



**RDL**<sup>®</sup>  
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## ACCESSORIES

### Models D-RLC10M, DS-RLC10M, DB-RLC10M Remote Level Control with Muting

- Rotary Optical Encoder Remote Level Control
- Single or Multiple Control Locations
- Up To Ten Remote Control Locations
- Integral 0 to 10 VDC Ramp Generator
- Visual Level Display of Operating Level
- Display is Bright During Adjustment
- Display Dims After Adjustment
- Powers Up to Last Level or Stored Preset Level
- Compatible with All RDL VCA Modules
- Available in Stainless Steel, Black and White



The D SERIES-RLC10M remote controls are part of the group of versatile accessory products from Radio Design Labs. These modules combine durable construction with high quality components and attractive, professional graphics. The D SERIES-RLC10M controls mount in separately available electrical wall boxes and cover plates.

The D SERIES-RLC10M is a rotary remote level control with pushbutton muting that provides user adjustment at single or multiple locations. Optical encoder technology allows continuous knob rotation with a comfortable adjustment rate and long-term trouble-free and noise-free operation. These controls directly connect to any RDL VCA and OEM equipment with 0 to 10 Vdc ramp inputs.

A single –RLC10M may be connected to a ramp-controlled VCA using a single-pair shielded audio cable or unshielded cable. A rear-panel switch configures the control as the MASTER. The MASTER mode causes this control to drive the 0 to 10 Vdc ramp output and to monitor its pulse terminals in case any other –RLC10M controls are connected.

As many as nine additional –RLC10M controls may be wired in parallel with the MASTER control using UTP cable (CAT5, CAT6 or equivalent). The rear-panel MODE switch on each additional remote control is set to SLAVE mode.

Operation is the same for a single control, or for each control connected in a multiple control point installation. The 0 to 10 Vdc ramp voltage is incremented up or down when the front-panel knob is rotated. Acceleration is provided so the rate of change is faster when the knob is rotated more rapidly, yielding a responsive feel and rapid elimination of acoustic feedback. The LED ring display encircling the control knob operates as a virtual pointer. When an –RLC10M is not being adjusted, its display switches to a dim intensity to avoid being a visual distraction. The display returns to a bright intensity during adjustment.

Upon power-up or re-powering after a power loss, the 0 to 10 Vdc ramp will output either a preset level or the last level used. The power-up mode is stored when the control is installed. When programmed for the preset level mode, the user can store a new preset level by holding the MUTE button for more than 3 seconds.

Multiple –RLC10M controls set to the SLAVE MODE may be connected to an RDL RU-VCA2A or RU-VCA6A, utilizing the VCA as the ramp generator. This connection is also possible with OEM equipment accepting open-collector pulses that are compatible with the –RLC10M output pulse rate and width.

The –RLC10M controls are constructed on a steel frame. The electronics are fully protected within the rear enclosure. Connections are made through a rear panel detachable terminal block. The MUTE pushbutton is a long-life switch mounted to provide protection from excessive frontal force.

All the D SERIES-RLC10M features combine to make it the ideal choice for single point or multiple location remote level control with muting in high quality systems. Use them with any RDL VCA module, or side-by-side with other RDL remote accessories as part of a complete audio/video system.

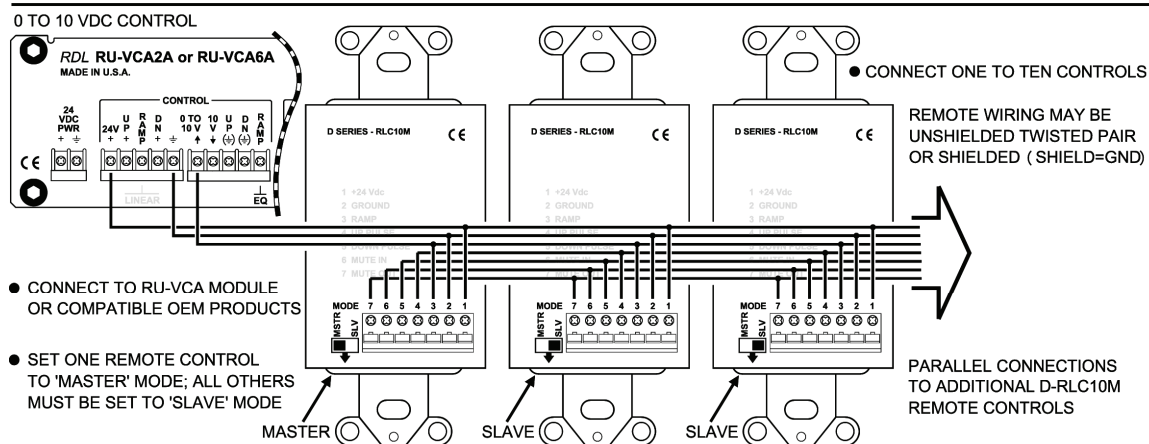
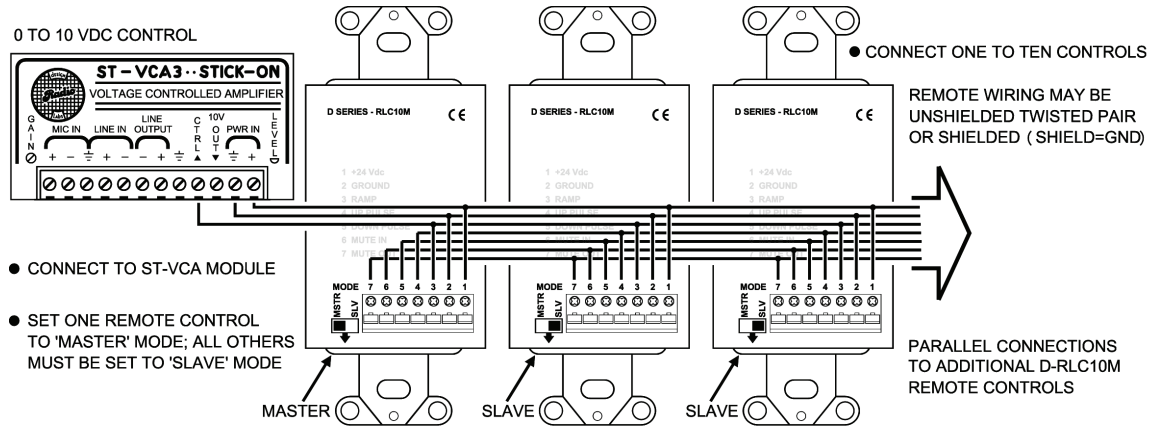
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Models D-RLC10M, DS-RLC10M, DB-RLC10M

## Installation/Operation



EN55103-1 E1-E5; EN55103-2 E1-E4  
 Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.



### SET-UP PROGRAMMING (applicable to MASTER controls only)

Set power-up mode (last level used or preset level) during installation:

- Press and hold the MUTE button while applying power and continue to hold for 3 seconds. This toggles the control to the opposite mode from its last operating mode. (If it had been in preset mode, it will now be in last level used mode.)
- LEDs 1,2,9 & 10 will flash to indicate the selected operating mode: Single Flash: Last level used mode; Double Flash: Preset mode
- If the control is in the desired mode, begin operation; if the control is in the incorrect mode, repeat Step 1.

Storing the level in preset mode

- Adjust the level for the desired preset level.
- Press and hold the MUTE button for more than 3 seconds. LEDs 1,2,9 & 10 will double flash to indicate the preset level is stored.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rule. These limits are designed to provide reasonable protection against harmful interference in a residential installation. The equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### TYPICAL PERFORMANCE

Ramp: 0 to 10 Vdc (Slave mode input; Master mode output)  
 Pulse outputs (2): Open-Collector @ 20 mA (UP, DOWN)  
 Pulse duration: 500 uS (min.) to 4 mS (max.)  
 Pulse interval: 500 uS (min., between consecutive pulses)  
 Rotations, approximate min-to-max:  
 5 (slow rotation, no acceleration)  
 3 (medium rotation, with acceleration)  
 1 (fast rotation counterclockwise)  
 Level Control: Optical rotary encoder  
 Muting: Momentary pushbutton with LED indicator  
 Power Requirement: 24 Vdc @ 50 mA, Ground-referenced  
 Mounting: Mounts in standard US electrical box, RDL WB- or SMB- series boxes; cover plate available separately  
 Dimensions: Height: 4.11 in. 10.44 cm; Width: 1.31 in. 3.33 cm; Depth: 0.98 in. 2.49 cm (w/o knob); Depth: 0.545 in. 3.93 cm (overall)