

# RANE

Mongoose Remote Audio	2-4
Automixers	4
Drag Net RPM Processors	5-7
Paging Processors	8
Distribution Amps & Splitters	8-9
Mic & Line Mixers	9-11
Mic Preamplifiers	12
Compressors & Gates	13
Equalizers	14-15
Audio Delay	15
Crossovers	16
Headphone Amplifiers	19
Isolation Transformers	17
Multichannel Amplifiers	18
DJ Mixers	19-26
Serato Scratch Live	24-31

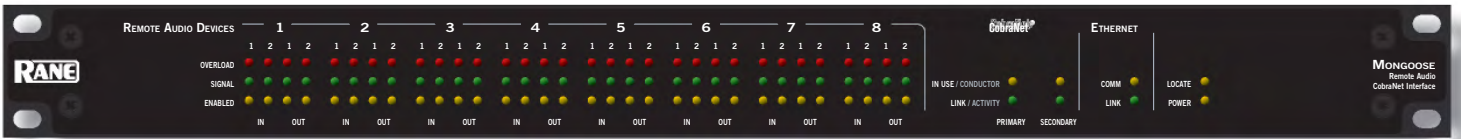
Professional Audio Products

2010

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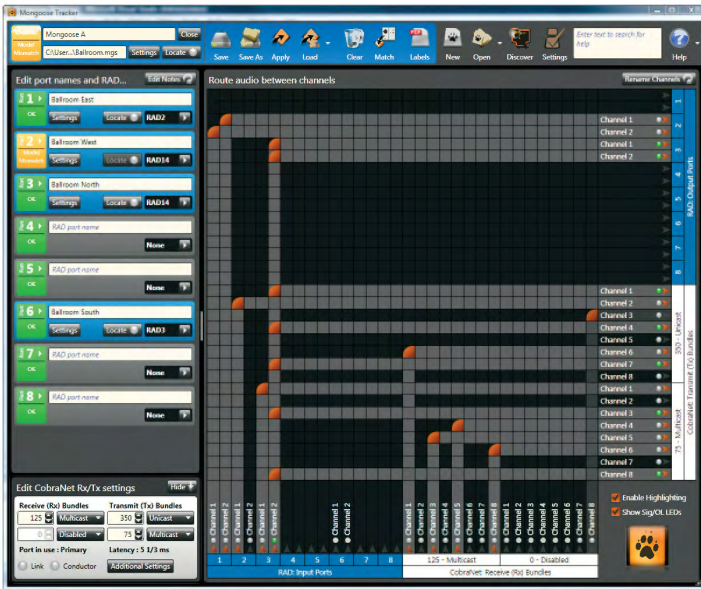
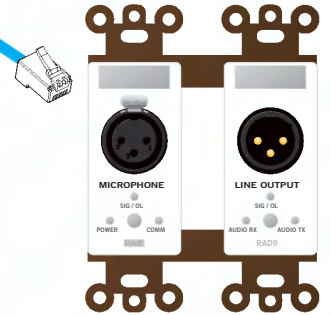
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## Mongoose Remote Audio Interface

- Mongoose delivers digital audio between the equipment rack and remote spaces via CAT 5 cable.
- A Remote Audio Device (RAD) provides analog to digital conversion at the wall (or floor box).
- Connect up to 8 RADs to a single Mongoose with CAT 5 up to 150 meters (492 feet) away.
- 32 by 32 digital audio matrix router, supporting 32 digital audio channels from 8 RADs.
- Multiple Mongoose units can be networked to provide more channels.
- Use with, or without, CobraNet. Receive 2 and transmit 2 CobraNet Bundles.
- Supports DHCP, Zeroconf (Link-local & mDNS) & Auto MDI/MDIX.



Mongoose Tracker setup software for PC is included. It allows you to name each Mongoose, RAD and audio channel, then print matching custom labels to insert above each jack. With RADs connected, Zeroconf-based Discovery automatically finds devices without IP setup or special IP knowledge.

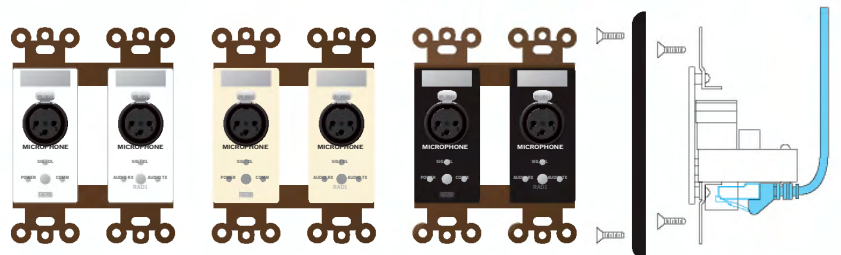
[www.rane.com/mongoose](http://www.rane.com/mongoose)

- **Download Mongoose Tracker (free)**
- **Download Design and Installation Manuals**
- **See System Examples**

The Mongoose's 32-by-32 digital audio matrix router receives its first 16 audio channels from up to eight RADs via the eight rear panel 8P8C (RJ-45) Remote Audio Device ports. The second 16 matrix input channels can come from two 8-channel CobraNet receive (Rx) Bundles via standard CobraNet Primary and Secondary/backup ports. The 32 matrix router outputs transmit 16 channels to eight RADs and 16 more channels to two CobraNet transmit (Tx) Bundles.



A family of RAD models is shown on the next page. Each converts analog audio to or from 24-bit, 48 kHz digital audio. Standard CAT 5 cable and termination transport four digital audio channels – two channels each direction – as well as power, ground and a communications channel, with status indicators at each RAD, Mongoose, and the computer. Light sensors dim the RAD indicators in dark rooms. Except for the RAD16, AM1 and AM2, all RADs mount in standard US electrical gang boxes. These RADs are available in white, ivory, or black, with a matched Decora™ plate cover included.



	<p><b>RAD1 Dual XLR Mic Inputs</b></p>		<p><b>RADX RAD Port Extension (CAT 5 jack)</b></p>
	<p><b>RAD2 XLR Mic Input / Mini &amp; RCA Mono'ed Line Input</b></p>		<p><b>RAD11 XLR Mic Input / Mini &amp; RCA Mono'ed Line Input / Mini &amp; RCA Stereo Line Output</b></p>
	<p><b>RAD3 Dual XLR Line Inputs</b></p>		<p><b>RAD12 Dual XLR Mic Inputs / Dual XLR Line Outputs</b></p>
	<p><b>RAD4 Dual XLR Line Outputs</b></p>		<p><b>RAD14 XLR Mic Input / Mini &amp; RCA Mono'ed Line Input / Dual XLR Line Outputs</b></p>
	<p><b>RAD5 AES3 Input / AES3 Output</b></p>		<p><b>RAD15 Dual XLR Line Inputs / Dual XLR Line Outputs</b></p>
	<p><b>RAD6 Mini &amp; RCA Stereo Line Input / Stereo Line Output</b></p>		<p><b>RAD16 Dual Mic-Line Input / Dual Line Output Euroblocks in surface-mount box</b></p>
	<p><b>RAD7 XLR Mic Input / XLR Line Input</b></p>		<p><b>RAD18 XLR Mic Input / 1/4" Balanced Line Input</b></p>
	<p><b>RAD8 XLR Mic Input / Mini &amp; RCA Stereo Line Output</b></p>		<p><b>RAD23 XLR Line Input / XLR Line Output</b></p>
	<p><b>RAD9 XLR Mic Input / XLR Line Output</b></p>		

**AM1 and AM2 Automixers include RAD ports. Features are on the next page.**



## AM1 Four-Channel Gain-Sharing Automixer

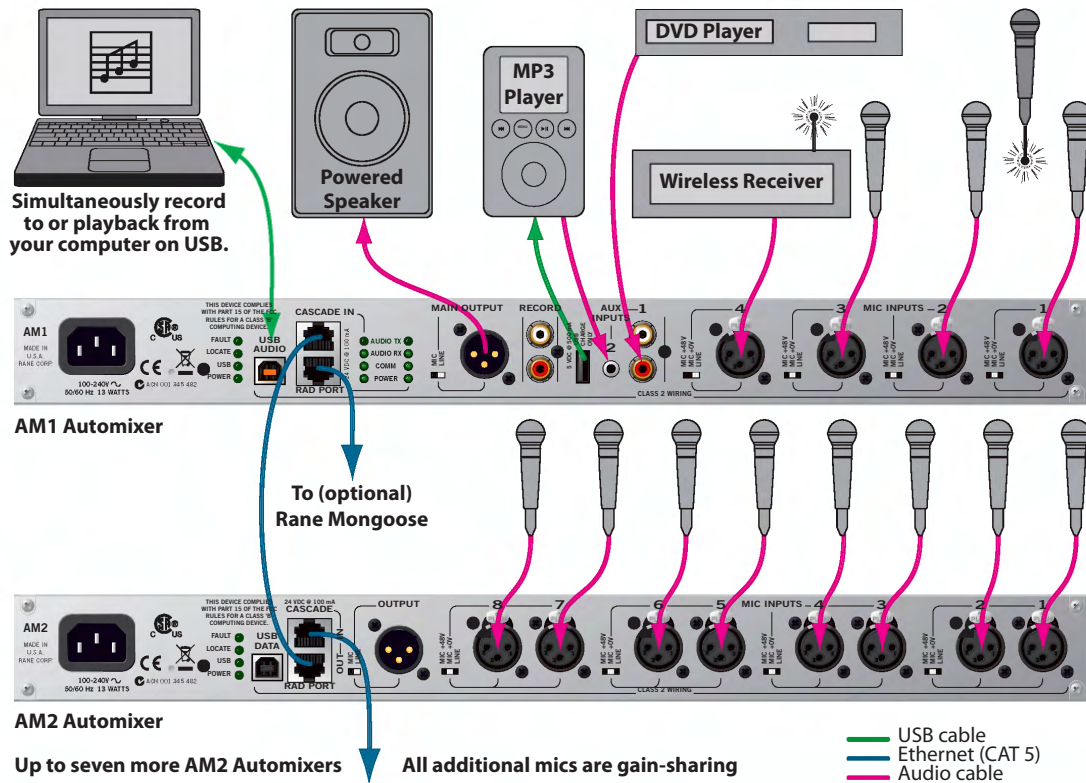
- Automixer with four gain-sharing XLR line/mic/phantom switchable Inputs, RCA and 3.5 mm Aux Line Inputs, USB audio Input.
- XLR mic/line switchable Mix Output, RCA Record Output, USB audio Output.
- Cue mics or any input with Headphones from 1/4" or 3.5 mm jacks.
- Add more gain-sharing mic/line inputs with up to seven Rane AM2 Automixers for a total of 60 gain-sharing mics.
- RAD Port connects to a Rane Mongoose system.

4



## AM2 Eight-Channel Gain-Sharing Cascadable Automixer

- Automixer with eight gain-sharing XLR line/mic/phantom switchable Inputs; XLR mic/line switchable Mix Output.
- Add more gain-sharing mic/line inputs with up to seven more AM2 Automixers for a total of 64 gain-sharing mics.
- RAD Port connects to a Rane Mongoose system.



The RPM Series of Multiprocessors also contain Automixer blocks. See them on pages 5-7.



**Fast**  
**Easy**  
**Awesome**

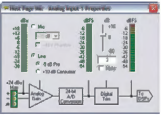
Drag Net™ incorporates familiar Windows® file management tools and shortcuts. Easily self-taught or factory trained over the internet in an hour.

Drag Net offers the ultimate in signal processing flexibility, allowing you to draw any system without signal flow restrictions.

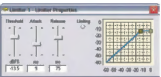
Rane's DSP algorithms are the best in the business, combining with RPM hardware for the perfect system. Got one in mind? Drag it together yourself. Download and test-drive Drag Net software free at [www.rane.com](http://www.rane.com).



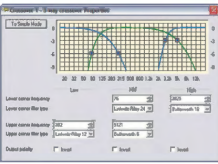
**Delay with Temperature**



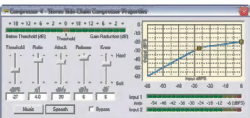
**Mic / Line Inputs**



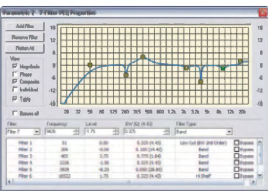
**Limiter**



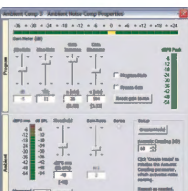
**Crossover: 2-Way or 3-Way**



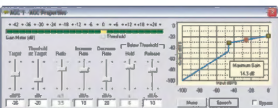
**Stereo Side-Chain Compressor**



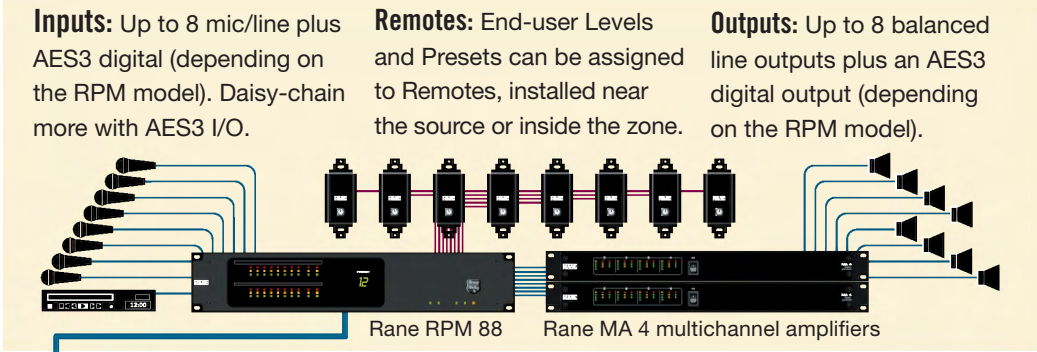
**Parametric Equalizer**



**Ambient Noise Compensator**



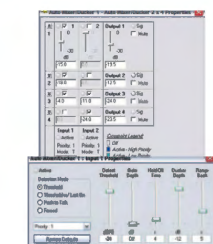
**Automatic Gain Control with presets for speech and music, or tweak your own.**



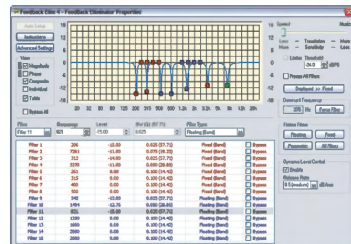
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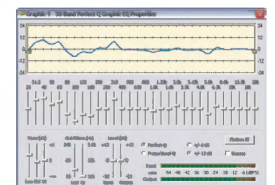
Everything is visible on one screen • On-the-fly DSP resource meter • Instant Auto-Compile. Clicking on any block brings up any of 18 dedicated detail blocks, some shown left and below.



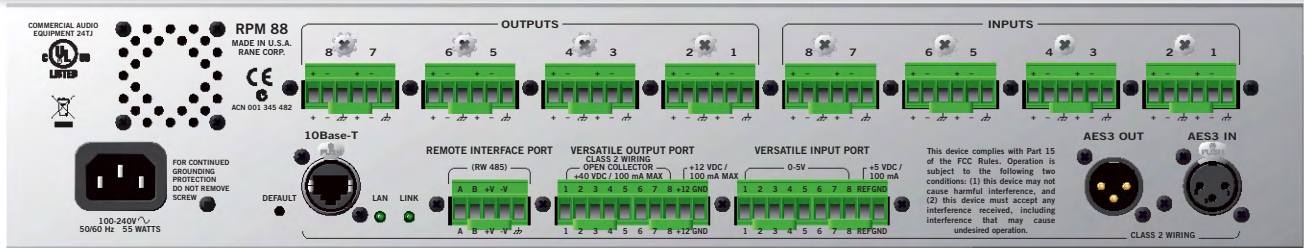
**Auto Mixer / Ducker with 8 levels of priority and 4 types of input thresholds.**



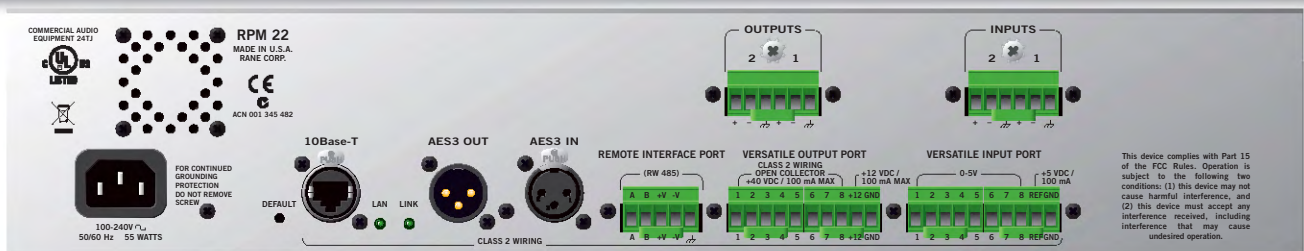
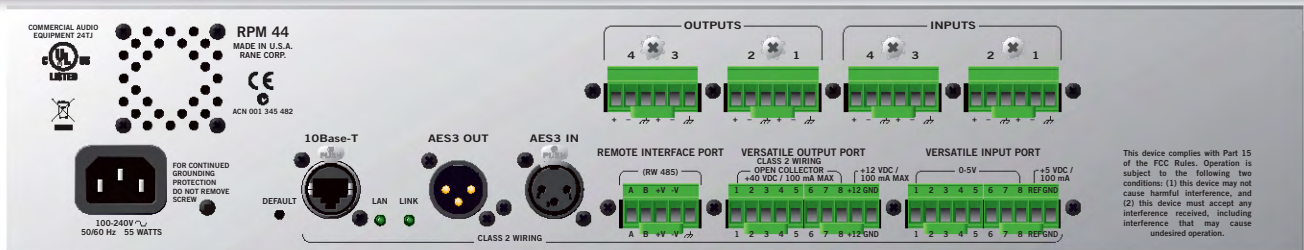
**Feedback Suppression with Auto-setup. Accurately rejects feedback and not music.**



**Graphic Equalization at its finest, with Perfect-Q or Proportional-Q.**

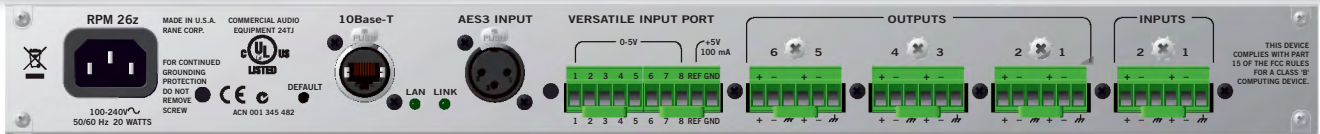


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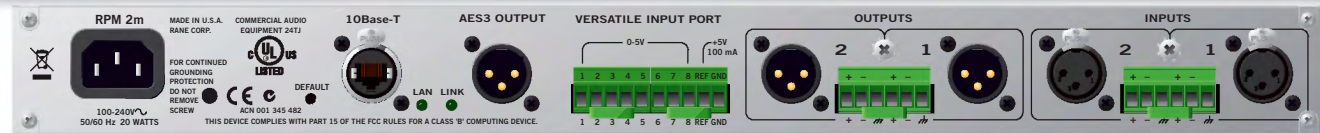
## RPM 88, RPM 44 & RPM 22 Drag Net Multiprocessors

- Studio-grade, -128 dBu EIN mic/line inputs.
- 24 non-volatile user-configurable internal presets.
- AES3 input/output includes sample rate conversion.
- Reconfigurable multi-zone Smart Remotes on RS-485 bus.
- Logic I/O ports.; 10Base-T Ethernet control port.
- Add an ML 1 for an extra pair of mic / line inputs (see page 12).



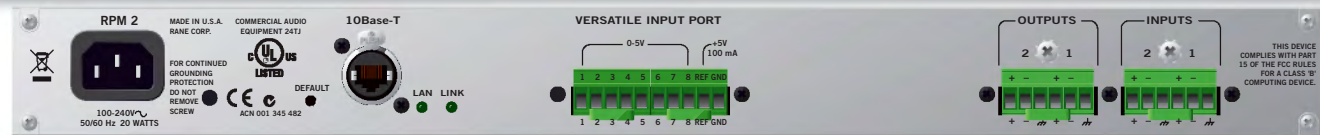
## RPM 26z Drag Net Multiprocessor

- 2 balanced line-level analog Inputs, 6 balanced analog Outputs, AES3 stereo digital Input (total of 4 in x 6 out).



## RPM 2m Drag Net Multiprocessor

- 2 balanced analog mic/line Inputs and line Outputs with AES3 digital Output (total of 2 in x 4 out).



## RPM 2 Drag Net Multiprocessor

- 2 balanced analog line-level Inputs and Outputs (no AES3 digital).

## Remote Controls

Smart Remotes connect to RPM 88 / 44 / 22 (RS-485), install in standard U.S. electrical boxes behind Decora™ plates (not included).



### SR 2 Smart Remote

- Data encoder with integrated push switch.
- Two parameters: Level and 2nd-Level.



### SR 3 Smart Remote

- Data encoder with integrated push switch.
- Customizable backlit liquid crystal display.



### SR 4 Smart Remote

- Data encoder with integrated push switch.
- Eight LED source selections.



### MRS 4 Memory Recall Remote

- Radio-button 4-way remote switch.
- Connects to any RPM unit.



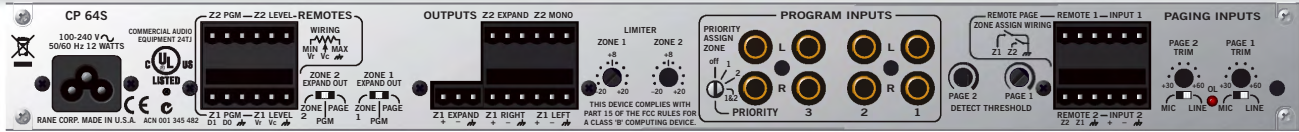
### VR 2 Volume Level Remote

- Remote pot-on-a-wall level control.
- For CP series, MA 4 or any RPM unit. (Use model VR 1 for MP 44 or DA 26S.)



### LRS 4 Level Recall Remote

- Switches 4 preset trimmed levels.
- For CP series, MA 4, MP 44, DA 26S, any RPM unit.



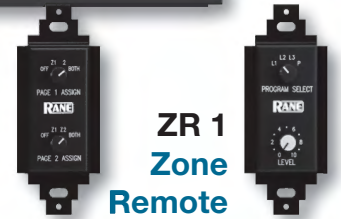
## CP 64S Commercial Processor

- 4 Stereo line inputs with priority and adjustable page ducking depth.
- 4-level priority; 2 expand outputs can select page-only, program-only or zone.
- 2 Mic/line page inputs independently assignable to 1 mono & 1 mono/stereo zone.
- Each Zone has independent 7-band EQ; Optional EQ-only security cover (SCP2S).
- Optional Remotes: for page assign (PR 2); for source selection & volume (ZR 1)



PR 2  
Paging  
Remote

ZR 1  
Zone  
Remote

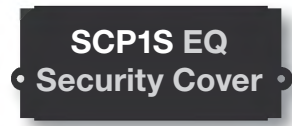


8



## CP 52S Commercial Processor

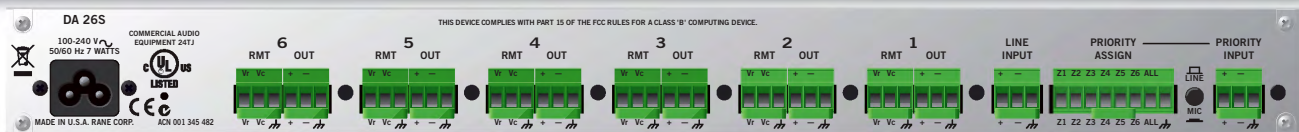
- Mic/line page input assignable to 1 stereo (with mono switch) zone with 7-band EQ.
- 4 Stereo line inputs with priority and adjustable page ducking depth.
- 3-level priority; Expand output selectable as page-only, program-only or zone.
- Optional Remote: for source selection & volume (ZR 1); Optional EQ-only security cover (SCP1S).



ZR 1  
Zone  
Remote



All Remotes fit in standard US electrical boxes, and may be finished with a Decora™ plate cover (not included).



## DA 26S Distribution Processor with Paging

- Balanced line input, Priority mic/line paging input with adjustable Gating and Ducking.
- 6 outputs with automatic gain control; 24 dB Crossover assignable to any output.
- Balanced Euroblock connectors for audio and remote connections.
- Optional Remotes: for volume presets (LRS 4) or volume control (VR 1).

LRS 4  
Level  
Recall  
Switch

VR 1  
Volume  
Remote



# Distribution Amplifier



## DA 216S Distribution Amplifier

- 2 balanced mic/line inputs, 16 balanced outputs individually assignable to A, B, or both.
- Broad gain range with mic or line inputs.
- Switchable 15V phantom power works with most common condenser mics.
- Balanced Euroblock connectors; Internal universal power supply (100-240 VAC).

# Stereo Line Mixers



## SM 26S Line Splitter / Mixer

- Combination 6 x 2 line mixer, 2 x 6 line splitter, or 6 x 6 line driver.
- Capable of 4-pair stereo line splitting or mixing.
- Mix, pan and level controls with 12 dB gain for level matching.
- Balanced 1/4" TRS connectors; Internal Universal Power Supply (100-240 VAC).



## SM 82S Stereo Line Mixer

- 8 stereo (16 mono) line inputs in a single rack space. Can accept up to 10 stereo inputs using Expand In and Effects Return.
- Level, stereo balance (mono pan) and stereo send controls for each input.
- Stereo expand in and out to additional mixers, stereo effects loop with return level and balance controls.
- Unbalanced 1/4" TS inputs, balanced 1/4" TRS outputs. Internal universal power supply (100-240 VAC).



## MLM 42S Mic / Line Mixer

- 4 inputs with automatic recognition of mic or line level signals
- 3-band Accelerated Slope™ (off to +6 dB) tone controls, gain trims and selectable phantom power on each input.
- Post-mix 1/4" Effects loop with Wet/Dry pan control.
- RCA unbalanced outputs; XLR and TRS balanced outputs are mic or line level selectable; Internal universal power supply.



## MLM 65 Mic / Line Mixer

- 6 studio-grade mic or line-level preamplifiers with phantom power and gain trim.
- 5 switchable stereo line-level inputs, one with a switchable phono preamp, one with a 3.5 mm jack and USB power for portables.
- USB stereo audio input for computer playback, with simultaneous USB stereo audio output for recording to a computer.
- Cue any Input or the Main output to Headphones with either a 1/4" or 3.5 mm headphone jack.
- Outputs include balanced XLR with a mono switch, unbalanced RCA, USB audio, S/PDIF and TOSLINK.

The AM1 and AM2 Automixers also mix mic and line inputs in expandable configurations. See them on page 3.

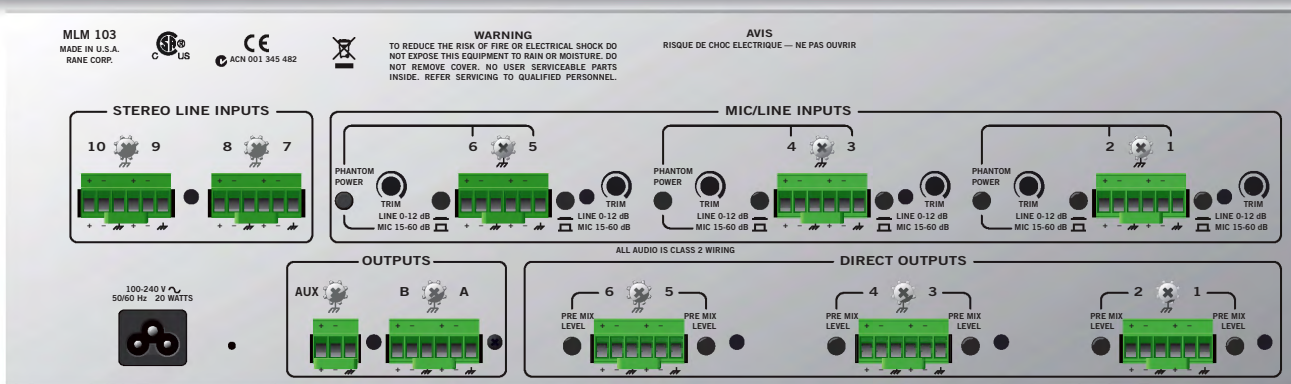


## MLM 82S Mic / Line Mixer

- 8 inputs, 2 outputs – 4 balanced mic/line inputs, 4 balanced/unbalanced stereo or mono line inputs.
- Mic inputs have switchable phantom power, mic/line level, and output assignable.
- Outputs individually switchable to mic-level, line-level, stereo or mono.
- Balanced XLR mic/line inputs, 1/4" TRS line stereo/mono inputs, XLR outputs. Internal universal power supply (100-240 VAC).

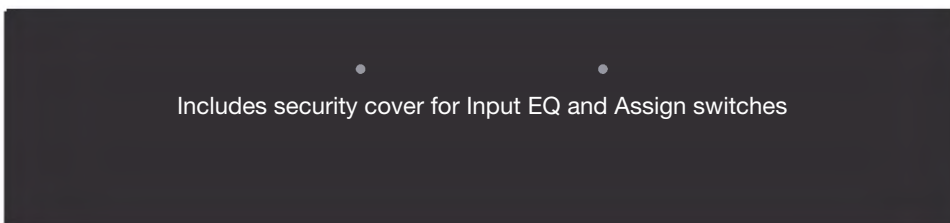


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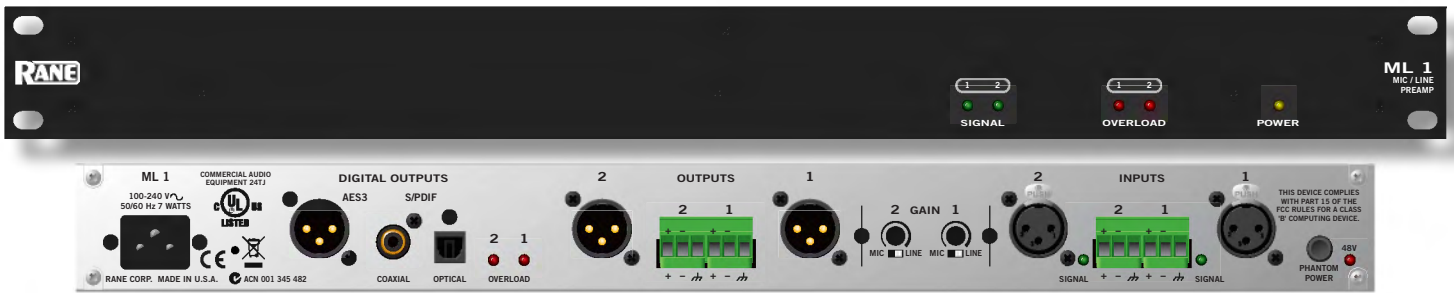


## MLM 103 Mic / Line Mixer

- 6 studio-grade mic or line-level preamplifiers with phantom power.
- 2 additional stereo line-level inputs with mono switches.
- All inputs have 3 assignable outs; Mic inputs have direct outs with pre/post switches.
- Euroblock inputs and outputs; Internal universal power supply (100-240 VAC); Includes security cover (below).



Includes security cover for Input EQ and Assign switches



## ML 1 Mic / Line Preamp

- Two separate mic / line inputs; Balanced analog outputs on XLR and Euroblocks; AES3, S/PDIF coaxial and optical digital outputs.
- Rear panel gain trims with included security cover; Extremely low noise; Internal universal power supply (100-240 VAC).



12

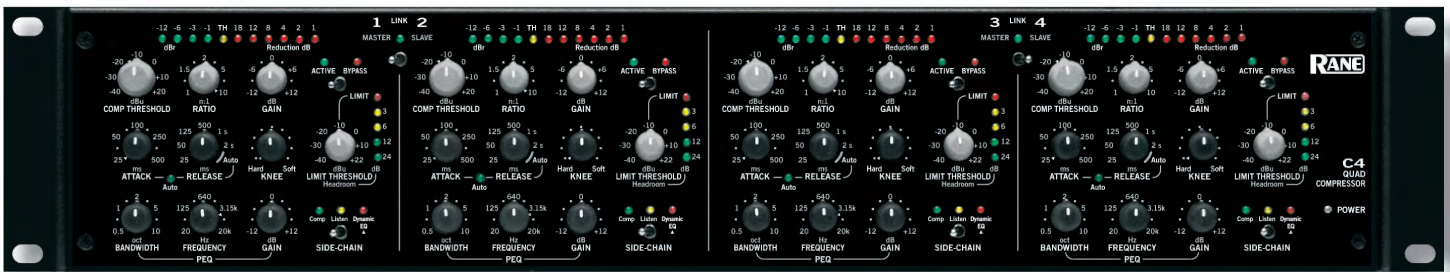
## NM 1 Network Mic Preamp

- Microphone Preamp with 48V phantom power puts audio over CobraNet.
- Power Over Ethernet (PoE); 1.7"H x 7.2"W x 4.9"D box.
- SNMP software-controlled preamp gain. Audio power amplifier for loudspeaker.
- Switch / LED interface. Selectable address.
- Connectors L to R: CobraNet Primary; Activity/Conductor LEDs; CobraNet Secondary; Switches/Lights; Speaker Output; Mic Input.



## MS 1S Microphone Preamp

- Ultra low-noise, low distortion preamp with a variable Gain control.
- 48 volt Phantom Power switch; Phase Polarity switch.
- Balanced XLR input and output; Internal universal power supply (100-240 VAC)..



## C4 Quad Compressor / Limiter / Dynamic EQ

- Independent Compressor, Dynamic EQ and Limiter per channel; Auto mode for fast setup of Attack and Release.
- External side-chain includes a parametric EQ with Compress, Dynamic EQ and Listen modes.
- Independent Metering: Side-chain level, Threshold indicator, Gain reduction & Limiter headroom.



The G4 has the same rear panel connections and appearance as the C4.

## G4 Quad Gate / Ducker / Expander

- Independent Quad Gate / Expander / Ducker with look-ahead peak detector; Expand mode uses rms detection.
- Side chain switch selects external input or internal High & Low Cut Filters; Side-chain metering.
- DSP with familiar analog controls; Balanced 1/4" TRS & XLR connectors.



## DC 22S Stereo Gate / Compressor

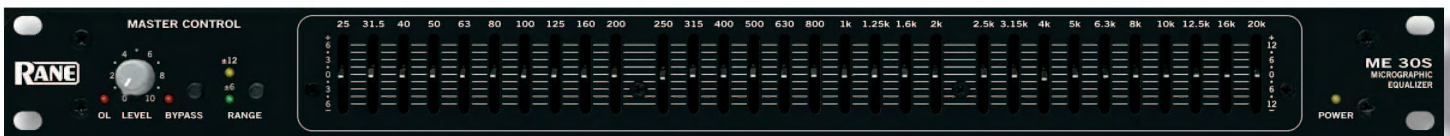
- Two independent gates and compressors with output level controls; Gate acts as a downward expander, so quiet parts get quieter.
- True master/slave operation in Link mode for stereo program compression without image shifts.
- Balanced 1/4" TRS & XLR connectors; Internal universal power supply (100-240 VAC).

The RPM Series of Multiprocessors also contain compressors, limiters and gates. See them on pages 4-6



## ME 15S Stereo 2/3-Octave microGraphic Equalizer

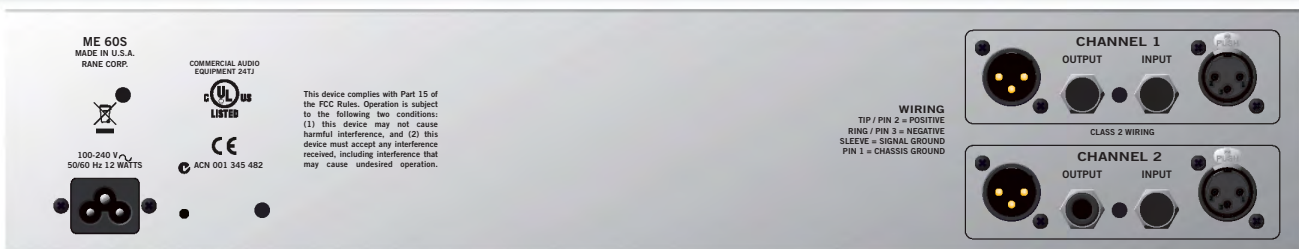
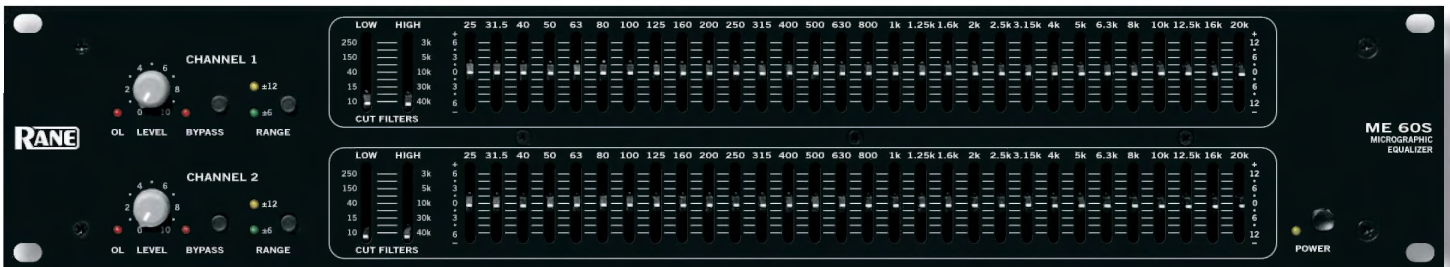
- Proven constant-Q filters for precise feedback control and reduced interaction.
- $\pm 6$  or  $\pm 12$  dB boost/cut range switchable; 20 mm sliders with grounded center detents and dust dams.
- Input level controls; Overload indicators; Bypass switches.
- Balanced XLR and 1/4" TRS connectors; Internal universal power supply (100-240 VAC).



## ME 30S Mono 1/3-Octave microGraphic Equalizer

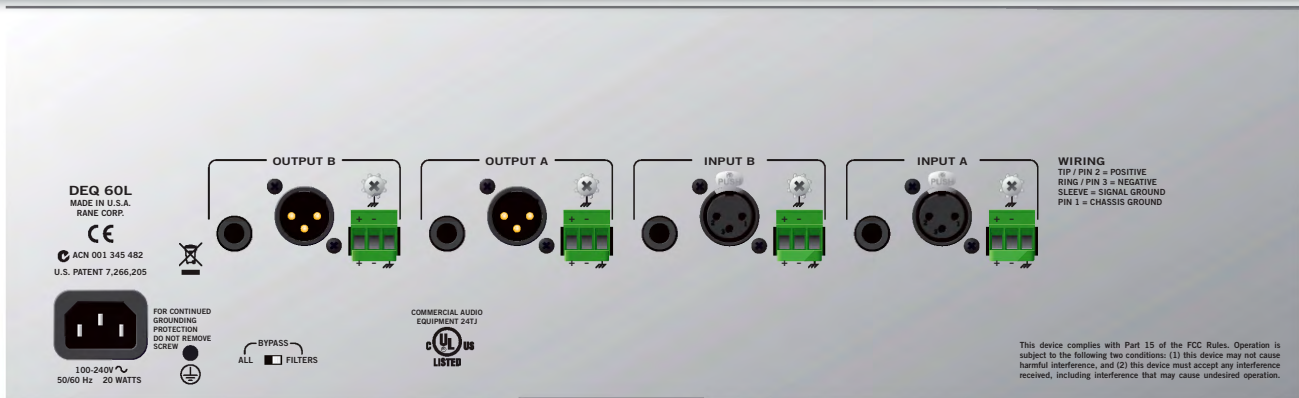
- Proven constant-Q filters for precise feedback control and reduced interaction.
- $\pm 6$  or  $\pm 12$  dB boost/cut range switchable; 20 mm sliders with grounded center detents and dust dams.
- Input level control; Overload indicator; Bypass switch.
- Balanced XLR and 1/4" TRS connectors; Internal universal power supply (100-240 VAC).

14



## ME 60S Stereo 1/3-Octave microGraphic Equalizer

- 2 channels x 30 bands of constant-Q filters; Sweepable high-cut and low-cut filters.
- $\pm 6$  or  $\pm 12$  dB boost/cut range switchable; 20 mm sliders with grounded center detents and dust dams.
- Input level controls; Overload indicators; Bypass switches.
- Balanced XLR and 1/4" TRS connectors; Internal universal power supply (100-240 VAC).

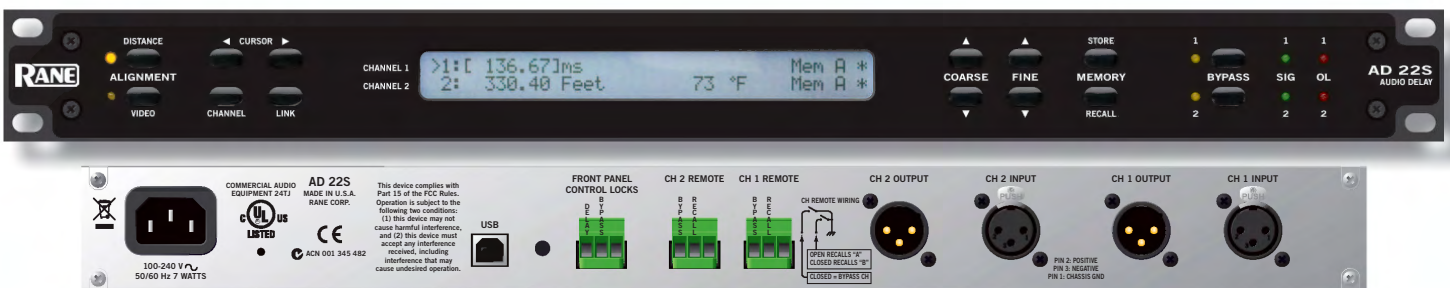


## DEQ 60L Stereo 1/3-Octave Graphic Equalizer

- 2 x 30 bands of switchable Perfect-Q (no filter interaction, true WYSIWYG) or Proportional-Q (broad adjustment) digital filters.
- 45 mm sliders with switchable  $\pm 6$  or  $\pm 12$  dB boost/cut range each channel; Switchable high-resolution -12 dB Cut-Only mode.
- Input and Output Level controls; Input and Output meters; Channel Bypass switches.
- Sweepable high-cut and low-cut filters; Separate Accelerated-Slope™ Low / Mid / High full-cut Tone controls.
- A/B curve comparison switches provide stereo linking with two memories; Balanced XLR, TRS and Euroblock connectors.
- “Perfect-Q™, the Next Step in Graphic EQ Design” RaneNote is available at [www.rane.com](http://www.rane.com).

The RPM Series of Drag Net Multiprocessors also contain graphic equalizers with Perfect-Q. See them on pages 5-7.

## Delay



## AD 22S Dual Channel Audio Delay

- 2 independent channels, 1.50 to 999.99 ms delay range per channel, adjustable in 10  $\mu$ s and 1 ms increments.
- Displays and converts between milliseconds, feet, and meters.
- 2 memories; Remote contact closure memory recall with switchable front panel lockout; Fail-safe bypass for each channel.

The RPM Series of Drag Net Multiprocessors also contain digital delays. See them on pages 5-7.



## AC 22S Active Crossover

- Stereo 2-way or Mono 3-way configurable; Master input level and individual driver output level controls with mute switches.
- 24 dB per octave Linkwitz-Riley filters with adjustable driver alignment delays guarantee in-phase outputs.
- Balanced XLR connectors; Internal universal power supply (100-240 VAC).



## AC 23S Active Crossover

- Stereo 2-way or 3-way or mono 4-way or 5-way configurable; Master input level; Driver output level controls with mute switches.
- 24 dB per octave Linkwitz-Riley filters with adjustable driver alignment delays guarantee in-phase outputs.
- Balanced XLR connectors; Internal universal power supply (100-240 VAC).

The RPM Series of Drag Net Multiprocessors also contain crossovers. See them on pages 5-7.

## 16 Headphone Amplifier



## HC 6S Six Channel Headphone Console

- Six stereo amplifiers with both master and individual level controls.
- Each stage can be driven from the master stereo input or individual channel inputs.
- Drives stereo 1/4" headphone outputs on both front and rear panels.
- Balanced 1/4" TRS inputs; Internal universal power supply (100-240 VAC)



## MM 42 Personal Monitor Processor

- Process a single stereo or two independent mono in-ear mixes; Pre- or post-processing monitoring.
- 4 independent and mixable line inputs, 2 outputs plus crossover to a sub or tactile transducer output.
- Independent High/Low/Shelf/Cut Filters, 3-band rms Compressor, 5-band Parametric EQ, 3-band Peak Limiter on each mix.
- 16 user-programmable nameable memories with MIDI recall; Cue outputs; Direct outputs; Cue bus to other MM 42's.

## Sound System Setup

### RaneGain Setup Tool

- 400 Hz sine wave generator and matching piezo transducer.
- Helps to set optimum levels through the entire audio system signal path.
- See the RaneNote "Setting Sound System Level Controls" at [www.rane.com/note135.html](http://www.rane.com/note135.html).



## Isolation & Balancing Transformers



### BB 44X Balance Buddy

- 2 channels: +4 dBu balanced to -10 dBV unbalanced (XLR to RCA).
- 2 channels: -10 dBV unbalanced to +4 dBu balanced (RCA to XLR).
- No front panel controls; Nickel-core transformers; Expandable to 8 channels with Option 88 Accessory (above).



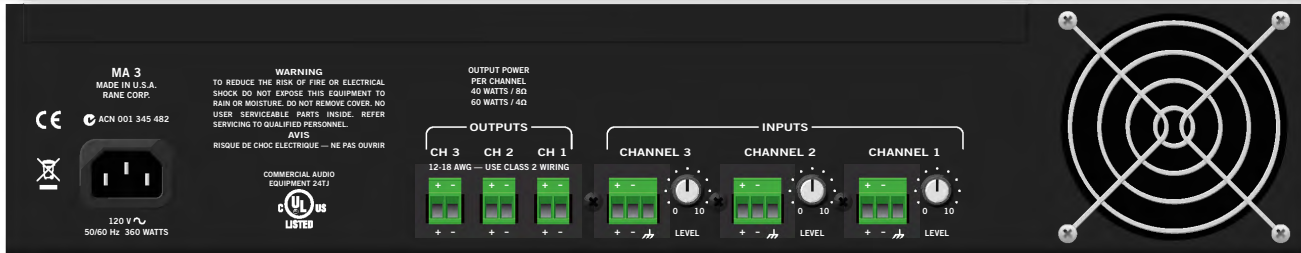
### BB 22 Balance Buddy

- 2 channels: -10 dBV (RCA) to +4 dBu (XLR) conversion.
- Nickel core transformers; No power supply required.
- Wide bandwidth; Low distortion.



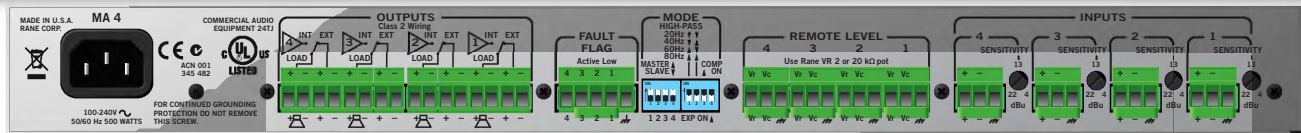
### LT 22 Line Transformers

- 2 channels 1:1; Balanced Euroblock connectors.
- Nickel core transformers; No power supply required.
- Wide bandwidth; Low distortion.



## MA 3 Multichannel Amplifier

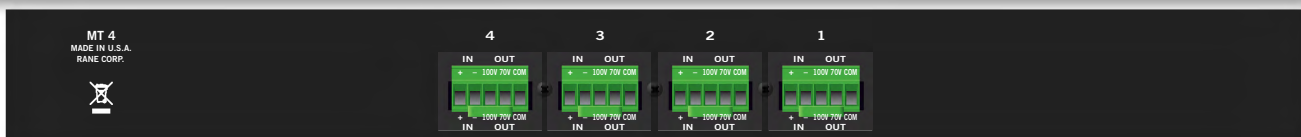
- 3 independent channels @ 40 W rms into 8Ω; 60 W rms into 4Ω, 20 Hz-20 kHz all channels, all day.
- Dynamic limiters handle 20 dB of overdrive; 80 Hz high-pass filter selection; Sealed heat tunnel forced-air cooling.
- Balanced Euroblock inputs; Euroblock speaker connectors handle up to 12 gauge wire.
- Optional distribution transformers: 40 W 70.7 V (model [TF 407](#)) or 40 W 100 V (model [TF 410](#)) mount on [MT 6](#) rack panel (2U).



## MA 4 Multichannel Amplifier

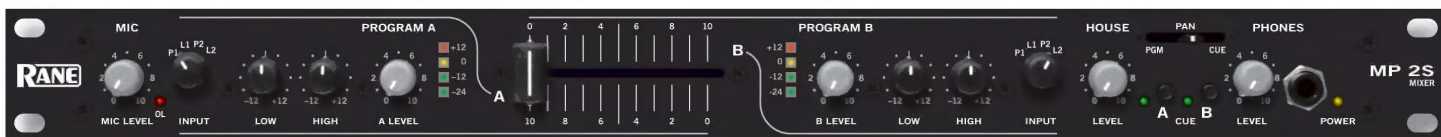
- 4 independent channels @ 100 W rms into 8 or 4 Ω, with built-in load monitoring, in just one rack space.
- Universal voltage, power-factor-corrected power supply with low inrush current.
- Advanced dynamics control adjusts for sensitivity setting, temperature & load Z.
- Remote fault reporting & redundancy switching; Adjustable high-pass filters; Optional remote level controls. →

**VR 2**  
Volume Remote



## MT 4 Multichannel Transformer

- 4-channel 70.7/100 volt transformers for the [MA 4](#) in a 1U rack chassis.
- Input 8Ω, 100 watts; Euroblock strain-relief connectors; Frequency response 40 Hz to 20 kHz +0, -1 dB
- Separate mounting and individual transformers available: [KT 4](#) rackmount tray only; [TF 4](#) individual transformers

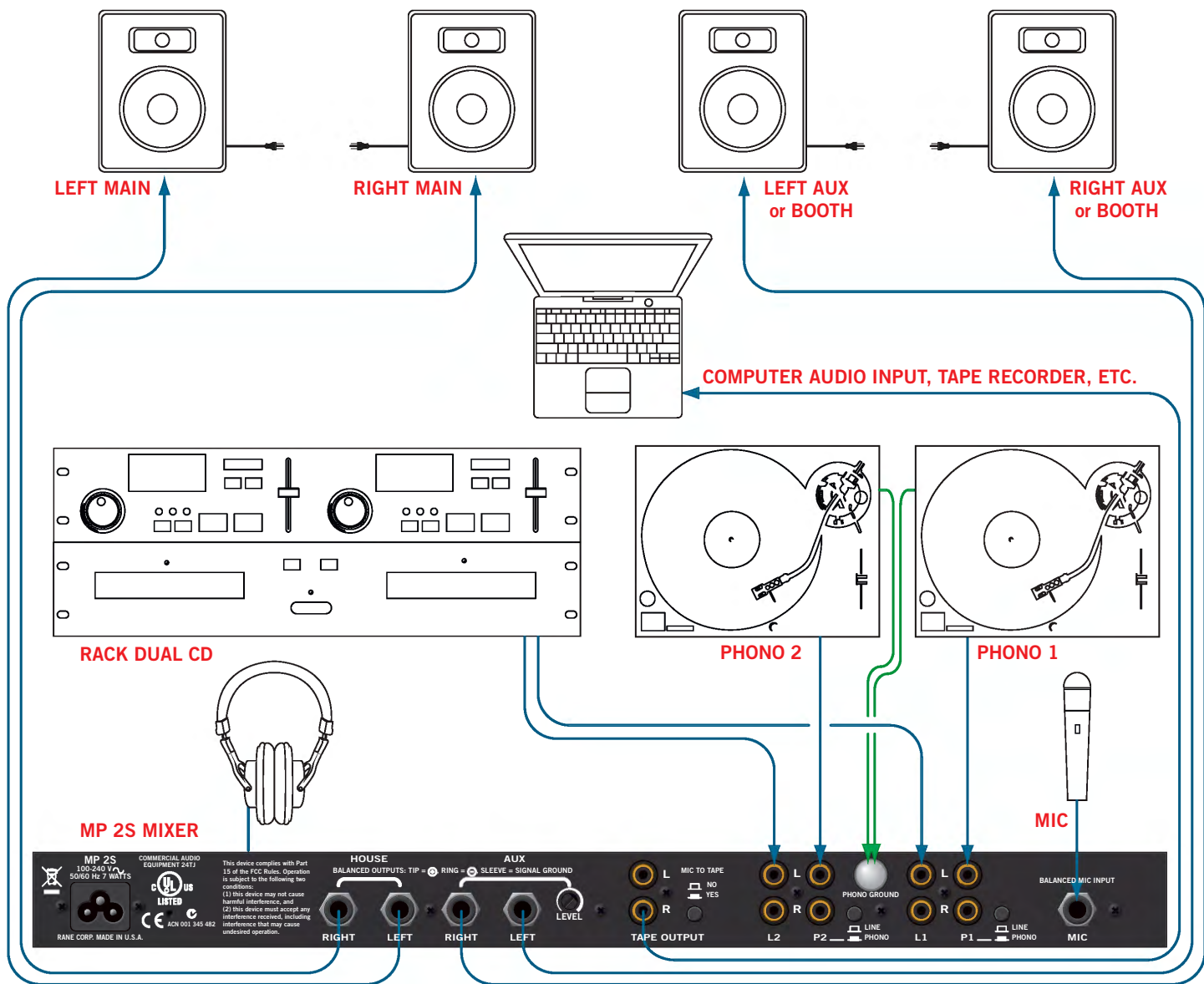


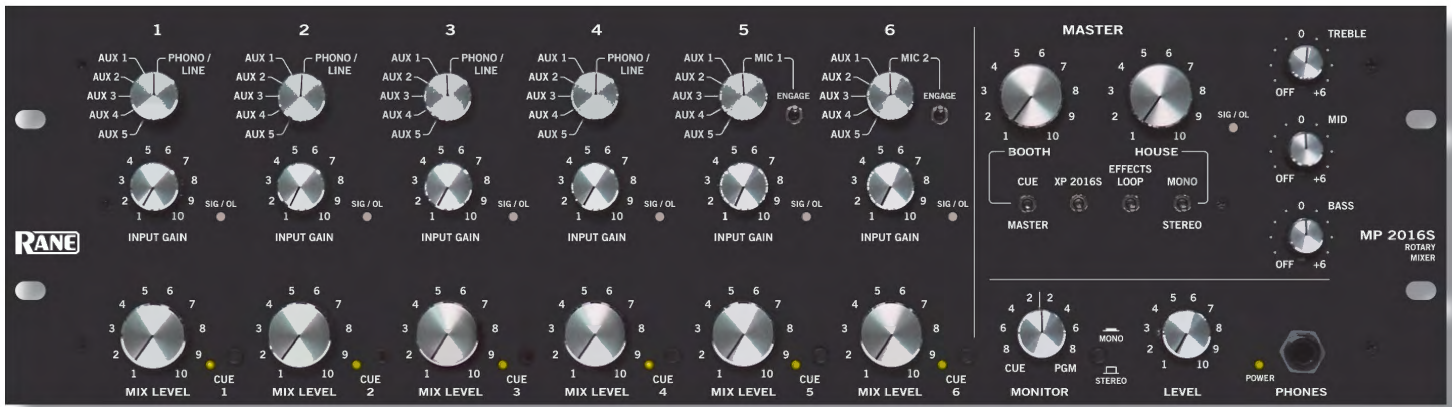
## MP 2S Compact DJ Mixer

The MP 2S is the answer anywhere rack space is a premium or mobility is a must: Mobile DJ, remote broadcasting or post production.

- 2 Phono/Line and 2 Line (total of 4) inputs to 2 crossfader buses, each with its own  $\pm 12$  dB Low and High tone controls.
- Each Program bus selects any of the four stereo Inputs, so any Input can appear on either side of the Crossfader.
- Long-lasting 60 mm VCA Active Crossfader™
- Versatile and easy headphone cueing.
- Balanced 1/4" TRS Mic Input with front panel volume control.
- RCA Tape outputs are switchable Pre- or Post Mic.
- House and Aux are balanced 1/4" TRS outputs.
- Internal 100-240 VAC power supply works anywhere in the world.
- Unit size: 1.75"H x 19"W x 5.3"D (4.4 cm x 48.3 cm x 13.5 cm)

### EXAMPLE SYSTEM





## MP 2016S Rotary Mixer

- 6 stereo input buses with 4 phono preamps, 2 mic/line preamps and 5 aux line inputs.
- Each bus includes initial input gain controls and individual cue switches. The headphone amplifier features split master/cueing.
- The Booth output is switchable master or cue. The Mic Engage switches can duck the Booth outputs 12 dB (internally defeatable).
- The Master (House) output features Accelerated Slope™ 3-band full-cut tone controls with a range of +6 dB to off.
- Switchable stereo effects loop; Pre- & post-effects tape outputs; RCA inputs, XLR mic/line inputs, 1/4" effects loop, XLR and RCA outputs.



XP 2016S  
MADE IN U.S.A.  
RANE CORP.  
U.S. PATENT 7,043,032

CE  
ACN 001 345 482  
COMMERCIAL AUDIO  
EQUIPMENT 247J  
UL LISTED  
100-240 VAC  
50/60 Hz 12 WATTS

## optional XP 2016S Processor

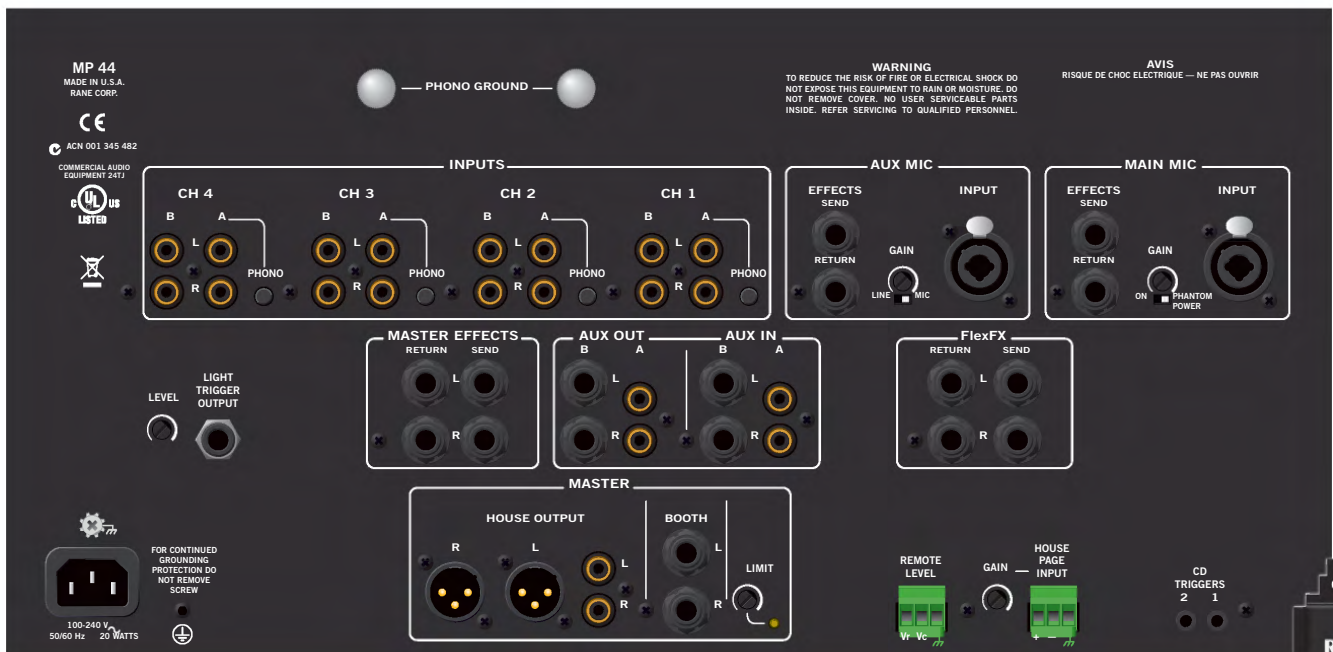
- Adds Active Crossfader™ with full-range Contour control; Individual Crossfader assign switches.
- Adds Accelerated Slope™ 3-band tone controls to each input bus.
- Master/cue meters follow the headphone split cue selection.
- Single ribbon cable connects XP 2016S to MP 2016S (included).
- Internal universal power supplies work anywhere in the world (100-240 VAC).
- Size (each unit): 5.25"H x 19"W x 5.3"D (13.3 cm x 48.3 cm x 13.5 cm).

MP 2016S  
MIXER



## MP 44 Club Mixer

- 4 input channels: each with phono & line inputs, trim, crossfader assignment, FlexFX™ effects assignment, and 3-band EQ.
- Accelerated Slope™ tone controls deliver 3 bands of full-cut (+6 dB to off) EQ on each of the 4 input channels.
- FlexFx™ allows Effects loop processing of the 4 inputs in any combination with A, B, or Post Crossfader assignment.
- Long-lasting VCA-controlled faders; 2 additional aux inputs; 2 mic inputs with dedicated EQ and effects loops.
- Master output limiter; Booth mic ducker; Automatic emergency page input; Optional remote level control (shown below).
- Engageable crossfader CD triggers; Light trigger; FlexFX and Master effects loops; House, Booth, and 2 Aux outputs.
- Unit size: 8.75"H x 19"W x 5.3"D (22.2 cm x 48.3 cm x 13.5 cm).



optional  
VR 1  
Volume Remote



## TTM 56S Performance Mixer

Rane takes performance mixer design as seriously as performing DJs take their art form. The TTM 56S is flexible, durable, and feature packed. The audio quality qualifies it for use in the most demanding live venue, recording studio or live broadcast applications.

- Mic input with EQ and mic effects loop.
- Faders and Crossfader have Contour and Reverse controls.
- Stereo Aux Input for session mix, iPod® or keyboard.
- Stereo Aux Output for session mix, booth or recording.
- Post-fader FlexFX™ allows external reverb and echo decay effects to respond to fader action without cutting off tails.
- High, Mid & Low Accelerated Slope™ tone controls react from +6 dB to off — full bass and treble cut.



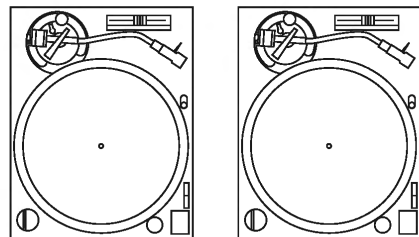
### TTM 56 TO TTM 56S IMPROVEMENTS

The world's most popular battle mixer is even better:

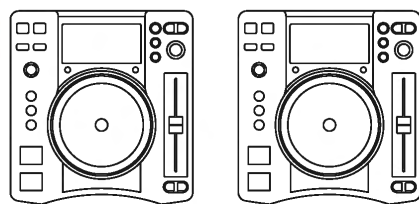
- Internal universal power supply works anywhere (100-240 VAC).
- All four inputs are now Phono/Line switchable, letting you connect 4 turntables or 4 CD players in any combination.
- Both 1/4" and 3.5 mm headphone jacks are on the front.
- Transform switches are now Kill switches.
- Operation is simplified by putting all the controls on top.
- Unit size: 13.3"H x 10"W x 3"D (33.8 cm x 25.4 cm x 7.7 cm)

### NON-CONTACT CROSSFADER AND CHANNEL FADERS

Rane's patented magnetic fader is the fastest, most accurate, and longest lasting on the planet. The design uses non-contact magnetic position sensor technology previously reserved for aerospace and industrial applications. Unlike optical non-contact faders, the magnetic fader is impervious to smoke, moisture, temperature and age. The electrical performance is unaffected by use. No noise, no bleed — ever!



4 turntables, 4 CD decks or any combination.

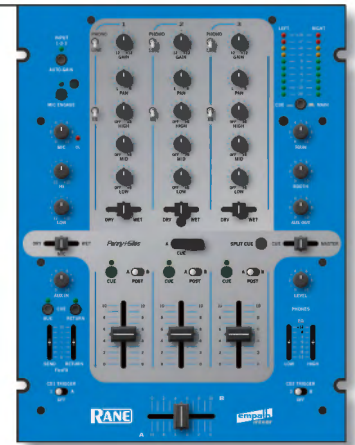


# empath mixer

RANE

Empath mixers combine the vision of Grandmaster Flash and Rane technology. The name implies understanding, awareness and sensitivity to the needs of DJs. The top plate is durable Lexan™ available in four different colors, and all have these features:

- 3 phono/line switchable inputs plus a mic input and a stereo Aux input.
- 3 mixing buses, each with 3-band Accelerated Slope™ full-cut EQ (+6 dB to off).
- Switchable Auto-Gain prevents program level jumps when changing sources.
- Post-fader FlexFX™ lets external reverb and echo decay tails respond to fader action.
- Contour controls for Fader 1, Fader 3 and the Crossfader.
- Headphone outputs include tone controls with both 1/4" & 3.5 mm jacks.
- Universal internal power supply works anywhere in the world (100-240 VAC).
- Unit size: 13.3"H x 10"W x 3"D (33.8 cm x 25.4 cm x 7.7 cm)



## Empath Blue

- Original blue and silver Lexan finish.

## Empath Black

- Black Lexan finish.



## Empath Rotary

- Black Lexan finish.
- Rotary channel faders.



## Empath Signature

- Black and gold Lexan finish.
- Signature by Grandmaster Flash.
- Includes deluxe road case.



# Rane Sixty-Eight Club Mixer for Serato Scratch Live

## TWO COMPUTERS, TWO USB PORTS, UP TO FOUR DECKS AND A RANGE OF EFFECTS.

Introducing the first Scratch Live compatible DJ mixer that allows two computers to be connected simultaneously. Using two USB ports, the Sixty-Eight mixer lets two DJs play Scratch Live at the same time, allowing for seamless handover from one DJ to another. You can also control up to four decks with a single laptop.

Armed with studio-grade phono preamps, USB and S/PDIF inputs, the Sixty-Eight can allow a blend of analog and digital audio sources like never before. It features easy internal digital effects with on-beat effect switching, external analog insert support for legacy hardware effects, and USB insert support for computer-based effects.

- Two independent USB 2.0 high speed ports, each supporting 22 floating point 32-bit audio channels at 48 kHz.
- Direct control of over 30 Library, Cue and Loop functions.
- Support for two, three or four Virtual Decks in Scratch Live.
- Flexible USB recording options, record from any input or output.
- 3-band, full cut EQ with new High-pass / Low pass Filter.
- Unique FlexFX bus with six internal effects plus USB and analog insert support for computer-based effects.
- Input Channels:
  - Four stereo Phono / CD inputs of Phono / Line or S/PDIF.
  - Four stereo Auxiliary inputs.
  - Four stereo USB playback options.
  - Two independent microphone inputs: one with phantom power and one with line-level input switches.



## SIXTY-EIGHT MIXER CONTROLS

Mic 1 allows +48 volt switchable phantom power.  
 Mic 2 allows switchable Mic or Line-level input.  
 Both Mics have 2-band full-cut tone controls.  
 Either Mic can route to FlexFX or record to USB.

The outer strips directly control Serato Scratch Live functions such as Cue Points, Loops, Track Library, and recalling custom Groups.

In Auto mode, Loop buttons use the Scratch Live auto-loop, lighting the buttons green. In Manual mode, Loop buttons use manual looping features, lighting the buttons orange. Select knob adjusts the loop length.

FlexFX are stackable:

- Six internal effects with seamless on-beat switching between effects.
- External Insert engages the external analog Effects Loop.
- $\pm 5$  Insert engages software effects through USB.

Recall Cue Points with "Hot Cue" behavior supported in Scratch Live.

Four Program buses, each includes:

- Four Phono - Line - S/PDIF Inputs.
- Four Aux Line Inputs.
- Four USB playback Inputs.

Two USB ports, each with six stereo record channels and five stereo playback channels simultaneously available, allows two DJs with their own laptops to share the mixer.

The Control Point button selects the USB port in control of the control strips.

Back buttons shift between crates & tracks. Scroll knob scrolls crates & tracks, click it to load the track to a deck.

Program buses include 3-band full-cut tone controls plus sweepable Low-pass / High-pass cut filters.

Level controls on each Output:

- Main Output on XLR jacks
- Booth Output on 1/4" TRS
- Session Output on RCA

True Split Cue for any Program bus or the FlexFX submix with effects to the front panel 1/4" and 3.5 mm headphone jacks.

The FlexFx Loop can create a sub-mix with any combination of the four Program buses and two Mics, and then add internal or external effects. This submix may be recorded via the USB Send, or output by the analog FlexFx Loop Send.



Controls the level of the FlexFx signal to the Main Mix.

Supports 2, 3 or 4 Virtual Decks in Serato Scratch Live on one or two computers.

Contour controls adjust faders and the Crossfader for a smooth transition or a fast cut.

The Crossfader is a no-noise, no-bleed magnetic fader.

Record to USB from any Program bus, any Mic or the Main Output.

# Rane TTM 57SL Performance Mixer for Serato Scratch Live

## SCRATCH LIVE CONTROL SURFACE

“Soft” controls have multiple functions for controlling Serato Scratch Live from the matched physical controls in the red outlined area on the TTM 57SL. They also assign the internal digital effects when the mixer is operated stand-alone without a computer. Six different preset groups optimize common controls for playback, cue/looping, effects, recording and library, or customize any control with a right-click. See the “Minimum System Requirements for Serato Scratch Live” on the next page.

## EFFECTS

24-bit effects using Rane and Serato’s award-winning studio and Live sound software technologies, with BPM-synched echo, swept filter, flanger, phaser and desecrator effects.

## MAGNETIC FADERS

Rane’s patented magnetic faders are the fastest, most accurate, and longest-lasting on the planet. No travel noise or bleed ever!

## SIMULTANEOUSLY:

- Play a combination of digital and analog sources.
- Play two files controlled by vinyl or CD while recording the mix.
- Or, digitize two vinyl records or analog sources simultaneously.
- Cue both analog and digital sources.
- Operate standalone as a no-compromise performance mixer.

## HARDWARE FEATURES

- 4 switchable phono/line inputs, plus a stereo aux input.
- Two input buses, each selects 2 analog & 2 digital sources.
- Input Gain, Left / Right Pans, and 3-band full-cut EQ with kills.
- Mic input with Level and Tone controls.
- Rane’s FlexFX effects loop system, plus built-in effects.
- Independent Contour & Reverse controls with Channel Swap.
- Both 1/4" and 3.5 mm headphone output jacks.
- RCA, TRS & XLR outputs, each with dedicated level control.
- USB 1.1 with 8 channels of streaming 16 bit / 44.1 kHz audio.
- Programmable foot switch input (up to 3 buttons; not included).
- Unit size: 13.3"H x 10"W x 3"D (33.8 cm x 25.4 cm x 7.7 cm)



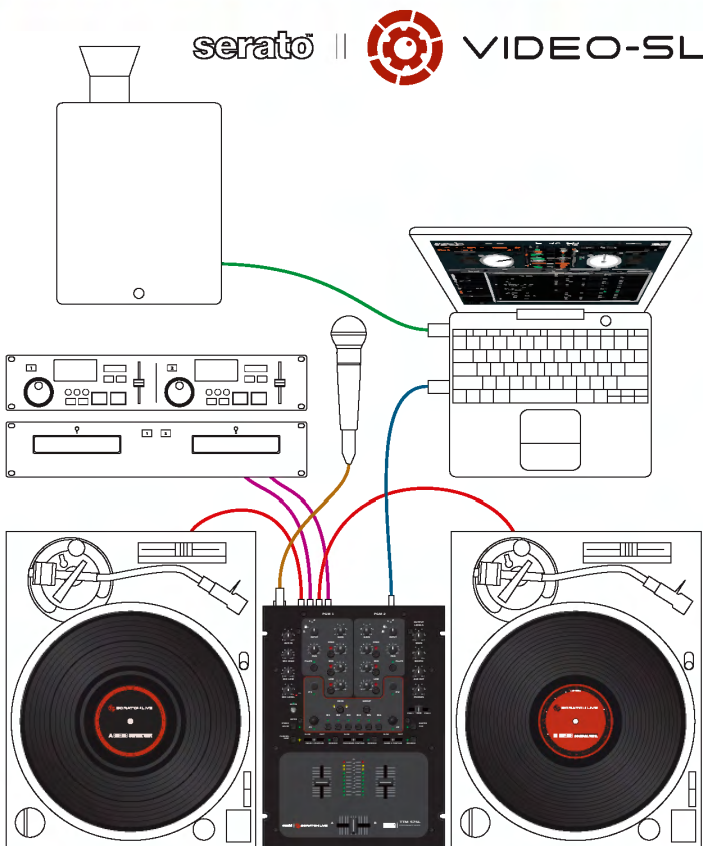
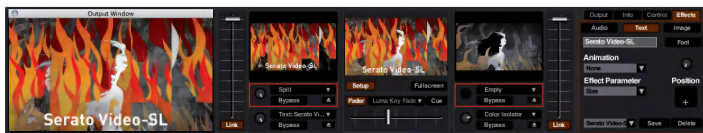
4 turntables or  
4 CD decks or  
any combination.



## Serato Video-SL Plug-in

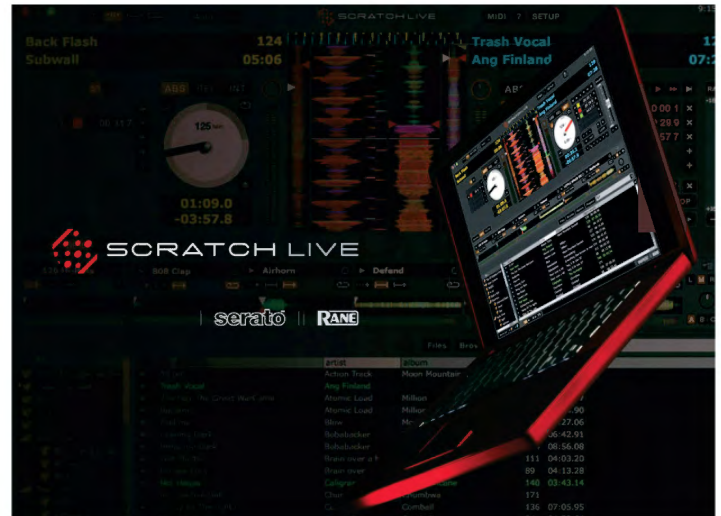
Video-SL is an optional software plug-in for Scratch Live which adds the ability to play and mix video files. Manage a variety of video clips from within the Scratch Live library and load them onto a virtual deck for control with either vinyl or CD. The controls allow you to mix clips with a variety of transitions, as well as apply exciting effects to each clip. The mixed output is sent to your computer's second display output, connecting to external monitors or projectors.

- Add video clips to your Scratch Live performance.
- Use built-in transitions including text and image effects.
- Audio Responsive effects let the music control a variety of live video effects, controlled by analyzing the music signal.
- Videos can be previewed in the Scratch Live offline player.
- MIDI control enables use of 3rd-party controllers with Video-SL.
- Effects are stored with each video file for instant recall.
- Linked Audio-Effects that follow Scratch Live's DJ FX and the TTM 57SL's audio effects and does the same thing to the video.
- The boxed retail version includes overlays for the TTM 57SL.
- Works with the Rane SL 1, SL 3, TTM 57SL and Sixty-Eight.



Serato Video-SL setup using a Rane TTM 57SL

## Minimum System Requirements for Serato Scratch Live



PLEASE NOTE: These are the minimum requirements to run Scratch Live. For best performance and for use in professional situations we recommend you buy a higher spec computer. We also recommend Intel processors.

### MAC

- 1 GHz G4
- 1 GB RAM\*
- 1024 x 768 screen resolution
- OSX 10.3.9 or higher
- Intel Macs require Scratch Live version 1.5 or higher
- Available USB port (USB 2.0 required for SL 3 and Sixty-Eight)

### WINDOWS

- Intel processor, 1.5 GHz or better
- 1 GB RAM\*
- 1024 x 768 screen resolution
- Windows XP with Service Pack 2 or higher
- Windows Vista with Service Pack 2 or higher
- Windows 7
- Available USB port (USB 2.0 required for SL 3 and Sixty-Eight)

\*If you have a large library, you will benefit from having more RAM.

NOTE: If you are using Scratch Live's more system intensive features such as DJ FX or AUX Deck plug-ins, you may need a higher spec computer or an optimized system. Read the Computer Optimization Guide at [www.serato.com](http://www.serato.com).

NOTE: The optional Video-SL plug-in scales its performance based on the capabilities of your graphics card. 2 GHz minimum processor speed is required. Please read the FAQ at [www.serato.com](http://www.serato.com) before purchasing.

## Rane SL 1 for Serato Scratch Live

The Rane SL 1 combined with Serato Scratch Live sets the standard for vinyl emulation, giving you the freedom to take your entire digital music collection on the road and equipping you with advanced features that add extra creativity to your DJing.

This intuitive system replicates the traditional DJing experience for “real feel” usability. With unparalleled performance and stability, you'll know why thousands of DJs worldwide choose the Rane SL 1 and Serato Scratch Live.

The SL 1 is praised for its very low latency, this means the response time from touching the decks to hearing an audio signal is extremely fast. Serato engineers developed system level audio drivers

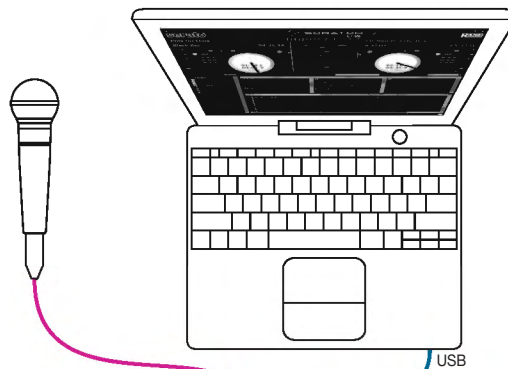



SETTING THE STANDARD FOR PROFESSIONAL DJs




- DJ with music files on your computer using Control Vinyl, Control CD or MIDI.
- Creative DJing features: cueing, looping, keylock, sample player and DJ-FX.
- Compact and ultra-rugged hardware for portability and simple setup.
- Intuitive file management with crates. Easy file and iTunes playback migration.
- Multiple display modes for optimal library browsing.
- Advanced visual feedback for quick mixing.
- Dedicated mic input for recording/live playback and scratching of the mic signal.
- Built-in recording interface for archiving vinyl.
- Multiple audio file type support: WAV, AIFF, ALAC\*, AAC\*, Ogg Vorbis and MP3.

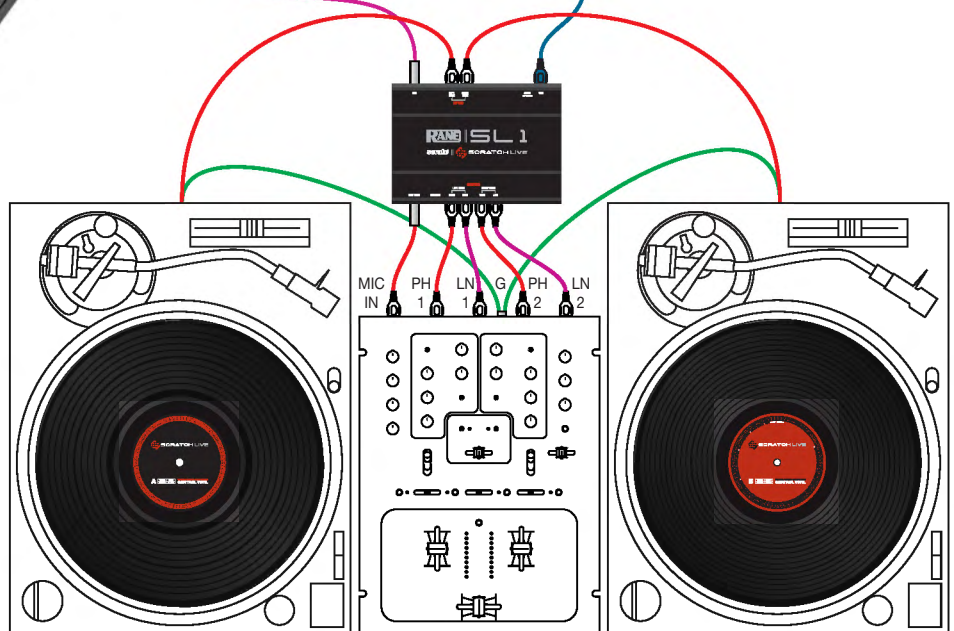
\* Requires Apple Quicktime (not included).



that allow accurate and reliable operation at faster speeds than any other similar package. The SL 1 uses 16-bit audio converters and is USB 1.1 compatible.

The Rane SL 1 USB interface connects one or two standard vinyl or CD turntables to your computer using a single USB cable and audio connections to your DJ mixer.

The SL 1 includes two 12" Control Vinyl records, two Control CDs, USB cable, and audio cables to your mixer.



## Rane SL 3 for Serato Scratch Live

Like the world standard Rane SL 1, the SL 3 connects one or two standard vinyl or CD turntables to your computer and the mixer of your choice. Using regular vinyl turntables, CD players or MIDI controllers, you can scratch and mix files from your Mac or Windows computer's CD or hard drive. This intuitive system replicates the traditional DJing experience for "real feel" usability. With unparalleled performance and stability, you'll soon see why thousands of DJs worldwide choose Rane with Serato Scratch Live.

The SL 3 builds on the success of the SL 1 with several enhancements. The auxiliary input provides a live input feed for creative sampling, recording your set or using a third vinyl turntable or CD deck. The auxiliary output delivers a third deck or the SP-6



sampler output right to your mixer. Studio grade phono preamps and 24-bit audio processing deliver exceptional sound.

The SL 3 includes two 12" Control Vinyl records and two Control CDs, USB cable, and audio cables to your mixer. An international power supply with country adaptors is included to insure optimum performance. A soft zippered carrying case for the SL 3 is also included.

See "Minimum System Requirements for Serato Scratch Live" on page 27.

# RANE || SL3

ADVANCED 24-BIT USB 2.0 INTERFACE FOR PROFESSIONAL DJs



### SL 3 FEATURE AND PERFORMANCE ENHANCEMENTS

- Advanced USB 2.0 drivers provide the lowest possible latency.
- Improved dynamic range (104 dB).
- Improved audio performance (24-bit converters).
- Higher 3 Vrms output improves ability to match levels of various source types.
- Aux Input for Live Mix Recording, LiveFeed or a third deck.
- Aux Output can be assigned to the SP-6 Sample Player or a third deck.
- High-grade phono preamps upgrade the performance of most mixers.
- Software-switchable Direct Thru connections for simplicity.
- Independent Line / Phono-level selection for each input for greater flexibility.



## Serato Scratch Live 2.0

Serato Scratch Live combined with Rane hardware is the ultimate solution for professional DJs, giving you the freedom to take your entire digital music collection on the road and equipping you with advanced features that add extra creativity to your DJing.

This intuitive system replicates the traditional DJing experience for “real feel” usability. With unparalleled performance, sound quality and stability, you’ll soon see why thousands of DJs worldwide choose Serato Scratch Live.

- Load music files onto Virtual Decks for playback.
- Browse your music collection by custom categories and album art.
- Prepare audio files for playback with auto-gain and BPM calculation.
- Organise music with crates, subcrates and smart crates.
- Choose from multiple play and display modes to suit your performance style.
- Use visual aides, cues and loops to perfect your mixing.
- Add extra creativity to your sets with DJ-FX, the SP-6 Sample Player and other Scratch Live plug-ins.

### VIRTUAL DECKS

Music files are loaded onto the Virtual Decks, which rotate as the music plays, much like regular turntables or CDJ decks.



The Virtual Deck shows everything about the speed and position of a track. As the vinyl rotates, so does the line on the label. The circular progress bar around the edge is a visual representation of the position within the song. The Virtual Decks display pitched BPM information, and the time and remaining time are displayed in minutes and seconds.

### LIBRARY

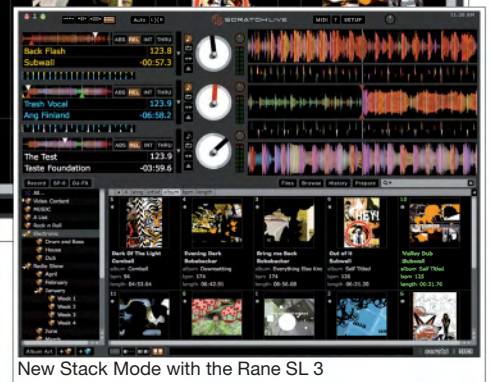
Browse your music collection by album, artist, BPM and genre. Additional column sort options can be selected for custom needs. Tracks in your library can also be browsed using three different album art modes.

Scratch Live includes an intuitive Search function to help you find tracks quickly.

### SUPPORTED FILE FORMATS

Scratch Live supports multiple file formats: fixed and variable bit-rate MP3, Ogg Vorbis, AAC, ALAC, AIFF, WAV and Whitelabel (wl.mp3) file types\*. M3U playlists are also supported. **\*For more information on wl.mp3 files visit [www.whitelabel.net](http://www.whitelabel.net).**

NOTE: Older iTunes Music Store DRM files cannot be played back by Scratch Live. iTunes Plus files are DRM-free.



### TOOL TIPS

Handy built-in Tool Tips provide a simple guide to learn the software and applications of each feature. A list of keyboard shortcuts are also in the Tool Tips.

### IMPORTING MUSIC

Importing music is done simply by navigating to your hard drive(s) via Scratch Live’s File pane. You can also drag and drop files directly from Explorer (Windows) or Finder (Mac). iTunes users have the option to integrate existing iTunes libraries and playlists into their Scratch live library. Importing audio files to your computer is highly recommend, however you can play files directly from CD and CD-ROM.

### FILE PREPARATION

Build waveform overviews, check for file corruption and use Scratch Live’s optional auto-gain and BPM calculation with the Analyze Files button. Use the Offline Player to prepare crates, audition tracks, and set cue and loop points, without needing to have the Rane hardware connected.

### CRATES AND SMART CRATES

Create Crates and Subcrates to group tracks within for quick recall and simple organisation. You can also merge these crates onto an external drive for simple migration to another laptop.

Smart Crates allow you to set rules and keywords for crates, which automatically update when relevant tracks are added or removed from your library.

### HISTORY

The history button opens a complete log of all the tracks you have played and allows you to export Scratch Live session information as a data file for future reference.

### PLAY MODES

Scratch Live has three different play modes which you assign to each Virtual Deck.



**Absolute Mode** most closely resembles the properties of regular vinyl; needle dropping, scratching, rubbing and other turntablist techniques are most faithfully reproduced in this mode. Absolute Mode is the recommended mode to use when using the standard hardware functions on CDs.

**Relative Mode** allows for skip free scratching and the use of Scratch Live's cueing, looping and censor controls.

**Internal Mode** lets you play and mix files without external vinyl or CD control. Internal mode contains a start/stop function, a pitch slider and pitch nudge controls. It is also the emergency mode Scratch Live defaults to when the end of a control record or CD is reached.

### KEYLOCK

When Key Lock is on, the key or pitch of the song stays locked at what it would be if the track was playing at normal speed, regardless of the platter speed of the turntable or CD player.

### DISPLAY MODES

Four different Display Modes allow you to choose the best Virtual Deck arrangement to suit your style of performance.

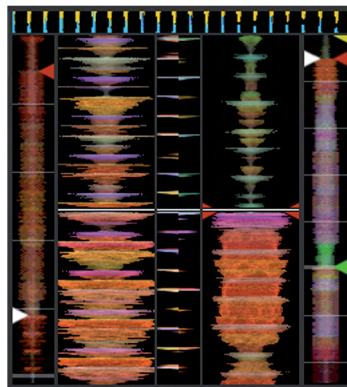
**Library Mode** simplifies the deck arrangement with a larger view of the library and no waveform matching.

**Classic Vertical Mode** displays two decks on the left and right side of the screen with vertical waveforms in the middle.

**Classic Horizontal Mode** displays two decks on the left and right side of the screen with horizontal waveforms in the middle.

**Stack Mode** displays the decks and waveforms on top of one another horizontally, which is useful when using more than two decks (with supported Rane hardware).

### VISUAL AIDS



When a track is playing several waveforms and visual aids are displayed.

**Tempo Display** provides a helpful tool for beat matching - each peak represents the beats within a track. As you change the pitch of a song, these peaks shift position. When track tempos are in-time, these peaks will be aligned.

**Beat Matching Display** emphasizes the position of beats within a track alongside the waveform display, for quick beat matching.

**Track Overview Display** shows an overview of the track waveform, which is useful for finding transitions in a track and for jumping quickly to any part of the song.

**Colored Waveforms** by frequency for visual identification of instruments and vocals.

### CUES AND LOOPS

Create up to five Cue Points for each track to mark and trigger key parts of your songs. Create and save up to nine Loops per track, either manually or with the Auto-Loop function.



### SCRATCH LIVE PLUG-INS

Optional plug-ins can be switched on and off, allowing you to choose which extra features you would like to use when DJing.

**SP-6 Sample Player** allows you to trigger up to six additional sources of audio (e.g. sound effects, drops). Store samples in multiple sample bank slots, and choose individual output options for each slot.



**DJ-FX** give you control of two FX units, each with three chained effects slots per unit. Customize and save preferred effect parameter settings for quick recall.

**SL 3 AUX Deck** allows the Aux In and Out channels on the Rane SL 3 to be used for connecting a third deck.

**Serato Playlists** for exporting track play information to your user profile on [www.serato.com](http://www.serato.com). This can be done using the History export function post-set, or you can choose to live update during your set.

### SERATO VIDEO-SL

Playback video files using the Serato Video-SL plug-in\*, and mix them using creative effects and transitions which compliment the audio. \*Serato Video-SL is available to buy separately. See page 27.

AC 22S and AC 23S Active Crossovers .....	16
AD 22S Dual Channel Audio Delay.....	15
AM1 and AM2 Gain-Sharing Automixers.....	4
BB 22 and BB 44X Balance Buddies.....	17
C4 Quad Compressor / Limiter / Dynamic EQ.....	13
CP 52S and CP 64S Commercial Processors .....	8
DA 26S Distribution Processor with Paging .....	8
DA 216S Distribution Amplifier.....	9
DC 22S Stereo Gate / Compressor .....	13
DEQ 60L Graphic Equalizer .....	15
Empath Performance Mixers.....	23
G4 Quad Gate / Ducker / Expander .....	13
HC 6S Headphone Console .....	16
LT 22 Line Transformers.....	17
MA 3 and MA 4 Multichannel Amplifiers .....	18
ME 15S, ME 30S and ME 60S microGraphic Equalizers .....	14
ML 1 Mic / Line Preamp .....	12
MLM 42S and MLM 65 Mic / Line Mixers .....	10
MLM 82S and MLM 103 Mic / Line Mixers .....	11
MM 42 Personal Monitor Processor .....	17
Mongoose Remote Audio Interface.....	2
MP 2S Compact DJ Mixer.....	19
MP 44 Club Mixer .....	21
MP 2016S Rotary Mixer.....	20
MS 1S Microphone Preamp.....	12
MT 4 Multichannel Transformer .....	18
NM 1 Network Mic Preamp .....	12
RaneGain Setup Tool.....	17
RPM 2, RPM 2m and RPM 26z Drag Net Multiprocessors ....	7
RPM 88, RPM 44 and RPM 22 Drag Net Multiprocessors .....	6
Serato Scratch Live.....	30
Serato Video-SL Plug-in .....	27
SL 1 for Serato Scratch Live.....	28
SL 3 for Serato Scratch Live.....	29
Sixty-Eight Club Mixer for Serato Scratch Live .....	24
SM 26S Line Splitter / Mixer .....	9
SM 82S Stereo Line Mixer.....	9
TTM 56S Performance Mixer.....	22
TTM 57SL Performance Mixer for Serato Scratch Live .....	26

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Rane's standard warranty covers parts and labor for 2 years from the date of purchase. Completion of the Rane Warranty Form (mail or online) entitles the owner to a 1 year extended warranty (for a total of 3 years [valid in U.S.A. only]).



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