In this group of products, KRAMER ELECTRONICS offers some very useful accessories for the video professional.

- **Video Tester:**
  A new, unique, patented, indispensable tool for the video professional. By just pressing one touch switch it will trace missing signals, distinguish between good and jittery (VCR sourced) signals, and identify the presence of good signals. Whenever a video signal is missing, because of bad connections, cable breaks or faulty sources, the Video TESTER is all you need.

- **Video-Audio Combiner and Separator:**
  The VA-11 Video-Audio Combiner sends a color video signal and a stereo audio signal using only one standard coax cable. The VA-11 maintains the bandwidth of an industrial color video signal, and the output signal may be viewed and recorded as a normal video signal. By using the KRAMER VA-11 together with the VA-12 (Video-Audio Separator), the audio-stereo signal may be recovered, so audio signals may be sent in a hidden mode, to be recovered only by a VA-12.

- **Optic Ground Isolator:**
  The KRAMER OC-1N is a high quality Video Isolator, designed for broadcast and industrial studio applications. In distinction to commercially available machines, which are based on non-linear transformers, with poor frequency response, the OC-1N is designed around a state-of-the-art active optoisolator device with high linearity and very wide frequency response. The OC-1N allows the user to select which GROUND will become floating - input, output, both or none, using rear panel switches.

- **RS-232 Interface:**
  The KRAMER RS-232 add-on Control Module allows our vertical interval switchers to be computer controlled and monitored. The RS-232 Module consists of an add-on card and software program providing instantaneous switching between all input devices through an easy to use program running on a standard MS-DOS or WINDOWS (TM) personal computer.

- **Picture-in-Picture Inserter:**
  The KRAMER PIP-200 is a Picture in Picture Video Inserter designed for studio and other applications for monitoring and special effects generation. The position of the inserted picture is user controlled, as is its border color. Special features of the PIP-200 are the ability to insert an NTSC image into a PAL background and vice versa and RS-232 control.

- **Universal 12V Power Supply:**
  The Kramer VA-50P is a Universal Power Supply for all VM-50, VS-55, VM-3 and some of the TP series machines, replacing up to six wall transformers and providing clean DC voltage for all machines. The VA-50P is housed in a small enclosure, matching the enclosure size of the VM-50 and VS-55 series machines.
<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Page</th>
<th>Function</th>
<th>Inputs</th>
<th>Outputs</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIDEO TESTER</td>
<td>Hand Held</td>
<td>8.3</td>
<td>Video signal tester</td>
<td>1 x CV</td>
<td>1 x LED's</td>
<td>A hand held, beeper sized, video signal tester for easy and fast troubleshooting (pat-pend).</td>
</tr>
<tr>
<td>VA-11</td>
<td>Compact</td>
<td>8.4</td>
<td>Video-Audio Combiner</td>
<td>1 x CV</td>
<td>2 x Audio</td>
<td>MIX BNC  A Video - Audio Stereo Combiner for routing 3 signals on one coax cable.</td>
</tr>
<tr>
<td>VA-12</td>
<td>Compact</td>
<td>8.5</td>
<td>Video-Audio Separator</td>
<td>MIX BNC</td>
<td>1 x CV</td>
<td>2 x Audio</td>
</tr>
<tr>
<td>OC-1N</td>
<td>Compact</td>
<td>8.6</td>
<td>Ground Isolator</td>
<td>1 x CV</td>
<td>1 x CV</td>
<td>A Video Optic Ground Isolator, eliminates ground problems, in a compact enclosure.</td>
</tr>
<tr>
<td>VA-15</td>
<td>Desktop</td>
<td>8.9</td>
<td>Audio Mixer-Preamplifier</td>
<td>4 x Mic or Line</td>
<td>1 Mixed, remote, + Phones</td>
<td>A 4 input balanced audio mixer for Mic and Line levels with gain controls, phantom power and headphone monitor output.</td>
</tr>
<tr>
<td>VA-122</td>
<td>NM</td>
<td>not shown</td>
<td>BNC Splitter</td>
<td>1 x BNC</td>
<td>2 x BNC</td>
<td>A &quot;Y&quot; shaped BNC splitter for easy looping of video inputs or outputs.</td>
</tr>
<tr>
<td>VA-50P</td>
<td>Compact</td>
<td>8.10</td>
<td>Power Supply</td>
<td>MAINS</td>
<td>6 x 12V</td>
<td>A six output DC power supply for &quot;VM-50&quot;, &quot;VS-55&quot;, &quot;VM-3&quot;, &quot;TP&quot; series and KRAMER TOOLS.</td>
</tr>
<tr>
<td>RK 10/50</td>
<td>NM</td>
<td>not shown</td>
<td>Rack Adapter</td>
<td>N/A</td>
<td>N/A</td>
<td>A family of 19&quot; rack adapters for Kramer desktop and &quot;mini&quot; models.</td>
</tr>
<tr>
<td>VP-43</td>
<td>TOOL</td>
<td>9.25</td>
<td>Range extender</td>
<td>2 x RS-422</td>
<td>RS-232</td>
<td>2 units extend RS-232 useful range up to 1.2 km.</td>
</tr>
<tr>
<td>611T</td>
<td>TOOL</td>
<td>9.30</td>
<td>Fiber TX</td>
<td>CV</td>
<td>Fiber</td>
<td>Multimode, Fiber-optic video transmitter - receiver system.</td>
</tr>
<tr>
<td>611R</td>
<td>TOOL</td>
<td>9.30</td>
<td>Fiber RX</td>
<td>Fiber</td>
<td>CV</td>
<td></td>
</tr>
<tr>
<td>VA-22</td>
<td>TOOL</td>
<td>9.32</td>
<td>MIX + Phones</td>
<td>Video transmitter</td>
<td>1 x CV</td>
<td>A downstream video transmitter and upstream audio receiver system on a single coax cable.</td>
</tr>
<tr>
<td>VA-23</td>
<td>TOOL</td>
<td>9.32</td>
<td>1 x CV</td>
<td>Audio transmitter</td>
<td>1 x MIX</td>
<td></td>
</tr>
</tbody>
</table>
The Kramer VIDEO TESTER is a unique patented tool for the video professional. By pressing one button it can identify missing signals and distinguish between stable and unstable video. Whenever a video signal is missing because of bad connections, cable breaks or faulty sources, the VIDEO TESTER can take the place of larger, expensive test equipment such as oscilloscopes, waveform monitors or vectorscopes. It functions by checking for sync and odd/even data in the signal and will not be triggered by noise, hum or even by a 15kHz non-video source.

**Technical Specifications:**

<table>
<thead>
<tr>
<th>INPUTS:</th>
<th>One composite video PAL, SECAM or NTSC, 1Vpp/ 75 Ω on a BNC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUTS:</td>
<td>Two LEDs: Power indicator (RED), Signal indicator (GREEN).</td>
</tr>
<tr>
<td>DETECTION MODES:</td>
<td>Green LED off = missing signal. Irregularly flashing = unstable signal. Continuously lit or flashing regularly = standard video signal.</td>
</tr>
<tr>
<td>POWER:</td>
<td>9 Volt battery, 30mA when testing, 0 mA when off.</td>
</tr>
<tr>
<td>DIMENSIONS:</td>
<td>6.5cm x 10cm x 3cm (2.6” x 3.9” x 1.2”, W, H, D).</td>
</tr>
<tr>
<td>WEIGHT:</td>
<td>120 gr. with battery.</td>
</tr>
</tbody>
</table>

**Typical Applications:**

- Any field or shop application for a simple signal/cable tester.
- Economical - runs on a 9-Volt battery for the full shelf life of the battery.
- Convenient - in sturdy plastic housing with pocket clip.
The Kramer VA-11 is a video and stereo audio combiner designed to allow composite video and stereo audio to share one ordinary coax cable. It operates in conjunction with the VA-12 separator. The VA-11 maintains the bandwidth of an industrial color video signal, and the output signal may be viewed and recorded as a normal video signal even without using the VA-12 separator. However, by using the two together as a system, the stereo audio signal is recovered.

The VA-11 can be rack mounted using the RK-50R kit, which holds two units in two vertical rack spaces.

**Technical Specifications:**

**INPUTS:**
- 1 composite video, 1Vpp/75 Ω on a BNC type connector.
- 1 stereo audio, 1 Vpp/10kΩ on RCAs.

**OUTPUTS:**
- 1 mixed signal 1Vpp / 75 Ω on a BNC.

**VIDEO S/N RATIO:**
72 dB.

**DIFF. GAIN:**
0.4 %.

**DIFF. PHASE:**
0.17 Deg.

**BANDWIDTH:**
7 MHz. -3dB.

**DIMENSIONS:**
16.5cm x 12cm x 4.5cm (6.5” x 4.7” x 1.8”, W, D, H.).

**POWER SOURCE:**
230 VAC, 50/60 Hz (115VAC, U.S.A.) 4.1 VA.

**WEIGHT:**
0.78 Kg. (1.7 Lbs.) Approx.

**ACCESSORIES:**
Power cord.

**OPTIONS:**
Model RK-50R rack kit holds two units in two vertical rack spaces.

**Typical Applications:**

- Using video-only switchers and DA’s for routing of video and stereo audio.
- Simplification of security and CCTV installations.
- Using existing video coax wiring for video and audio transmission.
- Simple and quick studio wiring.
The Kramer VA-12 is a video-audio separator, which works in conjunction with the VA-11 combiner. It is designed to separate stereo audio from the combined video-audio format and provide a BNC output for video, and dual RCA's for audio output. The VA-12 allows parallel connection of several units on the same line (one transmitter/multiple receivers) by using the termination switch on the rear panel. The switch should be set to the Hi-Z position on all units but the last. The frequency response of the VA-12 matches that of the VA-11.

Using the RK-50R kit, two VA-12s can be mounted in two vertical spaces of a standard 19" rack.

Technical Specifications:

- **INPUT:** 1 mixed video-audio signal 1Vpp / 75 Ω on a BNC type connector.
- **OUTPUTS:** 1 composite video, 1Vpp/75 Ω on a BNC type connector. 1 stereo audio (L, R), 1Vpp /100Ω on RCAs.
- **VIDEO S/N RATIO:** 72 dB.
- **DIFF. GAIN:** 0.4 %.
- **DIFF. PHASE:** 0.17 Deg.
- **BANDWIDTH:** 7 MHz. -3dB.
- **DIMENSIONS:** 16.5cm x 12cm x 4.5cm (6.5" x 4.7" x 1.8", W, D, H.).
- **POWER SOURCE:** 230 VAC, 50/60 Hz (115VAC, U.S.A.) 4.4 VA.
- **WEIGHT:** 0.78 Kg. (1.7 Lbs.) Approx.
- **ACCESSORIES:** Power cord.
- **OPTIONS:** RK-50R rack kit holds two units in two vertical rack spaces.

Typical Applications:

- Using video-only switchers and DAs for routing of video and stereo audio.
- Simplification of security and CCTV installations.
- Using existing video coax wiring for video and audio transmission.
- Simple and quick studio wiring.
The Kramer OC-1N is a high quality optical video isolator. It is designed to provide complete isolation between video sources and receiving devices such as monitors, projectors, and VCR's. The OC-1N can eliminate many problems related to video hum, ground loops, DC offsets and other factors which interfere with video picture quality. Rear panel controls allow fine-tuning of output video levels and frequency response.

The OC-1N's active opto-isolator circuit offers extremely linear response and wide frequency range compared to transformer-based units. Rear panel switches are provided which allow the user to select which ground will become floating - input, output, both, or none. It is rugged, dependable, and is housed in a compact enclosure which can also be rack mounted using the RK-50R kit which holds two units in two vertical rack spaces.

### Technical Specifications:

<table>
<thead>
<tr>
<th>Input:</th>
<th>1 composite video, 1Vpp/75 Ω on a BNC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output:</td>
<td>1 composite video, 1Vpp/75 Ω on a BNC.</td>
</tr>
<tr>
<td>S/N Ratio:</td>
<td>69 dB.</td>
</tr>
<tr>
<td>Bandwidth:</td>
<td>20 MHz -3dB.</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>16.5cm x 12cm x 4.5cm (6.5” x 4.7” x 1.8&quot;, W, D, H.).</td>
</tr>
<tr>
<td>Power Source:</td>
<td>230 VAC, 50/60 Hz. (115VAC, U.S.A.) 2.3 VA.</td>
</tr>
<tr>
<td>Weight:</td>
<td>0.72 Kg. (1.6 Lbs.) Approx.</td>
</tr>
<tr>
<td>Accessories:</td>
<td>Power cord.</td>
</tr>
<tr>
<td>Options:</td>
<td>Rack mount kit model RK-50R.</td>
</tr>
</tbody>
</table>

### Typical Applications:

- Large display systems with sources and monitors/projectors on different power circuits.
- Video field production sessions.
- Hospital and other critical applications requiring complete isolation.
The VSI-232 is an add-on module which allows some Kramer vertical interval switchers to be remotely controlled and monitored using an industry standard touch-screen system, personal computer, or other dedicated serial controller. The kit is easy to install in the field, and consists of an add-on card and a software program which provide instantaneous switching between input devices. The program runs on any Windows™ based personal computer.

The modules come in two versions: The VSI-232-1 is for installation in any Kramer vertical interval switcher in the 01 series including the VS-401/N, VS-601/N, and VS-801/N. The VSI-232-2 is for installation in Kramer’s 02 series including the VS-402, VS-602, VS-802, VS-1202.

Technical Specifications:

| OPERATING SPEED: | 1200 BAUD (4.8K, 9.6K and 19.2K are optional). |
| POWER SUPPLY:    | 5 Volts, internal from switcher.               |
| SWITCHING SYSTEM:| Vertical Interval interrupt detection. When no vertical pulse is available and a switch command is given, the module switches automatically after 30mS. |

Typical Applications:

- Upgrade existing 01 and 02 series switchers originally purchased without remote capability.
The Kramer PIP-200 is a high performance picture-in-picture video inserter designed to accept two composite or S-video sources, and display both on the same screen simultaneously. One source will be displayed in full screen mode, and the other source will be inserted into the picture as a window which can be sized and positioned as desired. Bi-directional transcoding between composite and S-video allows the two inputs to be any combination of composite and S-video.

The PIP-200 offers an exceptionally wide range of adjustments which are accessible either by front panel buttons, or RS-232. It is fully compatible with industry standard touch screen systems. For systems requiring control from a PC, our new Windows™ compatible control software is included at no additional cost. In addition to SIZE (1/4, 1/9, 1/16 or 1/36th of the screen) and POSITION controls, the user can select a BORDER and vary its color, INVERT the full and insert screens, and FREEZE the inserted image if desired.

The PIP-200 does not act as a standards converter, but it can insert an NTSC image into a PAL background and vice versa. The video standard is automatically recognized and displayed on the front panel. All settings are non-volatile so they are retained when power is lost or shut down. It is dependable, rugged, and fits in one vertical space of a standard 19" rack.

Technical Specifications:

| INPUTS: | 2 video, each composite or Y/C, 1 Vpp/75Ω Composite (BNC), 1 Vpp/75Ω (Y), 0.3 Vpp/75Ω (C) on a 4P connector. |
| OUTPUTS: | 1 Composite Video 1 Vpp/75Ω (Composite or Y), 0.3 Vpp/75Ω (C). |
| INPUT STANDARDS: | PAL, NTSC (both), SEACAM. |
| OUTPUT STANDARDS: | PAL, NTSC (both). |
| VIDEO CROSSTALK: | -62dB (SYNC), -37dB (C). |
| INSERTED SIZE: | 1/4, 1/9, 1/16, 1/36th. |
| CONTROL: | Front panel keys, RS-232. |
| STANDARD DETECTION: | Automatic. |
| DIMENSIONS: | 19 inch (W), 7 inch (D) 1U (H) rack mountable. |
| POWER SOURCE: | 230 VAC, 50/60 Hz (115VAC, U.S.A.) 18.4 VA. |
| WEIGHT: | 2.8 Kg. (6.2 Lbs.) Approx. |
| ACCESSORIES: | Power cord, Windows™ control software. |

Typical applications:

- Video production studios for camera monitoring.
- Teleconferencing using one screen.
- Satellite image monitoring.
- CCTV, home theater, and satellite receiver monitoring.
The Kramer VA-15 is a high quality four input mixer for balanced audio signals using XLR connectors. Each of the four inputs can be set to operate at Mic level or +4dB line level. Each input also has a switch which applies 48V phantom power for applications requiring typical condenser microphones to be connected directly to the VA-15. Operation is very simple - a front panel level control for each channel is used to set the desired output. A separate headphone output with a dedicated level control is provided for local monitoring.

The VA-15 has an additional unique feature for remote monitoring of the mixed output. Using the 4/6 pin telephone-type connector, it can transmit a mixed output as much as 500 meters away using any twisted-pair wire. At a remote location, the signal may then be converted back to a standard balanced signal using a special adapter, which is provided with the VA-15. It is housed in a rugged desktop style enclosure, but can be rack mounted using the RK-MED kit, which holds one unit in two vertical rack spaces.

Technical Specifications:

**INPUTS:**
4 audio, line (10kΩ) or Mic (600 Ω) switch selectable, balanced, on female XLR connectors.

**OUTPUTS:**
1 audio, 150 Ω balanced on a male XLR connector.
1 twisted pair on a 4/6-telephone connector.
One headphone output, 250mW into 8-16 Ω.

**BANDWIDTH:**
20-20000Hz -3dB.

**THD:**
0.02%.

**S/N RATIO:**
80 dB (+10dBm).

**PHANTOM VOLTAGE:**
48V.

**DIMENSIONS:**
24.5cm X 18cm X 4.4cm (9.6” x 7” x 1.7”, W, D, H).

**POWER SOURCE:**
230 VAC, 50/60 Hz; (115VAC, U.S.A.) 5.8 VA.

**WEIGHT:**
1.4 Kg. (3.1 Lbs.) Approx.

**ACCESSORIES:**
Power cord, TP to balanced audio adapter.

**OPTIONS:**
Model RK-MED rack kit holds one unit in two vertical spaces.

Typical Applications:

- Live stage and studio audio mixing.
- Schools and simple presentation systems.
- Post production in video/audio studios.
- Rental and staging.
The Kramer VA-50P is a six outlet power supply designed to operate Kramer products which normally uses an external 12VDC power transformer. This includes all units in the VM-50, VS-55, and VM-3 families, the Kramer TOOLS and Pico TOOLS families, most of the TP series of twisted pair converters, and others.

By replacing up to six wall transformers, the VA-50P can save valuable space on power strips, and be secured in a rack using the model RK-50R kit which holds two VA-50P's and requires two vertical spaces in a standard 19” rack. For non-rack applications, special brackets are provided which allow multiple VA-50s to be stacked safely.

The VA-50P is dependable, rugged, and can also provide clean 12VDC power to non-Kramer devices up to a total supply current of 600 milliamps, provided that the polarity is correct (positive = center pin).

**Technical Specifications:**

<table>
<thead>
<tr>
<th>INPUT (POWER SOURCE):</th>
<th>230 VAC, 50/60 Hz, (115VAC, U.S.A.) 11.5 VA.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUTS:</td>
<td>6 x 12VDC outputs, totaling 600mA DC.</td>
</tr>
<tr>
<td>DIMENSIONS:</td>
<td>16.5cm x 12cm x 4.5cm (6.5” x 4.7” x 1.8”, W, D, H.).</td>
</tr>
<tr>
<td>WEIGHT:</td>
<td>1 Kg. (2.2 Lbs.) Approx.</td>
</tr>
<tr>
<td>ACCESSORIES:</td>
<td>AC power cord, vertical stacking bracket.</td>
</tr>
<tr>
<td>OPTIONS:</td>
<td>Model RK-50R rack kit (holds 2 units in 2 vertical rack spaces).</td>
</tr>
</tbody>
</table>

**Typical applications:**

- Any audio/video system using multiple Kramer 12V operated products.
- Battery replacement for field/battery operated equipment.