

# MR Series Frequency Agile Receivers

**COBHAM**

The MR Series of receivers from GMS are advanced technology microwave receivers capable of operation at 1.7 – 6.0 GHz standard. The MR Series demodulates one video and two audio signals from a composite analog RF source. The receiver is controlled by a microprocessor with an easy to use menu. Channel of operation, video and audio output levels can be selected via the front panel membrane switch. Operational parameters are shown on the easy-to-read liquid crystal display including channel, signal strength, output level, and lock status. Both digital and analog representations of signal strength are incorporated to facilitate path alignment. The MR Series receiver can also be controlled with a GMS hand-held controller. The MR Series features an internal 5 pole band pass filter and Low Noise Amplifier at the RF input with a normal noise figure of 5dB. The receiver employs a SAW filter at each IF stage for enhanced adjacent channel interface rejection. Two buffered video output signals are provided at BNC connectors, with balanced audio and composite video available on the rugged 10 pin connector. Both NTSC and PAL are available. Low power consumption makes the MR Series ideal for use in remote applications.

The optional On Screen Display provides the operator with a visual indication of receiver status on a video overlay by transposing the display over the video signal to aid in tracking airborne transmission systems.



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## Specifications:

### RF

Frequency Range: 1.7 – 6.0 GHz  
Consult factory for additional freq

Frequency Stability: 0.005%

Noise Figure: 4 dB typical L,S; 7 dB typical C

Dynamic Range: 75 dB

Sensitivity: -83 dBm: S/N weighted of 43 dB  
For L/S & 40 dB for C typical

Input Impedance: 50  $\Omega$

### Power

Voltage: 11 to 15 VDC  
Current: 450 mA typical

### Video

Output Impedance: 75  $\Omega$

Output Level: 1 volt (peak to peak)

De-emphasis: Per CCIR 525/625 line

Frequency Response: 10 Hz – 5.5 MHz  
10 Hz - 10 MHz composite

Signal to noise: 58 dB p-p/rms weighted

Signal to low freq noise: 50 dB

Meets or exceeds EIA/TIA 250-C end to end performance specifications

### Environment

Temperature Range: -20 to +70° C

Humidity: 0 to 100% non-condensing

### Audio

Subcarriers Available: 4.83, 5.8, 6.0, 6.2, 6.5, 6.8, 7.02, 7.5, 8.3, 8.5, 8.59 MHz  
(any two)

Output Impedance: 600  $\Omega$  balanced

Output Level: +9 dBm (typical)

Meets or exceeds EIA/TIA 250-C end to end performance specifications

### Mechanical

Size: 3.25" x 4.25" x 1.5"  
8.26 cm x 10.8 cm x 3.8 cm

Weight: 14 oz / 397 grams

RF input Connector: SMA

Video Output Connector: BNC Female (2)

Audio/Power Connector: PTO2H-12-10P

Pinout: A +12 VDC  
B: Ground  
C/E: Audio 1  
D/F: Audio 2  
G/H: RS-232  
J: Video  
K: Composite