KRAMER ELECTRONICS LTD.

USER MANUAL

MODELS:

VM-1010
Programmable Video Distributor

VM-1021
1:20 Video Distributor

VM-1055
Video Component Distributor

VM-54
Video/Component Distributor Amplifier

P/N: 2900-300182 Rev 1

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 11 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Products.

Congratulations on purchasing your Kramer **VM-1010**, **VM-1021**, **VN-1055** or **VM-54** distribution amplifier that is ideal for the following typical applications:

- Broadcast, production, or presentation systems requiring high-quality signal distribution
- Schools, retail, sports bars, other point-of-sale and CCTV applications
- Computer RGB or component video distribution

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high-performance, high-resolution cables
- Use only the power cord that is supplied with this machine

Go to http://www.kramerelectronics.com to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Do not secure the cables in tight bundles or roll the slack into tight coils
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer product away from moisture, excessive sunlight and dust

Caution: There are no operator serviceable parts inside the unit

Warning: Disconnect the power and unplug the unit from the wall before installing

Your amplifier is pre-calibrated at the factory for transparent operation. Re-tuning it can upset signal transparency.

Do not attempt to adjust the LEVEL trimmers without using accompanying standard calibrated oscilloscope or waveform monitor!

3 Installing in a Rack

This section provides instructions for rack mounting the 1U devices. 2U and 3U devices use the same procedure with longer rack “ears” and additional screws.

Before installing in a rack, be sure that the environment is within the recommended range:

OPERATING TEMPERATURE:	0º to +55ºC (32º to 131ºF)
STORAGE TEMPERATURE:	-45º to +72ºC (-49º to 162ºF)
HUMIDITY:	10% to 90%, RHL non-condensing

CAUTION!

When installing on a 19" rack, avoid hazards by taking care that:

1. It is located within the recommended environmental conditions, as the operating ambient temperature of a closed or multi unit rack assembly may exceed the room ambient temperature.

2. Once rack mounted, enough air will still flow around the machine.

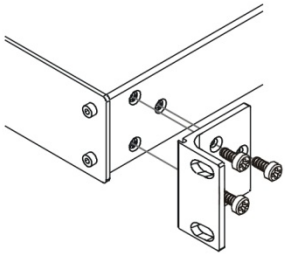
3. The machine is placed straight in the correct horizontal position.

4. You do not overload the circuit(s). When connecting the machine to the supply circuit, overloading the circuits might have a detrimental effect on overcurrent protection and supply wiring. Refer to the appropriate nameplate ratings for information. For example, for fuse replacement, see the value printed on the product label.

5. The machine is earthed (grounded) in a reliable way and is connected only to an electricity socket with grounding. Pay particular attention to situations where electricity is supplied indirectly (when the power cord is not plugged directly into the socket in the wall), for example, when using an extension cable or a power strip, and that you use only the power cord that is supplied with the machine.

To rack-mount a machine:

1. Attach both ear brackets to the machine. To do so, remove the screws from each side of the machine (3 on each side), and replace those screws through the ear brackets.



2. Place the ears of the machine against the rack rails, and insert the proper screws (not provided) through each of the four holes in the rack ears.

Note:

- In some models, the front panel may feature built-in rack ears
- Detachable rack ears can be removed for desktop use
- Always mount the machine in the rack before you attach any cables or connect the machine to the power
- If you are using a Kramer rack adapter kit (for a machine that is not 19"), see the Rack Adapters user manual for installation instructions available from our Web site

4 Your VM-1010

This section describes the **VM-1010** *Programmable Video Distributor*.

4.1 Overview

The **VM−1010** is a high−performance distribution amplifier for composite video. It can also be configured as a 1:5 distribution amplifier for s−Video (Y/C) signals and has controls to compensate for signal losses inherent in long cable runs.

The **VM−1010** is designed for studio and other demanding applications. It has two looping video inputs, each splitting to 5 outputs. The user may select 2x1:5 or 1:10 operation via front panel control switches. Several **VM-1010** units may be chained through the looping inputs. Output signals are DC or AC coupled (user selectable) for maximum flexibility.

The unit features:

- High bandwidth of 235MHz (−3dB)
- Dual-mode configuration either as a 1:10 (composite) or a 1:5 (s−Video) DA
- Grouped level (gain) and EQ (peaking) controls
- A video AC/DC coupling selection
- Looping inputs
- Selectable input signal termination
- Standard 19” rack mount size of 1U

Figure 1 and Figure 2 define the unit.

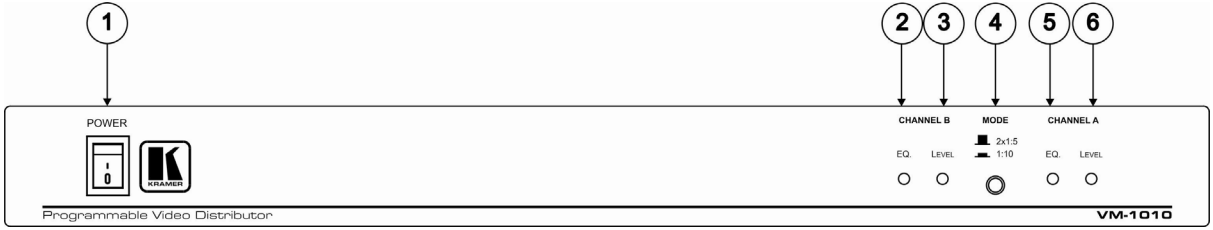


Figure 1: VM-1010 Programmable Video Distributor Front Panel

#	Feature	Function
1	POWER Switch	Illuminated switch for turning the device on and off
2	CHANNEL B EQ Trimmer	Controls cable equalization of channel B outputs
3	CHANNEL B LEVEL Trimmer	Controls the video level of channel B outputs
4	MODE Button	Selects either 1:10 or 2 x 1:5 operation
5	CHANNEL A EQ Trimmer	Controls cable equalization of channel A outputs
6	CHANNEL A LEVEL Trimmer	Controls the video level of channel A outputs

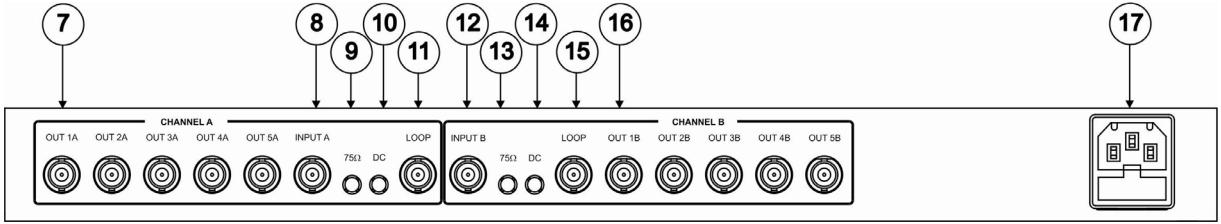


Figure 2: VM-1010 Programmable Video Distributor Rear Panel

#	Feature		Function
7	CHANNEL A	OUT BNC Connectors (1A-5A)	5 amplified and buffered video outputs
8		INPUT A BNC Connector	Connects to a composite/component/YC/analog sync video source A
9		75Ω Button	Selects "75Ω" or "HI-z" impedance (for looping select "Hi-z")
10		DC Button	Selects DC coupling when pushed
11		LOOP BNC Connector	Provides video looping capability to increase number of outputs
12	CHANNEL B	INPUT B BNC Connector	Connects to a composite/component/YC/analog sync video source B
13		75Ω Button	Selects "75Ω" or "HI-z" impedance (for looping select Hi-z)
14		DC Button	Selects DC coupling when pushed
15		LOOP BNC Connector	Provides video looping capability to increase number of outputs
16		OUT BNC Connectors (1B-5B)	5 amplified and buffered video outputs.
17	Power Connector		AC connector and fuse enabling power supply to the unit

4.2 Connecting the VM-1010

Always switch off the power to each device before connecting it to your **VM-1010**. After connecting your **VM-1010**, connect its power and then switch on the power to each device.

To connect the **VM-1010** as illustrated in the example in Figure 3:

1. Connect up to two video sources (for example composite video players) to CHANNEL A INPUT A and CHANNEL B INPUT B BNC connectors.

2. Connect up to five video acceptors (for example, composite video recorders) to each channel.

3. As required, select the coupling and termination, the MODE (2x1:5 or 1:10) and adjust the EQ and LEVEL of each channel as needed.

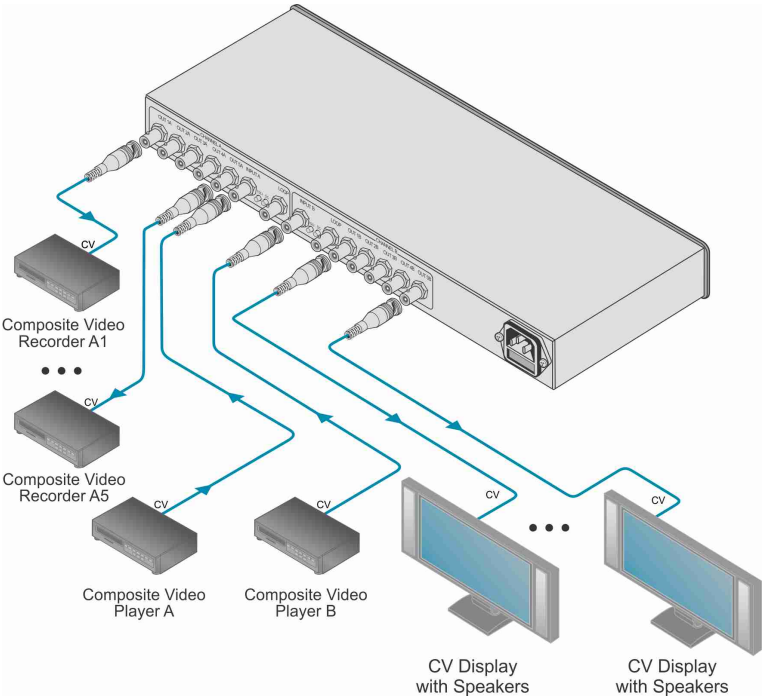


Figure 3: Connecting the VM-1010

Note:

- Terminate unused inputs to 75Ω, and terminate active inputs at the connecting source
- Remember, the output signal format matches the input signal format (for example, if the input is composite, the output is composite)
- All signal cables to each device should be of equal length (for example, the R,G,B cables between a camera and the amplifier should be of equal length)

4.3 VM-1010 Technical Specifications

INPUTS:	2 composite/component video, looping, 1Vpp/75Ω on BNC connectors with termination switch
OUTPUTS:	2x5 composite/component video, 1Vpp/75Ω on BNC connectors
MAX. VIDEO OUTPUT:	1.8Vpp
VIDEO BANDWIDTH (-3DB):	235MHz
DIFF. GAIN:	0.2%
DIFF. PHASE:	0.04Deg
K-FACTOR:	<0.05%
VIDEO S/N RATIO:	77dB
NON-LINEARITY:	0.2%
CONTROL:	Level: −1.4dB to +2.5dB, EQ.: 0 to +2.5dB @4.4MHz
COUPLING:	DC or AC (user selectable)
POWER SOURCE:	230V AC, 50/60Hz (115V USA), 10.3VA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	19" x 7" x 1U W, D, H, rack mountable
WEIGHT:	1.98kg (4.4lbs) approx.
ACCESSORIES:	Power cord
Specifications are subject to change without notice at http://www.kramerelectronics.com	

5 Your VM-1021

This section describes the **VM-1021** *1:20 Video Distributor*.

5.1 Overview

The **VM-1021** is a high-performance distribution amplifier for composite or SDI video signals. It provides controls to compensate for signal losses inherent in long cable runs.

The **VM-1021** is a full broadcast, state-of-the-art, 1:20 video distribution amplifier designed for studio and other demanding applications. The unit splits a single input source into twenty identical outputs with no discernible signal degradation. Output signals can either be AC or DC coupled, black level or sync tip clamped, thus allowing the machine to function in all video environments. The outputs are divided into 4 sets of five each, where each set may be individually trimmed (level and EQ) for maximal flexibility. The machine may be used to distribute analog or SDI (Serial Digital) video signals, composite or single component.

The unit features:

- High bandwidth of 350MHz (-3dB)
- Grouped level (gain) and EQ (peaking) controls
- Looping inputs
- Selectable input signal termination
- Black or sync tip selectable clamping
- A video AC/DC coupling selection
- Standard 19” rack mount size of 1U

Figure 4 and Figure 5 define the unit.

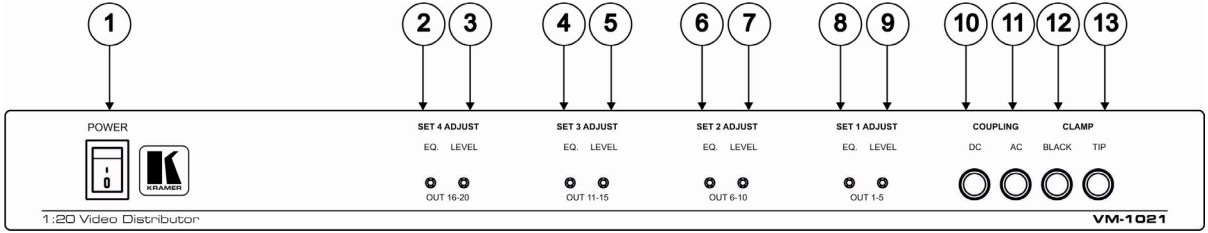


Figure 4: VM-1021 1:20 Video Distributor Front Panel

#	Feature	Function
1	POWER Switch	Illuminated switch for turning the device on and off
2	SET 4 ADJUST EQ Trimmer	Controls cable equalization of SET 4 video outputs 16-20
3	SET 4 ADJUST LEVEL Trimmer	Controls level of SET 4 video outputs 16-20
4	SET 3 ADJUST EQ Trimmer	Controls cable equalization of SET 3 video outputs 11-15
5	SET 3 ADJUST LEVEL Trimmer	Controls level of SET 3 video outputs 11-15
6	SET 2 ADJUST EQ Trimmer	Controls cable equalization of the SET 2 video outputs 6-10
7	SET 2 ADJUST LEVEL Trimmer	Controls level of SET 2 video outputs 6-10
8	SET 1 ADJUST EQ Trimmer	Controls cable equalization of the SET 1 video outputs 1-5
9	SET 1 ADJUST LEVEL Trimmer	Controls level of the SET 1 video outputs 1-5
10	COUPLING DC	Selects DC coupling when pushed
11	COUPLING AC	Selects AC coupling when pushed
12	CLAMP BLACK	Clamps video signal to the black level when pressed (best used for composite or component video)
13	CLAMP TIP	Clamps video signal to the sync tip level when pressed (best used for RGB signals)

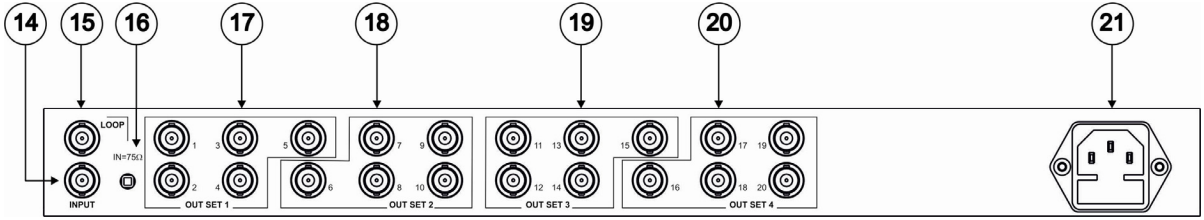


Figure 5: VM-1021 1:20 Video Distributor Rear Panel

#	Feature	Function
14	INPUT BNC Connector	Connects to a composite/component/ analog sync video source
15	LOOP BNC Connector	Selects “75Ω“ or “HI-z” impedance when pressed (for looping select "Hi-z")
16	IN=75Ω Button	Provides video looping capability to increase number of outputs
17	OUT SET 1 BNC Connectors (1-5)	SET 1 of 5 amplified buffered and clamped video outputs 1-5
18	OUT SET 2 BNC Connectors (6-10)	SET 2 of 5 amplified buffered and clamped video outputs 6-10
19	OUT SET 3 BNC Connectors (11-15)	SET 3 of 5 amplified buffered and clamped video outputs 11-15
20	OUT SET 4 BNC Connectors (16-20)	SET 4 of 5 amplified buffered and clamped video outputs 16-20
21	Power Connector	AC connector and fuse enabling power supply to the unit

5.2 Connecting the VM-1021

Always switch off the power to each device before connecting it to your **VM-1021**. After connecting your **VM-1021**, connect its power and then switch on the power to each device.

To connect the **VM-1021** as illustrated in the example in Figure 6:

1. Connect a video source to the INPUT BNC connector (for example, a composite video player).
2. Connect the OUT SET BNC connectors to up to 20 video acceptors, 4 sets of 5 devices (for example, composite video recorders or displays).
3. Adjust the COUPLING and CLAMP for the unit and the equalization (EQ) and level (LEVEL) for each of the 4 sets of 5 devices as needed.

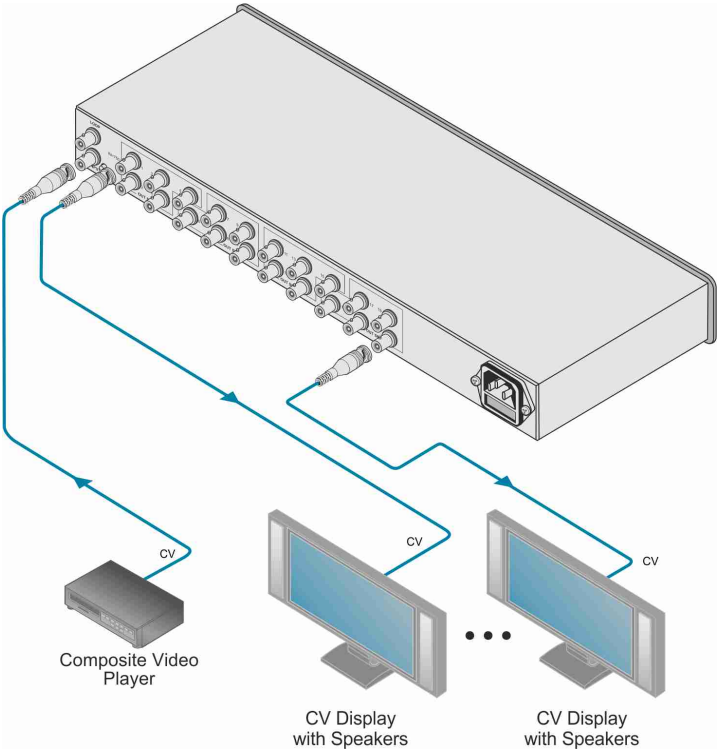


Figure 6: Connecting the VM-1021

Note:

- Terminate unused inputs to 75Ω, and terminate active inputs at the connecting source
- Remember, the output signal format matches the input signal format (for example, if the input is composite, the output is composite)
- All signal cables to each device should be of equal length (for example, the R,G,B cables between a camera and the amplifier should be of equal length)

5.3 VM-1021 Technical Specifications

INPUT:	1 composite video or a single component, looping, 1Vpp/75Ω on BNC connectors with termination switch
OUTPUTS:	20 composite/component video, 1Vpp/75Ω on BNC connectors
VIDEO BANDWIDTH(-3DB):	350MHz
DIFF. GAIN:	0.1%
DIFF. PHASE:	0.07Deg
K-FACTOR:	<0.05%
VIDEO S/N RATIO:	74dB
CONTROL:	Level: -1.1dB to + 2.7dB; EQ.: 0 to 2.9dB @4.4MHz
NON-LINEARITY:	0.1%
COUPLING:	AC, DC, and clamped - user selectable with front panel switches
DC CLAMP:	0V DC black level, or sync tip
POWER SOURCE:	230V AC, 50/60Hz (115V USA), 6.7VA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	19" x 7" x 1U W, D, H, rack mountable
WEIGHT:	2.6kg (5.7lbs) approx.
ACCESSORIES:	Power cord
Specifications are subject to change without notice at http://www.kramerelectronics.com	

6 Your VM-1055

This section describes the **VM-1055** *Video Component Distributor*.

6.1 Overview

The **VM-1055** is a high-performance distribution amplifier for RGBHV video signals. It provides correct buffering and isolation and distributes the signal to five identical outputs.

The **VM-1055** is a full broadcast, component video /RGBHV distributor designed for studios, graphics workstations, presentation and other demanding applications. The **VM-1055** splits a five-component input source into five identical outputs, with no discernible signal degradation. DC coupled inputs and outputs and state-of-the-art video amplifying circuitry make the **VM-1055** the first choice video component distributor. Signal bandwidth of over 300MHz and the option to adjust the termination of two "sync" channels (75Ω analog or TTL level) make the unit ideal for graphics workstations and presentation purposes. The **VM-1055** functions as a 5 x 1:5 video DA, for any video source when the termination switch is at "75Ω" (composite, YC, YUV, RGB and SDI); or as a three analog channel and two TTL channel distributor.

The unit features:

- High bandwidth of 300MHz (-3dB)
- HDTV compatibility
- Selectable sync input termination of 75Ω (video) or 510Ω (graphics/TTL)
- Standard 19” rack mount size of 1U

Figure 7 and Figure 8 define the unit.

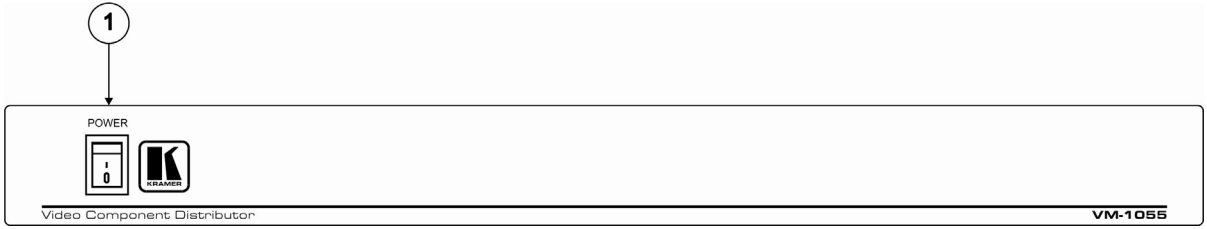


Figure 7: VM-1055 Video Component Distributor Front Panel

#	Feature	Function
1	POWER Switch	Illuminated switch for turning the device on and off

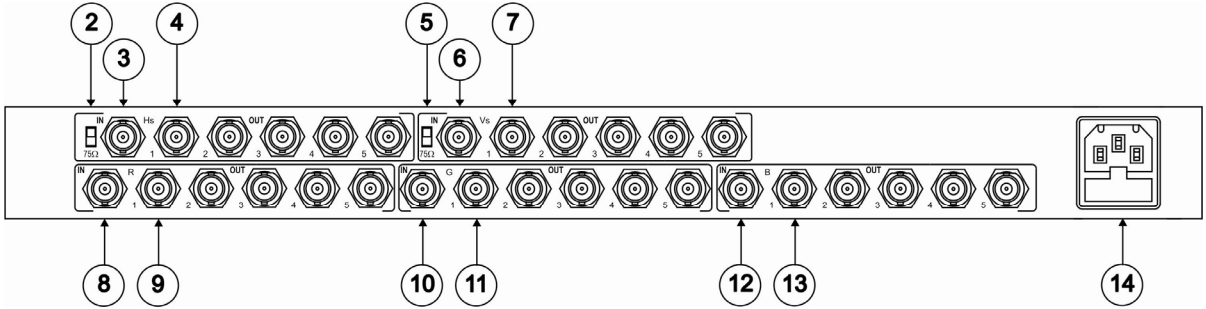


Figure 8: VM-1055 Video Component Distributor Rear Panel

#	Feature	Function
2	75Ω Switch	Selects “75Ω“or “HI-z” impedance for Hs channel. When at the "75Ω" position, the signal applied to the connector should be analog video or sync signal. When in the “HI-z” position a TTL level sync signal may be used
3	Hs IN BNC Connector	Hs channel video input (horizontal sync)
4	Hs OUT BNC Connectors (1-5)	Hs channel amplified and buffered video outputs
5	75Ω Switch	Selects “75Ω“or “HI-z” impedance for Vs channel. When at the "75Ω" position, the signal applied to the connector should be analog video or sync signal. When in the “HI-z” position a TTL level sync signal may be used
6	Vs IN BNC Connector	Vs channel video input (vertical sync)
7	Vs OUT BNC Connectors (1-5)	Vs channel amplified and buffered video outputs that are identical to each other and to the input
8	R IN BNC Connector	R channel video input
9	R OUT BNC Connectors (1-5)	R channel amplified and buffered video outputs that are identical to each other and to the input
10	G IN BNC Connector	G channel video input
11	G OUT BNC Connectors (1-5)	G channel amplified and buffered video outputs that are identical to each other and to the input
12	B IN BNC Connector	B channel video input
13	B OUT BNC Connectors (1-5)	B channel amplified and buffered video outputs that are identical to each other and to the input
14	Power Connector	AC connector and fuse enabling power supply to the unit

6.2 Connecting the VM-1055

Always switch off the power to each device before connecting it to your **VM-1055**. After connecting your **VM-1055**, connect its power and then switch on the power to each device.

To connect the **VM-1055** as illustrated in the example in Figure 9:

1. Connect up to 5 video sources (for example, the RGBHV output from a PC video card) to the IN BNC connectors.
2. Connect the OUT BNC connectors to up to 5 video acceptors (for example, the RGBHV projectors and displays).
3. Set the termination switches for the Hs and Vs channels as needed.

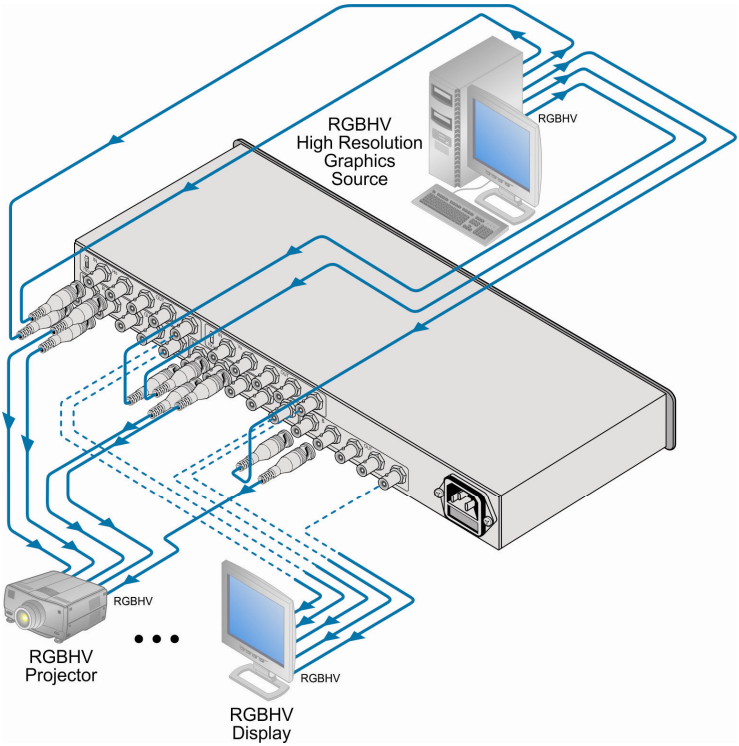


Figure 9: Connecting the VM-1055

Note:

- Terminate unused inputs to 75Ω, and terminate active inputs at the connecting source
- Remember, the output signal format matches the input signal format (for example, if the input is composite, the output is composite)
- All signal cables to each device should be of equal length (for example, the R,G,B cables between a camera and the amplifier should be of equal length)

6.3 VM-1055 Technical Specifications

INPUTS:	1x5 component/RGBHV/composite video, 1Vpp/75Ω on BNC connectors, (2 of them can be either video or SYNC 1Vpp/75Ω or TTL level/510Ω)
OUTPUTS:	5x5 component/RGBHV/composite video, 1Vpp/75Ω on BNC connectors (2 of them can be either video or SYNC 1Vpp/75Ω or TTL level/510Ω)
MAX. VIDEO OUTPUT:	2Vpp
VIDEO BANDWIDTH (-3DB):	300MHz
DIFF. GAIN:	0.1%
DIFF. PHASE:	0.1Deg
K-FACTOR:	<0.05%
VIDEO S/N RATIO:	Better than 74dB
COUPLING:	DC
NON-LINEARITY:	0.1%
POWER SOURCE:	230V AC 50/60Hz (115V USA), 5.3VA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	19" x 7" x 1U W, D, H, rack mountable
WEIGHT:	2.6kg (5.7lbs) approx.
ACCESSORIES:	Power cord
Specifications are subject to change without notice at http://www.kramerelectronics.com	

7 Your VM-54

This section describes the **VM-54** *Video/Component Distributor Amplifier*.

7.1 Overview

The **VM-54** is a high-quality video/component distribution amplifier designed for studio and other demanding applications. The unit has three looping input channels each with 18 outputs. With this configuration a 1:18 RGB distributor can be formed. Each channel is subdivided into four groups of five or three outputs, which may be tuned separately for gain and cable EQ. The three input channels may be looped-through together to form a 1:54 DA, or other configurations (for example, a 1:18 Composite or 1:18 YC - using two channels). To form a 1:54 distributor, connect the channel 1 LOOP connector to the input connector of channel 2. Connect the channel 2 LOOP connector to the input connector of channel 3. Set the termination switches of channels 1 and 2 to "Hi-z" and set the channel 3 termination switch to "75Ω". Output signals may be AC or DC coupled via front panel controls. Signal bandwidth exceeding 350MHz makes the **VM-54** the first choice for a large video/component distribution center.

The unit features:

- High bandwidth of 365MHz (-3dB)
- HDTV readiness
- Dual-mode configuration either as a 1:54 (composite/SDI) or a 1:18 (component) DA
- Grouped level (gain) and EQ (peaking) controls
- A video AC/DC coupling selection
- Looping inputs
- Selectable input signal termination
- Standard 19” rack mount size of 2U with built-in rack “ears”

Figure 10 and Figure 11 define the unit.

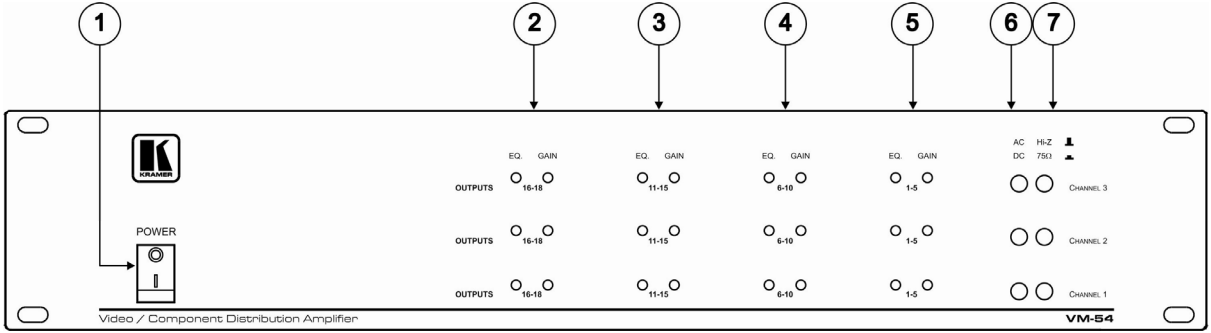


Figure 10: VM-54 Video/Component Distributor Amplifier Front Panel

#	Feature	Function
1	POWER Switch	Illuminated switch for turning the device on and off
2	EQ and GAIN Trimmers for OUTPUTS 16-18 (Channels 1-3)	Controls cable equalization and gain levels of video outputs 16-18 in channels 1-3
3	EQ and GAIN Trimmers for OUTPUTS 11-15 (Channels 1-3)	Controls cable equalization and gain levels of video outputs 11-15 in channels 1-3
4	EQ and GAIN Trimmers for OUTPUTS 6-10 (Channels 1-3)	Controls cable equalization and gain levels of video outputs 6-10 in channels 1-3
5	EQ and GAIN Trimmers for OUTPUTS 1-5 (Channels 1-3)	Controls cable equalization and gain levels of video outputs 1-5 in channels 1-3
6	AC/DC Buttons	Selects AC/DC coupling for channels 1-3 (DC coupling when pressed)
7	Hi-Z/75Ω Buttons	Selects “Hi-Z/75Ω” impedance for channels 1-3 (75 Ω termination is applied when pressed)

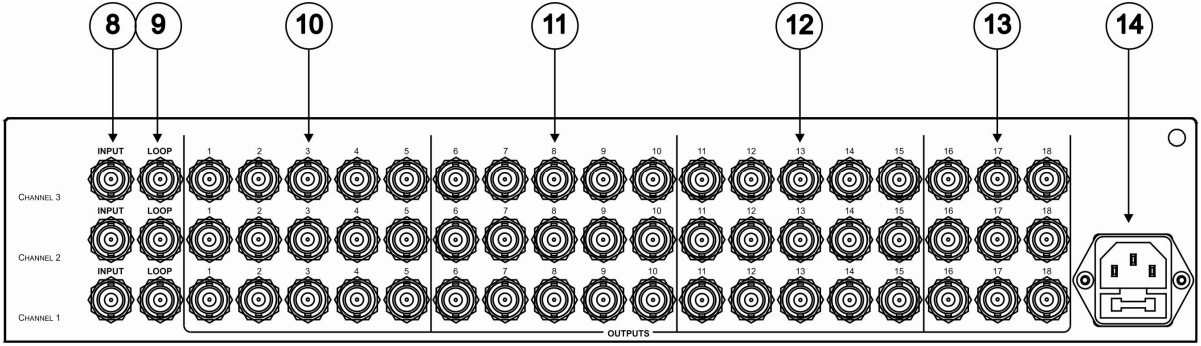


Figure 11: VM-54 Video/Component Distributor Amplifier Rear Panel

#	Feature	Function
8	INPUT BNC Connectors (Channels 1-3)	Video input (channels 1-3)
9	LOOP BNC Connectors (Channels 1-3)	Provides video looping capability to increase number of outputs (channels 1-3)
10	OUTPUTS 1-5 (Channels 1-3)	Video outputs that are identical to each other and to the input
11	OUTPUTS 6-10 (Channels 1-3)	
12	OUTPUTS 11-15 (Channels 1-3)	
13	OUTPUTS 16-18 (Channels 1-3)	
14	Power Connector	AC connector and fuse enabling power supply to the unit

7.2 Connecting the VM-54

Always switch off the power to each device before connecting it to your **VM-54**. After connecting your **VM-54**, connect its power and then switch on the power to each device.

To connect the **VM-54** as illustrated in the example in Figure 12:

1. Connect an RGB video source (for example, an RGM camera) to the BNC connectors of the 3 INPUT channels.

2. Connect the 3 channels of the OUTPUT BNC connectors to up to 18 video acceptors (for example, RGB displays).

3. As required, select AC or DC coupling and termination by channel and adjust EQ and GAIN for each of the 4 groups of outputs.

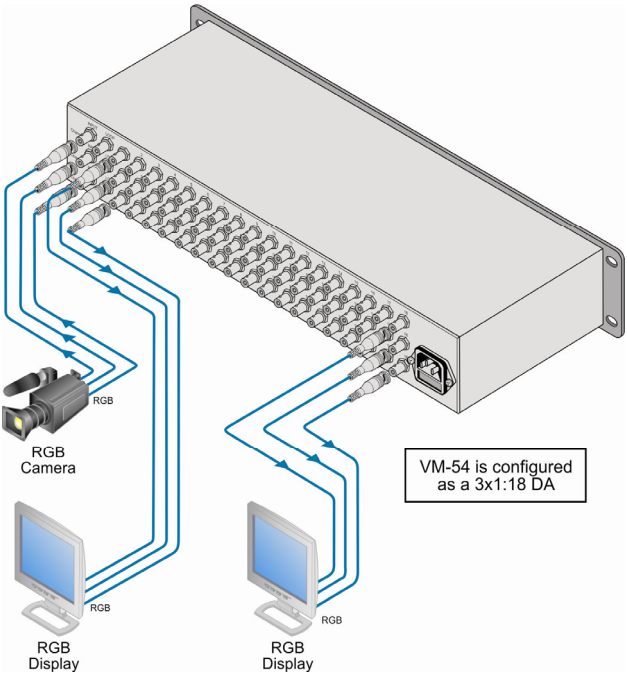


Figure 12: Connecting the VM-54

Note:

- Terminate unused inputs to 75Ω, and terminate active inputs at the connecting source
- Remember, the output signal format matches the input signal format (for example, if the input is composite, the output is composite)
- All signal cables to each device should be of equal length (for example, the R,G,B cables between a camera and the amplifier should be of equal length)

7.3 VM-54 Technical Specifications

INPUTS:	3 composite/component video looping, 1Vpp/75Ω on BNC connectors with termination switches
OUTPUTS:	3x18 composite/component video, 1Vpp/75Ω on BNC connectors
MAX. VIDEO OUTPUT:	2Vpp
VIDEO BANDWIDTH (-3DB):	365MHz
DIFF. GAIN:	0.03%
GAIN RANGE:	-0.8 to 1.9dB
DIFF. PHASE:	0.09Deg
EQ. RANGE:	0 to 2.3dB @4.4MH
K-FACTOR:	<0.05%
VIDEO S/N RATIO:	Better than 70dB
CONTROL:	75Ω termination switches on each input
NON-LINEARITY:	0.2%
COUPLING:	AC or DC for each channel, selectable from front panel
POWER SOURCE:	230V AC, 50/60Hz, (115V AC USA) 10VA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	19" x 7" x 2U W, D, H, rack mountable
WEIGHT:	4.4kg (9.8lbs) approx.
ACCESSORIES:	Power cord
Specifications are subject to change without notice at http://www.kramerelectronics.com	

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SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

P/N: 2900-300182 Rev: 1