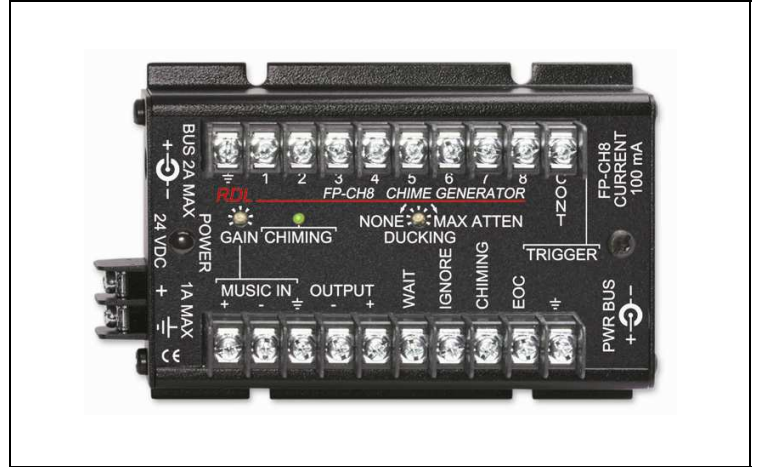# FLAT-PAK™ SERIES
Model FP-CH8
Chime Generator

ANYWHERE YOU NEED...

- 8 Individually Selectable Electronic Chimes
- Selectable Single or Repeated Chime
- Synthesized Bell Harmonics for Natural Sound
- External Chime Actuation
- Input for Background Music or Paging Audio
- Automatic Ducking

You Need The FP-CH8!

APPLICATION: The FP-CH8 is an electronic chime generator that produces eight different synthesized chimes. Each chime can consist of up to 3 tones and 3 harmonics selected to produce sonically natural effects. Certain chimes are single tones and some are a sequence. Each of the 8 chimes is triggered by an individual external closure to ground. A momentary closure to ground is required to start a chime. A single additional **CONT** (continuous) terminal is also provided. Each chime plays once unless the **CONT** terminal is grounded. The continuous function causes a chime strike or sequence to repeat until the **CONT** terminal is ungrounded. This function causes tone chimes (Chimes 4 and 8) to be extended in duration until the **CONT** terminal is released. Background music or paging audio may be connected to the **MUSIC IN** input. When a chime plays, the music source will be quickly faded to a level set on the front-panel **DUCKING** trimmer. The ducking fade depth may be set for 0 dB to fully off, allowing chimes to be mixed with the music or to interrupt the music. The front-panel **CHIMING** indicator illuminates while the music is ducked and a chime is playing.

Chime patterns are described as follows:

1: Single strike	2: Double strike	3: Triple strike	4: Tone ring
5: Manual strike	6: Descending triple strike	7: Eurosiren	8: Multi-tone alert

A chime is activated by a remote momentary closure to ground. The external trigger causes the chime to play each time the terminal is grounded. Single chime patterns (Chimes 1, 4 and 5) will restart immediately if they are re-triggered. This allows a pushbutton to initiate repetitive strikes. If the FP-CH8 receives trigger inputs for sequential chime patterns (Chimes 2, 3, 6, 7 and 8) while any chimes are playing, up to 3 such trigger requests will be stored. Following the chime that is playing, the module will play the stored chime requests in the order received with 2 seconds between each chime playback. If a stored chime request was accompanied by a simultaneous closure of the **CONT** terminal, that chime will play continuously for 5 seconds.

A **WAIT** terminal is provided to prevent the module from ducking the music audio and playing the chime. As long as the **WAIT** terminal is grounded, the module will not play, but up to 3 chime requests will be stored. Upon release of the **WAIT** terminal, each chime request is played in the order received with 2 seconds between chimes. If a stored chime request was accompanied by a simultaneous closure of the **CONT** terminal, that chime will play continuously for 5 seconds. An **IGNORE** terminal is also provided. When the **IGNORE** terminal is grounded, all incoming chime triggers are ignored. Grounding the **IGNORE** terminal while a chime is playing will abort the event. While the module is chiming, the **CHIMING** output terminal is held low. This terminal is used to control other equipment or modules. At the conclusion of each chime, the **EOC** (end of chime) terminal pulses to ground for 100 mS. This terminal may be used to trigger other equipment or modules.

Used alone or in conjunction with other RDL RACK-UP®, STICK-ON®, TX™, or FLAT-PAK series products, the FP-CH8 can be the foundation for many innovative audio systems!
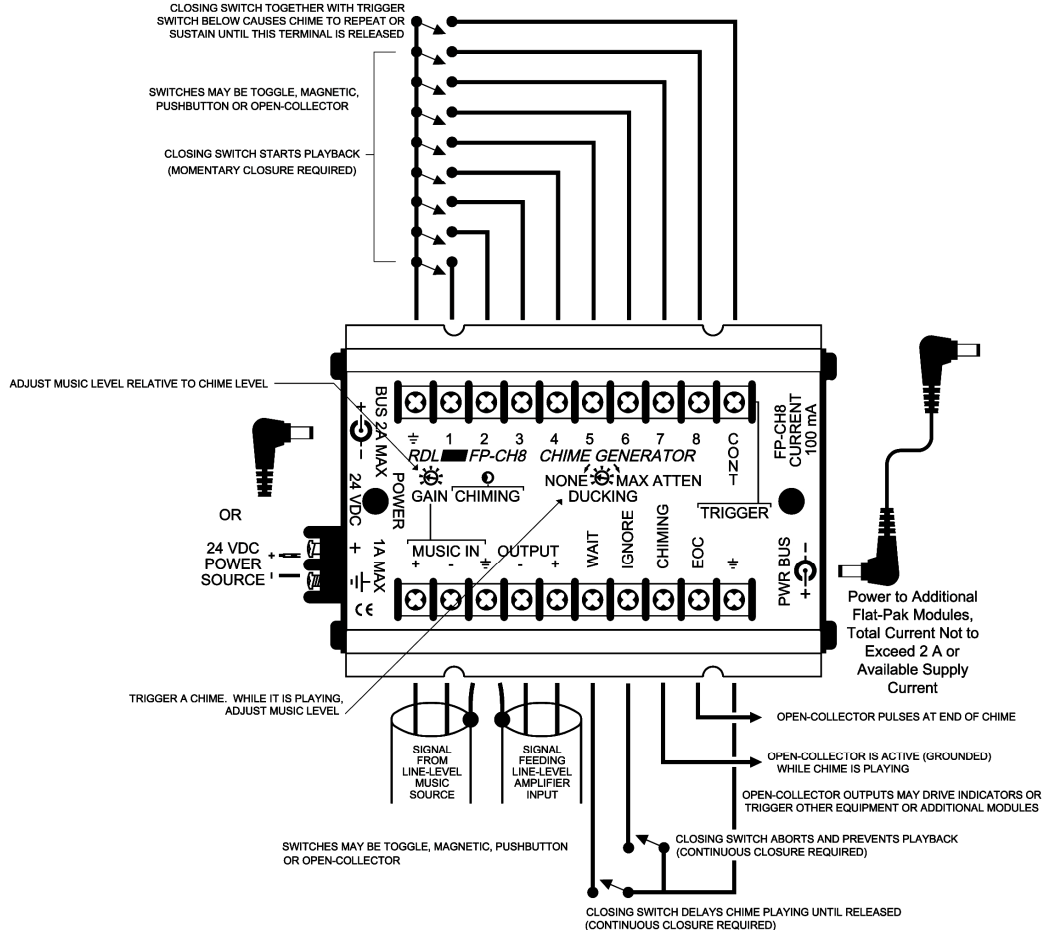
FLAT-PAK™ SERIES
Model FP-CH8
Chime Generator

Installation/Operation

CE

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.

CLOSING SWITCH TOGETHER WITH TRIGGER SWITCH BELOW CAUSES CHIME TO REPEAT OR SUSTAIN UNTIL THIS TERMINAL IS RELEASED

SWITCHES MAY BE TOGGLE, MAGNETIC, PUSHBUTTON OR OPEN-COLLECTOR

CLOSING SWITCH STARTS PLAYBACK (MOMENTARY CLOSURE REQUIRED)

ADJUST MUSIC LEVEL RELATIVE TO CHIME LEVEL

OR

24 VDC POWER SOURCE

BUS 2A MAX
24 VDC
POWER
GAIN
CHIMING
1A MAX
CE

RDL ▬ FP-CH8 CHIME GENERATOR

1 2 3 4 5 6 7 8 CONT
NONE MAX ATTEN
DUCKING

MUSIC IN OUTPUT WAIT IGNORE CHIMING EOC

TRIGGER

FP-CH8 CURRENT 100 mA

PWR BUS

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

TRIGGER A CHIME. WHILE IT IS PLAYING, ADJUST MUSIC LEVEL

SIGNAL FROM LINE-LEVEL MUSIC SOURCE

SIGNAL FEEDING LINE-LEVEL AMPLIFIER INPUT

SWITCHES MAY BE TOGGLE, MAGNETIC, PUSHBUTTON OR OPEN-COLLECTOR

OPEN-COLLECTOR PULSES AT END OF CHIME

OPEN-COLLECTOR IS ACTIVE (GROUNDED) WHILE CHIME IS PLAYING

OPEN-COLLECTOR OUTPUTS MAY DRIVE INDICATORS OR TRIGGER OTHER EQUIPMENT OR ADDITIONAL MODULES

CLOSING SWITCH ABORTS AND PREVENTS PLAYBACK (CONTINUOUS CLOSURE REQUIRED)

CLOSING SWITCH DELAYS CHIME PLAYING UNTIL RELEASED (CONTINUOUS CLOSURE REQUIRED)

TYPICAL PERFORMANCE

Music Input
Inputs:	50 kΩ balanced or unbalanced
Input Signal:	-20 dBV (unbalanced) to +4 dBu (balanced)
Maximum Input Level:	+22 dBu
Frequency Response:	20 Hz to 50 kHz (+/- 0.5 dB)
THD+N:	< 0.05% (unity gain, 50 Hz to 20 kHz)
Noise below +4 dBu:	< -70 dB (unity gain)
Headroom:	> 16 dB (above +4 dBu)
Gain:	Unity to +22 dB (adjustable)
Ducking Level:	Unity to fully off (adjustable)

Control Terminals
Input Configuration:	Pull to ground, 0.5 mA
Trigger Inputs (8):	Trigger on high to low transition
Control Inputs (3):	**WAIT** (play delay), **IGNORE**/Abort (no playback) **CONT** (continuous repeat of triggered chime)
Output Configuration:	Open collector @ 100 mA
Control Outputs (2):	CHIMING (low when chiming), EOC (low 100 mS at end of chime)

Output
Output:	150 Ω balanced or 75 Ω unbalanced
Output Signal:	+4 dBu nominal
Power Requirement:	24 to 33 Vdc @ 100 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.

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