





## x•tant

**x•tant** (ikst`ænt, e`kstent) 1. *adj.* still in existence, especially. of **enduring excellence**. || e.g. *of xtant quality that stands the test of time and the passing of fads.* 2. *adj.* Standing out or above, as in **out-standing**, the quality or state of being **original**. [from. L. xstans (xstantis) n present participle of xstare, to stand forth. || Second origin; Prescott AZ. U.S.A. Ntl. Frst. Cmp. 1994 v. to xtantify = to stand up and be heard] 3. *noun* /XTANT **applied creativity** esp. a *company of people united to apply original thinking to continually advance the spectrum of extraordinarily **vivid sound reproduction**, to apply innovative thought and action to questions previously considered resolved.* ||

### Xtant Technologies

7676 South 46th Street Phoenix, Arizona 85040  
(602) 431-8686 FAX (602) 431-8600





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# WELCOME



## WELCOME

*We would like to personally thank you for choosing Xtant Technologies equipment. Our mission is to continually provide you with the best mobile audio – anywhere. Our goal is to exceed your expectations. Our driving concepts are superiority through simplicity, flexibility, compatibility, reliability, efficiency, and ease of system expansion. We began with a clean slate. We challenged all the assumptions. We enlisted a dream team of audio specialists; manufacturers, installers, designers and audiophiles. We all became excited about the possibilities. We listened. We are still listening.*

**We Listen** to your recommendations, opinions, and needs .

**We Listen** to our fellow supporting manufacturers to ensure that our products interface well with a wide variety of products.

**We Listen** to our equipment with sensitive and critical ears to provide the finest mobile audio components on the planet.

*We have created Xtant because we respect the music, and the people who want to really listen. The result has expanded the expectations of extraordinarily vivid mobile audio. Vivid mobile audio, a continuing evolution of the art of listening and hearing, well. We believe that music deserves the maximum accuracy in reproduction. We have united art of the technology and the technology of the art to create the magic. Xtant is only available through the finest specialized mobile audio retailers. Your Xtant Select Dealer was chosen by us because of their passion for excellence and their commitment to expanding their expertise. Please remember, exceptional audio requires professional installation. Your Xtant Dealer will will optimize your system and your level of satisfaction.*

*Whether you are a professional competitor in auto sound or a privately passionate connoisseur of fine music, we salute you, and appreciate your investment in quality mobile audio. If you have a problem or a suggestion please give us a call or write us. Thanks for having the faith in the music and the faith in us.*

*We look forward to a long and enduring relationship!*

*Welcome to Xtant!*



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## SAFEGUARDS

Please take the time to read this Owners Manual.

The following guidelines are designed to assure a safe and properly installed Xtant Mobile Audio System.

All Xtant amplifiers and accessories are intended to be installed by a certified professional mobile audio installation specialist. It is the recommendation of Xtant Technologies that your new Xtant product(s) and all of your mobile audio products be installed by your Authorized Xtant Select Dealer.

### INSTALLER'S REFERENCE (INSERT)

The Installer's Reference is an insert included in this manual. It is designed to assist your Authorized Xtant Select Dealer's professional installer. Installation techniques critical to the creation of a high-performance mobile audio sound system, (procedures for running wires, basic safety rules, and system layout concepts) are not presented in this owners manual. All Authorized Xtant Select Dealers have been chosen for their expertise in system design and advanced installation capabilities and Xtant highly recommends that you have all of your mobile audio products professionally installed. If, however, you choose to install your Xtant amplifier yourself, please refer to the Installer's Reference prior to installation.

### WIRING REQUIREMENTS

All Xtant amplifiers have minimum wire gauge requirements for Power, Ground, Remote Turn-On, and Speaker cables. Please refer to the Installer's Reference for recommended wire gauges.

### FUSING REQUIREMENTS

The 603X is not fuse protected! For safety, an outboard 100 amp fuse may be added close to the amplifier. A 100 amp fuse must be installed in-line with the power wire at the battery. In the case of a multi-amp system, use a fuse value equal to the combined total demand of all amplifiers in the system.

### WATER AND MOISTURE

Install all Xtant amplifiers and accessories in a location free of moisture or exposure to water.





# Xtant :: 603x

The 603x is a “true” three (3) channel amplifier which combines unique performance features with outstanding design flexibility to provide a single chassis “system solution” for most mobile audio applications. With its on-board crossover, a high performance, bi-amplified system is easily configured.

By utilizing the on-board crossover’s four (4) RCA line outputs, you can steer specific frequency ranges to additional amplifiers, thus eliminating the need for external, active crossover components.

As with all Xtant “x” Series amplifiers, the 603x incorporates an on-board noise gate, forced convection thermal management system, and a *Pulse Width Modulated* power supply for high efficiency and unsurpassed reliability. All these features are encased in Xtant’s exclusive finish of stainless steel and copper!



## STANDARD FEATURES

**FORCED CONVECTION COOLING:** All Xtant “x” Series amplifiers employ forced convection cooling for thermal management. An on-board thermal sensing circuit regulates fan speed to maintain optimum operating temperature.

**PWM POWER SUPPLY:** All Xtant “x” Series amplifiers feature a fully regulated, Pulse Width Modulated power supply. This supply technology provides high efficiency and consistent output performance even when battery voltage is less than optimum.

**CROSSOVER:** 12 dB (Butterworth)/24dB (Linkwitz-Reily) filter network with selectable Bypass (Full Range), High Pass, or Low Pass modes of operation. Frequency selection is via a 12 pin Frequency Module (SIP). The amplifier is shipped with a 90 Hz SIP installed, 13 other frequencies are available from your Xtant Dealer. Refer to page 7 of this manual for a list of the available frequencies.

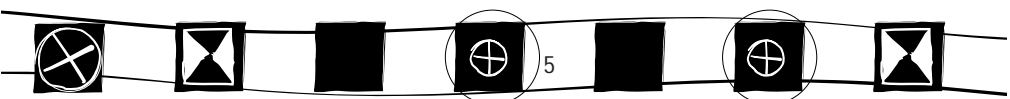
**NOISE GATE:** Provides deep muting when no musical signal is present. Features include adjustable threshold and bypass switch.

**BALANCED / FLOATING INPUT:** The 603x offers a built on board balanced input stage. When placed in the enable position this circuitry helps to eliminate “system noise” associated with “ground-loops”. Additionally the balanced input allows the 603x to accept input voltage from 100mV to 17V.

**MODULAR EXPANSION PORT:** All Xtant amplifiers are supplied with a modular port used for docking any of Xtant’s signal processing modules.

**PROTECTION CIRCUITRY:** Both Thermal and Overcurrent protection has been incorporated into all Xtant amplifiers. In the event of a problem, the amplifier will reduce its power to maintain operation.

**STATUS LEDs:** Four LEDs, visible through the cover, indicate operational status of all Xtant amplifiers. The red LED illuminates when the amplifier is “ON”, the green LED indicates when the noise gate is open, the yellow LED indicates that overcurrent protection is employed and the orange LED indicates that the thermal protection circuit is operational.





## XTANT 603X SPECIFICATIONS

Frequency Response	5 Hz to 50 kHz +/- 1 dB
Number of Channels	3
Watts per Channel @ 4Ω	2 x 75 + 1 x 150
Watts per Channel @ 2Ω	2 x 150 + 1 x 300
Bridged Mono @ 4Ω (Stereo Channels)	1 x 300
Recommended Load (stereo channels)	>2Ω Stereo / >4Ω Bridged
Recommended Load (Mono channel)	>2Ω
Distortion (THD)	< .04%
Measured: 20 Hz to 20 kHz at rated power, all channels driven 4Ω	
Signal to Noise Ratio	> 100 dB
Measured: A-weighted in 20 kHz noise bandwidth @ 1 volt sensitivity	
Damping Factor	> 200 @ 100 Hz with 4Ω load
Input Sensitivity	100 mV to 8.5 V RMS Unbalanced Source 100 mV to 17 V RMS Balanced Source
Input to Line Output Gain	0 dB +/- 20 dB, Selectable in 10 dB steps
On-Board Crossover	12 dB (Butterworth) or 24dB (Linkwitz-Reilly)
Module Port(s)	4
Power Supply	Fully Regulated, PWM
Operational Voltage	11 to 15 Volts
Fusing	Requires 100 Amp
Warranty	Limited 4 Year Parts and Labor

SEE PAGE ELEVEN OF THIS MANUAL FOR COMPLETE DETAILS



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## ON-BOARD ELECTRONIC CROSSOVER

All Xtant “x”, and “ix” Series 2 channel amplifiers have on-board, two-way electronic crossovers. Xtant 3 and 4 channel models feature two independent two-way crossovers. Each crossover is tied to a set of inputs and controls the frequency range of the associated amplifier. Independent frequency selection is provided for both the High and Low Pass sections. A set of selectable RCA line outputs (to feed additional components) are included with each crossover. In addition, each crossover features two on-board header jumpers (one for the amplifier and one for the RCA line outputs) which allow you to select Bypass (Full Range), High Pass, and/or Low Pass modes. The “ix” Series models offer an additional Band Pass selection. When chosen, the Band Pass selection is available via the Low Pass jumper position for the RCA line outputs.

The following Frequency Modules (SIPs)\* are available from your Xtant Dealer: 50 Hz, 70 Hz, 80 Hz, 90 Hz, 120 Hz, 150 Hz, 300 Hz, 500 Hz, 700 Hz, 1 kHz, 3 kHz, 4 kHz, and 5 kHz.

Please refer to the *Installer's Reference* (insert) for the Frequency Module receptacle location and chart of frequency/SIP value code numbers



\* **SIP**: an acronym referring to multiple resistors in a Single In-Line Package



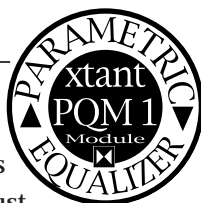


## OPTIONAL ACCESSORY MODULES

Xtant optional accessory modules are easily and quickly installable by your Authorized Xtant Dealer. The upgrade modules snap into place on the amplifiers PC board when the top of the unit is removed. These accessories enhance your entire system, expanding and customizing performance for your unique applications.

### PARAMETRIC EQUALIZATION MODULE - PQM 1

The PQM-1 is a precision tuning instrument, designed to be adjusted with the use of a *Real-Time-Analyzer*. This true, fully adjustable, one band parametric equalizer provides individual frequency, Q/bandwidth, and +/- 18dB gain adjustment controls. By utilizing one of three (3) frequency modules included, any frequency from 20 Hz to 20kHz can be chosen. The "Q" ranges from 1 to 10 in value, allowing a wide variety of bandwidth adjustment to address the subtle tuning requirements common to mobile audio systems. All 2-channel Xtant amplifiers can accept one PQM-1. All 3/4-channel amplifiers will accept two PQM-1 modules if desired (one PQM-1 per 2 channels of input).



### BASS BOOST MODULE-LFQ45

The LFQ 45 is designed to add, 4, 8, or 12 dB of *Bass Boost* to any sound system powered by an Xtant amplifier(s).

The LFQ 45 will enhance the bass performance of any sub-woofer system, sealed or ported. However, if you are using the LFQ 45 with a ported enclosure, be sure that the 45 Hz center frequency is at or above the vent tuning frequency or damage may occur to the speaker.



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## MAINTENANCE

### RECOMMENDED CLEANING PROCEDURES

#### CLEANING THE FAN / CIRCUIT BOARD

- A. The internal fan in all Xtant amplifiers need periodic cleaning. If you are in a high dust environment, every 30 days is recommended. We recommend that your dealer remove the cover and clean the fan blades with a soft brush. Loose dust can be removed with a vacuum hose.

#### CAUTION:

Have your dealer check the fan for obstructions if your amplifier over heats. When the Thermal Protection Circuit is engaged, the orange LED will be illuminated and power may be reduced.

- B. Have your dealer check the circuit board for dust. If present, use a low pressure air source to blow-off the dust particles. **DO NOT** use a high-pressure source, brush or any similar device to clean the circuit board!

#### CLEANING THE AMPLIFIER

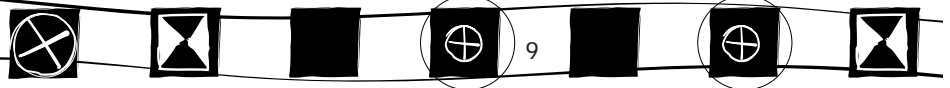
- A. Clean the stainless steel cover with a light dust cloth. For a more thorough cleaning, use window cleaner that is ammonia free. Apply the cleaner to the cloth (not the amplifier) and wipe the surface. Take care not to catch the cloth on the copper mesh.



#### CAUTION:

Do not allow liquids to touch the circuit board.

- B. To polish the stainless steel cover use a commercially available stainless steel cleaner/polish. It is important to note that stainless steel has a (directional) grain. Please read the directions supplied with the polish before beginning. As a rule of thumb, always polish with the grain. Apply the cleaner/polish to the cloth (not the amplifier) and wipe the surface. Take care not to catch the cloth on the copper mesh.





CUSTOMER RELATIONS  
TECHNICAL SERVICES

## STATEMENT OF PURPOSE

Our customer's satisfaction is our purpose. You represent our present and our future. It is our goal to create and nurture relationships based upon trust and respect. This commitment is not taken lightly or just for today; it is our way of doing business. We believe there is no other way.

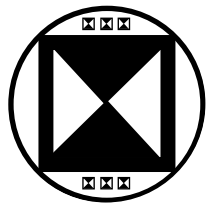
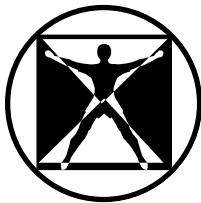
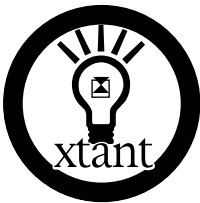
Xtant's policies and procedures are designed, in the event of a problem, to minimize the amount of your "down-time" and inconvenience. It is our commitment that the product will be at our facility for no more than four (4) days. Please consider weekends or holidays (which may fall within the time period) when estimating the return date of serviced product.

For technical assistance and information regarding products and/or installation, please contact Xtant's Customer Service Department from 8:00 am to 5:00 pm MST- Monday thru Friday at:

**PHONE:** (602) 431 8686

**FAX:** (602) 431 8600

**U.S.A. TOLL FREE:** (888) 449 8268



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## LIMITED U.S.A. WARRANTY

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Xtant Technologies (Xtant) warrants its products to be free from defects in materials and workmanship under normal use and service when the unit is installed by an Authorized Xtant Dealer as follows: electronics (4) four years from original purchase date; speakers/subwoofers (3) three years from original purchase date. Non-Authorized Dealer installed products carry a one (1) year parts and labor limited warranty. The extent and conditions of Xtant's Limited Warranty are as follows:

1. Authorized Xtant Dealer Installed Products: Xtant will repair at no charge, to the original purchaser, any unit which Xtant's examination discloses to be defective and under warranty, provided the defect occurs within the warranty period and the product is returned immediately to Xtant. This warranty is not transferable.

2. Non-Authorized Xtant Dealer Installed Products: Xtant will repair at no charge, to the original purchaser, any unit which Xtant's examination discloses to be defective and under warranty, provided the defect occurs within one (1) year from the date of purchase and the product is returned immediately to Xtant. This warranty is not transferable.

**3. The date of purchase and proof of Authorized Dealer Installation of an Xtant product must be established by an original (or copy of the original) sales receipt which must accompany the article being returned for warranty work.**

4. This warranty shall NOT apply to any Xtant unit found to have the original factory serial number removed or defaced. All products received (by Xtant) for in warranty or out of warranty repair, with their original serial numbers removed or defaced, will NOT be repaired and will be returned to sender, freight collect.

5. The provisions of this warranty shall not apply to any Xtant unit used for a purpose for which it is not designed, which has been repaired or altered in any way, or which has been connected, installed, or adjusted other than in accordance with the instructions furnished in Xtant's owner's manual. Nor shall this warranty apply to any part which has been subject to misuse, neglect, or accident.

6. Xtant does not authorize any other persons to assume any other liability in connection with its products. THIS WARRANTY IS THE ONLY EXPRESS WARRANTY MADE BY XTANT APPLICABLE TO ITS PRODUCTS. ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO XTANT'S AMPLIFIERS AND OR ACCESSORIES IS LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY. XTANT SHALL NOT BE LIABLE FOR THE INCIDENTAL, CONSEQUENTIAL, OR COMMERCIAL DAMAGES RESULTING FROM THE BREACH OF THIS WRITTEN WARRANTY. Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts; so the above limitations or exclusions may not apply to you.

7. Your unit will be serviced on an in-warranty basis within the warranty period for the correction of warranted defects. If improper operation of your Xtant product should occur, contact your Authorized Xtant Dealer for assistance with the return and factory repair of your Xtant product. If an Authorized Xtant Dealer is not available, please contact **Xtant's Customer Service Department for assistance.**



**ELECTRONICS**  
Xtant Technologies  
7676 South 46th Street  
Phoenix, Arizona 85040  
888-449-8268

**SPEAKERS**  
Xtant Technologies  
805 Woodman Ave.  
Winslow, Il 61089  
800-556-2888

**TO RETURN XTANT PRODUCTS OUT OF WARRANTY:** Contact Xtant's Warranty Department at (602) 431 8686 from 8:00 am to 5:00 pm (MST) for a Return Authorization Number. Return the unit, postage prepaid, in the original protective carton. Please include a description of the problem and, if desired, a request for an estimate of repair costs. Unless a request for an estimate is included, the unit will be repaired as necessary. Repaired unit will be returned with an itemized statement, C.O.D. certified or Visa/MC. Xtant provides a 90 day warranty on all repairs serviced as non-warranty units.



# OWNER'S INSTALLATION LOG

Upon installation of your mobile audio sound system, your Authorized Xtant Select Dealer will complete this log. Keep this owner's manual with your vehicle as a reference for all amplifier settings.

**OWNER'S NAME:** \_\_\_\_\_

**VEHICLE:** \_\_\_\_\_ **YEAR:** \_\_\_\_\_

**XTANT AMPLIFIER SERIAL NO.** \_\_\_\_\_

## INPUT SENSITIVITY (CIRCLE SETTING)

### FRONT INPUTS (2 CHANNELS)

-20 dB   -10 dB   0 dB   +10 dB   +20 dB

### FRONT CROSSOVER (2 CHANNELS)

CIRCLE JUMPER SETTING:

**AMPLIFIER:**    12dB / 24dB

ALL            HIGH            LOW

**RCA OUTPUTS:**    12dB / 24dB

ALL            HIGH            LOW

### FREQUENCY VALUE (2 CHANNELS)

**SIP HIGH PASS FQ**    \_\_\_\_\_

**SIP LOW PASS FQ**    \_\_\_\_\_

### REAR INPUTS (MONO CHANNEL)

-20 dB   -10 dB   0 dB   +10 dB   +20 dB

### REAR CROSSOVER (MONO CHANNEL)

CIRCLE JUMPER SETTING:

**AMPLIFIER:**    12dB / 24dB

ALL            HIGH            LOW

**RCA OUTPUTS:**    12dB / 24dB

ALL            HIGH            LOW

### FREQUENCY VALUE (MONO CHANNEL)

**SIP HIGH PASS FQ**    \_\_\_\_\_

**SIP LOW PASS FQ**    \_\_\_\_\_

## OUTPUT GAIN ADJUSTMENT

LEFT    RIGHT    MONO



(DRAW ARROW POSITION)

## NOISE GATE ADJUSTMENT

SWITCH:    ON    OFF

## THRESHOLD POSITION



(DRAW ARROW POSITION)

## ACCESSORY MODULES (CIRCLE SETTING)

**PQM-1 (FRONT)**    YES    NO

**PQM-1 CHIP FREQUENCY**    \_\_\_\_\_

**PQM-1 (REAR)**    YES    NO

**PQM-1 CHIP FREQUENCY**    \_\_\_\_\_

## BALANCED INPUT

**F R O N T**                      **R E A R**

ENABLE    DISABLE    ENABLE    DISABLE

**XTANT SELECT DEALER** \_\_\_\_\_

**PHONE:** \_\_\_\_\_

**INSTALLATION SPECIALIST:** \_\_\_\_\_

**DATE INSTALLED:** \_\_\_\_\_

