

## General Description

The DR5 Digital Remote offers additional logic input and output ports, enabling the use of simple analog switch controls in any HAL system. Lighted switch panels for room combine applications are easily integrated into a HAL system using the eight switch inputs and eight LEDs outputs on the DR5. Unlike the HAL and DR4 Logic I/O, the DR5 Logic Out is intended to drive the LED indicator on a room combine panel, and is a writable parameter. The DR5 is designed to fit in a standard US dual-gang electrical box, or mount directly near a room combine panel, up to 300 meters (1000 feet) away from a HAL or EXP.

See the HAL Installation Manual or the Halogen software Help for all DR5 instructions. Information on HAL, Halogen and peripherals is available at [rane.com/hal](http://rane.com/hal).

## Switch Inputs

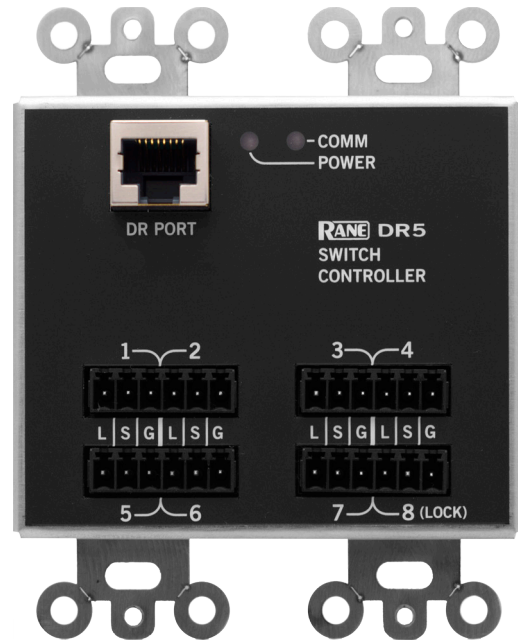
These inputs on the DR5 are similar to the HAL's Logic In ports. You can configure each of the 8 input ports in one of 2 ways:

- **Toggle:** This configuration allows you to control the state of a toggle control in the Hardware Controls palette of the Processing Workspace. You can configure each port type to be either Momentary or Latching, which tells HAL how to process the port's input signal. A complete description of Momentary and Latching toggle inputs is in the Halogen Help file.
- **Command:** This option allows the Switch Input port to trigger a Command control in the Hardware Controls palette of the Processing Workspace, which you can link to one or more Command controls such as a Command preset or a linkable button in a processing block property dialog.

When nothing is connected to a Switch Input port, the hardware internally pulls the port to logic high (5 V). To trigger the command, a hardware device connected to the Switch Input port must pull the port voltage lower than the logic low threshold. One way to do this is to connect a physical normally open momentary push button switch to the port. When the end user pushes the button, the switch contacts close, pulling the Switch Input port low, which causes the Command to trigger. When the user releases the button, the port signal returns high and the port is ready for the next command.

In addition, you can configure port 8 to serve as a 'lock' input, allowing the user to selectively enable or disable all seven input ports with a physical switch attached between Switch Input port 8 and ground (G). When configured as a lock, the DR5 disables Switch Input ports 1 - 7 when the switch is closed and enables the ports when the switch open.

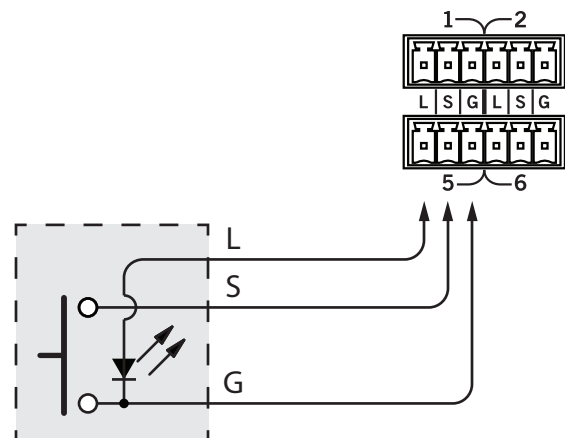
**Note:** To use the lock port, you must configure Switch Input 8 as a Toggle type of input. Once you have enabled the 'lock' port, you cannot move Switch Input port 8 or change its type to Command.



## LED Outputs

The DR5 provides eight LED output ports that are coupled to the state of the corresponding DR5 switch input controls. You can connect an LED to each port to have a visual indicator of the DR5 operations. The operation of an LED Output port is governed by the Switch Input port configuration as follows:

- **Toggle:** If the corresponding Switch Input port is configured as a toggle, the LED Output port follows the state of the Toggle control in the Hardware Controls palette of the Processing Workspace. When the Toggle control is checked, the LED Output is high, turning the connected LED on. When the Toggle control is unchecked, the connected LED is off.
- **Command:** When the corresponding Switch Input port is configured as a Command, the LED Output port follows the state of the Switch Input signal. When the switch is closed, the LED Output is high, turning the connected LED on. When the switch is open the connected LED is off.



# DR5

## SWITCH CONTROLLER



### DR5 Specifications

Parameter	Specification	Limit	Conditions/Comments
<b>Switch Inputs</b>	8		Small capsule
...Connector	Mini Euroblock		6-pin, 3.81 mm pitch, black
...Internal Pull-up	51.1 kΩ, 5.0 V		Protected to +24V, reverse polarity protected
...Vin High	> 2.0 V	min	Normal state
...Vin Low	< 0.9 V	max	External circuit must sink > 80 μA to assert
<b>LED Outputs</b>	8		
...Connector	Mini Euroblock		6-pin, 3.81 mm pitch, black
...LED Drive Current	5 mA	typ	Driving an LED with Vf = 2.0 V
...Output High Voltage	5 V	typ	Output On, Current out = 0 mA
<b>DR Port</b>	To RAD or DR host unit		RJ-45 connectors
...Power	24 VDC @ 100 mA	max	Normal state
...Length	300 meters / 1000 feet	max	Shielded CAT 5e cable or better
<b>Ambient Room Temperature</b>	104 °F / 40 °C		Maximum external loading
<b>Unit: Conformity</b>	CE, FCC		
<b>Unit: Size</b>	4.0"H x 3.3"W x 0.9"D		10.2 x 8.4 x 2.3 cm (fits in 2-gang US electrical box)
...Weight	5.6 oz		159 g
...Shipping	11.4 oz		322 g

### DR5 Wiring

