



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

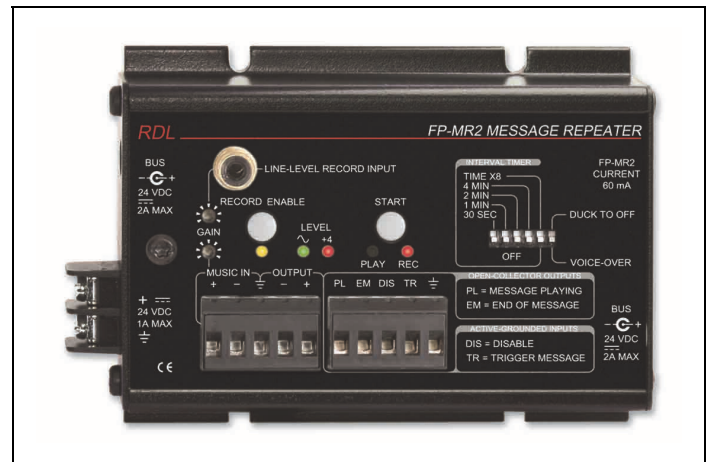
SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## FLAT-PAK™ SERIES

### Model FP-MR2

### Message Repeater

- Repeating Single Message
- Music Quality Message Recording
- Up to 1.7 Minute Digital Message Storage
- External/Remote Message Actuation
- Interval Timer to Repeat Message Playback
- Background Music Input
- Automatic Voice-Over or Music Ducking



The FP-MR2 is part of the group of versatile FLAT-PAK products from Radio Design Labs. The unique FLAT-PAK case can be directly screwed or bolted to cabinets or shelves. Optionally available rack-mounting accessories permit single or multiple FLAT-PAK module mounting.

**APPLICATION:** The FP-MR2 is a message repeater that permits electronic storage of a single recording up to one minute forty seconds in duration. This message may be played back manually using an external contact closure to ground or using the front-panel **START** button. The message may also be played back periodically using the interval timer included in the FP-MR2. A balanced line-level music input allows background music to be connected and the associated input potentiometer allows the installer to set the music level. When message playback is triggered, the music is faded down. At the conclusion of the message, the music level fades back up. A front-panel DIP switch sets the music to fade under the message (-20 dB nominal) or completely off (used for messages containing music). The module output level is a nominal +4 dBu balanced. The output level is indicated on an RDL dual-LED VU meter which is used to set the proper music and recording levels.

The message may be recorded once, at installation, then played back repeatedly. The message may be re-recorded at any time and is retained when power is removed from the module. The recording input is a standard -10 dBV consumer level unbalanced phono jack. An input level trimmer is provided to set the correct recording level which is indicated on the dual-LED meter. The front-panel **RECORD ENABLE** pushbutton erases the message in memory and enables recording, indicated by the **RECORD ENABLE** LED. The module begins recording when the **START** button is pushed and continues until the button is released. The **REC** LED is illuminated during recording. An integral audio compressor maintains a consistent average recording level over 20 dB of input level variation without significant audible effect on the signal dynamics.

Message playback is triggered when the front-panel **START** button is pressed with the FP-MR2 *not* in the **RECORD ENABLE** mode. Playback may also be activated by a remote momentary closure to ground on the **TR** terminal or by using the internal interval timer. The external trigger causes the message to play each time the terminal is grounded. A **DIS** (disable) terminal is provided to prevent the module from ducking the music audio and playing the message. As long as the **DIS** terminal is grounded, the module will not play. When released, the module will play the next time it is triggered either externally or internally. Grounding the **DIS** terminal while a message is playing will abort the playback. If the internal timer calls for message playback while the **DIS** terminal is grounded, the message will play upon release of the terminal. While the module is playing, the **PL** (playing) output terminal is held low. This terminal is used to control other equipment, and is particularly useful for disabling another FP-MR2 in installations where FP-MR2s are connected in series for multiple repeated announcements. At the conclusion of each playback, the **EM** (end of message) terminal pulses to ground for >100 mS. This terminal may be used to trigger other equipment or additional FP-MR2 module playback. The internal interval timer is controlled by front-panel DIP switches. The time between messages is selected in 30 second increments from 30 seconds to 7.5 minutes. The selected increment is multiplied x1 or x8 for a maximum time interval of 60 minutes.

The FP-MR2 operates from ground-referenced 24 Vdc. Use the FP-MR2 individually, or combine it with other RDL products as part of a complete audio/video system.



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# FLAT-PAK™ SERIES

## Model FP-MR2

### Message Repeater

## Installation/Operation

Declaration of Conformity available from [rdlnet.com](http://rdlnet.com).  
Sole EMC specifications provided on product package.  
Specifications are subject to change without notice.

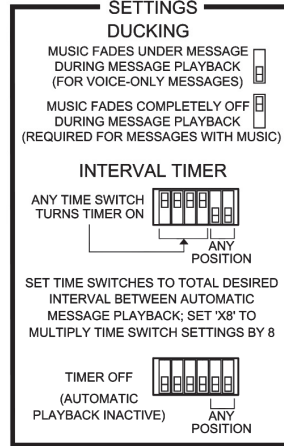
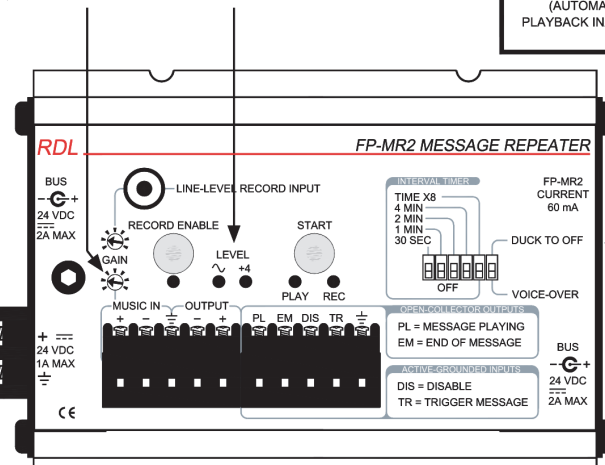
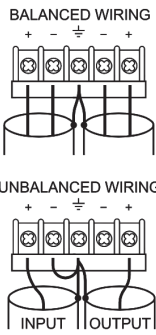
- RECORDING**
- CONNECT AUDIO INPUT →
  - ADJUST 'RECORD INPUT' GAIN USING LEVEL METER (GREEN LED BRIGHT, RED FLASHING OCCASIONALLY)
  - PRESS 'RECORD ENABLE' BUTTON (HOLD 2 SECONDS) LED WILL FLASH WHILE ERASING OLD MESSAGE (IF ANY) WHEN LED GLOWS STEADY, UNIT IS READY TO RECORD
  - PRESS AND HOLD 'START' BUTTON WHILE RECORDING NOTE: 'REC' LED WILL BE ON DURING RECORDING
  - RELEASE 'START' BUTTON WHEN FINISHED; NOTE: 'REC' LED WILL GO OFF
  - IF DESIRED, LISTEN TO YOUR MESSAGE USING THE CONNECTED POWER AMPLIFIER AND SPEAKERS (OR RDL PT-AMG2) BY MOMENTARILY PUSHING THE START BUTTON; NOTE: 'PLAY' LED WILL BE ON DURING PLAYBACK

### SETTING MUSIC LEVEL

WHILE A MESSAGE IS NOT PLAYING, ADJUST MUSIC LEVEL USING VU METER INDICATION

The maximum required input current is 2 A with the maximum load current connected to the power bus output. Module may be powered from a current limited dc power supply of up to 3 A.

OR  
24 VDC POWER SOURCE



Power to Additional Flat-Pak Modules, Total Current Not to Exceed 2 A or Available Supply Current if less than 2 A.

**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 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

#### Music Input

Input: 50 kΩ balanced or unbalanced  
Input Level (for +4 dBu out): -18 dBu bal. (-20 dBV unbal.) to +18 dBu bal. (+16 dBV unbal.)  
Frequency Response: 30 Hz to 40 kHz (+/- 1 dB)  
THD+N: < 0.05% (1 kHz)  
Noise below +4 dBu: < -70 dB (unity gain)  
CMRR: >70 dB (50 to 150 Hz)

#### Recording Input

Input: 10 kΩ unbalanced  
Input Signal: -20 dBV to 0 dBV  
Frequency Response: 80 Hz to 12 kHz (+/- 1.5 dB)  
Noise below +4 dBu: < -65 dB

Output: 150 Ω balanced or 75 Ω unbalanced  
Output Level: +4 dBu nominal

#### Control

Control Inputs (2): TRIG and DISABLE, Pull to ground, 1 mA  
Control Outputs (2): Open-collector @ 25 mA

#### Power Requirement:

24 Vdc @ 60 mA, Ground-referenced  
Dimensions: Width: 3.25 in. (8.26 cm); Length: 5.00 in. (12.70 cm); Height: 1.36 in. (3.46 cm)

