



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

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## STICK-ON<sup>®</sup> SERIES Model ST-VP2 Automatic Ducking Module

### ANYWHERE YOU NEED...

- Fully AUTOMATIC Voice-Over Mixing
- Noiseless Paging
- Adjustable Fade Depth
- Setting to Fade Music Fully Off
- Adjustable Recovery Rate
- Built-in AGC Compressor on Music Input



### You Need The ST-VP2!

**APPLICATION:** The ST-VP2 is part of a group of products in the Stick-On series from Radio Design Labs. The durable bottom adhesive permits quick, permanent mounting nearly anywhere, or use it with RDL's racking accessories. The ST-VP2 offers the ultimate in fully automatic mixing functions for voice-over and paging applications, with a big **plus**, you can put it right where you need it!

**FUNCTIONAL DESCRIPTION:** The module is a line-level device with two inputs; **MUSIC** and **VOICE**. The **MUSIC** input normally feeds the output when no audio is present at the **VOICE** input. When a signal appears on the **VOICE** input, the **MUSIC** source is immediately compressed to preserve the beginning syllable of voice. As long as a **VOICE** signal continues, the **MUSIC** remains attenuated to the level set by the **DEPTH** trimming potentiometer on the module. This control may be adjusted from 0 dB to -25 dB, or turned fully OFF (music fully muted while **VOICE** input signal is active). At the conclusion of the voice message the **VOICE** source is switched off and the **MUSIC** source is restored. The **RATE** control permits adjustment of the music fade-up recovery. All switching and fading is accomplished electronically for noiseless operation.

The **MUSIC** input provides an AGC/compressor which transparently produces a consistent audio level for varying music sources. When adjusted normally, 6 dB of compression is applied to the **MUSIC** input. Signal levels varying above or below the normal signal level are adjusted by up to 18 dB of AGC action. The AGC/Compressor operates independently from the ducking attenuator, so consistent music levels are maintained at all times. Excessive music levels encountered during voice-over operation are controlled to prevent sudden level increases from masking the voice messages. The dynamic content of soft music passages is preserved so that the ST-VP2 may be used with all music types.

Setup is made easy by two LED indicators at the front of the module. One LED is provided to show correct operating level for each of the two inputs. Each input level is set using the multi-turn precision trimming potentiometers while observing the respective LED indicator.

**TYPICAL APPLICATION:** The ST-VP2 can be wired into any line-level input of a paging amplifier. A line-level music source may be provided from a receiver, satellite decoder, tape or CD source. A line-level voice source may be provided from a telephone paging system at line-level, or a microphone which has been preamplified up to line-level (See RDL STM-1, STM-2, STM-2X, STM-3 Microphone Preamplifiers). When a page is initiated, the module automatically senses the audio at the input, turns the music down to the desired level, and automatically fades the music back up after the page is completed. The **VOICE** input is completely turned off by the module until the next paging signal is received.

The audio clarity, AGC/Compressor and smooth silent operation of the ST-VP2 makes this module ideally suited to a wide variety of demanding audio applications. Use this module in conjunction with other RDL modules as part of a high quality, flexible audio/video system.



# STICK-ON<sup>®</sup> SERIES

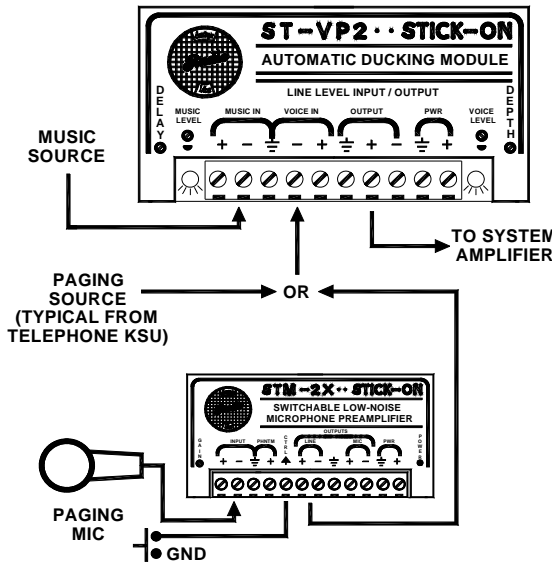
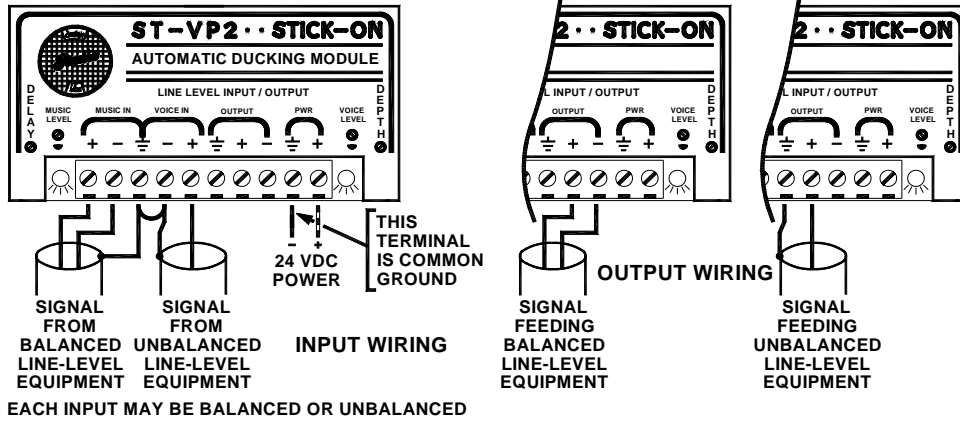
## Model ST-VP2

### Automatic Ducking Module

## 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.



## ADJUSTMENT

- ① FEED MUSIC INPUT WITH THE LOWEST EXPECTED MUSIC LEVEL
- ② ADJUST LEVEL CONTROL FOR MUSIC INPUT UNTIL THE LED JUST FLASHES
- ③ FEED NORMAL PAGING LEVEL VOICE INTO THE VOICE INPUT
- ④ ADJUST THE VOICE LEVEL CONTROL UNTIL THE LED FLASHES CONSISTENTLY
- ⑤ WITH THE PAGING INPUT STILL ACTIVE ADJUST THE DEPTH CONTROL FOR THE DESIRED VOICE-OVER MUSIC LEVEL (NOTE: MUSIC LEVEL MAY BE SET "OFF")
- ⑥ DISCONTINUE VOICE INPUT AND ADJUST DELAY CONTROL FOR DESIRED MUSIC SIGNAL RECOVERY

## TYPICAL PERFORMANCE

Inputs (2):  
Input Impedance: 20 kΩ  
Input Signal Range: -20 dBu to +18 dBu  
Output: 0 dBu balanced (into 600 Ω)  
Gain: Adjustable using multi turn potentiometer  
THD+N: < 0.02% (20 Hz to 20 kHz, no compression)  
Freq. Response: 25 Hz to 20 kHz (+/- 1 dB)  
Noise: < -70 dB  
Indicators (2): 1 LED indicating proper Music Level, 1 LED indicating proper Voice Level  
AGC/Compressor Range: 18 dB; 6 dB compression at normal input level  
Attack Time: 25 ms  
Release Time: 2.5 Seconds  
Voice Trigger Level: 24 dB below operating level  
Music Fade Depth: Adjustable 0 dB to -25 dB, or OFF  
Music Recovery Delay: Adjustable 2 Sec. to 4 Sec.  
Power Requirement: 24 to 33Vdc @ 35 mA, Ground-referenced

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