System 84   Models A and B
Audio Routing/Mixing Matrix
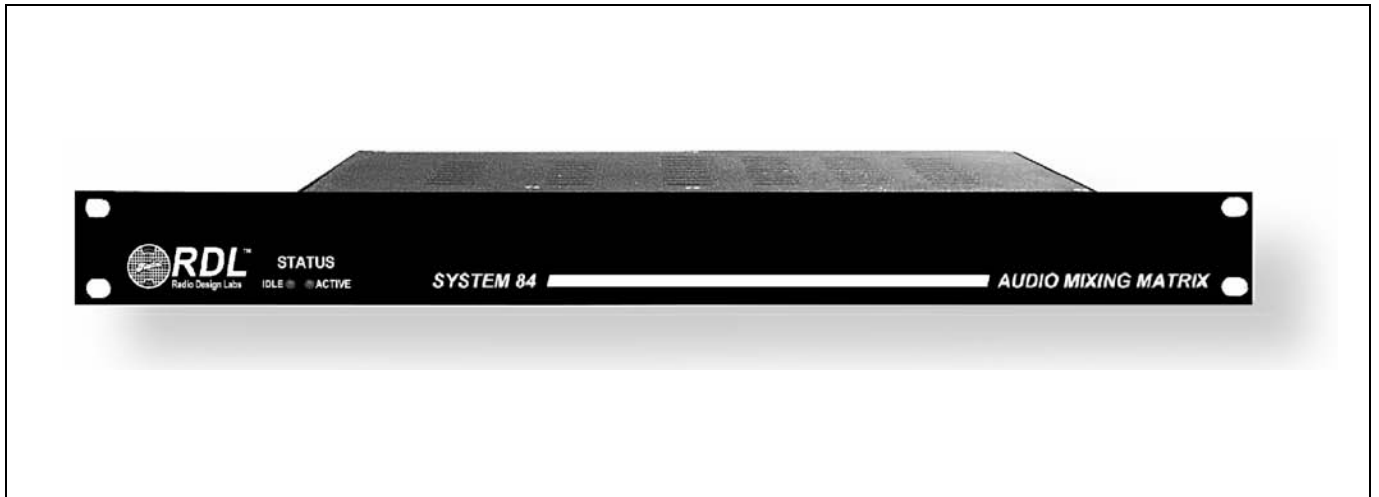
- Audio Routing / Mixing Switcher
- Eight Stereo Inputs (Model A) / Eight Mono Inputs (Model B)
- Four Stereo Outputs (Model A) / Four Mono Outputs (Model B)
- Logic Controlled Soft Switching
- All Solid-State Audio Switches – No Relays In Audio Path
- Balanced/Unbalanced Inputs and Outputs On Plug-in Connectors
- Gain-Trim On Each Source
- Any Input May Be Assigned To Any (Or Every) Output
- Multiple Inputs May Be Combined To an Output
- Constructed With True Summing Capabilities
- Direct Mix Inputs For Expansion
- Low-Noise Performance
- Uses Only a Single Rack-Unit Space

The System 84 Model A and B are both digitally controlled matrix routers and low-noise audio mixers with eight inputs which can be mixed to four outputs in any combination. Functions are controlled by 32 logic lines on a single input connector (provided). Dry contacts may be used to select each function, or the System 84 may be software controlled using a computer equipped with a logic-control In/Out card.

Audio inputs and outputs feature plug-in connectors. Precise-level adjustment is provided on the rear-panel using multi-turn trimming potentiometers. Instrumentation input amplifiers, noise-free solid state soft audio switching, studio-quality audio mixing, excellent headroom and low-noise performance combine to make the System 84 the ultimate in flexible audio system design at a fraction of the cost you would expect.
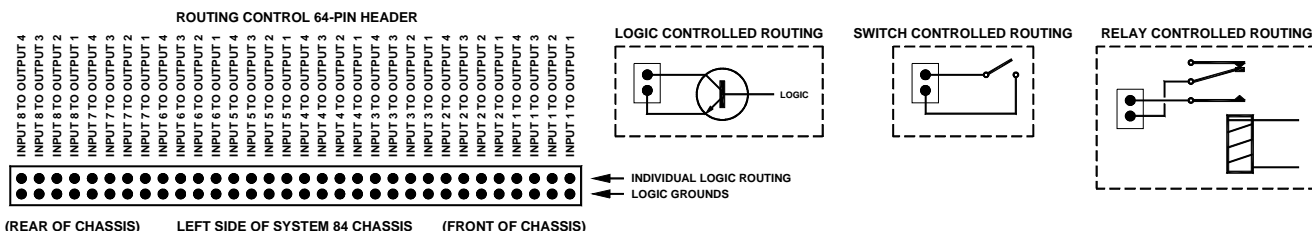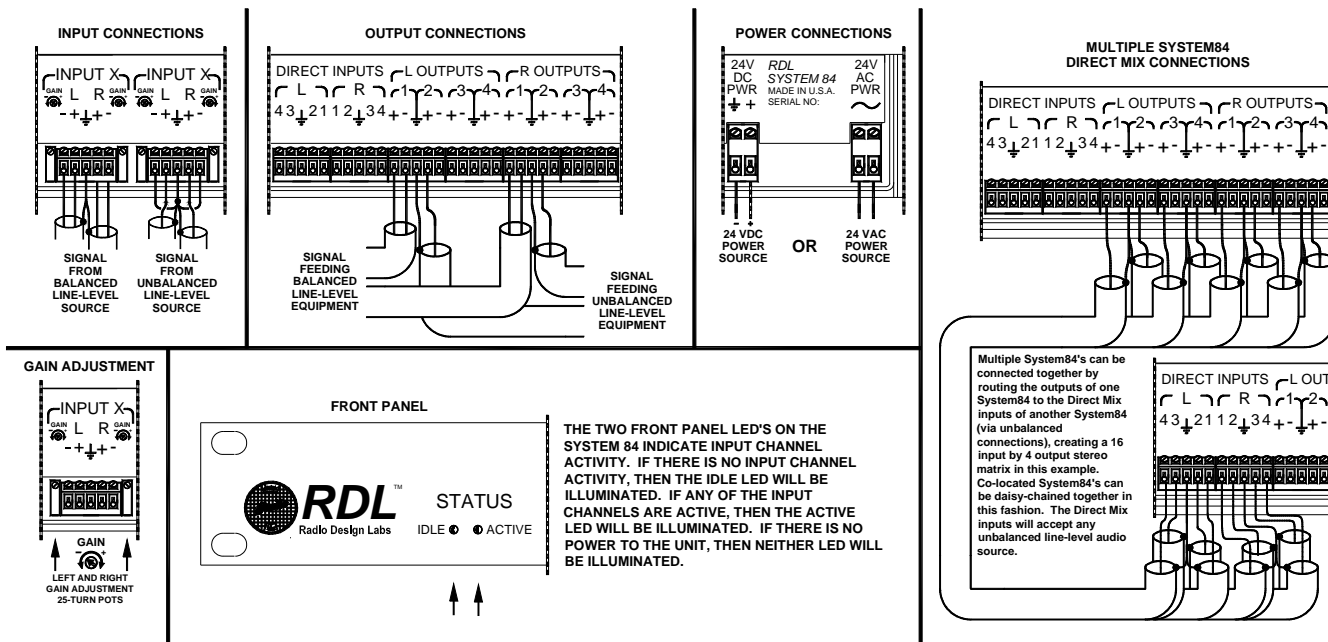
System 84
Audio Routing/Mixing Matrix
(Stereo Model Shown)

Installation/Operation

INPUT CONNECTIONS

INPUT X INPUT X
GAIN L R GAIN GAIN L R GAIN
- + + - - + + -

SIGNAL FROM BALANCED LINE-LEVEL SOURCE

SIGNAL FROM UNBALANCED LINE-LEVEL SOURCE

OUTPUT CONNECTIONS

DIRECT INPUTS L OUTPUTS R OUTPUTS
L R 1 2 3 4 1 2 3 4
4 3 2 1 1 2 3 4 + - + - + - + - + - + - + - + -

SIGNAL FEEDING BALANCED LINE-LEVEL EQUIPMENT

SIGNAL FEEDING UNBALANCED LINE-LEVEL EQUIPMENT

POWER CONNECTIONS

24V DC PWR *RDL SYSTEM 84* MADE IN U.S.A. SERIAL NO: 24V AC PWR
+ + ~

24 VDC POWER SOURCE **OR** 24 VAC POWER SOURCE

MULTIPLE SYSTEM84 DIRECT MIX CONNECTIONS

DIRECT INPUTS L OUTPUTS R OUTPUTS
L R 1 2 3 4 1 2 3 4
4 3 2 1 1 2 3 4 + - + - + - + - + - + - + - + -

Multiple System84's can be connected together by routing the outputs of one System84 to the Direct Mix inputs of another System84 (via unbalanced connections), creating a 16 input by 4 output stereo matrix in this example. Co-located System84's can be daisy-chained together in this fashion. The Direct Mix inputs will accept any unbalanced line-level audio source.

DIRECT INPUTS L OUT
L R 1 2
4 3 2 1 1 2 3 4 + -

GAIN ADJUSTMENT

INPUT X
GAIN L R GAIN
- + + -

GAIN

LEFT AND RIGHT GAIN ADJUSTMENT 25-TURN POTS

FRONT PANEL

RDL™ Radio Design Labs STATUS
IDLE ● ○ ACTIVE

THE TWO FRONT PANEL LED'S ON THE SYSTEM 84 INDICATE INPUT CHANNEL ACTIVITY. IF THERE IS NO INPUT CHANNEL ACTIVITY, THEN THE IDLE LED WILL BE ILLUMINATED. IF ANY OF THE INPUT CHANNELS ARE ACTIVE, THEN THE ACTIVE LED WILL BE ILLUMINATED. IF THERE IS NO POWER TO THE UNIT, THEN NEITHER LED WILL BE ILLUMINATED.

ROUTING CONTROL 64-PIN HEADER

INPUT 8 TO OUTPUT 4
INPUT 8 TO OUTPUT 3
INPUT 8 TO OUTPUT 2
INPUT 8 TO OUTPUT 1
INPUT 7 TO OUTPUT 4
INPUT 7 TO OUTPUT 3
INPUT 7 TO OUTPUT 2
INPUT 7 TO OUTPUT 1
INPUT 6 TO OUTPUT 4
INPUT 6 TO OUTPUT 3
INPUT 6 TO OUTPUT 2
INPUT 6 TO OUTPUT 1
INPUT 5 TO OUTPUT 4
INPUT 5 TO OUTPUT 3
INPUT 5 TO OUTPUT 2
INPUT 5 TO OUTPUT 1
INPUT 4 TO OUTPUT 4
INPUT 4 TO OUTPUT 3
INPUT 4 TO OUTPUT 2
INPUT 4 TO OUTPUT 1
INPUT 3 TO OUTPUT 4
INPUT 3 TO OUTPUT 3
INPUT 3 TO OUTPUT 2
INPUT 3 TO OUTPUT 1
INPUT 2 TO OUTPUT 4
INPUT 2 TO OUTPUT 3
INPUT 2 TO OUTPUT 2
INPUT 2 TO OUTPUT 1
INPUT 1 TO OUTPUT 4
INPUT 1 TO OUTPUT 3
INPUT 1 TO OUTPUT 2
INPUT 1 TO OUTPUT 1

← INDIVIDUAL LOGIC ROUTING
← LOGIC GROUNDS

(REAR OF CHASSIS)   **LEFT SIDE OF SYSTEM 84 CHASSIS**   **(FRONT OF CHASSIS)**

LOGIC CONTROLLED ROUTING
LOGIC

SWITCH CONTROLLED ROUTING

RELAY CONTROLLED ROUTING

TYPICAL PERFORMANCE *(Common to System 84 Models)*

Inputs (switched):	8 10 kΩ balanced or unbalanced via plug-in terminal block, line-level
Inputs (direct):	8 Unbalanced via plug-in terminal block, -2 dBu
Input Level:	-10 dBu to +8 dBu (for +4 dBu output) Max input +24 dBu
Headroom:	> 18 dB above +4 dBu
Gain:	Adjustable for each input, 25-turn trimmer, -6 dB to 12 dB
Frequency Response:	10 Hz - 30 kHz +/-0.25 dB(Bridging load)
THD+N:	< 0.010% (20 Hz - 20 kHz)
Intermodulation Distortion:	< 0.025% (20 Hz - 20 kHz)
Input Channel Crosstalk:	Left into Right: Better than 80 dB (10 Hz – 15 kHz)
	Left into Right: Better than 75 dB (15 kHz – 20 kHz)
	Right into Left: Better than 70 dB (10 Hz – 15 kHz)
	Right into Left: Better than 65 dB (15 kHz – 20 kHz)
Residual Noise:	< -80 dB (Channel ON; referred to +4 dBu)
Off Attenuation:	> 80 dB (10 Hz - 20 kHz) with adjacent input channels OFF
	> 80 dB (10 Hz - 10 kHz) ; > 75 dB (10 kHz - 20 kHz) with adjacent input channel ON
Indicators:	Front panel LEDs indicating activity: **IDLE** if no channel active; **ACTIVE** if any channel active
CMRR:	> 50 dB (50 to 120 Hz)
Outputs:	4 Balanced, 150 Ω balanced or unbalanced via plug-in terminal block
Power Requirement:	24 Vdc @ 575 mA, Ground-referenced; OR 24Vac @ 575mA (separate jacks)
Mounting:	Standard 19" Rack-mount ; 1RU
Dimensions:	Height: 1.75 in. 4.4 cm
	Length: 19.0 in. 48.3 cm
	Depth: 8.00 in. 20.3 cm