



HAL3s

Halogen-Based Digital Signal Processor (DSP)

The RANE HAL3s is a digital processor for audio systems. This ground-breaking architecture is used for room combining, paging and distributing audio to several zones in an installation. Utilizing Halogen software, even novice users are guided through what used to be complex tasks in just minutes. No intricate matrix mixing or presets are required for room combining and paging. No virtual wiring is required to distribute pages and background music to multiple zones.

Seamlessly interface HAL to small or large installations with web controls and/or a broad variety of peripheral devices including smart Digital Remotes (DRs), Remote Audio Devices (RADs), portable or rack auto-mixers, small remote amplifiers and an advanced Paging Station. In addition, the HAL3s Multiprocessor and Halogen™ software check the status, location, CAT5e wiring integrity and that audio is flowing in all peripheral devices, so you know your system is properly connected and ready to go.

Features

- 6-in 10-out system: 2x6 analog & 4x4 digital (via RAD ports)
- 2 Mic/Line, Line-plus inputs with 48V phantom power
- Supports up to 2 remote audio devices (RADs) and 2 digital remotes (DRs) or 4 digital remotes (DRs)
- 4 logic inputs for contact closure control
- Front panel signal and overload indicators
- Supports control via web browser
- Event manager for time-of-day event control
- 108dB dynamic range

Parameter	Specification	Limit	Conditions / Comments
Analog I/O	2 x 6		2 Mic / Line / Line-plus Inputs, 6 Line Outputs
Connectors	Euroblock		4 x 6-pin, 5 mm pitch, Green = Inputs, Orange = outputs
CODEC	24-bit, 48 kHz		
All Inputs			Common Specifications
Input Impedance	2.9 k Ω	1%	Each leg to ground
Inter-channel isolation	>100 dB	typ	20-20kHz, unity gain, channel-to-channel
CMRR	55 dB	min	1 kHz
Inputs: Dynamic Mic Mode			
Gain	+30 dB to +50 dB	typ	+30 dB (analog gain), 1 dB steps to +50 dB (digital gain)
THD+N	< 0.005 %	typ	20-20kHz, +4 dBu out, 0 dB digital gain
Equivalent Input Noise	-120 dBu	typ	20-20kHz, 150 Ω source, 30 dB gain
Maximum Input	-18 dBV (125 mVrms)	typ	1 kHz, < 0.01% THD+N
Frequency Response	20-20k Hz, +0.0 / -0.3 dB		+4 dBu out, 100k Ω load, Mic Input to Output
Inputs: Condenser Mic Mode	Active Balanced		Microphone input mode with 48V phantom power
Gain	+18 dB to +38 dB	typ	+18 dB (analog gain), 1 dB steps to +38 dB (digital gain)
Phantom Power	+48 VDC		10 mA max per input
THD+N	< 0.005 %	typ	20-20kHz, +4 dBu out, 0 dB digital gain
Equivalent Input Noise	-110 dBu	typ	20-20kHz, 150 Ω source, 18 dB gain
Maximum Input	-6 dBV (500 mVrms)	typ	1 kHz, < 0.01% THD+N
Frequency Response	20-20kHz, +0.0 / -0.3 dB		+4 dBu out, 100k Ω load, Mic Input to Output
Inputs: Line+ Mode	Active Summer		
Gain	0 dB to +20 dB	typ	0 dB (analog gain), 1 dB steps to +20 dB (digital gain)
THD+N	< 0.007 %	typ	20-20kHz, +4 dBu out, 0 dB digital gain
Maximum Input	+14 dBu	typ	1 kHz, < 0.01% THD+N, each leg
Frequency Response	20-20kHz, +0.0 / -0.3 dB		+4 dBu out, 100k Ω load, Line-plus Input to Output
Dynamic Range (in to out)	108 dB	max	re +20 dBu, 20 kHz BW, A weighted, Rs = 50 Ω