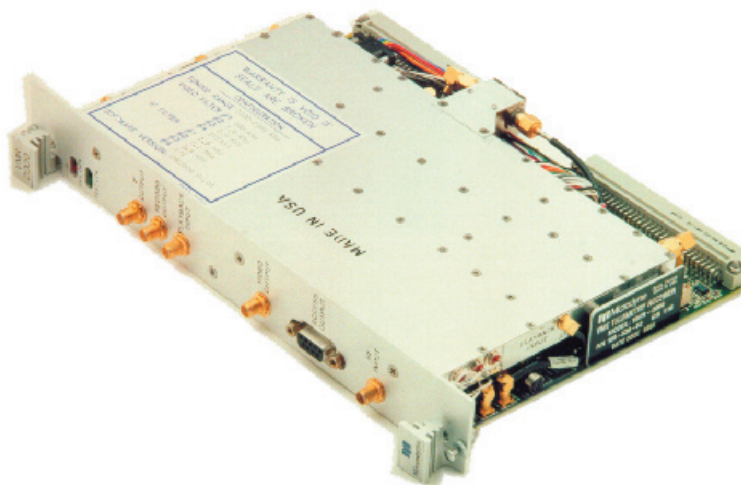


Technical Bulletin

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



FEATURES

- Compact VME-Based Full Function Wideband 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 1.2 MHz to 40 MHz available
- Two Selectable FM Demodulators for extended range operation
- Handles Full Color FM Video
- Processes PCM/FM NRZ-L Data Rates from 1.0 Mbps to greater than 20 Mbps
- AM Tracking Output
- Compatible with VMC-2070 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 Wideband Telemetry Receivers are designed to handle a wide variety of Wideband Telemetry Applications including Analog FM Camera Video and Telemetry PCM/FM data rates from 1.0 Mbps to over 20 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
1st IF Center Frequency	500 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	1.5×10^{-6} over 0 to 50°C
2nd IF Center Frequency	70 MHz
2nd IF Output	Front Panel SMA Connector @ -10 dBm, 50 Ohms
2nd IF Bandwidth	Select four (4) from: 1.2/3.3/4.0/5.6/10/12/15/20/25/30/40 MHz BW Other filters available. Consult Factory.

AM Tracking Output	Envelope (non-coherent)	Pre-D Data Bandwidth	±90% of Center Frequency
AM Frequency Response	Limited by AGC TC at the low end to 100 kHz	Pre-D Output Connector	Typical
AM Output Level	2 Vpp for 50% AM modulation into 75 ohm load	RFI/EMI	Front Panel SMA Female
AM Output Connector	AM Outputs Pin 1 and Pin 9 of Front Panel Accessory Connector	Power Consumption	CE certified and tested to: 89/336EEC
AGC Time Constants	0.1, 1.0, 10, 100, 1000 msec	VME Communications	30 Watts Typical
AGC Linearity	±2 dB over any 30 dB Range	Size	A16/D08(EO) Register-Based
AGC Output Connector	AGC Outputs Pin 2 and Pin 8 of Front Panel Accessory Connector, 1 Kohm Load or Higher	RF Chassis	Dual Slot 6U, "B" size card
Demodulation	Patented Delay Line Demodulator (FM only) Dual Bandwidth, Med. and Wide Selectable	Operating Temperature	Seamless Machined
Demodulation Response	15 MHz analog, 20 Mbps PCM/FM NRZ-L codes	Storage Temperature	Aluminum RF Cavity
COR Threshold	Remotely Adjustable	Operating Altitude	Attached to a Multi-layer PCB, with SMD Components
COR Outputs	COR Outputs Pin 6 TTL=1 (COR On), Pin 7 TTL=0 (COR On) P/O Front Panel Accessory Connector	Storage Altitude	0 to +50°C
Video Output Level	4 Vpp Max. adjustable over 63 dB in 1 dB steps	Operating Humidity	-55 to +65°C
Video Output Impedance	75 ohms unbalanced		To 15,000 feet
Video Output Coupling	AC or DC programmable		To 50,000 feet
Video Output Filters	Four Selectable plus Bypass. Bandwidth determined by IF bandwidth or customer specified		Up to 95%
Video Output Connector	Front Panel SMA Female		
Pre-D Record			
Output Frequency	Single Output Customer Specified		
Pre-D Output Impedance	75 Ohms		
Pre-D Output Level	2 Vpp, minimum		

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



L-3 Communications Telemetry-East/Microdyne

1515 Grundy's Lane, P.O. Box 729 • Bristol, PA 19007

Telephone: (267) 545-7000 • Fax: (267) 545-0100

E-Mail: sales/mktg@L-3com.com • www.L-3com.com/te