



## General Description

**Why Equalize?** Differences become apparent when the same speakers are heard in one room or another—for example, the difference in sound from the showroom floor to your living room. The SSE 35 provides electronic correction of varying speaker placement and room responses. Each front channel receives different correction since few rooms and furnishings are symmetrical. This is important in home theater where sounds follow the screen action. After equalization, dialog becomes clearer, and sounds keep the same tone as they move between speakers.

Notably important, equalization is critical when a different brand or model center channel speaker is used than the left and right. Separate equalization helps all three front speakers sound similar, improving realism as sounds pan from left, to center, to right.

The SSE 35 is a constant-Q design, which ensures each slider only affects the frequencies within its band. When the slider is at its center detent, that band is truly bypassed—only the bands that are adjusted receive equalization.

Previous designs earned equalizers a bad reputation in home audio systems. Rane pioneered the constant-Q concept over a decade ago. Rane equalizers are found in many of the worlds finest recording studios and film dubbing stages.

**A Smoother Home Theater.** The SSE 35 is designed for Dolby™ Pro-Logic home theater systems. Separate 2/3-octave equalizer sections for the front Left, Center, and Right Channels compensate for varying room acoustics. Higher resolution 1/3-octave sections correct the sub or low frequencies, where room boundary problems become more frequency specific.

**Equalizer Specs:** Left, Center and Right Channels get 2/3-octave equalization from 160 Hz to 16 kHz, and the Left and Right Channels get 1/3-octave equalization from 25 to 100 Hz. The 1/3-octave equalizer sections may be routed to the Subwoofer Output(s).

**Add Subwoofers.** In addition to the left, center and right channels, the SSE 35 supports use and equalization of stereo or mono subwoofers, superior to subwoofer outputs provided on most preamps.

**Full-Range Left and Right:** Dolby Pro-Logic has a Center Channel Mode called NORMAL (as required by a smaller center speaker), where only Center Channel information above 100 Hz is present, but Center Channel bass remains in the Left and Right Channels. The SSE 35 can leave all low frequencies to the Left and Right Main Outputs, share them to Stereo Sub Outputs, or mono these to mono Sub Output(s), all with 1/3-octave equalization.

**Individual Left / Right Low Pass Filters** can switch between 80 Hz and 125 Hz. Rolloff is a steep 24 dB per octave, providing greater specific power to the sub(s).

See Rane Note 132 for more information on stereo subwoofers and alignment procedures, available from Rane's web site.

**Details.** Gold-plated RCA connectors allow patching into any system that provides access between the processor and power amplifiers. One-time tuning requires a test disc with a realtime analyzer or sound pressure level meter. Rack mounting ears, power supply and security cover are included. Once tuned, just try the Bypass switch—you won't leave it in.

## Features

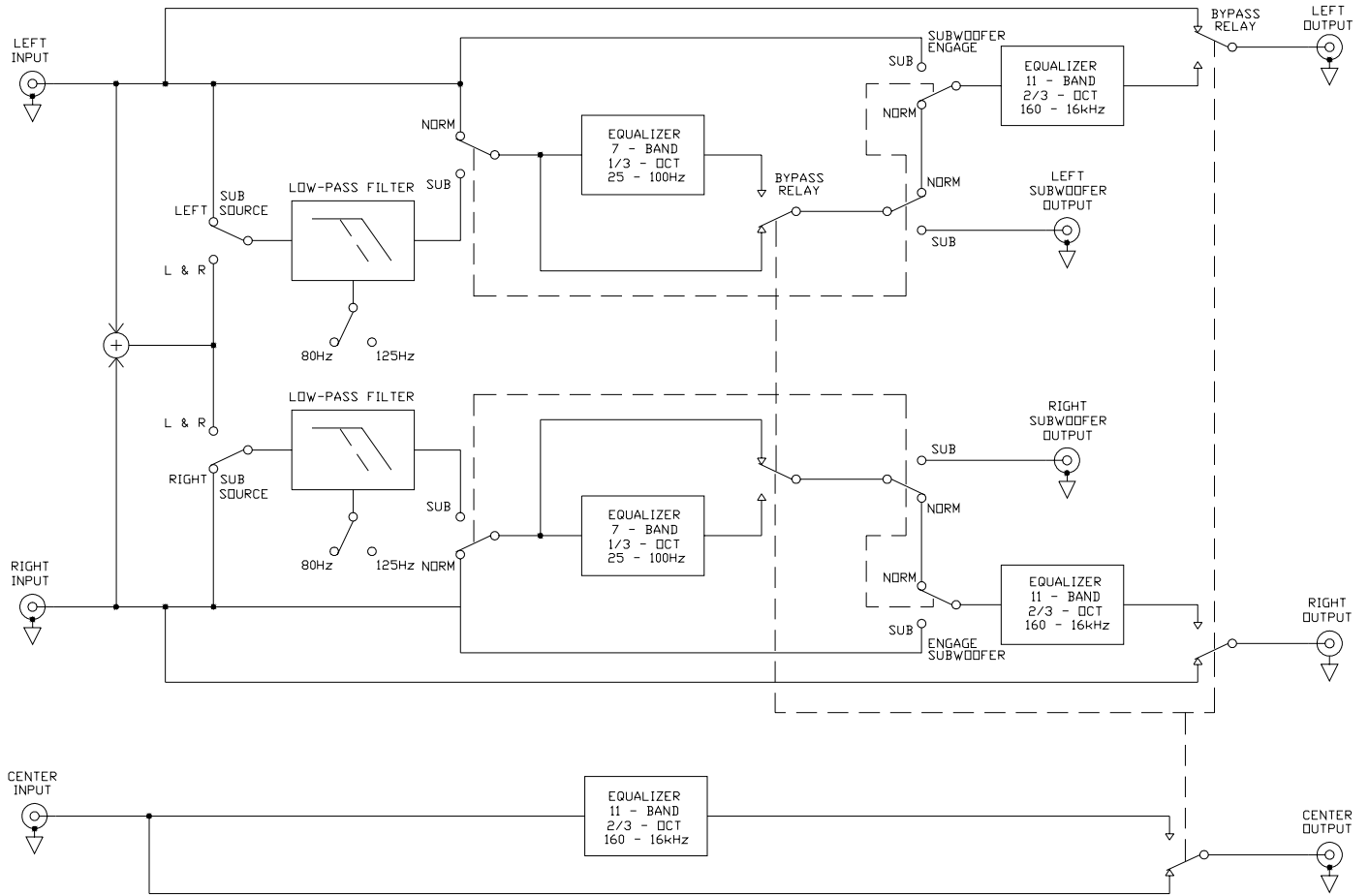
- Graphic 2/3-octave front channels
- Graphic 1/3-octave low/subwoofer channels
- 24 dB/octave subwoofer outputs
- Equalize full range left/right, mono subwoofer, or stereo subwoofers
- Security cover, rack ears and power supply included



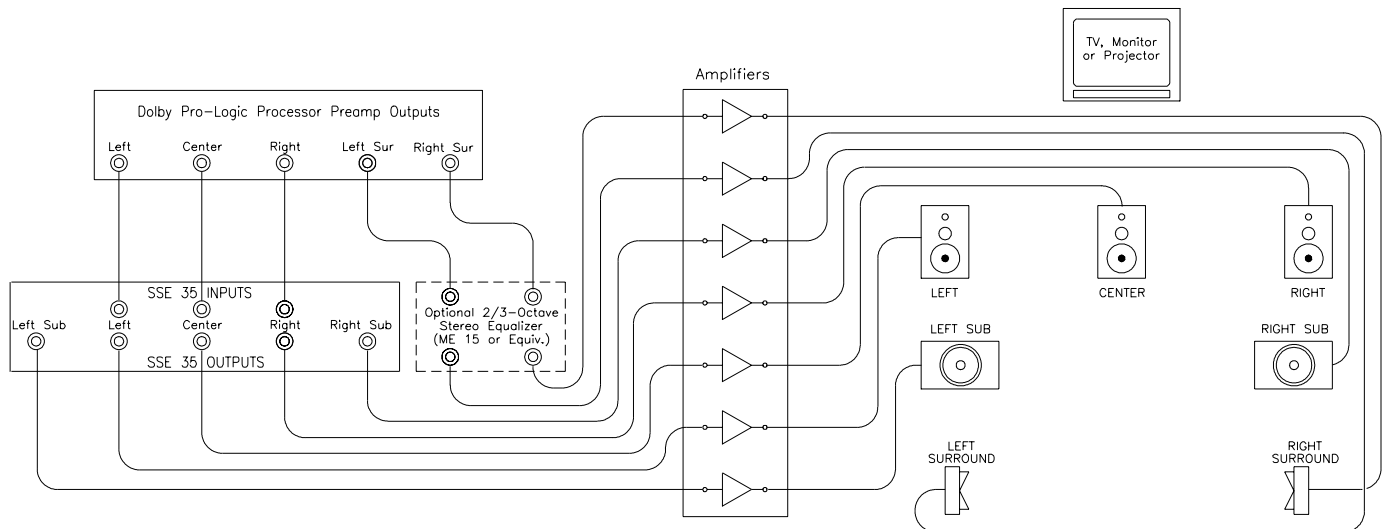
Parameter	Specification	Limit	Units	Conditions/Comments
LCR Equalizers: Bands	(11) 2/3-Octave ISO Spacing			From 160 Hz to 16 kHz
.....Type	Constant-Q			3% Accuracy to center frequency
.....Travel	20		mm	Positive grounded center detent
.....Range	±6	0.25	dB	
LR Subwoofer Equalizers:				Left & Right Subwoofers
.....Bands	(7) 1/3-Octave ISO Spacing			From 25 Hz to 100 Hz
.....Type	Constant-Q			3% Accuracy to center frequency
.....Travel	20		mm	Positive grounded center detent
.....Range	±6	0.25	dB	
Subwoofer Low-Pass Outputs:				Left & Right low-pass filters
.....Type	4th-Order Butterworth			Slide switch selectable
.....Frequency	80 or 125		Hz	4th-order
.....Slopes	24 dB/Octave			RCA phono connectors
Inputs: Type	Active Unbalanced			
.....Impedance	10k	1%	ohms	
.....Maximum Level	+20	1	dBu	11 Volts peak
Outputs: Type	Active Unbalanced			RCA phono connectors
.....Impedance	100	1%	ohms	
.....Maximum Level	+20	1	dBu	11 Volts peak into 2k ohms or greater
Frequency Response	20-20 kHz	±1	dB	Left, Right & Center
THD+Noise	0.001	typ	%	1 kHz, +4 dBu
	0.015	.005	%	20-20 kHz, +4 dBu
SMPTE IM	0.01	.005	%	60 Hz / 7 kHz, 4:1, +4 dBu
Signal-to-Noise	100	1	dB	re +4 dBu; 20 kHz BW; flat
Dynamic Range	116	1	dB	Max out / noise floor (+20 dBu/-96 dBu)
Channel Separation	80	typ	dB	1 kHz
Unit: Agency Listing				
.....120 VAC model	Class 2 Equipment UL 813 Exempt CSA Exempt			National Electrical Code Class 2 Class 2
.....230 VAC model	VDE, SELV CE-EMC CE-Safety Exempt			Safety Extra Low Voltage EMC directive 89/336/EEC Per article 1 of LVD 73/23/EEC
Power Supply: Agency Listing	Model RS 1			
.....120 VAC model	UL Listed CSA Certified			File no. E88261 File no. LR58948
.....230 VAC model	CE-EMC CE-Safety			EMC directive 89/336/EEC LV directive 73/23/EEC
Power Supply: Input	18 VAC w/center tap	10%	Vrms	6-pin mod plug
.....Current	750	max	mA	RMS current from remote supply
Unit: Size	1.75"H x 17.3"W x 8"D	w/o Rack Ears		(4.4 cm x 43.9 cm x 20.3 cm)
.....Weight	5 lb			(2.3 kg)
Shipping: Size	7" x 22" x 13"			(18 cm x 56 cm x 33 cm)
.....Weight	9 lb			(4.1 kg)
Note: 0 dBu=0.775 Vrms				

*Dolby Pro-Logic and Dolby Digital are registered trademarks of Dolby Laboratories Licensing Corporation*

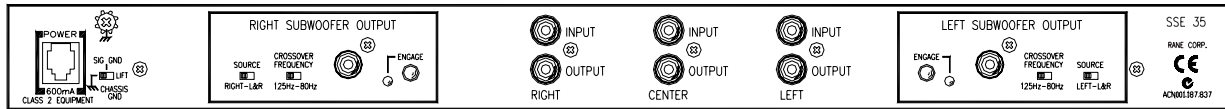
### Block Diagram



### Typical System Hookup



**Rear Panel**



**Architectural Specifications**

The equalizer shall have three channels designated left, center and right. The equalizer shall be of constant-Q design to minimize interactions between adjacent bands.

Each channel of the equalizer shall consist of a 11-band 2/3-octave graphic section with center frequencies located on ISO centers from 60 Hz to 16 kHz, and a range of  $\pm 6$  dB; additionally, left and right channels shall also include a 7-band 1/3-octave graphic equalizer with center frequencies located on ISO centers from 25 to 100 Hz.

Left and Right subwoofer outputs shall be provided, each with a selectable 80-125 Hz low pass filter.

All controls shall be 20 mm sliders with integral dust dams. Detented and positively grounded 0 dB points shall be provided for all level controls. Relays shall be used to control power on/off thumps, to provide an overall bypass function using a front panel mounted push-button switch, and to

default to bypassed condition in the event of power loss. When power is applied to the unit and bypass mode is selected, this shall be indicated by a blue LED indicator.

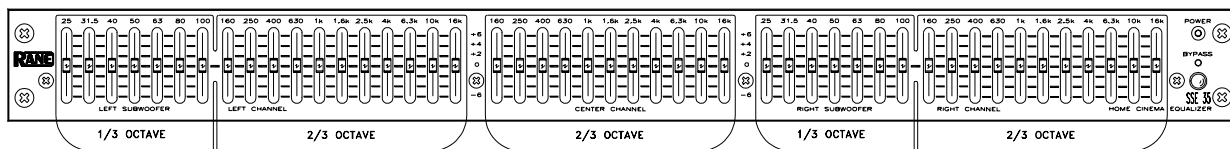
All controls shall be located behind a security cover and not accessible to the typical user. The security cover shall be supplied with the unit.

The inputs and outputs shall be active unbalanced designs terminated with parallel RCA phono jack connectors.

The unit shall be exempt from agency safety requirements and powered from a UL listed, CSA certified remote power supply (120 VAC) or CE certified (230 VAC) via a rear panel input modular plug. The unit shall be constructed entirely from cold-rolled steel.

*The unit shall be a Rane Corporation SSE 35 Home Cinema Equalizer.*

**Equalizer Frequency Ranges**



**Security Cover (included)**

