



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

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

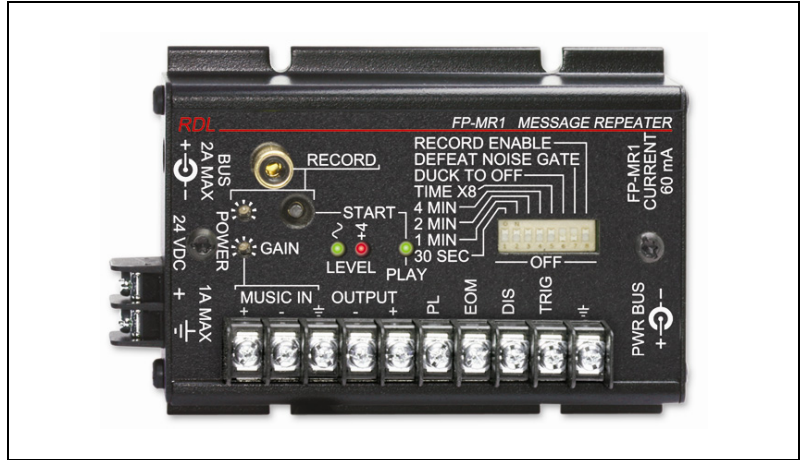
# FLAT-PAK™ SERIES

## Model FP-MR1

### Message Repeater

#### ANYWHERE YOU NEED...

- Repeating Single Voice-Band Message
- Up to One Minute Digital Message Storage
- External Message Actuation
- Interval Timer to Repeat Message Playback
- Background Music Input
- Automatic Voice-Over or Music Ducking



#### You Need The FP-MR1!

**APPLICATION:** The FP-MR1 is a message repeater that permits electronic storage of a single recording up to one minute 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-MR1. 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. 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 is normally 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 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 when the module is set to the **RECORD ENABLE** mode on the front-panel DIP switch. An integral AGC circuit maintains the recording level within 6 dB over 20 dB input variations without significant audible effect on the signal dynamics. The module begins recording when the **START** button is pushed and continues until the button is released. A **RECORD** LED is illuminated during recording.

Precision active analog filtering insures conversion and storage of high quality sound for voices or other sounds in the range of voice frequencies. The normal noise artifacts of narrowband digital recording and playback are removed in a unique RDL noise gate integral to the FP-MR1. This circuit allows full frequency response and dynamics for voice-band program material while extending the playback noise floor to -70 dB. In the unlikely event this circuit conflicts with the playback of any particular sounds, it may be bypassed using a front-panel DIP switch. The **MUSIC** input is full range.

Playback may be activated by a remote momentary closure to ground or 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. 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-MR1 in installations where FP-MR1s are connected in series for multiple repeated announcements. At the conclusion of each playback, the **EOM** (end of message) terminal pulses to ground for 100 mS. This terminal may be used to trigger other equipment or additional FP-MR1 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 interval is set to x1 or x8 for a maximum time of 60 minutes.

Used alone or in conjunction with other RDL RACK-UP®, STICK-ON®, TX™, or FLAT-PAK series products, the FP-MR1 can be the foundation for many innovative audio systems!



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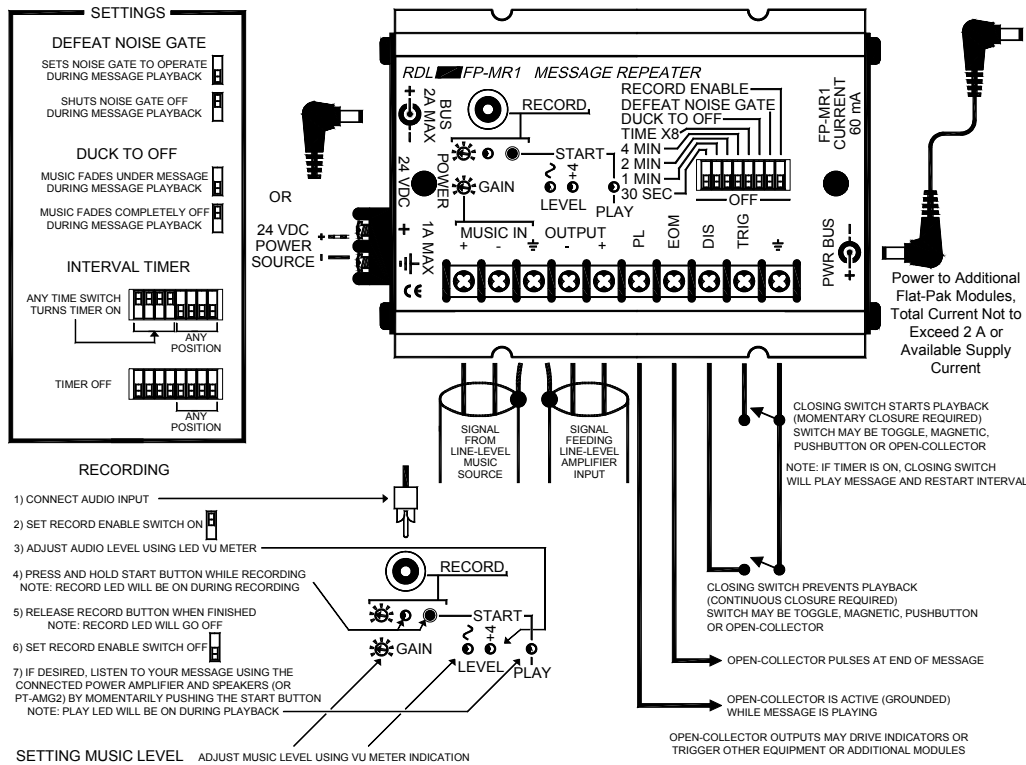
### Model FP-MR1 Message Repeater

## 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.



### TYPICAL PERFORMANCE

#### Music Input

Inputs: 50 kΩ balanced or unbalanced  
 Input Signal: -15 dBV (unbalanced) to +4 dBu (balanced)  
 Maximum Input Level: +16.5 dBu  
 Frequency Response: 20 Hz to 100 kHz (+/- 0.5 dB)  
 THD+N: < 0.01% (unity gain)  
 IMD: < 0.005% (unity gain)  
 Noise below +4 dBu: < -80 dB (unity gain)  
 Headroom: > 20 dB (above +4 dBu)  
 Gain: Off to +18 dB (adjustable)  
 CMRR: > 50 dB (50 Hz to 120 Hz)  
 Control Inputs (2): TRIG and DISABLE, Pull to ground, 0.5 mA

#### Recording Input

Input: 20 kΩ unbalanced  
 Input Signal: -20 dBV to 0 dBV  
 Frequency Response: Limited within voice band (100 Hz to 3 kHz)  
 Noise below +4 dBu: < -70 dB (noise gate enabled)

#### Outputs

Output: 150 Ω balanced or 75 Ω unbalanced  
 Output Signal: +4 dBu nominal  
 Control Outputs (2): Open-collector @ 100 mA  
 Power Requirement: 24 to 33 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)

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 an 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.