

Electrical Specifications

CMD VHF

Frequency of Operation	136-174 MHz
Sensitivity	-120 dBm
Input Carrier Detection Threshold	-120 to -50 dBm
Carrier Detection Threshold Adjustment Step	1 dB
Carrier Detection Attack Time	<2 ms
Maximum Gain Range	70 to 140 dB
On-Channel Repeater (OCR)	70 to 170 dB
Translator	
AGC Range	100 dB
AGC Attack Time	<1 ms
AGC Decay Time	<1 ms
Output Power	1 W to 30 W
Output Power Tolerance	-0dB, +1dB
Duty Cycle	100%
Output Frequency Stability	
On-Channel Repeater (OCR)/Translator	Tracks Input Signal Frequency
Passband Frequency Stability (Internal TCXO)	+/-1 ppm (+/-0.1 ppm optional)
Modulation Types	Narrowband FM Voice and Data
Bandwidth	Application Specific
Selectivity	Application Specific
Receiver Spurious Response Rejection	>70 dB
Receiver Intermodulation	>70 dB
Receiver Conducted Spurious Emissions	<-57 dBm
Transmitter Conducted Spurious Emissions	<-20 dBm
Transmitter FM Hum and Noise	>45 Db
Input Impedance	50 Ohms
Output Impedance	50 Ohms
Input VSWR	<1.5:1
Output VSWR	<1.5:1
Power Supply Voltage	22 to 28 VDC
Power Supply Current Drain	
Standby	< 0.3 A
Transmit	< 4 A

Mechanical

CMD VHF

RF Connectors	SMA Receptacles
Environmental	90% humidity @ 50°C (122°F)
Operating Temperature Range	-30 to +60°C (-22 to +140°F)
Dimensions (H x D x W)	260 x 225 x 75 mm (10.25" x 8.86" x 2.95")
Weight	4.09 kg (9 lb)

Programming

CMD VHF

Frequency of Operation	✓
Output Power	✓
Carrier Detection Threshold	✓
Carrier Detection Timeout	✓
Gain	✓
DCS/CTCSS	✓

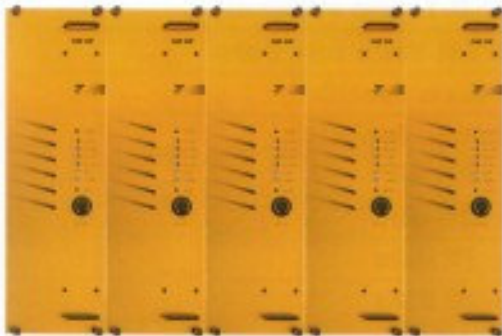
Alarms/Monitoring

Power	✓
VSWR	✓
Temperature	✓
Synt. lock	✓

CMD VHF

Channel Module Product Description

- The Channel Module is an RF channel selective repeater. It can be used in the On Channel Repeater (OCR) or Translator mode. As no baseband demodulation/remodulation process takes place within the Channel Module, signals are amplified with minimal distortion and propagation delays.
- Different filtering characteristics and bandwidths can be provided to ensure compatibility with most types of analog/digital signaling formats and channel spacing.
- When configured in the OCR mode, the input and output frequencies are the same and a gain of greater than 140 dB can be realized.



- When configured in the Translator mode, with different input and output frequencies, a gain of 170 dB is available.

- In either mode, the input threshold's gain and output power are programmable either locally from a RS-232 port on the front panel or remotely from a System Controller. No disassembly is

required to perform these adjustments. A simple set-up program allows programming information to be entered directly in dBm for input threshold/output power. Together with the capability to monitor RSSI levels, these features minimize the need to use test equipment during system installation and set-up.

- Automatic maximum possible gain set up can be provided as an option.
- In conventional system applications, CTCSS/DCS decoding can be programmed to provide additional protection from interfering signals, ensuring only wanted signals are amplified.
- The chassis of the Channel Module is cast aluminum, designed to provide the high levels of internal shielding required for this application. A double Eurocard format allows five Channel Modules to be plugged into a single 19" EIA rackmount card cage that is 10.5" (6 rack units) high.
- Additional per channel alarm and monitoring functions are available as detailed in the following table.



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