

## Video Multicoupler Model MAVD05D-30-4-4X6-01 Operation and Maintenance

### General Description



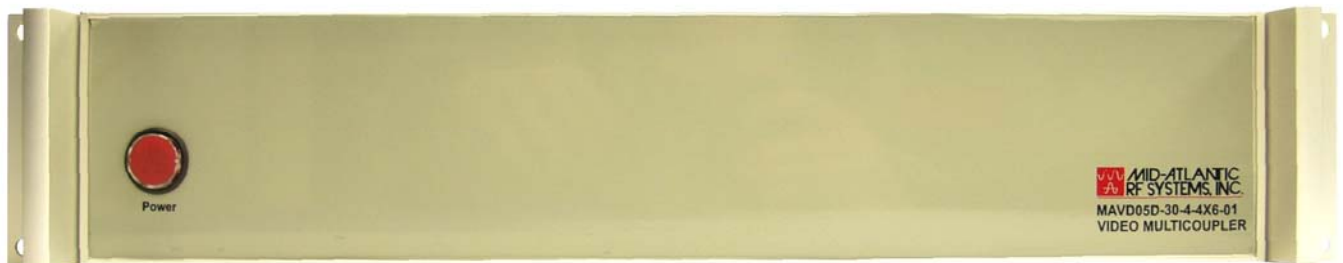
The MAVD05D-30-4-4X6-01 Video Multicoupler is intended for use with analog Video (0 to 2V) and TTL (0 to 5V) distribution systems. It provides a low cost means to provide four channels of RF or TTL Logic signals from an antenna or other source to eight individual loads.

It is suitable for use with signals from DC to 50MHz at output levels to 4.8VDC into 93Ω.

The unit is specified to operate from DC to 30MHz and is fully tested to assure compliance over that range.

This unit is designed to be rack mounted into an EIA 19 inch "relay" rack and has all connections made to the unit's rear panel. The front panel contains only the power switch which has an LED power indicator which is illuminated when the unit is powered.

Controls include an AC Power switch on the front panel and a gain trim adjustment for each of four channels on the rear panel. Internal circuits are air cooled and temperature monitored. When internal temperatures rise, an internal fan provides forced air for cooling. Gain trim is set to unity during factory test.



**Front Panel**

### **SAFETY WARNING:**

This unit operates from AC mains which are up to 240V RMS. Peak voltages can reach 340V. A potentially lethal shock hazard exists. Although power handling elements are well shielded, a shock hazard exists and a shock can kill you. This unit contains no user serviceable parts. The covers should not be removed. Doing so voids the warranty and exposes the user to an electrical shock hazard.

**Specifications:**

Inputs: 4, one for each channel

Outputs: 8 for each channel

Impedance 75 ohms input and output. Input is resistive and referred to ground.

TTL pull-ups are not present at the input.

Output clipping levels: -0.5 and +4.9V typical

This unit is suitable for RF or baseband video or RGB use as it is truly DC coupled. It will drive 75 ohm coaxial cable resistively terminated with a 93 ohm resistor across a TTL input for a

Thevenin equivalent 75 ohm match.

Max undistorted output 0 to 3.0V into a 75 ohm resistive load.

Isolation between channel banks: >55dB typical

Distortion:

2F0, 30MHz: -45dB max; 3F0: -40dBc max. 1.0Vp-p output referred to 1V input DC offset.

Frequency Range: DC - 30 MHz

Gain: Adjustable, 0 to +3dB (voltage) A=1.0 to 1.414 (into 75 Ohms)

Gain Flatness: +/-0.2dB max

Connector type: BNC Jack, 75Ω

Input VSWR: 1.25:1

Prime Power: 100 to 240VAC 50/60Hz.

AC Power input EMI filtered:

Physical:

Rack mounted, 19" EIA 2U (3.5") High, 12" Deep exclusive of connectors.

Input AC power: 100 to 240VAC 50/60 Hz

Environmental: Intended for human habitable spaces, 0 to +40°C, 0 to 95% relative humidity, non condensing atmosphere.

Fuse: 3.15A Slow Blow, 5 X 20 mm

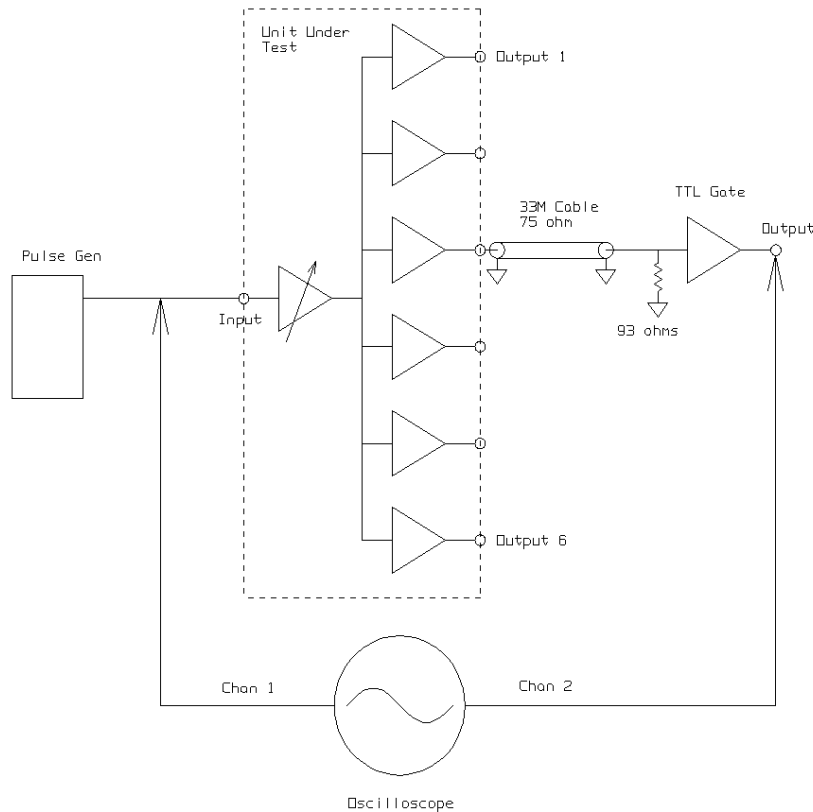


**Rear Panel**

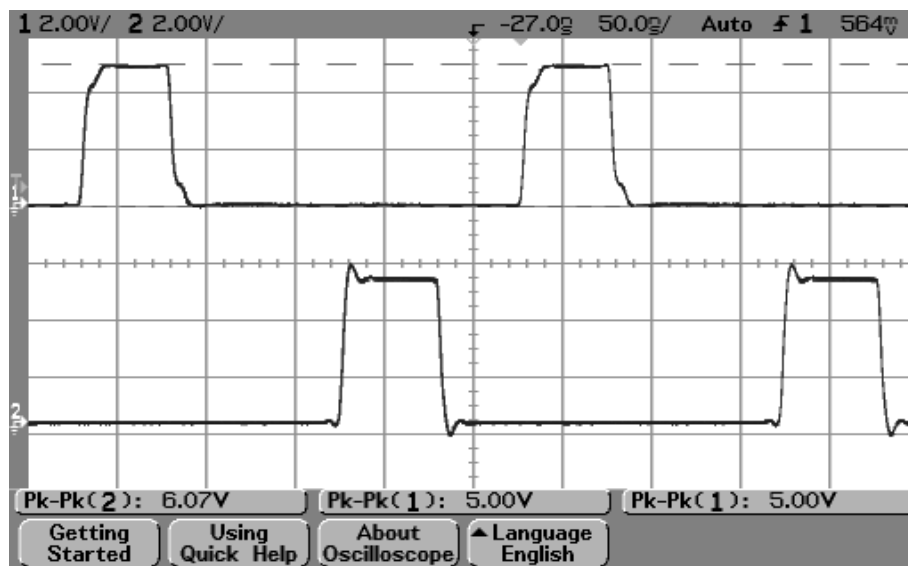
**SAFETY WARNING:**

This unit operates from AC mains which are up to 240V RMS. Peak voltages can reach 340V. A potentially lethal shock hazard exists. Although power handling elements are well shielded, a shock hazard exists and a shock can kill you. This unit contains no user serviceable parts. The covers should not be removed. Doing so voids the warranty and exposes the user to an electrical shock hazard.

### Test Setup: TTL Pulse Performance



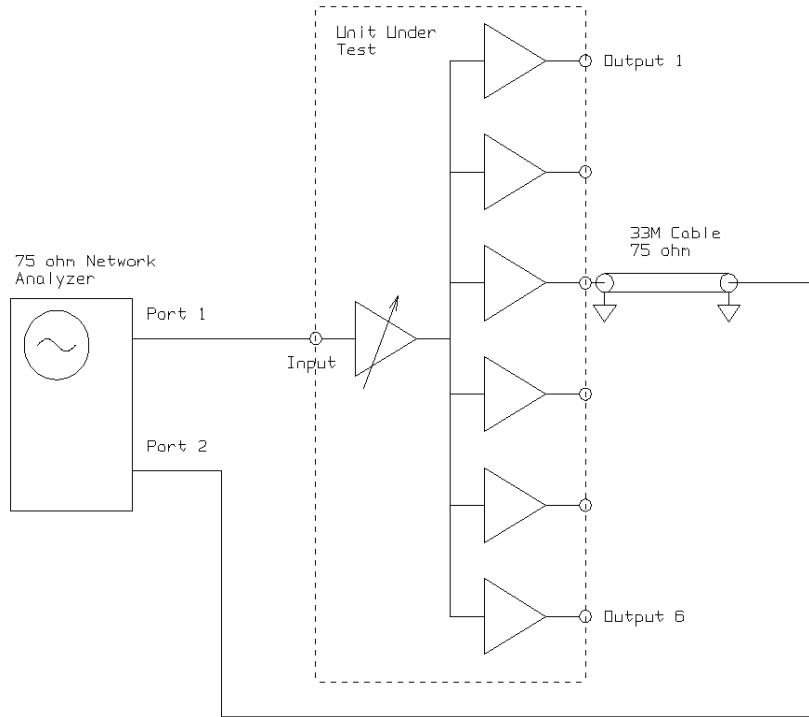
### Measured Performance, TTL Pulse:



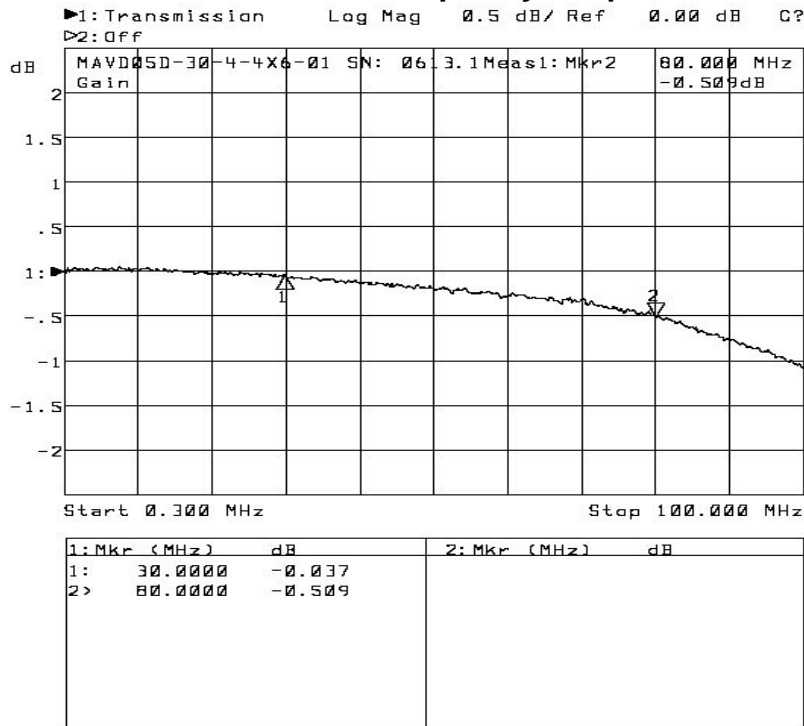
### SAFETY WARNING:

This unit operates from AC mains which are up to 240V RMS. Peak voltages can reach 340V. A potentially lethal shock hazard exists. Although power handling elements are well shielded, a shock hazard exists and a shock can kill you. This unit contains no user serviceable parts. The covers should not be removed. Doing so voids the warranty and exposes the user to an electrical shock hazard.

### Test Setup: Linear Gain and Frequency Response



### Measured Wideband Linear Gain and Frequency Response:

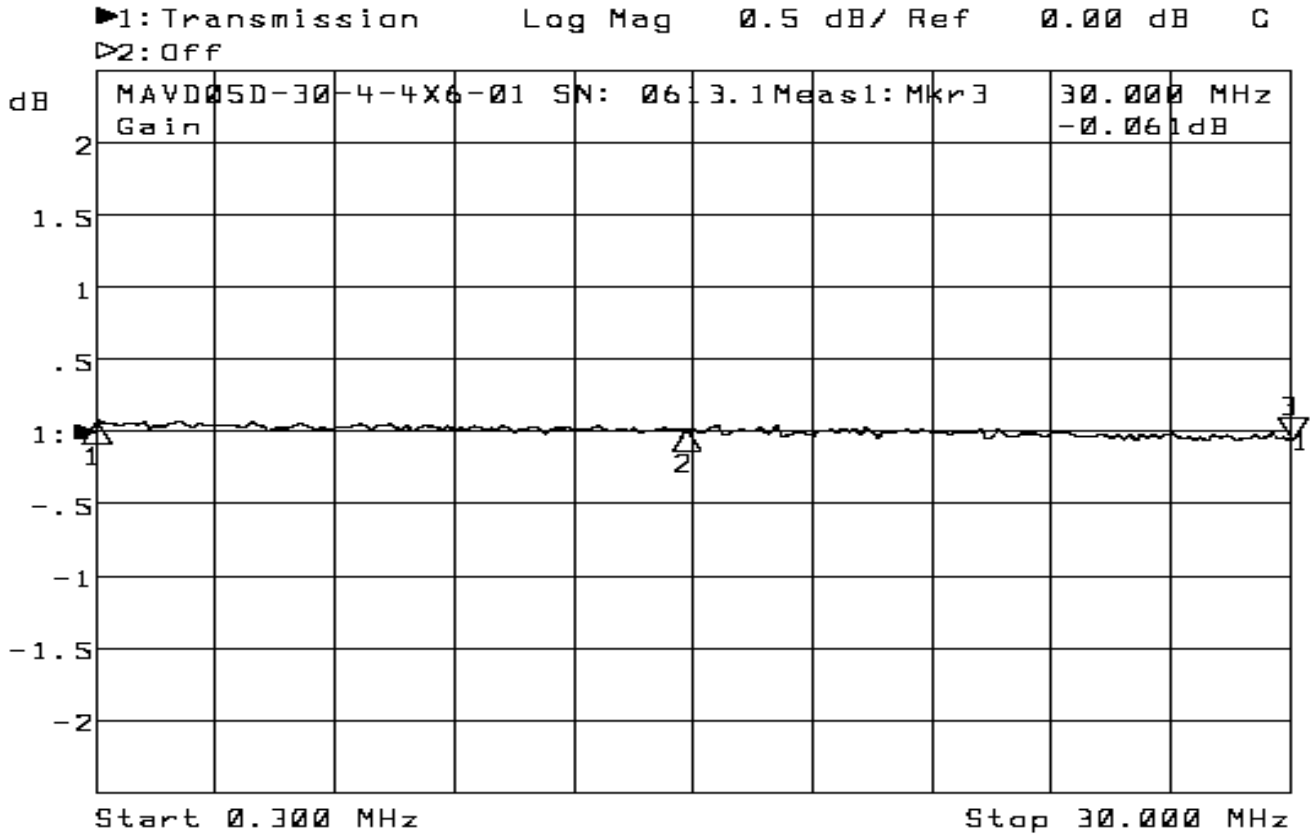


### SAFETY WARNING:

This unit operates from AC mains which are up to 240V RMS. Peak voltages can reach 340V. A potentially lethal shock hazard exists. Although power handling elements are well shielded, a shock hazard exists and a shock can kill you. This unit contains no user serviceable parts. The covers should not be removed. Doing so voids the warranty and exposes the user to an electrical shock hazard.



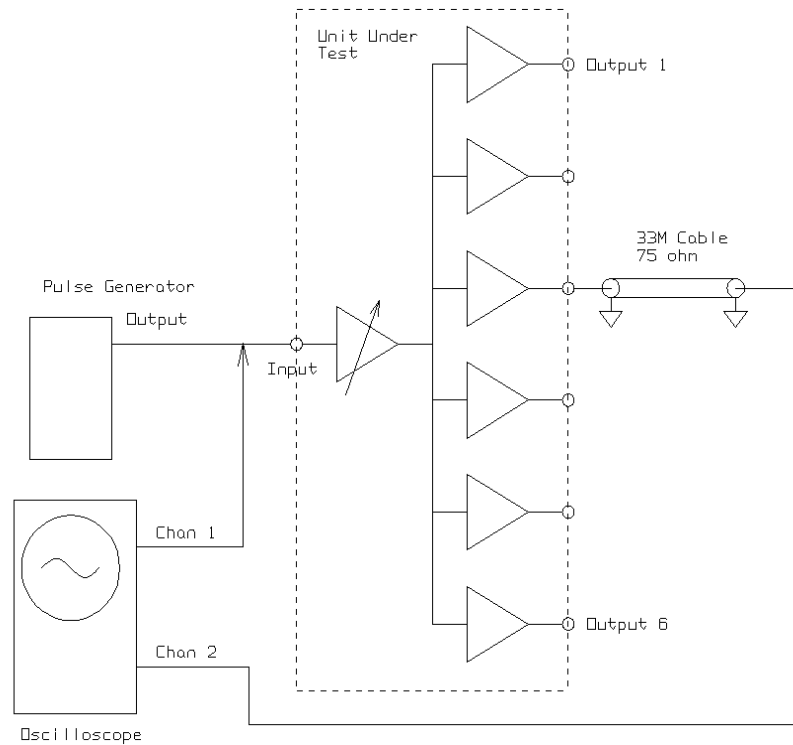
### Measured Frequency Response over specified Frequency Range:



1: Mkr (MHz)	dB	2: Mkr (MHz)	dB
1: 0.30000	0.077		
2: 15.00000	0.020		
3: 30.00000	-0.061		

### SAFETY WARNING:

This unit operates from AC mains which are up to 240V RMS. Peak voltages can reach 340V. A potentially lethal shock hazard exists. Although power handling elements are well shielded, a shock hazard exists and a shock can kill you. This unit contains no user serviceable parts. The covers should not be removed. Doing so voids the warranty and exposes the user to an electrical shock hazard.

**Test Setup: Linear Pulse performance:**

**Measured Linear Pulse Performance:**

**SAFETY WARNING:**

This unit operates from AC mains which are up to 240V RMS. Peak voltages can reach 340V. A potentially lethal shock hazard exists. Although power handling elements are well shielded, a shock hazard exists and a shock can kill you. This unit contains no user serviceable parts. The covers should not be removed. Doing so voids the warranty and exposes the user to an electrical shock hazard.