

## Video-Audio Processors

Kramer Electronics offers several Video-Audio Processors for image and sound enhancement in production and duplication studios, as well as for any other demanding application. The processors operate in a wide range of formats - Composite video, Y/C, Component Video (Y, R-Y, B-Y) and Audio, and feature a variety of options:

### ❑ **Luminance Processing.**

Luminance processing alters the luminance aspect of the video signal (the black and white contents). The processors offer Video Gain, Contrast and Luminance-Definition controls. By carefully adjusting the controls, the optimal luminance signal quality is obtained.

### ❑ **Chrominance Processing.**

Chrominance processing alters the color aspect of the video signal. The processors offer Color Saturation control, as well as Red, Green and Blue level control. The video Component processor offers R-Y and B-Y level controls as well.

### ❑ **Black Level Control.**

The processors offer Black level control, which effects the appearance and richness of the video image. Carefully adjusting the BLACK level results in a rich, well saturated and defined image, as well as allowing a host of creative special effects.

### ❑ **Screen Splitter.**

A built-in Screen Splitter allows for accurate comparison, in real-time, of the processed image to the non-processed image, allowing for precise picture fine-tuning.

### ❑ **Other Video Processing Options.**

The Processors offer additional processing options: Video Limiting - for elimination of image over-saturation and brightness, and therefore elimination of image *burning*; Linear or Logarithmic luminance enhancement for optimal noise limitation; multiple-input switching; DA function, format conversion and more.

### ❑ **Audio Processing.**

Machines in this family offer audio control and processing, audio switching and source selection, audio (line and Mic) mixing and amplification, remote audio monitoring and audio noise limiting.

### **Applications:**

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- ❖ Live Broadcast and studio signal enhancement and correction.
- ❖ Video production and duplication studios for image quality control.
- ❖ Medical, military and industrial image enhancement.
- ❖ Special Effects generation.
- ❖ Multimedia image enhancement for editing and video capture.

**Video-Audio Processors:**

Model	Size	Page	Color Control	Inputs	Outputs	Remarks
SP-40	Desktop	3.3	Saturation	1 x CV, 1x Y/C 3 x Audio	1 x CV, 1 x Y/C 2 x Audio	A compact video processor + screen splitter, clipper and audio mixer.
SP-11	19" 1U	3.4	RGB + Saturation	2 x CV, 2 x Y/C 4 x Audio	2 x CV, 2 x Y/C 4 x Audio	An industrial Video processor with screen splitter, Color Corrector, 19".
SP-3001	19" 1U	3.5	U,V	YUV	3 x YUV	A Component Video processor-DA with screen splitter, 19".
SP-4200	Desktop	3.6	N/A	1 x Audio stereo (line)	1 x Audio stereo + balanced	An audio ProcAmp, + noise reduction circuitry, compressor and amplifier to balanced audio levels.



## Video Processor

# SP-40

The Kramer **SP-40** is a high quality processor for video signals. It is designed to accept a composite or s-Video (Y/C) signal and give the user full control over black level, color, contrast and definition. It has one composite video input and output, one s-Video input and output, as well as corresponding I/O's for stereo audio. The **SP-40** has internal transcoding which allows the selected input signal to be present on both the composite and s-Video outputs simultaneously.

The **SP-40** has DC coupled video inputs and outputs, and a unique audio mix control which allows an auxiliary audio input to be mixed in with the selected source. The screen splitter allows the user to view the original and processed image on one monitor.



### Technical Specifications:

**INPUTS:** One composite video, 1Vpp/75  $\Omega$  on a BNC, one Y/C - Vpp/75  $\Omega$  (Y) 0.3V/75  $\Omega$  (C), on 4P.

Two stereo audio, 1Vpp/50 k $\Omega$ , one AUX stereo audio input, 1Vpp/50 k $\Omega$  on RCAs.

**OUTPUTS:** One composite video, 1Vpp/75  $\Omega$  on a BNC, one Y/C -1Vpp/75  $\Omega$  (Y), 0.3V/75 $\Omega$  (C) on 4P.

Two stereo audio, 1Vpp/100  $\Omega$  on RCAs.

**DIFF. GAIN:** 0.7%.

**DIFF. PHASE:** 0.23 Deg.

**VIDEO COUPLING:** DC clamped outputs.

**Y BANDWIDTH:** 65 MHz.

**CONTROLS:** Video Gain (Fade to + 6dB), Contrast, Definition, Color Saturation (-30dB to +6dB) Black Level (-0.3V to +0.7V), Limiter switch, Screen Splitter (Process to Bypass) Audio mix - full crossfade between source and Aux.

**DIMENSIONS:** 30 cm x 16.3 cm x 4.3 cm (11.8" x 6.4" x 1.7", W, D, H).

**POWER SOURCE:** 230 VAC, 50/60 Hz, (115VAC, U.S.A.) 11.5 VA.

**WEIGHT:** 1.9 Kg. (4.2 Lbs.) Approx.

**ACCESSORIES:** Power cord.

### Typical Applications:

- ❖ *Video control and correction in duplication and production studios.*
- ❖ *Camera control, luminance and white balance correction.*
- ❖ *Image enhancement in medical, industrial and military applications.*
- ❖ *Composite to Y/C switching and bi-directional transcoding.*



## Video Processor

# SP-11

The Kramer **SP-11** is a studio quality video processor with a unique combination of switching, distributing, and transcoding capabilities. It is designed primarily to control video properties such as hue, color, and black level, brightness etc.

The **SP-11** has a total of four inputs (two composite video, and two s-Video). Simple front-panel buttons select the desired input, which is then processed and routed to all four outputs simultaneously via internal composite/s-Video transcoding.

Eight independent adjustments are provided including VIDEO GAIN down to full fade, log or linear DEFINITION, log or linear CONTRAST, COLOR saturation, BLACK level, and separate RED, GREEN, and BLUE level controls. The screen SPLITTER provides “before and after” comparison on one monitor. Audio inputs are switched with their respective video inputs, and cannot be controlled separately. The **SP-11** is dependable, rugged, and fits in one vertical space of a standard 19” rack.



### Technical Specifications:

<b>INPUTS:</b>	2 composite video, 1Vpp/75Ω on BNCs, 2 Y/C - 1Vpp/75Ω (Y), 0.3V/75Ω (C), on 4P connectors. 4 stereo audio, 1Vpp/50kΩ on RCAs.
<b>OUTPUTS:</b>	2 composite video, 1Vpp/75Ω on BNCs, 2 Y/C - 1Vpp/75Ω (Y), 0.3V/75Ω (C), on 4P connectors. 4 stereo audio, 1Vpp/100Ω on RCAs.
<b>DIFF. GAIN:</b>	1.15%.
<b>DIFF. PHASE:</b>	0.24 Deg.
<b>K-FACTOR:</b>	1.7%.
<b>VIDEO S/N:</b>	73 dB.
<b>COUPLING:</b>	DC (Video), AC (Audio).
<b>INPUT SELECTOR:</b>	Vertical Interval.
<b>AUDIO BANDWIDTH:</b>	20,000 Hz, -3dB.
<b>AUDIO THD:</b>	0.019%.
<b>AUDIO S/N RATIO:</b>	86 dB.
<b>CONTROLS:</b>	Video Gain (Fade to +6dB), Black Level, Contrast, Definition, Color Saturation (-30B to +6dB) Red, Green, Blue controls (-40dB to +6dB), Screen Splitter (Process to Bypass).
<b>DIMENSIONS:</b>	19 inch (W), 7 inch (D), 1 U (H) rack mountable.
<b>POWER SOURCE:</b>	230 VAC, 50/60 Hz, (115VAC, U.S.A.) 13.8 VA.
<b>WEIGHT:</b>	2.9 Kg. (6.4 Lbs.) Approx.
<b>ACCESSORIES:</b>	Power cord.

### Typical applications:

- ❖ *Video control and correction in duplication and production studios.*
- ❖ *Camera control, luminance and white balance correction.*
- ❖ *Medical, industrial and military image enhancement.*
- ❖ *Composite to Y/C switching and bi-directional transcoding.*

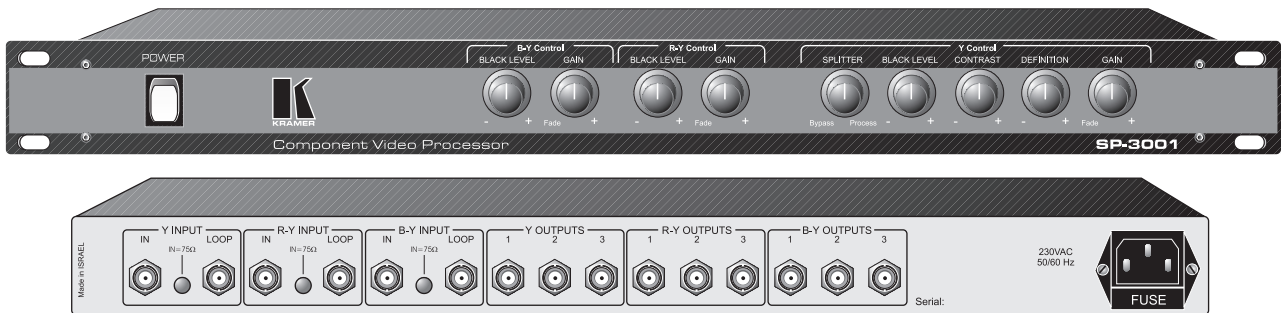


## Component Video Processor

# SP-3001

The Kramer **SP-3001** is a studio quality processor for Y, R-Y, B-Y component video signals. It has one looping input for a component video signal and on each channel provides full control over black level and gain, as well as contrast and definition on the Y channel. The **SP-3001** also serves as a distribution amplifier with three sets of component video outputs.

The **SP-3001** has DC coupled inputs and outputs for outstanding video quality, and a screen split feature which allows the user to view the original and processed signal on one monitor. It is rugged, durable, and is housed in a professional 19" rack mountable enclosure.



### Technical Specifications:

<b>INPUTS:</b>	3 channels for component video, 1Vpp/75 $\Omega$ (Y), 0.7 Vpp / 75 $\Omega$ for each R-Y and B-Y, looping with termination switches, on BNC connectors.
<b>OUTPUTS:</b>	3 for each Y, R-Y, B-Y, 1Vpp/75 $\Omega$ for Y, 0.7 Vpp / 75 $\Omega$ for each R-Y and B-Y, on BNC connectors.
<b>DIFF. GAIN:</b>	0.04%.
<b>DIFF. PHASE:</b>	0.04 Deg.
<b>K-FACTOR:</b>	<0.05%.
<b>SIGNAL COUPLING:</b>	Direct (DC).
<b>S/N RATIO:</b>	75 dB.
<b>BANDWIDTH:</b>	62 MHz -3dB.
<b>CONTROLS:</b>	Gain, Contrast, Definition, Black Level for Y channel, Gain and Black Level for each R-Y and B-Y, Screen Splitter for all channels (Process to Bypass).
<b>DIMENSIONS:</b>	19 inch (W), 7 inch (D), 1 U (H) rack mountable.
<b>POWER SOURCE:</b>	230 VAC, 50/60 Hz, (115VAC, U.S.A.) 7.6 VA.
<b>WEIGHT:</b>	2.9 Kg. (6.4 Lbs.) Approx.
<b>ACCESSORIES:</b>	Power cord.

### Typical Applications:

- ❖ *Component video control and correction in broadcast and production studios.*
- ❖ *Component video signal distribution.*
- ❖ *Image enhancement for medical, industrial and military applications.*



## Audio ProcAmp

# SP-4200

The Kramer **SP-4200** is a unique audio processor which combines the functions of a preamp, audio-dynamics processor, unbalanced to balanced converter, and noise reducer in a rugged, compact desktop unit. It accepts one unbalanced line level stereo input via RCA connectors, and provides one set of unbalanced stereo outputs on RCA connectors, as well as one set of balanced stereo outputs on XLRs. The separate L/R GAIN controls affect only the balanced stereo outputs. The VOLUME and AUTO LEVEL controls which comprise the LEVEL PROCESS are engaged when the LEVEL PROCESS button is turned on, otherwise, they are bypassed. Depending on front panel settings, the **SP-4200** can provide true stereo signal processing including noise reduction by up to 25 dB without sonic artifacts, downward audio expansion, dynamic adjustment adaptive threshold for all-level operation, effective Dolby B<sup>(R)</sup> decoding, AGC operation and level transcoding.

The **SP-4200** is rugged, dependable, and packaged in ½ rack enclosure so that two can fit side-by-side in a standard 19" rack using Kramer's **RK-80** rack adapter.



### Technical Specifications:

<b>INPUTS:</b>	1 stereo audio 1Vpp / 50 kΩ on RCAs.
<b>OUTPUTS:</b>	1 stereo audio 1Vpp / 150 Ω on RCAs. 1 balanced stereo audio up to + 24 dBm / 50 Ω on male XLR connectors.
<b>THD+NOISE:</b>	0.03%.
<b>DYNAMIC RANGE:</b>	100dB.
<b>NOISE REDUCTION:</b>	Up to 25dB, source dependent.
<b>CHAN. SEPARATION:</b>	>65dB.
<b>CONTROLS:</b>	Balanced left + right gain, master volume, auto level threshold rotary controls. Mute on/off, NR on/off, auto level on/off, compress/auto level switches.
<b>DIMENSIONS:</b>	22cm x 18cm x 4.5cm (8.7" x 7" x 1.8", W, D, H.).
<b>POWER SOURCE:</b>	230 VAC, 50/60 Hz, (115VAC, U.S.A.) 7.1 VA.
<b>WEIGHT:</b>	1.7 Kg. (3.8 Lbs.) Approx.
<b>ACCESSORIES:</b>	Power cord.
<b>OPTIONS:</b>	Model RK-80 rack adapter.

### Typical applications:

- ❖ *Audio and video production studios.*
- ❖ *Duplication centers for noise reduction and signal level optimization.*
- ❖ *Commercial and project-studio audio editing use.*