



MODEL XO-3[®] (1998-MSRP \$279.00)

2/3 WAY PHASE COHERENT ACTIVE CROSSOVER

OWNER'S MANUAL AND INSTALLATION GUIDE

INTRODUCTION

Obtaining a great sound stage in your car can seem almost impossible at times. Speaker locations are rarely optimum, and balancing speaker levels from front-to-rear-to-subwoofer can be a nightmare of confusing gain controls and frequency cancellation due to speaker interaction. **LINEAR POWER'S™ XO-3[®]** active crossover gets you around gain control problems by giving you individual output level controls for each frequency band from a single unit. Your **XO-3[®]** can control front and rear speaker levels without affecting your subwoofer level. You can give your subwoofer the kick it needs to overcome noise when the road gets rough. Frequency interaction between front and rear speakers that can destroy sound staging is easily controlled by limiting the frequency range on the rear speakers using the band-pass output of the **XO-3[®]**. High signal levels (>4Vrms) from your head unit and/or preamp help you to hear the low level information that enhances the sound stage, but this information can be lost at the crossover if it does not easily accept and pass these high signal levels like your **XO-3[®]** does. Hook it up and enjoy the music!!

PRODUCT OVERVIEW

In the **LINEAR POWER™** engineering tradition, the audiophile design of your **XO-3[®]** was ultimately based on listening tests. Two different types of filters with 12dB and 24dB frequency cutoff slopes were evaluated for musical impact and sonic purity in a multitude of combinations before settling on the final version of which you are now the proud owner. Four continuously variable frequency controls maximize the useful applications of this crossover. Individual front panel output level controls for each frequency band are provided to give you in-dash or trunk mount control over every output. The **XO-3[®]** can be configured for two or four channel input and absolute phase of the low-pass outputs can be set to 0°(+ or 180°(-).

CONFIGURING THE XO-3® FOR YOUR SYSTEM

Your purchase of the **LINEAR POWER XO-3®** is a major step towards creating the ultimate audiophile system for your vehicle. Before installing your **XO-3®**, the crossover must be properly configured for your system. The configuration of the **XO-3®** is changed by moving 'shunts' inside the crossover chassis like those used for computers. You must remove the top cover of the crossover and locate the shunts near the RCA jacks to change the settings.

TWO CHANNEL INPUT W/BRIDGEABLE POWER AMPLIFIER

The **XO-3®** is shipped from the factory with settings configured for two channel input and both low-pass outputs set to 0' (+) absolute phase. **Figure 1a** shows a sample system utilizing a **PA2®**, in conjunction with the **XO-3®**, to boost the signal level for optimum sound stage and signal-to-noise. **Figure 1b** illustrates the factory jumper settings.

FOUR CHANNEL INPUT W/BRIDGEABLE POWER AMPLIFIER

For systems that require a fader control, the **XO-3®** can be configured for four channel input as shown in **Figure 2a**, while **Figure 2b** shows the proper shunt settings for the system when using a bridgeable amplifier.

NON-BRIDGEABLE POWER AMPLIFIER CONFIGURATION

When using a power amplifier that is **NOT** bridgeable, one of the low-pass outputs should have its absolute phase changed to 180'(-) to allow bridging of the output for the stereo amp. This is accomplished by changing the internal shunts near the power connector on the rear of the circuit board as shown in **Figure 3**.

CONTROLS AND INDICATOR ON YOUR XO-3®

Low-pass Controls:

| | |
|------------------|---------------|
| Slope: | 24dB/Octave |
| Frequency range: | 50Hz-350Hz |
| Level range: | zero to unity |

Band-pass Controls:

| | |
|----------------------------|---------------|
| High-pass slope: | 12dB/Octave |
| High-pass frequency range: | 40Hz-575Hz |
| Low-pass slope: | 12dB/Octave |
| Low-pass frequency range: | 75Hz-22KHz |
| Band-pass level range: | zero to unity |

High-pass Controls:

| | |
|------------------|---------------|
| Slope: | 12dB/Octave |
| Frequency range: | 65Hz-7.5KHz |
| Level range: | zero to unity |

Power LED: The green power indicator will light when battery, ground, and remote turn-on signals are all connected properly and present.

You are now ready to install the **XO-3** in your system. Please fully examine the installation procedure on the following page before you begin your install.

INSTALLATION OF THE XO3 IN YOUR SYSTEM

Power and Ground Connections: Connect the red wire labeled **bat** (battery) on the top cover of the **XO-3** to one end of a 500mA AGC style fuse.

Mounting the XO-3 in the dash: Connect the other end of the 500mA AGC style fuse to the exact same location that the head unit is connected to constant power. Connect the black wire labeled **gnd** (ground) on the top cover of the **XO-3** to the exact same location that the head unit is connected to ground.

Mounting the XO-3 near the amplifiers: Connect the other end of the 500mA AGC style fuse to the exact same location that the amplifiers are connected to constant power. Connect the black wire labeled **gnd** (ground) on the top cover of the **XO-3** to the exact same location that the amplifiers are connected to ground.

Remote Turn-On-Connection: Connect the blue wire with the white stripe labeled **rem** (remote turn-on) on the top cover to the power antenna or remote turn-on output on the head unit. This input wire turns on the **XO-3**®.

GENERAL TROUBLESHOOTING

No Sound: Check all signal connections. Check that the power indicator is on. Check for +12Vdc on **bat** and **rem** wires. Check the **gnd** wire connection. Bypass the **XO-3**® and check for signal output.

Blows Fuses: Check all connections to be sure all power wires do not touch ground or each other.

Noise Problems: Be sure the metal sleeve on the RCA (phono) jacks does not touch the metal chassis of the vehicle, the chassis of the **XO-3**®, or the chassis of any other components in your installation. Route signal cables away from power wires, power connectors, speaker wires, engine alternator, and vehicle firewall.

SERVICE OR REPAIR

To obtain modification, service or repair, please contact our **ONLY Authorized LINEAR POWER™ Product Service Center:**

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Specifications

XO-3[©]

| | |
|--------------------------------|---|
| THD + Noise | .002% |
| Signal-to-Noise | 102dB |
| Channel Separation | >65dB |
| Maximum Unclipped Signal Level | 10Vrms |
| Input/Output Impedance | 47K Ohms/75 Ohms |
| Frequency Response | 3Hz-500kHz |
| Recommended Fuse (red wire) | 500mA AGC |
| Dimensions | 1.00"x7.00"x5.00" 25.4x177.8x127.0cm |

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