

CM 86 Compact Mixer

General Description

The CM 86 Compact Mixer is an eight channel mixer with unusual flexibility and advanced features. Designed to be small and versatile, the CM 86 fulfills all requirements for fixed-installation and transportable mixers – situations where the complexity, size and cost of regular mixers is prohibitive.

Each input channel features separate mic and line connectors with a selector switch that doubles as an input mute when needed. Microphone phantom power is available and *individually controlled* for each input channel, an essential feature when using different types of microphones. Overload indicators appear on the front *and rear* of the unit to facilitate adjustment of the rear panel MIC GAIN trim control. Augmenting the individual channel INSERT LOOP is the two-band shelving equalizer, featuring an IN/OUT switch – useful for performing quick A/B comparisons between equalized and unequalized signal. Mic input signals may be terminated in either the convenient 3-pin (XLR-type) connector or the economical 3-station *terminal strip*. Each input signal is assignable to MASTER OUTPUT A, B or both, *with separate level controls* for each. The *individual assign switches* for the two AUX outputs allow choice between taking this signal before (PRE) or after (POST) the Channel LEVEL control. These *front-panel mounted switches* allow custom tailoring of each output mix.

Besides the eight input channels, RCA jacks provide an additional stereo input (*with a Mono switch*) for Tape, Tuner or a CD player. (For Phono use, see the accessory item Model PS 1 Phono Stage. This conveniently mounts at the turntable and its high-current cross-coupled output stage drives the

Features

- 8 MIC OR LINE-LEVEL INPUTS
- INDIVIDUAL PHANTOM POWER SWITCHES
- TRANSFORMER INPUT OPTION
- 6 INDEPENDENT OUTPUTS
- FLEX BUS COMPATIBLE
- AUX OUTPUT PRE/POST ASSIGNS
- INDIVIDUAL CHANNEL INSERTS

Order CM 86T for
Transformer Inputs

RIAA-equalized line-level signal to the CM 86.)

Signal overloading is a big concern in mixers. In addition to the normal output OL indicators, the CM 86 includes unique “PRE OUTPUT OVERLOAD” indicators that monitor all sensitive summing stages. These LEDs allow more accurate monitoring of critical nodes.

MASTER A, MASTER B, AUX A and AUX B make up four different possible mixes with a CM 86. To further confuse things, there are two Master output pairs: MASTER 1A and 1B and MASTER 2A and 2B. Outputs 1A and 2A are the same mix, but may be set for different levels; the same is true for Outputs 1B and 2B. Each Master 1 and Master 2 output pair have *individual STEREO/MONO switches*. AUX A and AUX B provide two additional outputs – each may be a different mix *and* a different level. Two RCA jacks provide for TAPE OUTPUTS. A MASTER INSERT LOOP allows various effects to be inserted in series with the Master Outputs and before the Output Level controls.

Output metering and headphone monitoring are fully assignable between MASTER 1, MASTER 2 and AUX.

Extreme versatility is provided by inclusion of the FLEX BUS. Expansion of the CM 86 is easy using the Flex Bus: simply plug two CM 86’s together to create a 16-channel mixer, or augment a single CM 86 with any number of Flex Modules that use the Flex Bus system.

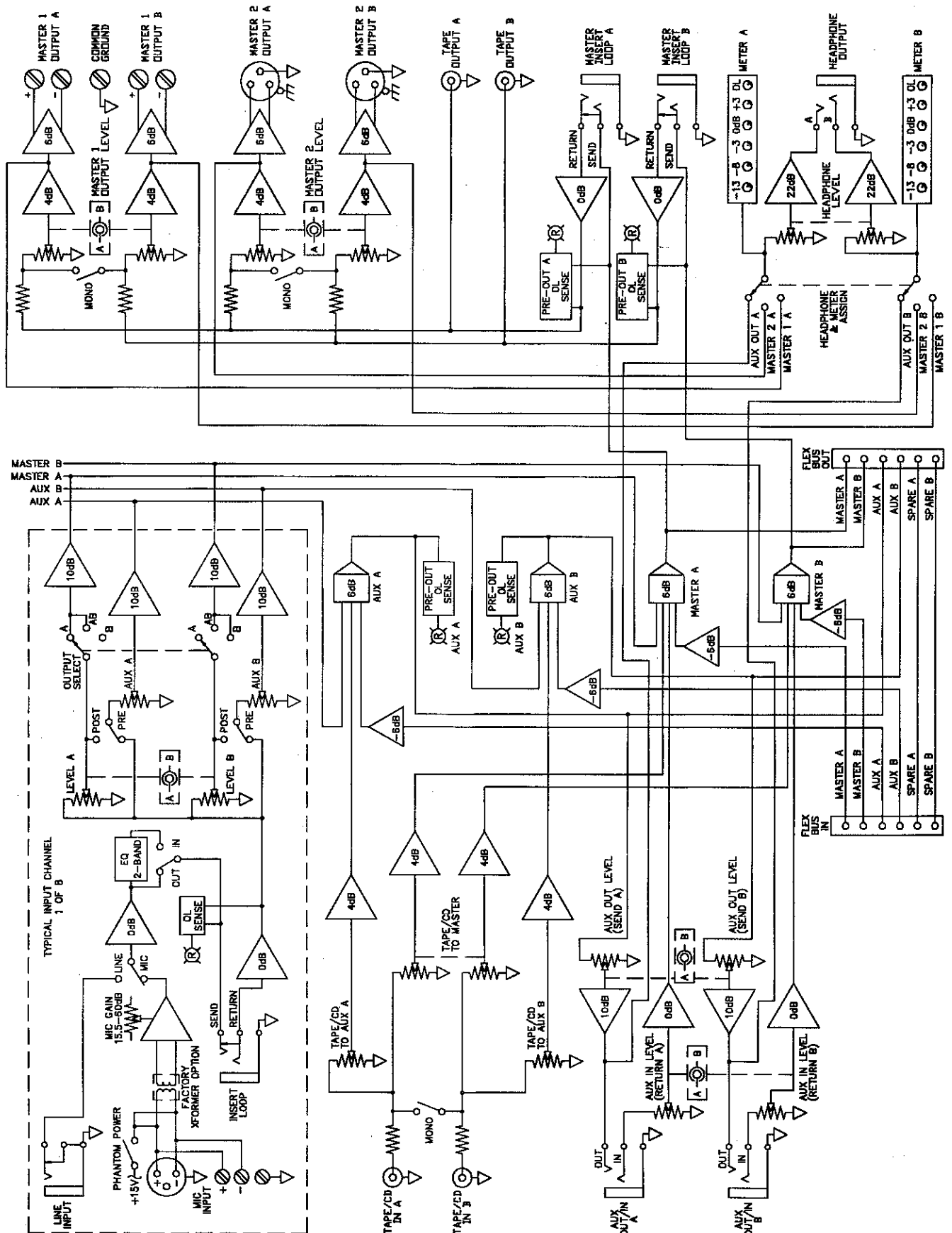
Each CM 86 comes with a *U.L. listed, C.S.A. certified, TUV approved outboard power supply* for the highest possible performance and safety.

- STEREO/MONO TAPE/CD IN/OUT
- TERMINAL STRIP & 3-PIN (XLR) I/O
- MASTER INSERT LOOPS
- IN/OUT OVERLOAD INDICATORS
- HEADPHONE & METERING OF ALL OUTS
- UL/CSA/TUV REMOTE POWER SUPPLY

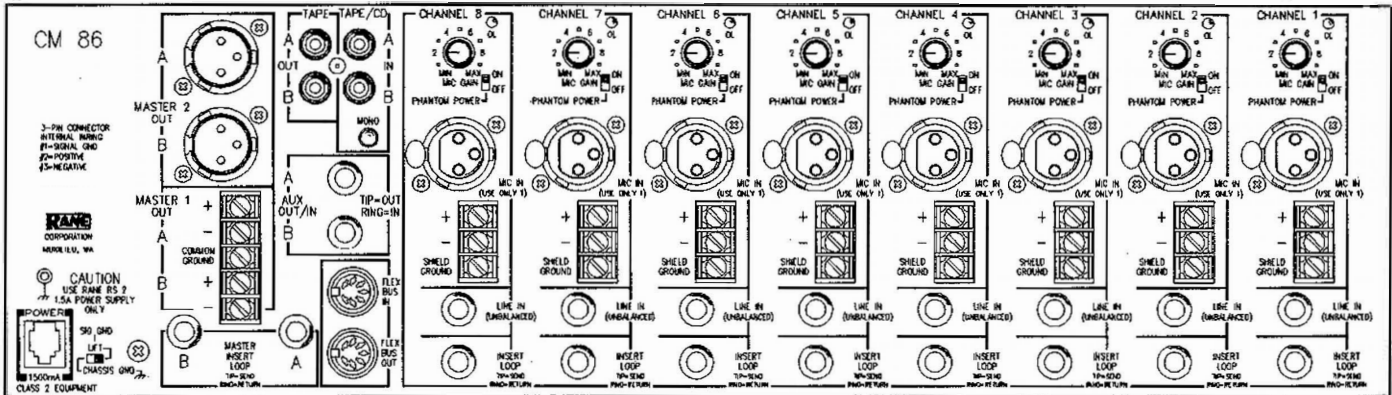


Parameter	Specification	Limit	Units	Conditions/Comments
Mic Input: Impedance	1k	1%	Ohms	Bal 3-Pin (XLR-type) & Term Strip
.....Gain Trim	+15.5 to +60	2	dB	Located on rear
.....Phantom Power	+15	4%	VDC	
.....Equivalent Input Noise	-130	2	dBu	20kHz BW, Max gain
Mic Transformer Input Option	All 8 Input Channels			(Order CM 86T)
.....Type	Bauer RE-MB-CPCA			Reichenbach Engineering
.....Turns Ratio	1:1			Impedance: 150 ohms to 150 ohms
.....Shielding	Magnetic & Faraday Shields			
.....Equivalent Input Noise	-128	2	dBu	20kHz BW, 60dB gain
Line Input: Impedance	26k	1%	Ohms	Unbalanced ¼" TRS
EQ Section	(See graph)			Two-Band Baxandall Shelving
Max Input Levels: Mic	+4	1	dBu	(+1dBu w/Transformer Option)
.....Tape/CD & Aux	greater than +26		dBu	
.....All Others	+22	1	dBu	
Other Input Impedances				
.....Ch Insert Loop	18k	5%	Ohms	Unbal ¼" Tip Send/Ring Return
.....Tape/CD	50k	20%	Ohms	Unbalanced RCA
.....Aux In or Master Loops	100k	20%	Ohms	Unbal ¼" Tip Send/Ring Return
.....Flex Bus In	2k	1%	Ohms	Unbalanced 7-Pin DIN
Output Impedances				
.....Masters	50	10%	Ohms	Bal 3-Pin (XLR-type) & Term Strip
.....All Others	301	1%	Ohms	Unbalanced ¼" or RCA
Max Output Levels: Masters	+22	1	dBu	Cross-Coupled Bal Into 600 Ohms
.....All Others	+21	1	dBu	Unbalanced Into 2k Ohms
Maximum Gain:				
.....Mic to Master or Aux Outs	+86	2	dB	
.....Line to Master or Aux Outs	+26	2	dB	
.....Mic to Ch Insert	+60	2	dB	
.....Line to Ch Insert	0	0.2	dB	
.....Mic to All Others	+76		dB	
.....Line to All Others	+16	2	dB	
Frequency Response	20-100kHz	+0/-3	dB	(-3dB @ 40Hz w/Max Mic Gain)
Crosstalk	-70	10	dB	20-20kHz, Any Combo Ins/Outs
THD+Noise	0.02	.01	%	+4 or +20dBu, 20-20kHz, Any Out
IM Distortion (SMPTE)	0.01	.005	%	+4dBu, Any Out
Residual Output Noise	-96	2	dBu	20kHz Noise Bandwidth, Any Out
Output Meters	2-Channel, Peak Responding			Select Master 1, 2 or Aux Outs
Overload LED Threshold	+17	1	dB	4dB Below Clipping
Safety Agency	Unit classified Class 2 Equip.			National Electrical Code
.....Design	Safety Extra-Low Voltage			VDE SELV
.....U.L. Listing	UL 813 Exempt			Class 2
.....C.S.A. Certification	C22.2 No. 1 Exempt			Class 2
.....CENELEC	IEC 65 Exempt			Harmonization Doc. HD 195.S4
Remote Power Supply	Model RS 2 (18VAC w/ct)			Class 2 Equipment
.....U.L. Listed	E90493			
.....C.S.A. Certified	LR91687			
.....230VAC Export Model	Meets IEC 950			TUV Approved with GS Mark
Unit: Size	5.25"H x 19"W x 5.3"D (3U)			(13.3cm x 48.3cm x 13.5cm)
.....Weight	11 lbs			(5.0 kg)
Shipping: Size	11" x 23" x 16"			(58.4cm x 40.6cm)
.....Weight	17 lbs			(7.7kg)
Note: 0dBu=0.775Vrms				

Block Diagram



Rear Panel



Architectural Specifications

The application mixer shall have eight microphone (MIC) or line-level (LINE) inputs. Each MIC input shall have a 3-pin (XLR-type) connector in parallel with a 3-station terminal strip. The LINE input shall be an unbalanced type with a 1/4" TRS connector. Each input shall be fitted with a switchable Phantom Power feature, a rear-mounted MIC GAIN control and overload indicators. A MIC/LINE selector switch shall be provided on the front panel for each input.

An Insert Loop shall be provided on each input, as well as switchable two-band shelving EQ. Also, two AUX output controls shall be provided with separate assignable PRE/POST switches.

Additional inputs shall be provided for Tape or CD use, as well as provisions for TAPE OUT. To allow compatibility with all Rane Flex products equipped with the Flex Bus, two 7-pin DIN connectors shall be provided.

One output pair labeled MASTER 1 A&B shall be provided using terminal strip connectors. A second output pair labeled MASTER 2 A&B shall be provided using 3-pin (XLR-type) connectors. A MASTER INSERT LOOP shall be provided using 1/4" TRS connectors.

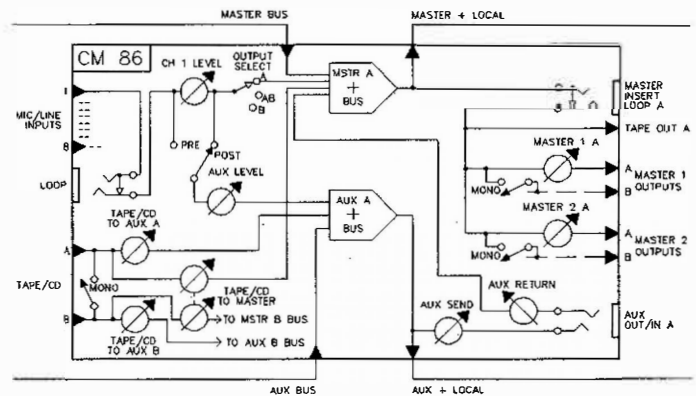
The application mixer shall be powered from a U.L./CSA/TUV remote AC power supply. The unit shall qualify as Class 2 Equipment per the National Electric Code and the power supply categorized as Safety Extra-Low Voltage.

The unit shall be a Rane Corporation Model CM 86 Compact Mixer.

Available Accessories

- SC 5.2 Security Cover
- ALL Flex Modules
- PS 1 Phono Stage

Flex Bus Diagram



Channel EQ Performance

