VM2552A BTSC STEREO VIDEO MODULATOR

The R.L. Drake Company now offers you superior stereo audio performance and extensive channel capacity with the VM2552A BTSC stereo modulator. Another quality product from Drake, long recognized for manufacturing products of enduring quality and reliability, the VM2552A is designed and engineered to surpass the most demanding engineering requirements and to provide your system with stereo audio capability.

- BTSC stereo audio with licensed dbx ® noise reduction.
- Frequency agility with 82 channel coverage from 54 MHz to 550 MHz.
- High output power to +60 dBmV.
- Low noise floor for large, multiple modulator installations.
- Emergency Alert System (EAS) ready with alternate composite IF inputs.
- Auto switching from standard programming to emergency information with the Drake IFM-80 EAS Modulator.
- Composite, video, and aural IF loops to accommodate a variety of encryption systems.
- Manual audio and video level control or operator selectable AGC to maintain modulation levels.
- Full front panel metering and level controls to simplify installation and operation.
- Automatic channel offsets where specified by FCC regulations.
- Video low-pass and SAW filtering to ensure quality performance.
- Video delay predistortion.

The Drake VM2552A BTSC Stereo Modulator is a high-quality, vestigial sideband unit with synthesized visual and aural carriers. The frequency-agile VM2552A features 82 channel frequency coverage up to 550 MHz allowing for front panel selection of standard CATV channels 2 to 78 and 95 to 99. Monaural or BTSC stereo-operating modes may be utilized. The BTSC stereo encoding incorporates professional dbx-tv® noise reduction circuitry necessary for reproducing the BTSC signal with good stereo separation and audio fidelity.

The VM2552A is designed to accept video and stereo audio baseband signals from a satellite receiver or other similar audio/video equipment. Both audio and video AGC can be selected to maintain nearly constant modulation levels. Audio inputs can be either unbalanced or balanced. A video low-pass filter and high-quality SAW filter eliminate adjacent channel interference. These features, combined with a carefully designed output stage, provide reliable operation in a densely crowded or cable environment.

VM2552A BTSC Stereo Video Modulator Technical Spec ifications

IF	
Frequency Range:	82 channels, 54-550 MHz channels 2-78 and 95-99
Output Level:	+60 dBmV, (adjustable +50 to +60 dBmV) Note: If an output level of less than +50 dBmV is required, add an attenuator of the appropriate value to the modulator output. (Example: add a 10 dB pad for +45 dBmV output)
Output Impedance:	75 Ohms
A/V Ratio:	Audio carrier -20 to -12 dB referenced to video carrier, adjustable.
Frequency Stability:	+/-10 ppm
Intercarrier Frequency:	4.5 MHz +/-10 ppm
FCC Frequency Offsets:	Automatic, (+ or - or none, selectable via rear panel)
Spurious Outputs:	-60 dBc typical -58 dBc minimum, measured at -15 dB A/V ratio and with modulator output level of +60 dBmV
Broadband Noise:	-75 dBc typical, referenced to video carrier (4 MHz BW @+/-12 MHz offset
Video	
Input Level for 87.5%:	1 Vp-p +/-3dB manual gain adjust with front panel metering of AGC
Video AGC:	Sync pulse gated. Automatically maintains 25% modulation of sync pulse, which equals 87.5% modulation for a full white level signal.
Input Impedance:	75 Ohm, return loss of 30 dB minimum
Frequency Response:	20 Hz to 4.2 MHz, +/-1.0 dB
Weighted Video S/N:	60 dB minimum
Differential Gain:	+/-3% (10 to 90% APL)
Differential Phase:	+/-3 deg. (10 to 90% APL)
C-L Delay:	Meets groups delay predistortion requirement for NTSC color transmission per FCC part 73. Also complies with FCC rules: 76.605
Audio	
Input Level for 25KHz Peak Deviation:	-10 to +10 dBm manual gain adjustment with front panel metering or AGC
Audio AGC:	Adaptive attack, slow release provides 25 kHz peak deviation for input levels of -10 to +10 dBm
Input Impedance:	600 Ohms balanced 300 unbalanced
Pre-emphasis and Noise Reduction:	75µsec, professional dbx-TV®; companding of stereo subcarrier
Frequency Response:	50Hz to 14kHz, +/-1 dB

(Left or right channels)	
Stereo Channel Separation:	Typically more than 30 dB, 50 Hz to 14 kHx. 25 dB minimum over operating temperature range.
Total Harmonic Distortion:	0.5% maximum
Hum and noise:	-60 dBm minimum, referenced to 100% modulation level
Visual IF Loop	
Visual Carrier Frequency:	45.75 MHz
Frequency Stability:	+/-10 ppm
Output Level (45.75 MHz):	+43 dBmV +/-2 dB
Spurious Outputs:	-60 dBc minimum
Input Level (45.75 MHz):	+43 dBmV
Input/Output Impedances:	75 Ohms, return loss greater than 20dB
Isolation:	Greater than 60 dB
Aural IF Loop	
Aural Carrier Frequency:	41.25 MHz nominal, (-4.5 MHz +/- 10 ppm of visual carrier frequency)
Output Level (41.25 MHz):	-28 dBmV +/-3 dB
Spurious Outputs:	-50 dBc minimum
Input Level (41.25 MHz)	+28 dBmV nominal
Iput/Output Impedances:	7 Ohms, return loss greater than 15 dB
Isolation:	Aural carrier is greater than 60 dB below the visual carrier with loop open and terminated
Composite IF Loop	
Output Level (V carrier):	+28 eBmV +/-2 dB
Spurious Outputs:	-60 dBc minimum
Imput Level (V carrier):	+28 dBmV nominal +30 dBmV maximum
Input/Output Impedances:	75 Ohms - Return loss greater than 20 dB
Isolation:	Greater than 60 dB
EAS Input	
Input Level:	+28 dBmV nominal
Input Impedance:	75 ohms - return loss greater than 20 dB with this port enabled
Auto Switching Level:	Greater than 20 dBmV nominal
Isolation Between Composite and EAS Inputs:	Greater than 60 dB
General	

AC Power Input:	115 VAC, +/-10%, 60 Hz, 35 watts
Operating Temperature Range:	0° to 50° C, ambient
Size:	(W x H x D) Standard: 1.75" x 19" x 14.3"
Weight:	Standard: 8.8 lbs. Metric: 4 Kg