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› Blonder Tongue Laboratories VMM600 Fixed Channel Modulator Module (Channel 85) Instruction Manual

Blonder Tongue Laboratories VMM600

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Instruction Manual

1. INTRODUCTION

The Blonder Tongue Laboratories VMM600 Fixed Channel Modulator Module is a professional-quality component designed for modular headend systems. This module optimizes rack space by allowing one to twelve modulators to be mounted in a compact footprint. It functions as a high-quality fixed channel heterodyne audio/video modulator, operating within the 54 to 600 MHz frequency range. The VMM600 is ideally suited for various applications, including private cable systems, hotels, motels, institutional facilities, and SMATV (Satellite Master Antenna Television) systems.

This specific model is configured for Channel 85. It accepts video and audio baseband signals from a variety of sources such as satellite receivers, TV cameras, videotape recorders, or TV demodulators. Key features include a low-cost NTSC modulator, a +45 dBmV output adjustable from +30 to +45 dBmV, and SAW filtering for superior adjacent channel performance. Front panel controls allow for adjustment of RF output level, A/V ratio, and video/audio modulation. The VMM600 complies with FCC Rules Part 76.

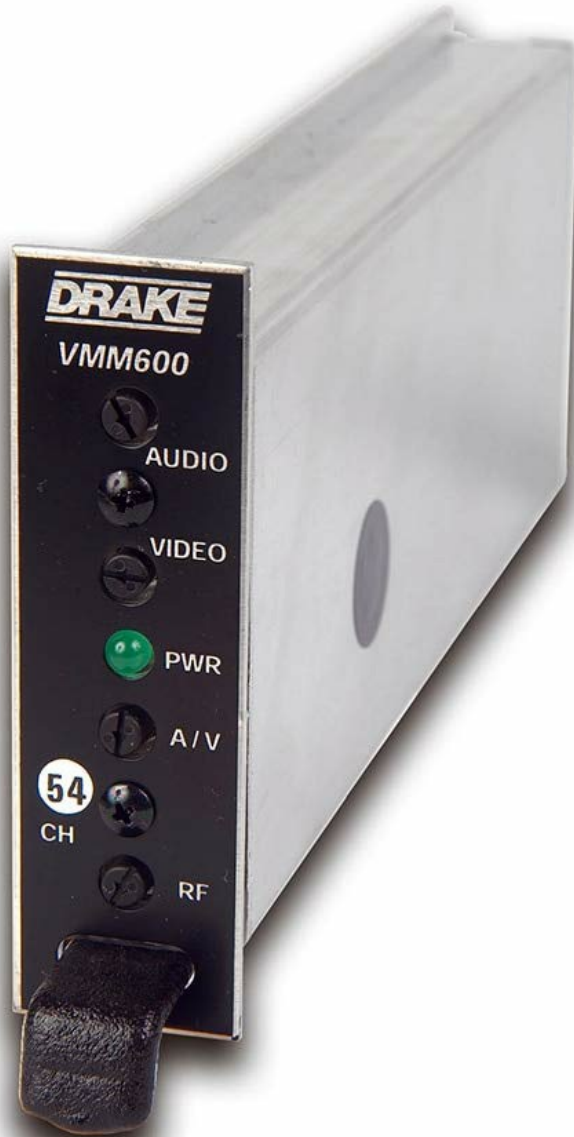


Figure 1: Blonder Tongue Laboratories VMM600 Fixed Channel Modulator Module. This image shows the front panel of the VMM600 module, highlighting its compact design and control knobs.

2. SETUP

2.1 Unpacking

Carefully remove the VMM600 module from its packaging. Inspect the module for any signs of physical damage that may have occurred during shipping. Retain the original packaging for future transport or storage.

2.2 Installation

The VMM600 is designed to be integrated into a modular headend system. A rack mount chassis and power supply are required for operation and are sold separately. Ensure that the chassis is properly installed and grounded according to its own instruction manual.

2.2.1 Physical Installation

1. Locate an available slot in your compatible modular rack mount chassis.

2. Gently slide the VMM600 module into the designated slot until it is fully seated.
3. Secure the module using any provided fasteners on the chassis, if applicable.

2.2.2 Electrical Connections

Before making any connections, ensure that the power to the rack mount chassis is turned off.

- **Video Input:** Connect your video baseband signal source (e.g., satellite receiver, TV camera, VCR) to the video input connector on the VMM600 module.
- **Audio Input:** Connect your audio baseband signal source to the audio input connector on the VMM600 module.
- **RF Output:** Connect the RF output of the VMM600 module to the input of your distribution system or combiner.

2.3 Initial Configuration

This VMM600 module is factory-set for Channel 85. No channel tuning is required for this specific module. However, you will need to adjust the output levels and modulation settings.

3. OPERATION

3.1 Power On

Once all connections are secure, power on the rack mount chassis. The VMM600 module will receive power from the chassis.

3.2 Front Panel Controls

The VMM600 module features several front panel controls for fine-tuning the modulated output signal:

- **RF Output Level:** This control adjusts the strength of the RF output signal. The output is adjustable from +30 dBmV to +45 dBmV. Adjust this to match the requirements of your distribution system.
- **A/V Ratio:** This control adjusts the ratio between the audio and video carrier levels. Proper adjustment ensures balanced sound and picture quality.
- **Video Modulation:** This control adjusts the depth of video modulation. Adjust for optimal picture clarity and contrast.
- **Audio Modulation:** This control adjusts the depth of audio modulation. Adjust for optimal sound clarity and volume.

Monitor the output signal on a suitable test receiver or spectrum analyzer while making adjustments to ensure optimal performance and compliance with local regulations.

4. MAINTENANCE

4.1 Cleaning

Periodically clean the exterior of the VMM600 module with a soft, dry cloth. Do not use liquid cleaners or solvents, as these may damage the finish or internal components. Ensure the module is powered off before cleaning.

4.2 Environmental Considerations

Ensure the operating environment is within the recommended temperature and humidity ranges to prevent damage and ensure reliable operation. Avoid exposing the module to excessive dust, moisture, or extreme temperatures.

5. TROUBLESHOOTING

This section provides solutions to common issues you may encounter with the VMM600 module. If the problem persists after attempting these solutions, contact technical support.

Problem	Possible Cause	Solution
No RF Output Signal	• Module not powered. • RF output level set too low. • Faulty RF cable connection.	• Verify chassis power. • Adjust RF Output Level control. • Check and secure RF cable connections.
Poor Video Quality (e.g., blurry, distorted)	• Incorrect video modulation setting. • Weak or noisy video input signal. • Faulty video cable connection.	• Adjust Video Modulation control. • Verify video source signal quality. • Check and secure video cable connections.
No Audio or Poor Audio Quality	• Incorrect audio modulation setting. • Incorrect A/V ratio setting. • Weak or noisy audio input signal. • Faulty audio cable connection.	• Adjust Audio Modulation control. • Adjust A/V Ratio control. • Verify audio source signal quality. • Check and secure audio cable connections.
Interference with Adjacent Channels	• RF output level too high. • External interference.	• Reduce RF Output Level. • Ensure proper shielding and grounding of all components.

6. SPECIFICATIONS

The following are the technical specifications for the Blonder Tongue Laboratories VMM600 Fixed Channel Modulator Module:

- **Model:** VMM600
- **Channel:** 85 (Fixed)
- **Frequency Range:** 54-600 MHz
- **Output Level:** +45 dBmV (Adjustable from +30 to +45 dBmV)
- **Filtering:** SAW (Surface Acoustic Wave) filtering for superior adjacent channel performance
- **Modulation Type:** NTSC
- **Controls:** Front panel adjustment for RF output level, A/V ratio, video modulation, and audio modulation
- **Compliance:** FCC Rules Part 76
- **Product Dimensions:** Approximately 12 x 6 x 6 inches (L x W x H)
- **Item Weight:** Approximately 2 pounds
- **Manufacturer:** Blonder Tongue Laboratories

7. WARRANTY AND SUPPORT

7.1 Warranty Information

This Blonder Tongue Laboratories product is covered by a manufacturer's warranty. Please refer to the warranty documentation provided with your purchase or visit the official Blonder Tongue Laboratories website for detailed terms and conditions regarding warranty coverage, duration, and claims procedures.

7.2 Technical Support

For technical assistance, troubleshooting beyond the scope of this manual, or inquiries regarding parts and service, please contact Blonder Tongue Laboratories customer support. Have your product model number (VMM600) and any relevant purchase information ready when contacting support.

You can typically find contact information and additional resources on the official Blonder Tongue Laboratories website: www.blondertongue.com

8. RELATED VIDEOS

No official product videos from the seller were found for this specific model at this time. Please refer to the manufacturer's website for any available video resources.

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