

Introduction & Support

Thanks for purchasing the **Rane RAD16z**. It's a finely crafted interface for the HAL system, converting analog audio to and/or from 24-bit, 48 kHz digital audio. RAD16z is an alternative to standard switch boxes for impractical areas such as stage floor pockets or above ceilings. The operating manual and all related software documentation can be found at rane.com/hal

For system applications, design examples and related HAL information, please see the **HAL Notes** library at rane.com/library

If you need additional assistance, please contact our HAL technical agents at halogen@rane.com

For additional product support, visit rane.com/support

Panels (Front & Rear)



Technical Specifications

Digital Codec		24-bit, 48 kHz		
Inputs Microphone (level set in software)	Connectors	1	Euroblock, 6 pins, 3.81 mm pitch, green	
	Impedance	2.16 kΩ	1%, balanced, 1.08 kΩ + 1.08 kΩ	
	Gain Range (dynamic)	+26 to +46 dB	Typical, 1 dB steps	
	Gain Range (condenser)	+14 to +34 dB	Typical, 1 dB steps	
	Maximum Input (dynamic)	-16 dBu	Minimum, balanced, gain = 26 dB	
	Maximum Input (condenser)	-4 dBu	Minimum, balanced, gain = 14 dB	
	Equivalent Input Noise	-121 dBu	Typical, 20 kHz BW, RS = 150 Ω, 26 dB gain	
	CMRR	-70 dB	Typical, RS = 150 Ω, 1 kHz, 26 dB gain	
	Frequency Response	20 Hz – 20 kHz	Typical, +0.0/-0.5 dB, at all gain settings	
	THD+N	< 0.010%	Typical, @ 1 kHz, 20 kHz BW, Rs = 150 Ω, -6 dBFS output, 26 dB gain	
	Phantom Power	+24 V	2%, 10 mA maximum	
	Line/Line+ (balanced)	Impedance	10 kΩ	1%, balanced
		Gain Range	0–20 dB	Typical
Maximum Input (Line Mode)		14 dBu	Minimum, < 1% THD	
Maximum Input (Line+ Mode)		14 dBu	Typical, @ 1 kHz, active, left [+] & right [-] signals summed to mono	
Dynamic Range		103 dB	Typical, 0 dBFS, 20 kHz BW, A-weighted, unity gain	
CMRR		-50 dB	Typical, Rs = 150 Ω, 1 kHz	
Frequency Response	20 Hz – 20 kHz	Typical, +0.0/-0.5 dB		

Outputs	Connectors	1	Euroblock, 6 pins, 3.81 mm pitch, orange
	Impedance	200 Ω	1%, each leg
	Maximum Output	14 dBu	Minimum, < 1% THD, 10 k Ω load
	Dynamic Range	106 dB	Typical, 0 dBFS, 20 kHz BW, A-weighted
	Frequency Response	20 Hz – 20 kHz	Typical, +0.0/-0.5 dB
	THD+N	0.008%	Typical, @ 1 kHz, 20 kHz BW, -6 dBFS output, RAD16z input to output
Indicators	Signal	-50 dBFS	Unbalanced/balanced output, green LED, peak-reading
	Overload	-0.5 dBFS	Unbalanced/balanced output, red LED, peak-reading
RAD Port	Connectors	1	RJ-45
	Cable Length	500 ft. / 152 m	Shielded Cat 5e cable or better; must be shielded
Logic			
Inputs	Connectors	1 (shared)	Euroblock, 6 pins, 3.81 mm pitch, black, contact closure to ground
	Internal Pull-Up	51.1 k Ω , 5.0 V	Protected to +24 V
	High-Input Level	> 2.0 V	Minimum, normal state
	Low-Input Level	< 0.9 V	Maximum, external circuit must sink > 80 μ A to assert
Outputs	Connectors	1 (shared)	Euroblock, 6 pins, 3.81 mm pitch, black, relay drive, LED or logic level output
	Internal Pull-Up	1.0 k Ω , 5.0 V	Protected to +30 V, reverse-polarity-protected
	Sink Current	200 mA	Maximum, output FET on
	LED Drive Current	2 mA	Output FET off, driving an LED with $V_f = 2.0$ V
	High-Output Level	4.7 V	Minimum, output FET off, 0 mA output current
	Low-Output Level	0.1 V	Maximum, output FET on, < 200 mA sink current
Dimensions		4.92" x 3.31" x 1.05" 12.5 x 8.4 x 2.7 cm	Width x depth x height
Weight		11.9 oz. 337 g	

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