

# **VM2862 Agile BTSC MTS Stereo Video Modulator & VM2860 Agile Video Modulator**



R.L. Drake now offers you superior stereo audio performance and extensive channel capacity with the VM2862 BTSC MTS stereo modulator. An optional secondary audio program (SAP) module may be field installed in the VM2862. The monaural VM2860 agile modulator offers identical performance without stereo sound or the ability to add SAP audio. As quality American made products from Drake, long recognized for manufacturing products of enduring quality and reliability, the VM2862 and VM2860 are designed and engineered to surpass the most demanding engineering requirements with frequency coverage up to 860 MHz.



**VM2862 Agile BTSC MTS Stereo Video Modulator**



**VM2860 Agile Video Modulator**

## **FEATURES**

- Frequency agility with channel 2 through 135 coverage from 54 MHz to 864 MHz.
- High output power to +60 dBmV.
- Built in bandpass filters and very low noise mixer designs provide a low broadband noise floor for large, multiple modulator installations.
- Emergency Alert System (EAS) ready with EAS IF signal input and automatic switchover.
- Front panel LED modulation indicators and level controls to simplify installation and operation.
- Automatic channel offsets where specified by FCC regulations.
- Video low-pass and SAW filtering plus output bandpass filtering to ensure quality performance in densely crowded CATV or SMATV environments.
- High quality IF SAW filter with video delay predistortion eliminates adjacent channel interference.
- Complies with FCC rules Part 76.
- IRC, HRC, CATV, and Off-Air Broadcast frequencies are selectable by an internal jumper.
- Made in the U.S.A.

## VM2862 & VM2860 Technical Specifications

<b>RF</b>	
Frequency Range:	54-864 MHz standard CATV channels 2-135 Broadcast, HRC, and IRC channel plans available by internal jumper.
Output Level:	+60 dBmV minimum, 12 dB minimum adjustment range. Note: If an output level of less than +50 dBmV is required, add an attenuator of the appropriate value to the modulator output.
Output Impedance:	75 Ohms, 12 dB return loss within output filter passband.
A/V Ratio:	Audio carrier -25 to -12 dB referenced to video carrier, adjustable.
Frequency stability:	±5 ppm. All oscillators locked to the same internal reference.
Amplitude stability:	±1 dB.
FCC Frequency Offsets:	Automatic, positive.
Spurious Outputs:	-60 dBc measured at -15 dB A/V ratio and with modulator output level of +60 dBmV, 5 MHz to 1000 MHz.
Phase Noise:	-85 dBc measured at 10 KHz offset.
Output Filter Bands:	54 MHz to 258 MHz, 258 MHz to 462 MHz, 462 to 660 MHz, and 660 MHz to 864 MHz.
Broadband Noise:	-80 dBc, 4MHz bandwidth, +60 dBmV output level, ±18 MHz offset within output filter passband. -90 dBc, outside of output filter passband, output filtered into 4 approximately 200 MHz wide bands.
<b>Video</b>	
Input Level:	1 Vp-p ±3 dB manual gain adjust with LED front panel modulation indicators.
Input Impedance:	75 Ohms, return loss of 25 dB.
Frequency Response:	20 Hz to 4.2 MHz, ± 1.0 dB with 4.5MHz trap off. 20 Hz to 4.1 MHz, ± 1.0 dB with 4.5MHz trap on.
In-channel C/N:	65 dB.
Differential Gain:	± 3%.
Differential Phase:	± 3 degrees.
L/C Delay:	± 50 nS of FCC predistortion with 4.5 MHz trap off, -20 + 80 nS of FCC predistortion with 4.5 MHz trap on.
<b>Monaural Audio</b>	
Input level:	250 mVrms to 2.5 Vrms, manual gain adjustment with LED modulation indicators.
Input Impedance:	10 K Ohms, unbalanced.
Pre-emphasis:	75 µS.
Frequency Response:	50 Hz to 15 kHz, ±1 dB.
Total Harmonic distortion:	0.5% maximum.

*Specifications, price, and availability are subject to change without notice or obligation.*

Signal to Noise Ratio (S/N):	65 dB.
BTSC MTS Stereo Audio	(applies only to model VM2862)
Input level:	250 mVrms to 2.5 Vrms, manual gain adjustment with LED modulation indicators.
Input Impedance:	10 K Ohms, unbalanced.
Stereo Channel Separation:	30 dB, 50 Hz to 12.5 kHz 25 dB, 12.5 kHz to 14 kHz.
Frequency Response:	±0.5 dB, 50 Hz to 14 kHz.
Total Harmonic distortion:	0.5% maximum.
Signal to Noise Ratio (S/N):	65 dB.
SAP Audio - (Field Installed Option)	(applies only to model VM2862)
Input level:	250 mVrms to 2.5 Vrms, manual gain adjustment and LED modulation indicator on rear panel.
Input Impedance:	10 K Ohms, unbalanced.
Total Harmonic distortion:	1% maximum.
Signal to Noise Ratio (S/N):	80 dB.
<b>EAS Input</b>	
Input level:	+30 dBmV, ±1 dB (visual carrier).
Input Impedance:	75 Ohms, 20 dB return loss.
Auto Switching Level:	+20 dBmV.
Isolation:	60 dB.
<b>General</b>	
AC Power Input:	115 VAC, ±10%, 60 Hz, 23 watts (VM2860), 28 watts (VM2862),
Fuse:	1/2 Amp Slo-Blo 5 x 20 mm.
Operating Temperature Range:	0° to 50° C, ambient
Cooling:	Internal 1.85 CFM fan allows operation in the rack without air space between units.
Radiated Emissions:	FCC Part 15
Size:	1.75"H x 19"W x 11.25"D
Weight:	8.5 lbs.