See the HAL Installation Manual or the Halogen software Help for all DR4 instructions. Information on HAL, Halogen and peripherals is available at *rane.com/hal*.

General Description

The DR4 Digital Remote adds additional logic input and output ports to any HAL, enabling simple analog level and logic I/O controls plus IR2 remotes for wall sensing. The DR4 offers eight logic ins and outs, six IR2 ports and eight analog control input ports for pot-on-a-wall level control. Multiple DR4's can connect to Digital Remote Ports on any HAL, up to 300 meters (1000 feet) away.
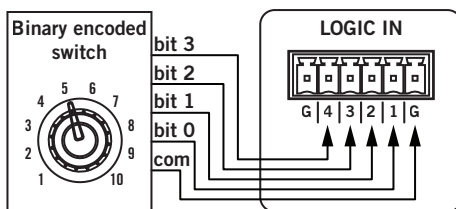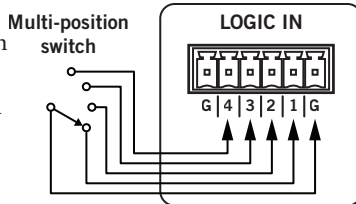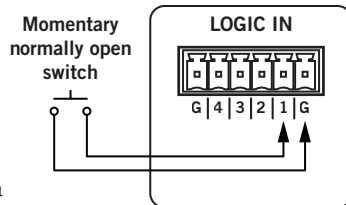
Logic Inputs

These inputs on the DR4 are similar to the Logic In ports on a HAL. You can configure each of the eight input ports in one of three ways: toggle, command, or selector.

The **Toggle** configuration allows a Toggle command with an on/off switch. You can configure each port type to be either Momentary or Latching.

The **Command** configuration allows triggering a Command control from an on/off switch, which can link to one or more Command controls such as a Command preset or a linkable button in a processing block property dialog.

The **Selector** configuration uses either a multi-position switch or a binary switch. You can connect a physical device to any or all of the Logic In ports and configure the ports in Halogen so they make the desired selection according to the state of the physical device. Wiring details are in the Halogen Software Help.
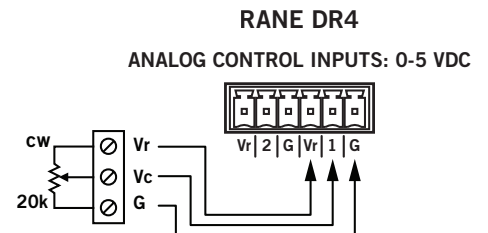
Logic Outputs

You can configure each of the 8 output ports in one of 2 ways:
- **Toggle**: When a toggle control in the Halogen Control palette is unchecked, HAL sets the corresponding DR4 Logic Out port to logic high (5 V), and when the toggle is checked, it sets the port to logic low (0 V).
- **Selector**: When a selector control in the Halogen Control palette is set to the first selection, HAL sets the corresponding DR4 Logic Out port to logic high (5 V). Conversely, when the selector control is in the second position, HAL sets the port to logic low (0 V).
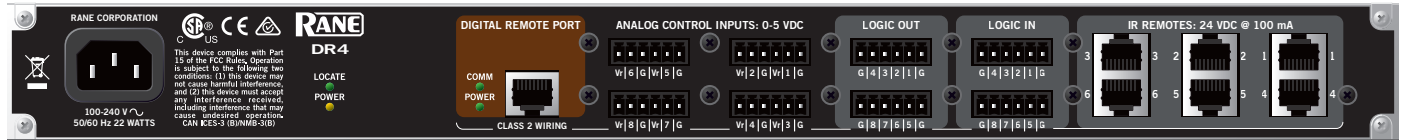
Analog Control Inputs

Each port allows an analog voltage source to control the value of a Level control in the Halogen Control palette. The input range for the port is from 0 V to 5 V, where 0 V corresponds to 0% on the associated Level control and 5 V corresponds to 100%.

Connect a physical linear-taper potentiometer; the Vc wiper provides the control voltage to the DR4. As you adjust the pot the voltage changes, which in turn changes any linked Level control in Halogen.

IR Remote Inputs

The IR ports are ideal for linking to the wall toggle controls in a Room Combine block, allowing automatic room configuration changes to occur as moveable walls change positions in a physical room. These ports are read-only, intended for the Rane IR2 (see its data sheet). When the IR Remote is sensing infrared the wall is considered 'open' and the associated toggle control in the Hardware Controls palette is checked.

DR4 Specifications

Parameter	Specification	Limit	Conditions/Comments
IR Remote Ports	6		RJ-45 connectors
...Type	Compatible with IR2 remote		Protected to +24 V, reverse polarity protected
...Power	24 VDC @ 100 mA	max	Normal state
...Length	300 meters / 1000 feet	max	Shielded CAT 5e cable or better
Logic Inputs	8		
...Connector	Mini Euroblock		6-pin, 3.81 mm pitch, black
...Internal Pull-up	51.1 kΩ, 5.0 V		Protected to +24 V
...Logic High Input Level	> 2.0 V	min	Normal state
...Logic Low Input Level	< 0.9 V	max	External circuit must sink > 80 µA to assert
Logic Outputs	8 Relay drive, LED or logic level output		
...Connector	Mini Euroblock		6-pin, 3.81 mm pitch, Black
...Internal Pull-up	1.0 kΩ, 5.0 V		Protected to +30 V, reverse polarity protected
...Sink Current	200 mA	max	Output FET on
...LED Drive Current	2 mA		Output FET off, Driving an LED with Vf = 2.0 V
...Logic High Output Level	4.7 V	min	Output FET off, Output Current = 0 mA
...Logic Low Output Level	0.1 V	max	Output FET on, Sink Current < 200 mA
Analog Control Input	8 ADC inputs for potentiometer control		
...Connector	Mini Euroblock		6-pin, 3.81 mm pitch, black
...Control Voltage Range	0-5 V / Normal = 5 V	typ	Protected to +24V, reverse polarity protected
...Internal Pull-up	51.1 kΩ		10-20 kΩ, linear taper poteniometer recommended
...A/D Converter	8-bit, 2 kHz sample rate		0-5 VDC
Wiring	Class 2		All rear panel terminals
Power Requirement	100 to 240 VAC		50/60 Hz, 18 W max
Ambient Room Temperature	104 °F / 40 °C	max	Maximum external loading
Unit: Conformity	CE, FCC, cCSAus		
Unit Size	1.73"H x 19"W x 8.25"D		(4.4 cm x 48.3 cm x 20.9 cm)
...Weight	4.5 lb		(2 kg)
Shipping: Size	4.25" x 20.3" x 13.75"		(9.5 cm x 52 cm x 35 cm)
...Weight	7.5 lb		(3.5 kg)