

**General Description**

The Empath mixer combines the vision of Grandmaster Flash and Rane technology. Compact size, exceptional performance and advanced features set the Empath mixer apart. The Empath is the most able 3-channel, 10" format mixer available. The name implies understanding, awareness and sensitivity to the needs of DJs. The top plate is durable Lexan™, available in **4 versions**:

- Rotary Empath
- Original Blue
- Black on Black
- Grandmaster Flash Gold Signature Edition

All four versions have the same operating features. The Empath meets the requirements of all DJ genres:  
*trance · downtempo · techno · breakbeat · hip-hop · scratch · house · drum & bass · live music · freestyle · reggae · hardcore · chill out...*

**Features Important to DJs**

- **Universal internal power supply.** When traveling, finding power supply adapters is difficult. The Empath accepts 100 to 240 VAC, 50/60 Hz power, for use anywhere in the world without adapters.
- **Auto-Gain** prevents performance-wrecking swings in program level when changing sources. The music is never too soft or clipped.
- **FlexFX™** is a post-fader external stereo effects loop with individual Dry/Wet pan controls for Inputs 1, 2, 3 and the Mic.
- **Penny & Giles™** faders are simply the best money can buy. Smooth, accurate and reliable mixing is made possible by employing the most respected name in audio faders.
- **Two kinds of fader caps are provided** for different mixing preferences: soft rubber caps for smooth mixing, and hard plastic caps for fast mixing.
- **Flash-Cue** allows the DJ to rapidly select Crossfader A-Cue-sum or Crossfader B-Cue-sum with the flick of a switch, normally slow or complicated on other mixers.
- **Multiple Outputs.** Nothing is more frustrating than arriving at a club and finding their jacks don't match. Systems may have XLR, TRS or RCA connectors. The Empath provides all 3.
- **Low and High headphone tone controls** allow the DJ to match their mixer to their headphones.
- **Both ¼" and 3.5mm headphone jacks** are simultaneously usable. More headphones are compatible with the Empath.
- **Two assignable CD triggers** work with any CD player with fader start ability.
- **Accelerated-Slope™**, full-cut, 3-band tone controls are the most flexible and highest quality available.
- **Crossfader assign switches** allow any Input Channel to be mixed on the A-side, B-side or Post Crossfader.
- **Level meters** view Stereo Cue, Stereo Master Mix, Split Cue or Main Output signals.



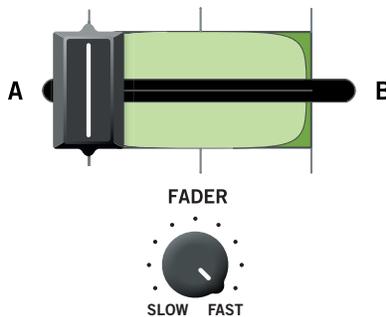
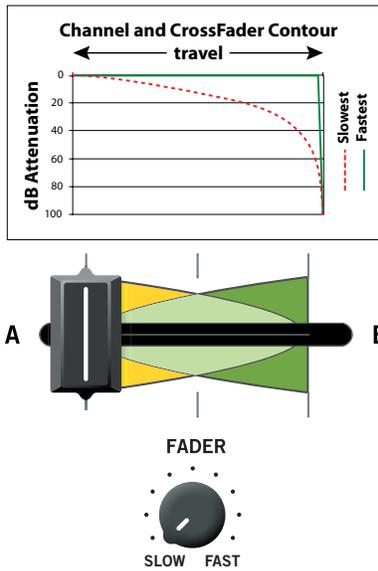
The Gold Signature Edition comes with a rugged road case, including room underneath the mixer for cables and headphones. This CASE 3 is also available as an accessory for any Empath.



Parameter	Specification	Conditions/Comments
Phono Inputs:	3 Stereo Unbalanced	RCA jacks
.....Response	RIAA	±1 dB
.....Input Impedance	47.5 kΩ, 200 pF	1 kHz
.....Gain	36 dB	1 kHz
Line Inputs:	3 Stereo Unbalanced	RCA jacks
.....Input Impedance	3.4k Ω minimum	1 kHz
.....Gain	-12 to +12 dB	1 kHz
.....Tone controls (EQ)	3-band, Accelerated-Slope™	Full cut, see graph
Auxiliary Input:	1 Stereo Unbalanced	RCA jacks
.....Input Impedance	10k Ω	1 kHz
.....Gain	Off to +10 dB	1 kHz
FlexFx Return:	Stereo Unbalanced	¼" TRS jacks
.....Input Impedance	10k Ω	1 kHz
.....Gain	Off to +6 dB	1 kHz
Mic Input:	Active balanced	¼" TRS jack
.....Input Impedance	1022 Ω	511 Ω each leg to ground, 1 kHz
.....Gain	Off to +50 dB	1 kHz
.....Frequency Response	20 to 20 kHz	+0, -3 dB, Max gain
.....CMRR	>40 dB	1 kHz, Max gain
.....S/N	76 dB	Re +4 dBu, BW 20 to 20 kHz, gain 50 dB
.....Tone Control	2-band, ±12 dB	See graph
Main Output/Booth Output:	Stereo Balanced	XLR jacks, ¼" TRS jacks
.....Maximum Output	+24 dBu	
.....Output Impedance	100 Ω balanced each leg	
.....Gain	Off to +6 dB	
.....Frequency Response	20 Hz to 30 kHz	+0, -3 dB
.....THD+N	0.05%	Re +4 dBu, 20 to 20 kHz, 20 kHz BW
.....S/N	88 dB	Re +4 dBu, 20 kHz BW, unity gain
Aux Output:	Stereo Unbalanced	RCA jacks
.....Maximum Output	+20 dBu	
.....Output Impedance	300 Ω	1 kHz
.....Gain	Off to 0 dB	
FlexFX Send:	Stereo Unbalanced	¼" TRS jack
.....Output Impedance	300 Ω	1 kHz
.....Gain	Off to +6 dB	
Headphones:	Stereo	3.5mm and ¼" TRS jacks
.....Power output	150 mW	150 Ω load
1-2-3 Auto-Gain	Automatic gain for channel 1-3 inputs	max gain adjust range ±12 dB
.....Target	0 dBu (775 mV)	no gain change
.....Threshold	-16 dBu (123 mV)	AGC actions starts, Gain holds indefinitely below threshold
.....Ratio	3:1	Input change : Output change
.....Gain Increase	5.33 dB/second	see graph in Manual, page 2
.....Gain Decrease	32 dB/second	see graph in Manual, page 2
Power Supply Requirement	100-240 VAC, ±10%	50/60 Hz, 20 watts
Ambient Temperature	50° C (122° F) maximum	
Agency Listing Safety: UL	UL6500	E193164
.....cUL (Canada)	CAN/CSAE60065-00	
.....CE	LVD 73/23/EEC EN60065	
EMI: CE EMC	Directive 89/336/EEC	
.....FCC Part 15J	Certified Class B Device	
Construction All Steel		
.....Front Panel Size	13.3"H x 10"W	(33.8 cm x 25.4 cm)
.....Coffin Depth	3" (see detail)	(7.7 cm)
.....Weight:	9 lb	(4.1 kg)
Shipping: Size:	7.75"H x 12.75"W x 19.25"D	(19.7 cm x 32.5 cm x 49 cm)
.....Weight:	12 lb	(5.5 kg)

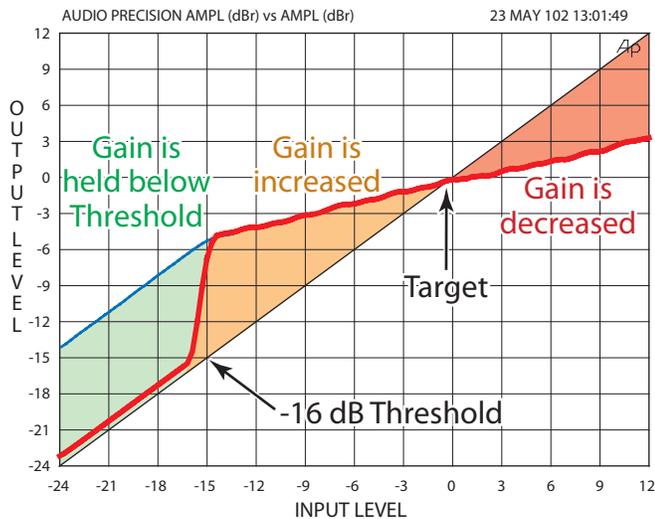
## Fader Response

These curves represent the upper and lower limits for gain response vs fader position. Contour controls allow smooth and continuous adjustment between a slow fade and a fast cut.

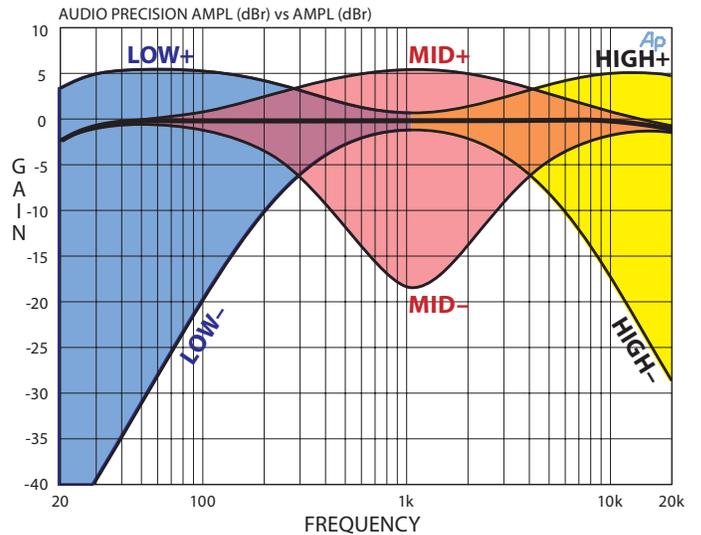


## Auto-Gain Response

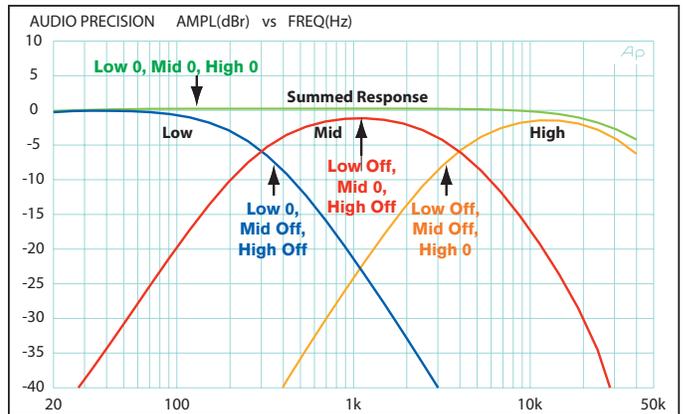
Auto-Gain looks at the input signal level (black line) and compares it to the ideal or "Target" level (0 dB). With Auto-Gain on, the gain is increased when it's above -16 dB, and decreased when it goes over the 0 dB Target (red line). Once Auto-Gain is active and falls below -16 dB, it is held indefinitely (blue line).



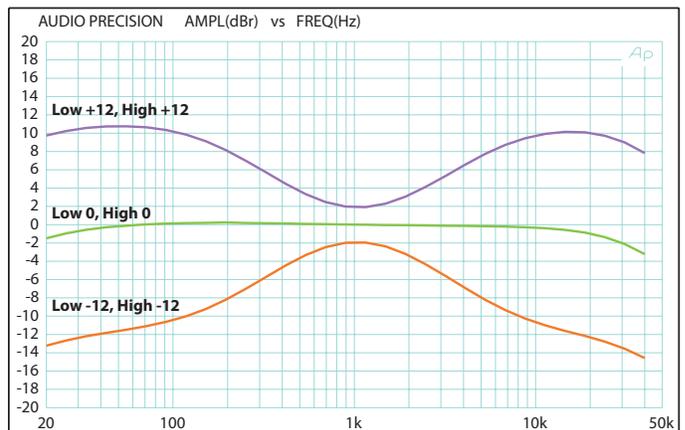
## EQ Response



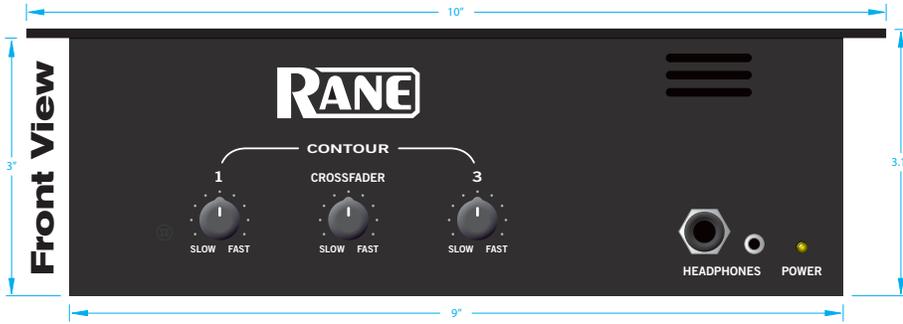
Interactivity of the Accelerated-Slope™ EQ controls



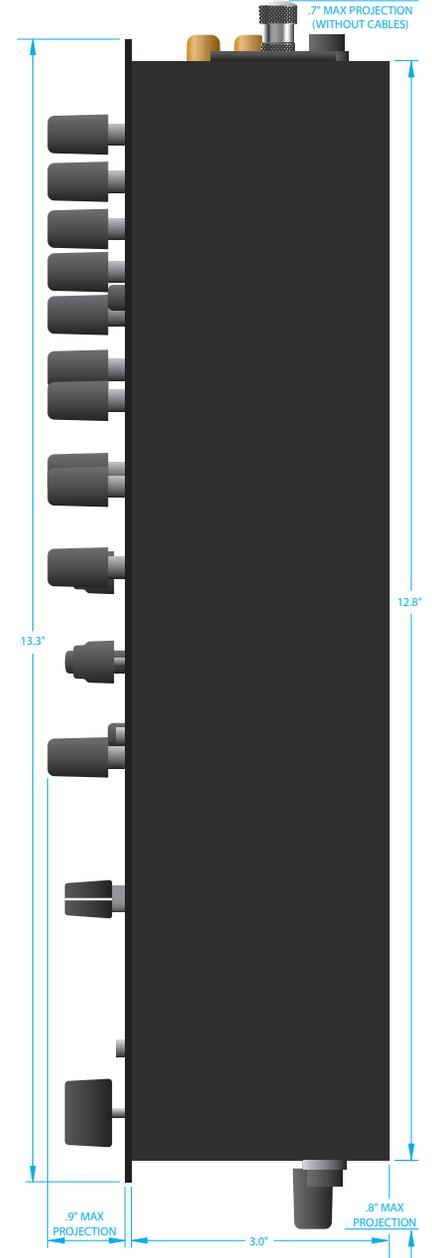
Three Program EQ filter bands and the flat summed response



Combined response of the Mic and Headphone Tone controls



**Side View**



**Example System Wiring Diagram**

