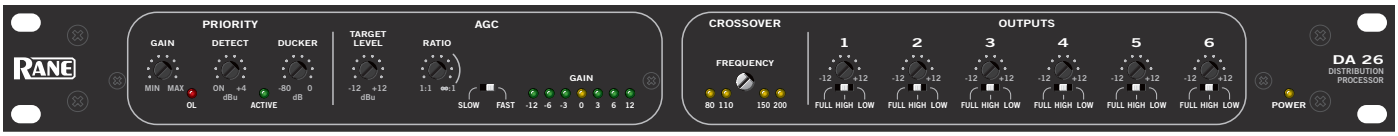
DATA SHEET

DA 26

DISTRIBUTION AMPLIFIER WITH PAGING



Features

- Balanced line input (background music)
  - Automatic Gain Control
    - Target Level - Ratio - Attack/Decay - Gain meter
  - Adjustable 24 dB per octave Linkwitz-Riley Crossover
    - 80 – 110 – 150 – 200 Hz
- 6 Balanced outputs
  - Full-range, high-pass and low-pass source selection
  - Loudness compensation for low-pass outputs
  - Front panel Level control for each output
  - Wired DC Level Remote Control port
  - Optional VR 1 Remote Level Control
- Priority mic/line paging input
  - Remote assignment of priority input to any outputs
  - Automatic gating with adjustable threshold
  - Page ducker range of 0 to –80 dB
    - Mic-line mixing
    - Paging talks over music
    - Priority replaces music
- Optional SC 1.7 security cover
- European-style terminal block connectors (Euroblocks)

General Description

Do you have a paging and background music application that would benefit from a low cost, one-box solution? The DA 26 provides all of the tools needed to serve up to six zones. For even greater flexibility in source selection and zone distribution, combine the DA 26 with a Rane CP 52 or CP 64 music and paging preamplifier. Many existing solutions require installers to employ separate paging preamplifier, dynamics processor, crossover, distribution amplifier and remote-level-control devices. These systems are expensive and require a lot of wiring, yet fail to meet all of the requirements. The DA 26 provides all of the required features in one compact package.

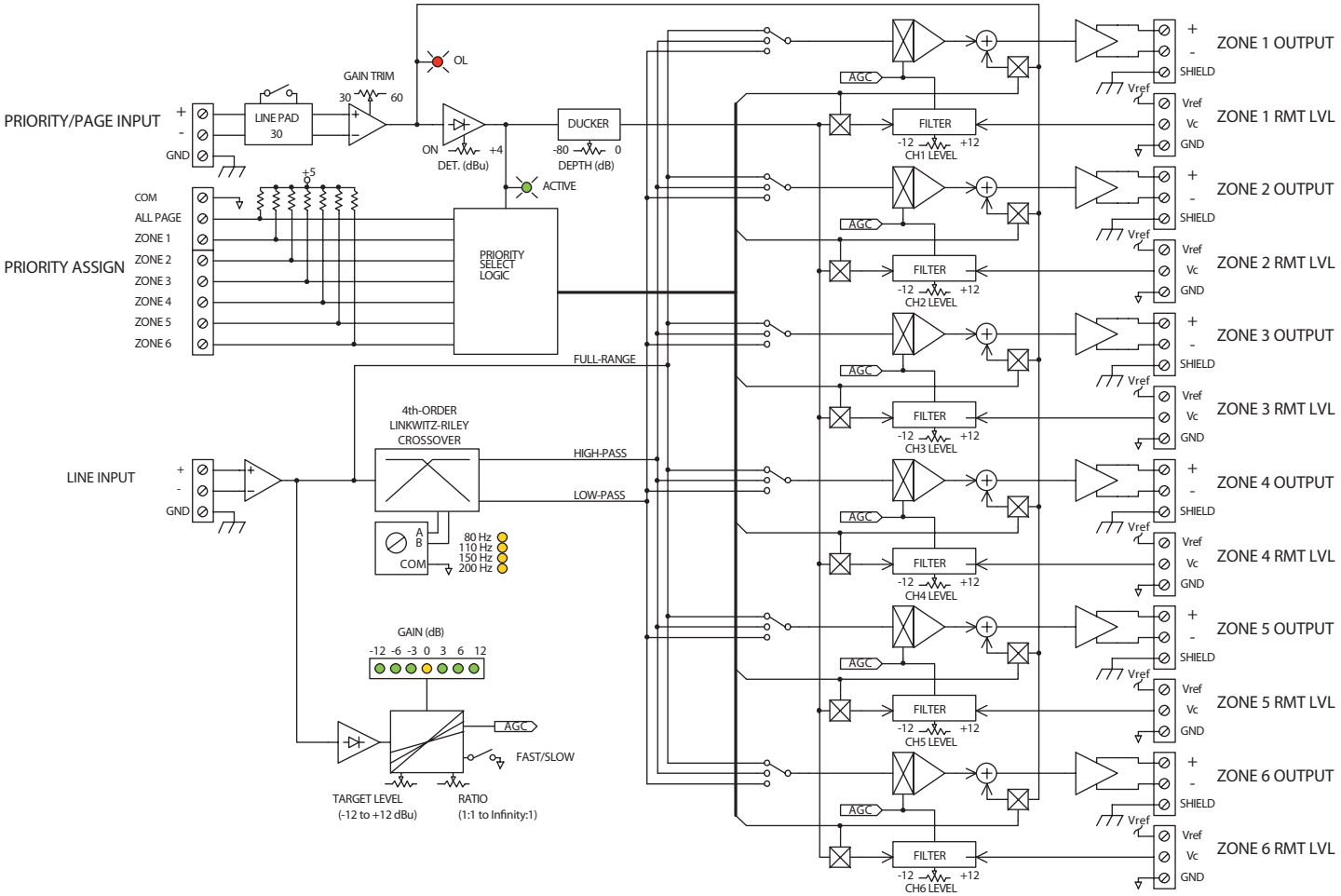
The DA 26 routes a mono program source and priority/page source to as many as six zones. The mono program source is processed by an Automatic Gain Control (AGC) circuit featuring adjustable target level, ratio and attack/decay.

The priority/page input features automatic signal detection and remote zone assignment. A means of automatically attenuating program music over a range of 0 dB to –80 dB during a page allows mic/line mixing, talk-over or priority-replaces-program operation.

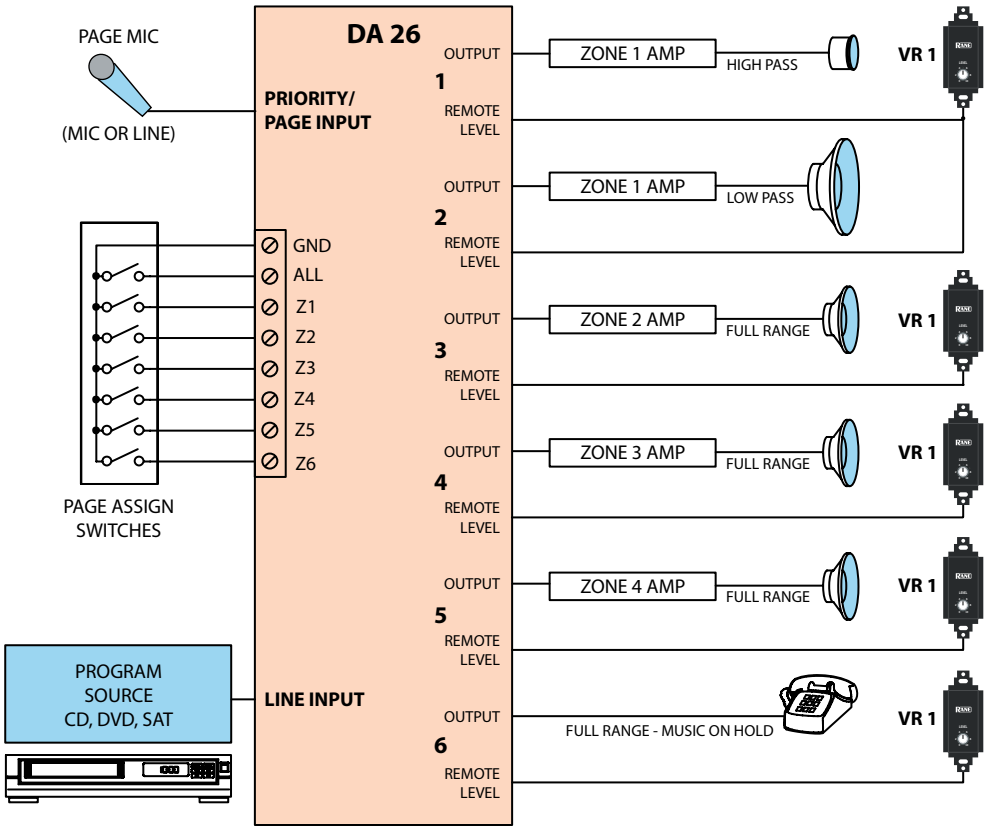
Each of the six outputs distributes full-range, high-pass or low-pass program music. Small bookshelf or hanging speakers frequently require bass enhancement. Bass enhancement is achieved by adding bass to the full range response or by employing a true bi-amp system. The DA 26 provides a 24 dB per octave Linkwitz-Riley crossover that supports both bass enhancement schemes. Wired remote level control ports allow independent control of music amplitude in each zone. Loudness compensation is automatic when a remote is used. Remote level controls do not influence the priority/page level. It is possible to control multiple remote level ports with a single remote device. This allows one remote device to control the level in multiple zones or both high-pass and low-pass outputs in a single zone.

Parameter	Specification	Limit	Units	Conditions/Comments
Priority Input:	Active Balanced			3-pin Euroblock connector
.....Input Impedance (mic/line)	511 / 14.5k	1%	Ω	Each leg to ground, 1 kHz
.....Max Input (mic/line)	-10 / +20	min	dBu	Source res. 150 Ω, 1 kHz
.....Gain Range (mic/line)	30 to 60 / 0 to 30	±2	dB	Source res. 150 Ω, 1 kHz
.....Frequency Response	10 Hz to 20 kHz	+0,-.5	dB	minimum gain
.....Equiv. Input Noise (mic)	-116	typ	dBu	150 Ω, gain 60 dB, BW 22 kHz
.....Noise (line)	-80	typ	dBu	150 Ω, gain 0 dB, BW 22 kHz
.....CMRR	40	min	dB	150 Ω, gain 60 dB, BW 22 kHz
.....Overload Indicator	4	typ	dB	Before clipping, 1 kHz
.....Detect Threshold	on to +4	typ	dBu	1 kHz
.....Ducker Depth Control	0 to -80	typ	dB	1 kHz
.....Priority Assign Inputs	5V TTL active low or simple switch closure to ground		VDC	Euroblock 8-pin passive internal pullup
Program Line Input:	Active Balanced			3-pin Euroblock connector
.....Input Impedance	10k	1%	Ω	Each leg to ground, 1 kHz
.....Gain	0	±0.5	dB	1 kHz
.....CMRR	40	min	dB	Source res. 150 Ω, 1 kHz
Automatic Gain Control:				Log average detector, soft knee
.....Target Range	-12 to +12	±1	dBu	Level the AGC circuit is seeking
.....Threshold	26 dB below target	±1	dBu	The level below target when AGC starts
....Gain Reduction Time Constant	230/11	20%	ms	Slow/fast
....Gain Increase Time Constant	1100	20%	ms	Fixed
.....AGC Release	11	20%	sec.	Return to unity when >26 dB below target
.....Ratio	0:1 to infinity:1			soft knee action
.....Gain Meter	-12, -6, -3, 0, +3, +6, +12	1	dB	Indicates AGC level control
Crossover: Frequency	80, 110, 150, 200	8%	Hz	24 dB/octave Linkwitz-Riley
Outputs:				Active balanced, 3-pin Euroblocks
.....Output Impedance	100	1%	Ω	Each leg to ground
.....Gain	+12 to -12	±2	dB	1 kHz
.....Frequency Response	20 Hz to 20 kHz	+0,-.5	dB	Unity gain, 2k ohm load
.....Noise	-88	typ	dB	Unity, 2k load, BW 22 kHz, re +4 dBu
.....THD+N	0.05	typ	%	0 dBu, 20 Hz to 20 kHz, unity gain
.....Maximum Output	22	min	dBu	1 kHz, 10 kΩ load
Remote Level Ports:	Wired DC control			Euroblock 3-pin connector
.....Voltage Range	0 to 5	5%	VDC	Source impedance 100 Ω
.....Gain Control Law	50 mV per dB	5%		
.....Gain Range	0 to -80	min	dB	1 kHz
Agency Listing	Class 2 Equipment			National Electrical Code
.....120 VAC model	UL / CSA exempt			Exempt Class 2 equipment
.....230 VAC model	CE-EMC			EMC directive 89/336/EEC
	CE-Safety Exempt			Article 1 of LV Directive 73/23/EEC
.....Power Supply: 120 VAC unit	UL / CSA			File no. E88261 / file no. LR58948
.....230 VAC model	CE-EMC			EMC directive 89/336/EEC
	CE-Safety			LV directive 73/23/EEC
Power Supply Requirement	18 VAC w/center tap (600ma)	10%	Vrms	RS 1 (see data sheet)
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			(4 kg)
Note: 0 dBu=0.775 Vrms				

DA 26 Block Diagram

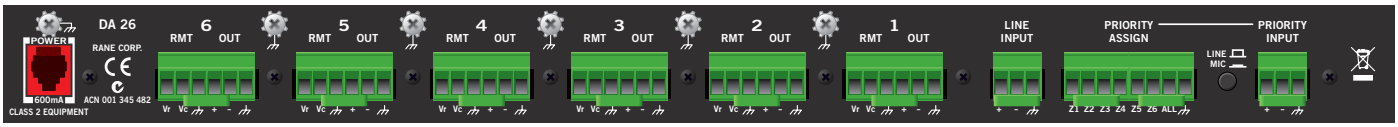


DA 26 Application Example



DA 26
DISTRIBUTION AMPLIFIER

Rear Panel



Arhchitectural Specifications

The DA 26 shall provide a balanced, line-level, music input with automatic gain control featuring adjustable target level, ratio and response time. A seven-segment meter shall indicate the amount of gain modification over a range of -12 dB to +12 dB.

A 4th-order Linkwitz-Riley crossover shall provide three music signal outputs: full-range, high-pass and low-pass. The crossover shall have the ability to select any of four crossover points: 80, 110, 150 or 200 Hz.

The unit shall have six balanced outputs. Each output shall have the ability to select the full-range, high-pass or low-pass crossover signal as its source. A means to adjust each output level over a range of ±12 dB shall be provided on the front panel. The unit shall provide a remote level control port for each of the six outputs. The range of control shall be 0 to -80 dB. The remote port topology shall allow ganging any number of ports to a single remote device. Remote level control of low-pass outputs shall include Loudness compensation.

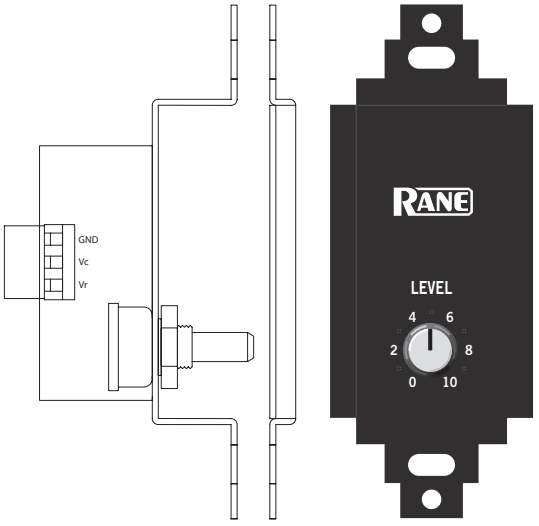
Priority/Page input shall be provided. This input shall accommodate microphone or line-level signals. Line-level gain shall have a range of 0 dB to 30 dB. Microphone gain shall have a range of 30 dB to 60 dB. Automatic threshold detection shall have a sensitivity adjustment range of +4 dBu to ON. A priority assign port shall provide a means of routing the priority input to any combination of zone outputs. When the Page/Priority signal exceeds the set threshold, an "active" indicator lights, the input signal routes to selected zone(s) and the music ducking circuit is enabled for selected zone(s). Automatic music attenuation shall be adjustable from 0 to -80 dB. Front panel and remote output level controls shall not influence the Priority/Page signal.

The unit shall mount in a standard 19-inch rack and occupy 1U. The unit shall accommodate an optional SC 1.7 single space security cover. All input and output connections shall be made via European-style terminal blocks. The unit shall be powered by an external RS 1 power supply. The power supply shall be UL listed, CSA certified and CE certified. The unit shall be CE certified.

The unit shall be a Rane DA 26 Distribution Amplifier.

Available Accessories

- VR 1 Remote Control
- SC 1.7 Single Space Security Cover



Use up to 6 optional VR 1 Remotes, one for each output.