

## General Description

The Rane FDA 28 Distribution Amplifier is a two-input, eight-output splitter/distribution amplifier capable of providing eight discrete balanced outputs from two balanced inputs (mic or line level). Each output's level may be adjusted individually via the concentric level controls on the front panel. Each Input has its own GAIN control. The MASTER control affects the level being delivered to the bus prior to any splits. This allows the user to achieve an overall level adjustment that is independent of the OUTPUT controls (lets you turn everything up or down at once).

Each Input is set to either mic or line level via a rear panel MIC/LINE pushbutton. PHANTOM POWER is available for individual mic use and is activated by rear panel push switches.

Located inside the FDA 28 are eight (8) Pre/Post switches allowing the user to determine which, if any, outputs should be controlled by the OUTPUT controls only, and not the MASTER control. (See Block Diagram on rear.)

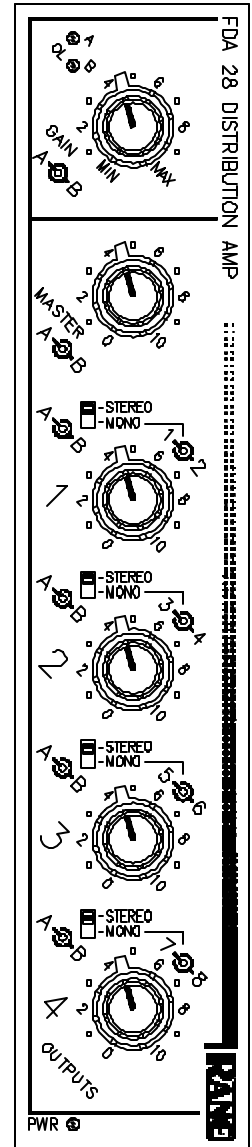
The separate STEREO/MONO switches allow mixed stereo and mono applications.

Each output stage incorporates a fully balanced output line driver of the cross-coupled design. This allows long lines to be differentially driven with confidence.

As is true with all Rane Flex modules, the FDA 28 sports a ground lift switch to guarantee freedom from ground loop induced hum and noise. Signal and chassis ground are available at each output. Euroblock connectors are used for easy installation, and accept up to 12AWG wire.

## Features

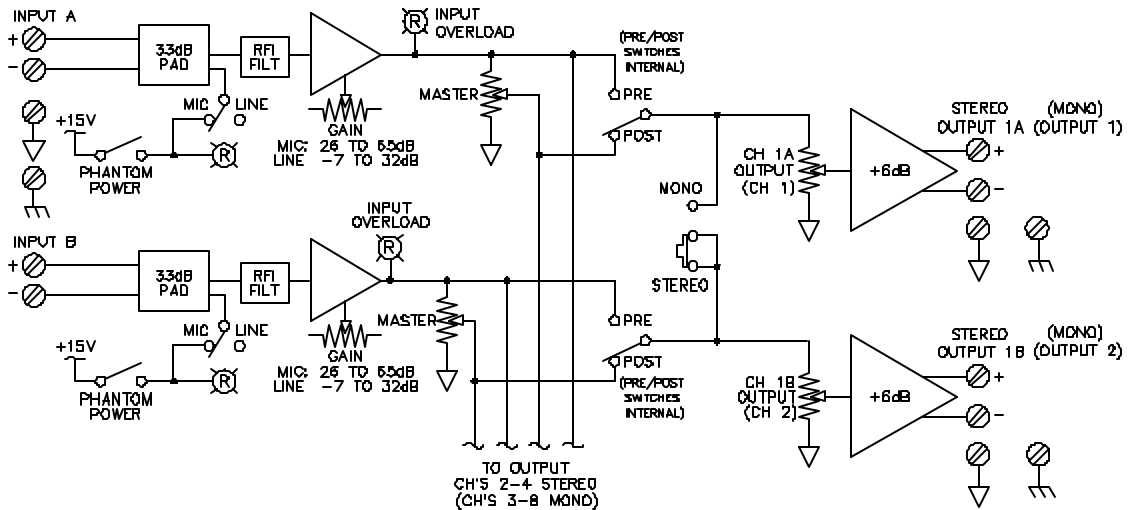
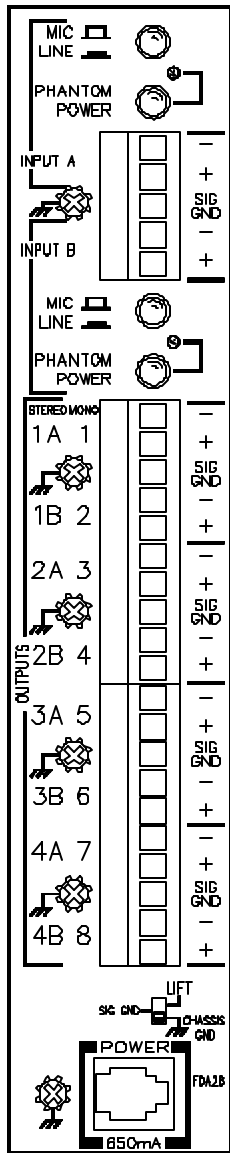
- TWO BALANCED INPUTS
- MIC/LINE INPUT SWITCH
- PHANTOM POWER SWITCH
- STUDIO NOISE PERFORMANCE
- MASTER LEVEL CONTROLS
- PRE/POST OUTPUT ASSIGNS
- SEPARATE STEREO/MONO SWITCHES
- OVERLOAD INDICATORS
- 8 CROSS-COUPLED BALANCED OUTS
- EUROBLOCK CONNECTORS



Parameter	Specification	Limit	Units	Conditions/Comments
Mic Input Impedance	1k	1%	Ohms	Balanced 500 + 500
Line Input Impedance	20k	1%	Ohms	Balanced 10k + 10k
Mic Gain Range	+26 to +65	2	dB	Excludes Output Gain
Line Gain Range	-7 to +32	2	dB	Excludes Output Gain
Phantom Power	+15	4%	VDC	
Output Impedance	50	10%	Ohms	Balanced 25 + 25
Output Drive Level	+22	1	dBu	10 VRMS Across 600 Ohms
Output Cable Length	1000' (305m)	typical		Belden 8451 or equivalent
Output Gain Range	Off to +6	0.5	dB	
Mic Equivalent Input Noise	-128/-108 (Max/Min Gain)	2	dBu	20kHz Noise BW; 150 Ohm Source
Line Signal-To-Noise Ratio	85	2	dB	re +4dBu, 20kHz BW, Unity Out
THD+Noise	0.02	max	%	+4dBu, 20-20kHz, Any Gain
Output Pre/Post Switches	Yes: 8			Internal Slide Switches
Frequency Response	10-150kHz	3	dB	MIN to "9" Gain
	30-150kHz	3	dB	MAX Gain
Crosstalk	75@1kHz / 50@20kHz	2	dB	Any Input to Any Output
Maximum Current	650		mA	RMS Current From Remote Supply

Rear Panel

Block Diagram



Application Information

Use of the FDA 28 is straight- forward. Wire the balanced inputs to the Euroblock connectors. Then follow the silkscreened labels to take the balanced outputs from the Output Euroblocks. The Euroblocks accept any 12 to 28 guage wire. Expansion is done by jumpering the Input to a second FDA 28, and so on.

The above diagram shows the uncomplicated nature of the FDA 28. Active fully differentially (instrumentation) balanced inputs condition the signal being split or distributed. The MIC/LINE pushbutton changes the gain range of the amplifier stages from 26 to 65 dB for MIC and -7 to 32 dB for LINE level Inputs.

Keep an eye on the OL indicator when setting the Gain. Always use the most gain possible without allowing the OL indicator to light steady. Occasional flickering is permitted. Setting gain this way, maintains the best signal-to-noise performance for the system. Separate A and B GAIN trims allow level matching and balancing as required.

Your exact application determines the use of the internal PRE/POST switches. In the PRE position, the OUTPUT operates independently from the MASTER control. In the POST position, the OUTPUT is a direct function of the MASTER setting. By using the PRE/POST switches, it is possible to program each output so the MASTER control affects only those areas desired. As an example, this means you could turn down all the zones in the dining areas of a restaurant without affecting the lounge.

Mixed stereo and mono applications require setting the separate STEREO/MONO switches. By moving any of these switches you program any of the output pairs for mono use.

Each Output of the FDA 28 uses high current cross-coupled balanced line drivers. Use of the cross-coupled design allows the same gain whether used balanced or unbalanced. *When used unbalanced, it is mandatory that you ground the unused output.* Outputs may be paralleled for driving extremely long lines (a mile or more), or where extra current (greater than 60 mA) is necessary.