt:	5.66 amp @ 13.6 Vdc	
Physical			
	Size:	9" W x 11.8" H x 7" D	
	Temperature:	-30° to +60°C (-22° to +140°F)	
	Humidity:	Up to 95% RH @ +50°C	
	Antenna Connector:	Mini-UHF female	

FCC LICENSING				
Frequency Range	RF Power	Rules Part	Emission Designators	Type Acceptance
150-174 MHz splinter channel	4-25 W	90	5K6F1D, 5K6F2D, 10K0F1D, 10K0F2D, 10K0F3E	AZ492FT3002
150-174 MHz standard channel	20 W	90	16K0F1D, 15K0F2D, 16K0F3E	ABZ89FT3712
450-470 MHz conventional	1-4 W	90	16K0F3E, 20K0F1E, 20K0F2D	AZ489FT4780
450-470 MHz conv./trunked	20 W	90	16K0F1D, 15K0F2D, 16K0F3E	ABZ89FT4713
800 MHz trunked	1-15 W	90	16K0F1D, 15K0F2D, 16K0F3E	ABZ89FT5677
800 MHz MCS2000 trunked	15 W	90	14K0F2D, 15K0F2D, 16K0F2D	AZ492FT5765
900 MHz trunked	2-15 W	90	10K0F1D, 11K0F2D, 11K0F3E	ABZ89FT5728
900 MHz MAS	5 W	101 (94)	12K5F1D, 12K5F2D, 12K5F9W, 16K0F1D, 16K0F2E	ABZ9QCT6619

Specifications subject to change without notice.



SUPPORT SERVICES

Wherever Motorola sells, our product is backed by service. Our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.



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