

General Description

The Rane DA 216 Distribution Amplifier is a two-input, sixteen-output splitter/distribution amplifier. The DA 216 is capable of providing sixteen mono or eight stereo discrete balanced outputs from one or two balanced mic or line level inputs. Each output's level may be individually adjusted via one of the sixteen screwdriver level controls on the front panel.

The Master A and B Level controls affect the overall level independent of the Output controls. In other words, they allow everything to be turned up or down at once. LEDs indicate an Overload at the Inputs.

Each Input is set to either mic or line level via the rear

panel Input Pad pushbutton. The non-attenuated 0 dB position is for microphone, and the attenuated -40 dB position accepts line level signal. A combination of Mic and Line is available. Additional 40/60 dB Gain switches assist in setting optimum level. Microphones requiring Phantom Power are accommodated by a rear panel pushbutton switch and LED.

A recessed front panel Mono switch enables a single input, or the two input signals mixed, for a total of 16 mono outputs. An LED confirms this choice.

Each output stage incorporates a high-current balanced output line driver for driving long lines with optimal performance.

Features

- Two Balanced Inputs
- Sixteen Balanced Outputs
- Input Overload Indicators
- Mic/Line Input Switches
- 40/60 dB Gain Switches
- Phantom Power Switch
- #6 Screw Terminals
- Studio Grade Low Noise Floor
- Master Input and Individual Output Level Controls
- Stable High-Current Line Drivers
- UL/CSA Remote Power Supply (120 VAC)
- CE (Low Voltage & EMC) Remote Power Supply (230 VAC)



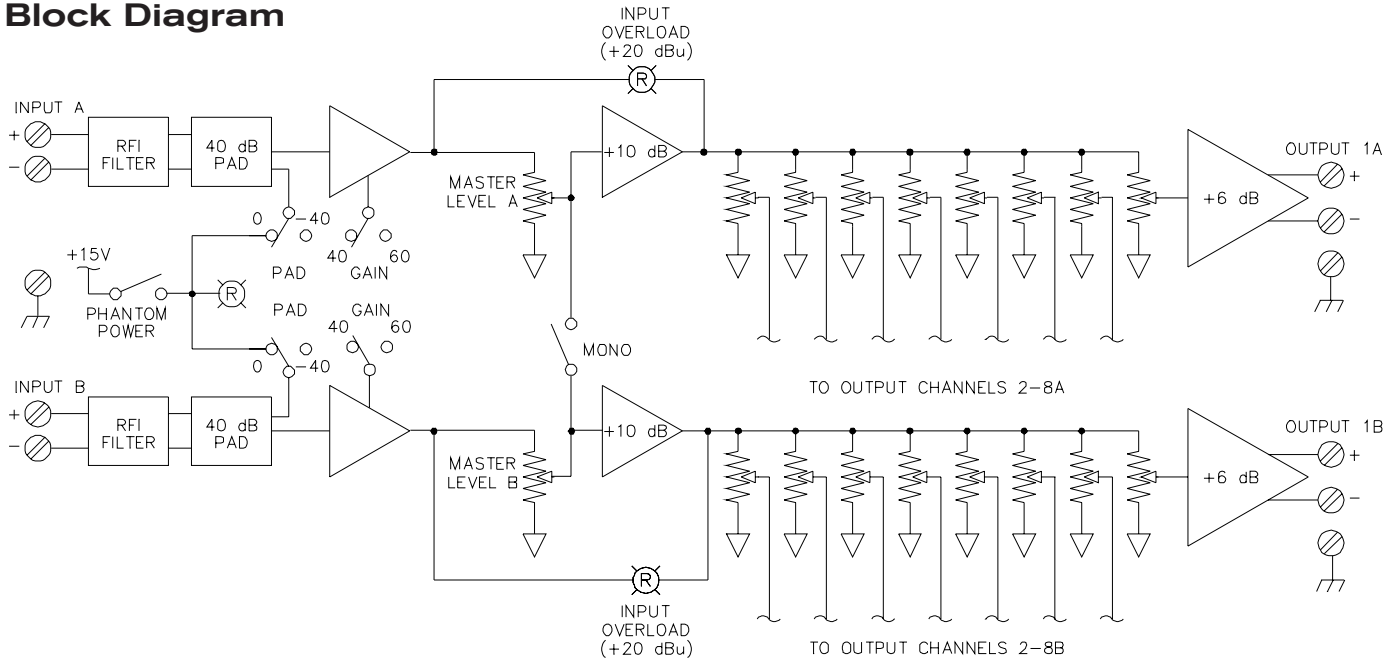
Features and Specifications

Parameter	Specification	Limit	Units	Conditions/Comments
Mic Input Impedance	900		ohms	Balanced 450 + 450
Line Input Impedance	100k		ohms	Balanced 50k + 50k
Mic Gain Range	+40 & +60		dB	2-position gain switch
Line Gain Range	0 & +20		dB	2-position gain switch
Phantom Power	+15		VDC	
Output Impedance	200		ohms	Balanced 100+100
Output Drive Level	+24		dBu	600 ohms @ 1 kHz load
Output Cable Length	1500		feet	Belden 8451 or equivalent
Output Gain Range	Off to +6		dB	
Mic Equivalent Input Noise	-128		dBu	Rs: 150 ohms
Line Signal-To-Noise Ratio	85		dB	*
THD+Noise	0.02	0.01	%	+4 dBu, *
Frequency Response	15-100 kHz	3	dB	+4 dBu, *
Crosstalk	75 @ 1 kHz	2	dB	+4 dBu, *
Unit: Agency Listing				
.....120 VAC model	Class 2 Equipment UL CSA			National Electrical Code Exempt Class 2 equipment Exempt Class 2 equipment
.....230 VAC model	CE (EMC) CE (safety) Exempt			EMC directive 89/336/EEC Article 1 of LV Directive 73/23/EEC Class 2 Equipment
Power Supply: Agency Listing				
.....120 VAC model	UL CSA			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 Requirement	18 VAC w/center tap	10%	Vrms	RS 1 (see data sheet)
.....Maximum Current	600		mA	RMS Current from Remote Supply
Unit: Construction	All Steel			
.....Size	1.75"H x 19"W x 5.3"D (1U)			(4.4 cm x 48.3 cm x 13.3 cm)
.....Weight	4 lb			(2 kg)
Shipping: Size	4.25" x 20.3" x 13.75"			(11 cm x 52 cm x 35 cm)
.....Weight	8 lb			(5 kg)

*PAD set to -40 dB, GAIN set to 40 dB, MASTER LEVELS set for unity gain, OUTPUT LEVELS maximum.

Note: 0 dBu=0.775 Vrms

Block Diagram



Applications

Use of the DA 216 is straightforward. Connect balanced inputs to the Input screw terminals. Follow the silk-screened labels to the balanced Output screw terminals. The terminals accept standard 8 millimeter (#6) spade lugs. Bare wire is acceptable by twisting the strands, inserting under the integrated square washer and tightening the screw. Expansion is done by paralleling Inputs to additional DA 216s.

The diagram shows the uncomplicated nature of the DA 216. Fully balanced (instrumentation) inputs receive the signal to be split or distributed. The Input Pad pushbuttons change the input gain range via a 40 dB pad. Additional Gain pushbuttons increase either Mic or Line level inputs another +20 dB.

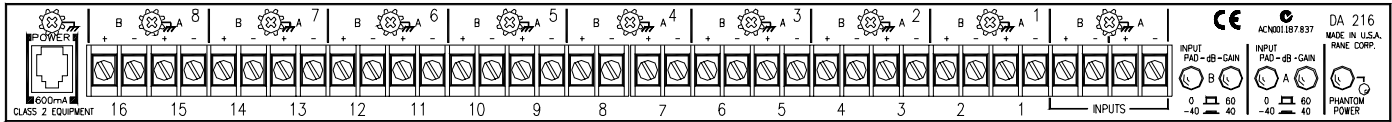
Keep an eye on the Overload indicators when setting the gain. Always use the most gain possible without causing the Overload indicator to light steadily. Occasional flickering is

permitted. Setting gain this way maintains the best signal-to-noise performance for the system. The Master Level trims and the Gain switches allow level matching and balancing as required.

Each Output of DA 216 uses a high-current balanced line driver. When operating unbalanced single-ended a 6 dB loss of signal must be taken in to account when setting the gain structure of the system. *When wiring an Output for unbalanced operation do not ground the unused terminal (i.e. usually the “-”). Unbalanced uses only the “+” and ground terminals.*

32 Unbalanced Outputs Tip: The (“-”) Output may also be used as an unbalanced line driver, albeit inverted. The balanced Input terminals of the next stage must be reversed (+) for (-) to correct for the inversion. This nets a total of 32 Outputs!

Rear Panel



Architectural Specifications

The distribution amplifier shall have two (2) inputs and sixteen (16) outputs. The unit shall be capable of mono (16 mono outputs) or stereo operation (8 stereo outputs) via a front panel switch.

Each input shall be microphone or line level switchable by means of rear panel switches. Additional 20 dB gain switches shall be built-in for each input, applicable to either a mic or line level signal. Each input shall have a front panel screwdriver level adjustment. 15V phantom power shall be provided via a rear panel switch for microphone inputs.

Each output shall have a front panel screwdriver adjustment. Inputs and outputs shall be balanced screw terminal connectors.

The unit shall be exempt from agency safety requirements and powered from a UL listed / CSA certified (120 VAC), or CE approved (230 VAC) remote power supply. The unit shall be constructed entirely from cold-rolled steel, and mount into a standard 19" 1U EIA rack.

The unit shall be a Rane DA 216 Distribution Amplifier.

Available Accessories

- SC 1.7 Single Space Security Cover