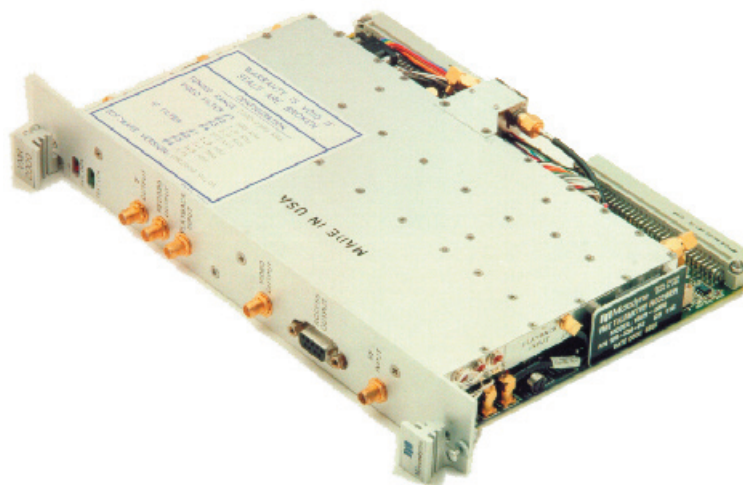


Technical Bulletin

VMR-2000 VME-Based Telemetry Receiver Ground Products/Microdyne



FEATURES

- Compact VME-Based Full Function FM Telemetry Receiver
- Available with 2185-2485 MHz or 1429-1545 MHz Tuners
- Highly Selective RF Tuning with 100 kHz tuning steps
- Four Selectable IF Bandwidths 100 kHz to 12 MHz available
- Two Selectable FM Demodulators for extended range operation
- Processes PCM/FM NRZ-L Data Rates from 50 kHz to greater than 7 Mbps
- AM Tracking Output
- Compatible with VMC-2010 Pre-detection Combiner
- Complete Remote Control with Extensive Status Functions

- CE Certified as Compliant to 89/336/EEC
- Rugged Construction with seamless Aluminum RF Cavity
- Field Proven Design

DESCRIPTION

The VMR-2000 Series of VME-Based Telemetry Receivers are designed to handle a wide variety of Telemetry Applications including Analog FM Camera Video and Telemetry PCM/FM data rates from 50 kbps to over 7 Mbps. The units also provide AM tracking outputs for Antenna Tracking Applications. The Receivers can be supplied with RF tuners for L or E band applications.



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Specifications

RF Tuning Range	1429-1545 MHz or 2185-2485 MHz – Other Ranges Available – Consult Factory.
Type	Dual Conversion, Superhetrodyne
RF Input	Front Panel SMA Female, 50 ohm
Operating Level/Dynamic Range	-95 dBm to -10 dBm Maximum Input Level +10 dBm without damage to the unit
Tuning Step Size	100 kHz
Noise Figure	12 dB Maximum
VSWR	1.5:1 Typical, 2:1 Max.
Image Rejection	60 dB Minimum
IF Rejection	50 dB Minimum
Spurious Rejection	50 dB Minimum
1 st IF Center Frequency	440 MHz
1st LO Type	Synthesized, 100 kHz step size
2nd LO Type	Synthesized
Reference Oscillator	10.0 Mhz (optional 10.0 Mhz input)
LO Stability	1.5 x 10 ⁻⁶ over 0 to 50°C
2nd IF Center Frequency	20 MHz
2nd IF Output	Front Panel SMA Connector @ -10 dBm, 50 Ohms
2nd IF Bandwidth	Select four (4) from: 300/500/750kHz/1/1.5/2/2.4/3/3.4/5/6/10/12 MHz BW Other Filters Available. Consult Factory.

AM Tracking Output	Envelope (non-coherent)	Pre-D Output Impedance	75 Ohms
AM Frequency Response	Limited by AGC TC at the low end to 100 kHz	Pre-D Output Level	2 Vpp, minimum
AM Output Level	2 Vpp for 50% AM modulation into 75 ohm load	Pre-D Data Bandwidth	±90% of Center Frequency Typical
AM Output Connector	AM Outputs Pin 1 and Pin 9 of Front Panel Accessory Connector	Pre-D Output Connector	Front Panel SMA Female
AGC Time Constants	0.1, 1.0, 10, 100, 1000 msec	RFI/EMI	CE certified and tested to: 89/336EEC
AGC Linearity	±2 dB over any 30 dB Range	Power Consumption	30 Watts Typical
AGC Output Connector	AGC Outputs Pin 2 and Pin 8 of Front Panel Accessory Connector, 1 Kohm Load or Higher	VME Communications Size	A16/D08(EO) Register-Based Dual Slot 6U, "B" size card
Demodulation	Demodulator (FM only) Dual Bandwidth, Med. and Wide Selectable	RF Chassis	Seamless Machined Aluminum RF Cavity Attached to a Multi-layer PCB, with SMD Components
Demodulation Response	5 MHz analog, 7 Mbps PCM/FM NRZ-L codes	Operating Temperature	0 to +50°C
COR Threshold	Remotely Adjustable	Storage Temperature	-55 to +65°C
COR Outputs	COR Outputs Pin 6 TTL=1 (COR On), Pin 7 TTL=0 (COR On) P/O Front Panel Accessory Connector	Operating Altitude	To 15,000 feet
Video Output Level	4 Vpp Max. adjustable over 63 dB in 1 dB steps	Storage Altitude	To 50,000 feet
Video Output Impedance	75 ohms unbalanced	Operating Humidity	Up to 95% non-condensing
Video Output Coupling	AC or DC programmable		
Video Output Filters	Four Selectable plus Bypass. Bandwidth determined by IF bandwidth or customer specified		
Video Output Connector	Front Panel SMA Female		
Pre-D Record			
Output Frequency	Single Output Customer Specified		

Monitor & Control Functions		
AGC Time Constant	AGC Level	Deviation Monitor
IF Bandwidth	RF Tuned Frequency	External Reference
Synthesizer Lock	Video Bandwidth	Video Output Level
Video Coupling	Video Polarity	AGC Auto Zero
COR Threshold	COR Status	AGC Freeze
Manual Gain	Tuning Meter	Demod Bandwidth



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