



## USER GUIDE



Thank you for choosing the Tuned Reference™ Biampified Direct Field Monitor System. To get the most from your new monitors, please take a moment to read this manual and familiarize yourself with the product's features, set-up, and use.

## About the Tuned Reference Series

Our engineers have spent years designing transducers, studio electronics, and high performance studio monitoring systems—including some of the most popular professional speakers used today. Now, using the latest digital acoustic design tools and high performance driver and power amplifier technology, they've developed the Tuned Reference series, and in so doing, have set new standards in performance and value for direct field monitors.

The TR8 features the same woofer, tweeter, enclosure, and active 4th order crossover as its critically-acclaimed forebear, the *20/20bas*. The TR5 uses the same woofer, tweeter, enclosure, and active 2nd order crossover as the award-winning Project Studio 5. Both models employ new biampification technology, coming equipped with newly-designed high-efficiency amplifiers that provide high SPL (Sound Pressure Level) output, lower distortion, smoother amplitude and phase response, and extended bandwidth. The Tuned Reference amplifiers also boast significant improvements in signal-to-noise ratio, input common mode rejection ratio, and overall reliability.

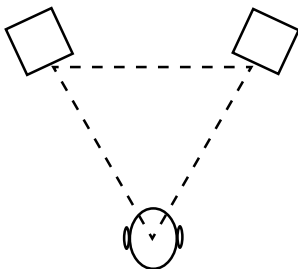
## Unpacking

The shipping container and inner boxes are designed to protect your speakers during transit. Please unpack and check your speakers carefully, and immediately report any damage to your dealer or to the company that delivered the speakers to you. The packing materials are designed to be reused—do not discard them. If you need to return the speakers to the factory for repair, they must be shipped in the original packaging.

## Setup

You'll notice that the Tuned Reference monitors are physically identical. When used in a stereo configuration, there is no physical or acoustic distinction between the left and right speakers. Note, too, that the cabinets can sit vertically or horizontally without regard for performance, so long as both cabinets are situated in the same direction. When placing them in a horizontal position, orient the cabinets with the high frequency drivers pointing to the outside, away from each other. Since each cabinet's bass port is front-mounted, you can position the monitors near a wall (or even in a wall) without fear of blocking the port, which would compromise the bass response.

Your monitors should be placed on a stable surface at about ear level. A typical location would be slightly behind and to either side of a small console. The distance between the monitors should equal the distance from the listener to either speaker. This is the common "equal length triangle" rule for speaker placement shown in Figure 1.



**Figure 1.** *When the listener and the monitors are positioned in an equal triangle with the monitors directly facing the listener, the listener is situated in the "sweet spot," which yields optimum stereo reproduction.*

Notice that Figure 1 also shows the speaker cabinets turned slightly inward, so that the driver components directly face the listening position. When oriented this way, the listener is in the "sweet spot," which yields the

most accurate stereo reproduction. If you need a wider sweet spot to allow for greater listener movement or for group monitoring, face the speakers in a slightly more open position, but never more than necessary. Finally, if you must mount the speakers substantially above or below ear level, you will also need to tilt the cabinets downward or upward to keep the driver components directly facing you.

As you become more familiar with your speakers, you may find it helpful to move around in the soundfield to locate the optimum listening position for your particular monitoring environment. But if you follow the equal-distance, ear-level, face-on rules outlined above, you've already optimized their position for a single user in most situations.

## Connections and Operation

Please refer to Figure 2 on the opposite page.

**Balanced XLR Line Input** This jack accepts a male XLR connector, wired for either balanced or unbalanced operation. For balanced operation, please consult the pin wiring diagram on Page 5 or on the monitor's back panel.

The Line 1 input is hardwired in parallel with the Line 2 input, so either may be used as an input or as a pass-through connection. Input specifications apply to both inputs equally.

**Balanced 1/4" Line Input** This jack accepts a male two-conductor 1/4" TS or three-conductor 1/4" TRS connector, wired for either balanced or unbalanced operation. For unbalanced operation with a TS connector, the minus signal is automatically grounded; with a TRS connector you have the option of leaving the minus input open or grounded. We recommend, however, that you ground the unused input. For balanced operation, which requires using a TRS connector, please consult the pin wiring diagram on Page 5 or on the monitor's back panel.

The Line 2 input connector is hardwired in parallel with the Line 1 input connector, so either may be used as an input or as a pass-through connection. Input specifications apply equally to both inputs.

**INPUT CONNECTIONS**

SIGNAL	BAL XLR	BAL 1/4"	UNBAL 1/4"-RCA
+	PIN 2	TIP	TIP
-	PIN 3	RING	RING
SHIELD	PIN 1	SLEEVE	SLEEVE

**POWER REQUIREMENTS**

120V~	60HZ	0.8A	100W
220/240V~	50/60HZ	0.5A	100W
100V~	50/60HZ	1.0A	100W

**Figure 2.** Tuned Reference rear panel connections and controls.

**Unbalanced RCA Line Input** This jack accepts a male RCA connector, wired for unbalanced operation. This jack is hardwired in parallel with the balanced line inputs. However, due to it being an unbalanced input, we do not recommend using it in combination with either of the balanced inputs, as this will unbalance those inputs, possibly causing degradation of the audio signal.

**Input Sensitivity** This control is used to compensate for different signal levels that appear at the input. The control has a 20dB range; when set at maximum (MAX), 0.5V RMS input at the balanced ins or 0.25V RMS at the unbalanced in will produce full amplifier output. Note that when the signal appearing at the input is too hot, the amplifiers may overload, causing distortion. If this occurs, attenuate (decrease) the Input Sensitivity by turning the control counter-clockwise.

**Power Switch** Push to turn the amplifiers ON; push again to turn them OFF. When the amplifiers are ON, the green LED located in the metal trim ring on the front of the monitor will illuminate.

**Power Connector** This connector accepts the detachable AC line cord. Use the line cord supplied with your monitor, and make sure it is fully seated into the Power Inlet connector. For safety reasons, do not attempt to defeat the line cord's ground connection.

## Care and Maintenance

Your Tuned Reference monitors are simple to care for and maintain. The cabinets are finished with a durable vinyl laminate that can be cleaned with a soft damp cloth. Avoid touching the exposed speaker elements. Do not expose the rear panel controls, connectors, or the speaker elements to moisture or chemicals. Do not expose the unit to dripping or splashing liquids; objects filled with liquids should not be placed on the unit.

**Caution:** When the power switch is off, the internal amplifier components are still connected to the AC mains. The AC mains fuse is internal and serviceable by a qualified technician; it will only open if there is another problem. Please refer service to qualified personnel.

Mix at reasonable levels to protect your speakers *and* your hearing.

## Contacting Customer Service

If you experience any trouble with your Tuned Reference monitors, please call the Event Electronics Customer Service department at 805-566-7777, ext. 5. Before calling, however, we ask that you please consult the Technical Support section of our Web site, [www.event1.com](http://www.event1.com).

If you believe your Tuned Reference monitor is in need of repair, please contact the Event Electronics Customer Service department to request a Return Authorization Number (RA#). We can accept for servicing only those units that are accompanied by an RA#. Units shipped without an RA# number will be refused.

## Tuned Reference Specifications

### Low Frequency Driver

TR5: 5.25" magnetically shielded mineral-filled polypropylene cone with high temperature voice coil and damped rubber surround.

TR8: 8" magnetically shielded mineral-filled polypropylene cone with high temperature voice coil and damped rubber surround.

### High Frequency Driver

TR5: 25mm magnetically shielded natural soft dome neodymium with ferrofluid-cooled voice coil.

TR8: 1" magnetically shielded natural silk dome with ferrofluid-cooled voice coil.

### Frequency Response

TR5: 45Hz – 39kHz; 53Hz – 19kHz,  $\pm 3$ dB, Ref 500Hz

TR8: 35Hz – 20kHz,  $\pm 3$ dB, Ref 500Hz

### Crossover

TR5: 2.6kHz active second-order asymmetrical

TR8: 2.6kHz active fourth-order asymmetrical

### Sound Pressure Level (Output)

TR5: >105dB

TR8: >108dB

### Noise

TR5, TR8: >100dB below full output, 20kHz bandwidth, unweighted

### Input Connectors

XLR and 1/4" connectors; accept balanced or unbalanced sources

RCA connector; accepts unbalanced sources

## Tuned Reference Specifications (cont.)

### **Polarity**

Positive signal at + input produces outward low frequency cone displacement

### **Input Impedance**

40k $\Omega$  balanced, 20k $\Omega$  unbalanced

### **Input Sensitivity**

0.5V RMS input at the balanced ins or 0.25V RMS input at the unbalanced in produces full output with Input Sensitivity control at maximum

### **Input Sensitivity Control Range**

20dB

### **Protection**

RF interference, output current limiting, over temperature, turn-on/off transient, subsonic filter, internal mains fuse

### **Indicators**

Power ON LED indicator

### **Power Requirements**

100VA, factory programmed for either 120V~ 60Hz, 220-240V~ 50-60Hz, or 100V~ 50-60Hz mains

### **Cabinet**

5/8" vinyl-laminated MDF, internally insulated

### **Dimensions**

TR5: 7.5" W x 10.5" H x 9" D

TR8: 10.25" W x 14.75" H x 11.75" D

### **Weight**

TR5: 12.6 lbs each

TR8: 24.7 lbs each

Specifications subject to change without notice.

## Tuned Reference User Guide

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