

**PREFIX**<sup>TM</sup>

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**PLUS**

**ACOUSTIC GUITAR SYSTEM**

***FISHMAN***<sup>®</sup>

## FISHMAN PREFIX™ PLUS

This fine instrument is equipped with a FISHMAN PREFIX PLUS™ ACOUSTIC GUITAR SYSTEM. Please read these instructions carefully. If you have any questions or problems, please call our **CUSTOMER SERVICE LINE** at **(978) 988-9665**.

The PREFIX PLUS™ is an instrument-mounted pickup / preamp system that offers total control of your amplified guitar sound.

### THE PICKUP

The PREFIX PLUS™ ACOUSTIC GUITAR SYSTEM includes the FISHMAN ACOUSTIC MATRIX pickup; made with a unique co-polymer sensing material available exclusively from Fishman. This technology is not available from any other manufacturer. The sensing material exhibits a sensitivity and dynamic range that far surpasses all other known sensing materials. The ACOUSTIC MATRIX transducer is a fully EMI shielded, multi-layer sandwich of co-polymer strips that run the length of the pickup. This design allows the pickup to sense the motion of the entire saddle length, providing superb string to string balance, as well as sensitivity to both the strings and top of the instrument.

### THE PREAMP

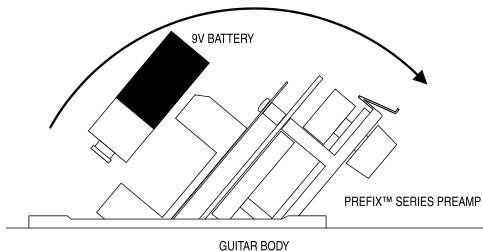
The PREFIX PLUS™ preamp module incorporates a unique "flip-top" battery compartment for easy access. A variable NOTCH filter, shelving BASS & TREBLE, semi-parametric CONTOUR, and BRILLIANCE controls are included for precise tone shaping and fighting feedback. There is also a PHASE reversal switch and a low battery indicator. The PREFIX PLUS™ can be plugged into any instrument-level audio input with excellent results.

# ONBOARD ACOUSTIC GUITAR SYSTEM

## PREAMP FUNCTIONS

### BATTERY COMPARTMENT

Pull the small tab at the top of the PREFIX PLUS™ toward you. The body of the preamp will swing out, revealing the BATTERY COMPARTMENT. Insert a fresh 9V alkaline battery.



### ENDPIN JACK

The PREFIX PLUS™ has no ON/OFF switch. It is turned on only when an instrument cable is plugged into the endpin jack. To conserve the battery, remove the instrument cable from the endpin jack when the unit is not being used.

**NOTE:** Plug an instrument cable into the endpin jack **before** you plug into the sound equipment. Doing so will prevent loudspeaker damage.

### BATTERY LOW INDICATOR

When plugging into the endpin jack, the LOW BATTERY light will flash momentarily, indicating that the power is on. When the LOW BATTERY light stays on, it is time to change the battery.

## CONTROLS

### NOTCH FILTER

This is a fixed level, variable-frequency filter for eliminating feedback or unwanted resonance. The affected frequency is variable from 40 to 500 Hz. The NOTCH FILTER is effectively off in the full counter-clockwise position.

# FISHMAN PREFIX™ PLUS

## VOLUME CONTROL

Controls the overall gain of the PREFIX PLUS™. Goes from very quiet to very loud.

## BASS CONTROL

This is a boost/cut shelving tone control. The center detent yields a flat response.

## CONTOUR

This is a Wide-range semi-parametric filter. It is used to selectively shape the instrument's tone.

The CONTOUR Level slider controls the amount of boost or cut applied to the selected Contour FREQUENCY. The center detent yields a flat response.

The Contour **FREQUENCY** slider determines the frequency band that is boosted or cut by the CONTOUR LEVEL control. The frequency is variable from 250 to 10 kHz.

## TREBLE CONTROL

This is a boost/cut shelving tone control. The center detent yields a flat response.

## BRILLIANCE CONTROL

This is a resonant style boost/cut filter. When boosted, the BRILLIANCE control can add presence to your sound or brighten up dead strings.

## PHASE SWITCH

The PHASE switch compensates for acoustic phase differences that often occur between instrument and speaker. It can be used as a tone filter at low volume levels or a feedback filter at high levels. The PHASE switch can correct any electrical phase difference between the PREFIX™ system and an outboard instrument microphone. Flip the PHASE switch several times and use your ear to find the optimum setting. The best position for the PHASE switch may change, depending on the sound system and/or venue acoustics.

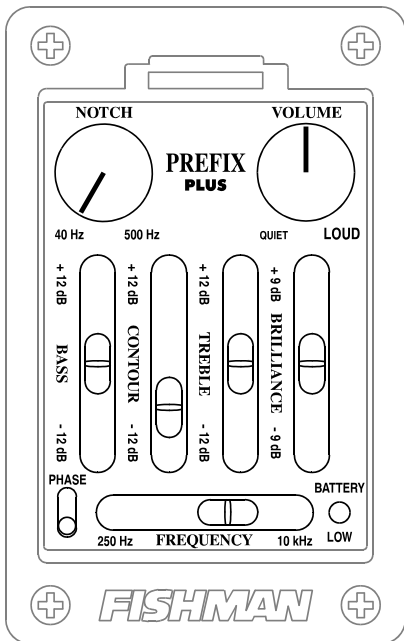
# ONBOARD ACOUSTIC GUITAR SYSTEM

## SUGGESTED EQ SETTINGS

### MID CUT

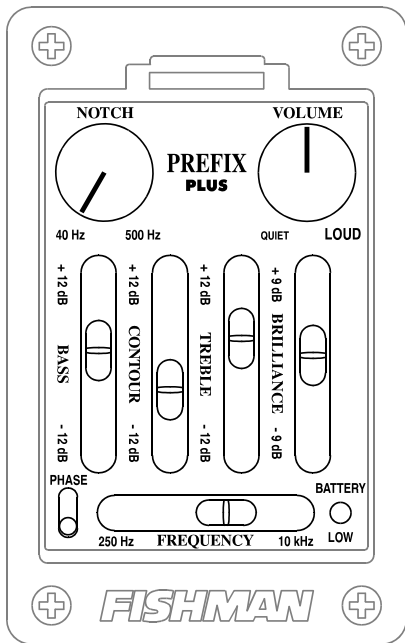
You can scoop out harsh midrange by setting the FREQUENCY slider slightly above center with the CONTOUR Level cut to taste below the center detent.

You can also cut midrange by boosting the BASS and TREBLE sliders to realize an "implied" mid-cut at 800 Hz.



## FINGERSTYLE

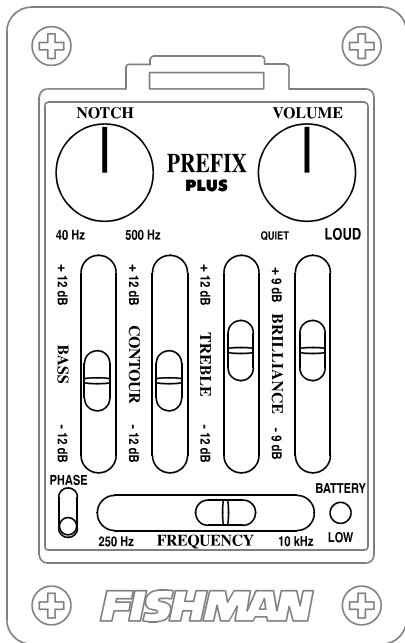
This setting will add fullness to the bass and definition to the treble.



# ONBOARD ACOUSTIC GUITAR SYSTEM

## CUT THROUGH

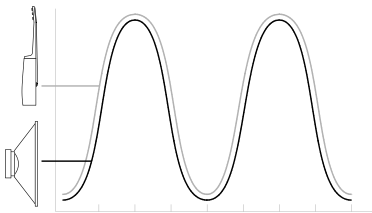
For cutting through a live band mix at high volumes.



## WHAT IS PHASE?

Phase is the relationship between two signals or soundwaves originating from the same instrument.

For our purposes, phase relationships are expressed as being either "in phase" or "out of phase". *In phase* tends to enhance, while *out of phase* tends to suppress the natural characteristics and acoustic tendencies of an instrument. A simple way to determine the quality of phase (in or out) of two sounds is to compare phase switch settings at low volumes.

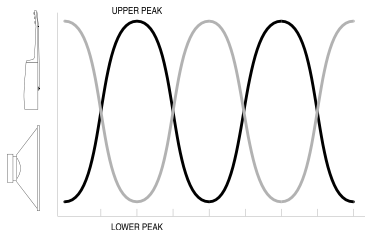


### IN PHASE

*In phase* is when the waveforms of two sounds originating from the same instrument are similarly aligned in time. Similar phase is like looking at yourself in a mirror: your reflection directly follows your movement.

### OUT OF PHASE

*Out of phase* is when the waveforms of two sounds originating from the same instrument are aligned such that the upper peak of one wave occurs at the same moment in time as the lower peak of the other. *Out of phase* is like looking at yourself in a live video monitor; the image you see is similar, but the perspective is shifted. When you move to the right, the image appears to move to your left.



Continued ...



## WHAT IS THE PHASE SWITCH FOR?

The phase switch is useful for two reasons:

1. Due to the interactive and changing nature of phase, acoustic amplification depends on maintaining optimum phase relationships between amplified instruments, sound systems and venues.
2. Since an industry standard for polarity has not been established for all sound equipment, the phase switch can compensate for any unintentional differences that might occur between instrument and sound system.

## APPLICATIONS

In any situation where the instrument faces a loudspeaker, there will be an interactive phase relationship between the two. This usually occurs with stage amps, side fill and floor monitors at close distances.

### • LOW VOLUME AMPLIFICATION

At low volumes, when an instrument and speaker are at similar levels and are *in phase*, the sound is full and solid, with the lower frequencies emphasized.

When a mic'ed instrument and speaker are *out of phase* at low levels, the bass frequencies cancel out to some extent. The resulting sound is somewhat unnatural and unbalanced compared to *in phase*.

### • HIGH VOLUME LEVELS

At high volume levels, when an instrument and speaker are *in phase*, the sound pressure from the speaker will excite the instrument's sound chamber, creating a feedback loop at the instrument's lowest octave. This "cavity resonance" feedback can be dealt with by putting the instrument and speaker out of phase or by adding equalization.

### A. USING THE PHASE SWITCH TO REDUCE FEEDBACK.

Inverting the PHASE switch will put the instrument and speaker *out of phase* with each other, cancelling the low frequency feedback.

If you move from your position on stage more than a few feet, you may have to invert the PHASE switch again to maintain an *out of phase* relationship between the mic'ed instrument and speaker.

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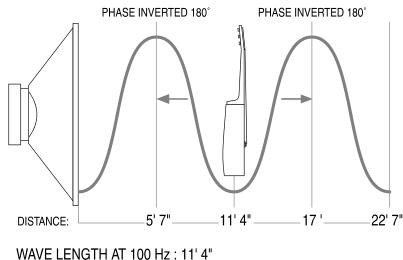
Here's why:

A typical guitar has a cavity resonance of about 100 Hz. This is the frequency that generally feeds back when the guitar and speaker are *in phase*.

100 Hz has a wavelength of about 11 feet.

Phase inverts 180° for every 1/2 a frequency's wavelength. In this case, 1/2 the wavelength is about 5 1/2 feet.

If you set your PHASE switch to eliminate cavity resonance (*out of phase*) and then move 5 1/2 feet towards or away from the speaker, you will effectively put the mic'ed guitar/speaker relationship at 100 Hz back *in phase*; in the line of fire for low frequency feedback.



The PHASE switch on the ONBOARD BLENDER™ in effect electronically "moves" your instrument's position relative to the speaker by inverting the phase 180° every time you flip it.

## B. USING THE NOTCH FILTER TO REDUCE FEEDBACK

Notching out instrument cavity resonance will eliminate the low frequency feedback problem completely. The advantages to using notching equalization are:

- The physical distance from the speaker will no longer be a factor for potential low frequency feedback.
- The mic'ed instrument/speaker can remain *in phase*, maintaining a more natural and balanced response.

# ONBOARD ACOUSTIC GUITAR SYSTEM

## SPECIFICATIONS

Nominal Input Level:	-20 dBV
Input Overload:	(20 Hz - 20 kHz)-2 dBV
Input Impedance:	20 M Ohms
Output Impedance:	Less than 3.5 k Ohms
Nominal Output Level:	-12 dBV
THD:	Less than .04 %, -20 dBV input
Signal to Noise Ratio:	77 dB (A weighted referred to nominal -20 dBV input)
Current Drain:	Less than 3.5 mA
Power Supply:	9V Alkaline battery (estimated 160 hours continuous use with low battery indicator at 6.5V)
Notch Filter Range:	40Hz - 500 Hz (-15 dB)
Bass Control Range:	$\pm$ 12 dB at 60 Hz $\pm$ 3 dB at 350 Hz
Treble Control Range:	$\pm$ 12 dB at 10 kHz $\pm$ 3 dB at 2.4 kHz
Contour Control Range:	$\pm$ 12dB (adjustable from 250 Hz to 10 kHz) Q = 0.5
Brilliance Control Range:	$\pm$ 9 dB at 10 kHz $\pm$ 3 dB Bandwidth 7 kHz

All specifications subject to change without notice.

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# LIMITED WARRANTY

INSTALLATION BY A QUALIFIED PROFESSIONAL REPAIRMAN IS STRONGLY RECOMMENDED. FISHMAN TRANSDUCERS WILL NOT BE RESPONSIBLE FOR ANY DAMAGES THAT MAY RESULT FROM IMPROPER INSTALLATION.

The FISHMAN PREFIX™ PLUS ACOUSTIC GUITAR SYSTEM is warranted to function for a period of One (1) Year from the date of purchase. If the unit fails to function properly within the warranty period, free repair and the option of replacement or refund in the event that FISHMAN is unable to make repair are FISHMAN's only obligations. This warranty does not cover any consequential damages or damage to the unit due to misuse, accident, or neglect. FISHMAN retains the right to make such determination on the basis of factory inspection. Products returned to FISHMAN for repair or replacement must be shipped in accordance with the Return Policy, as follows. This warranty remains valid only if repairs are performed by FISHMAN. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

## RETURN POLICY

To return products to FISHMAN TRANSDUCERS, you must follow these steps...

1. Call FISHMAN TRANSDUCERS at 978-988-9199 for a Return Authorization Number ("RAN").
2. Enclose a copy of the original Bill of Sale as evidence of the date of purchase, with the product in its original packaging and a protective carton or mailer.
3. FISHMAN TRANSDUCERS' technicians will determine whether the item is covered by warranty or if it instead has been damaged by improper customer installation or other causes not related to defects in material or workmanship.
4. Warranty repairs or replacements will be sent automatically free of charge.
5. If FISHMAN TRANSDUCERS determines the item is not covered by warranty, we will notify you of the repair or replacement cost and wait for your authorization to proceed.



**FISHMAN TRANSDUCERS®**

**340-D Fordham Road Wilmington MA 01887 USA**

**Phone 978-988-9199 Fax 978-988-0770 [www.fishman.com](http://www.fishman.com)**