



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

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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

All Xtant amplifiers have on-board power fuses. However, it is recommended that a fuse of like value be installed at the positive terminal of the battery. In the case of a multi-amp system, use a fuse value equal to the combined value of all (system amplifier's) on-board power fuses.

WATER AND MOISTURE



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



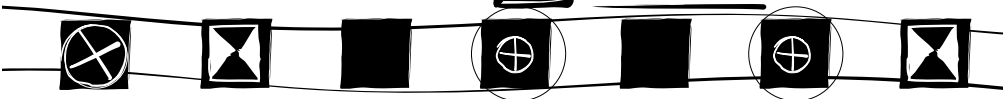


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INSTALLER'S REFERENCE

INSERT





 **xtant::4180x**

The 4180x is a four 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 4180x 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 per octave "Butterworth" 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.

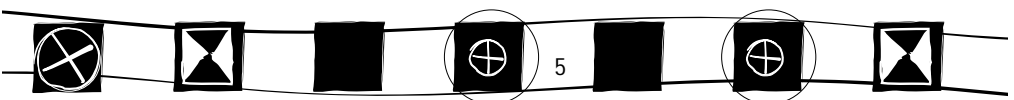
NOISE GATE: Provides deep muting when no musical signal is present. Features include adjustable threshold and bypass switch.

BALANCED / FLOATING INPUT: All "x" Series amplifiers offer input docking ports which accept the optional Balanced Line Module (BLM-1). When added to the input stage, this circuitry helps to eliminate "system noise" associated with "ground-loops".

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 4180X SPECIFICATIONS

Frequency Response:	5 Hz to 50 kHz +/- 1 dB
Number of Channels:	4
Watts per Channel @ 4Ω:	4 x 45
Watts per Channel @ 2Ω:	4 x 90
Bridged Mono @ 4Ω:	2 x 180
Recommended Load:	>2Ω Stereo / >4Ω Bridged
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 per Octave "Butterworth"
Module Port(s):	2 - Accessory and 2 - Balanced Line
Power Supply:	Fully Regulated, PWM
Operational Voltage:	11 to 15 Volts
Fusing:	60 Amp
Size (L xW x H):	18.5 x 9.9 x 2.85"
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



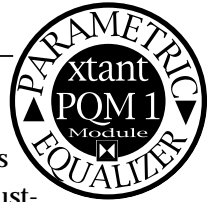


OPTIONAL ACCESSORY MODULES

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).



24 DB / OCTAVE CROSSOVER MODULE - CM 24X

The CM-24X upgrades the standard on-board crossovers provided on all Xtant "ix" and "x" Series amplifiers to a 24 dB per octave "Linkwitz - Riley" filter. The CM-24x module improves loudspeaker polar response while its steeper slope provides enhanced system design flexibility.

BALANCED LINE MODULE - BLM 1

The BLM-1 upgrades all Xtant "x" Series amplifiers to include Balanced / Floating Line Inputs, which are standard on all "i" series products. The BLM-1 does not create balanced line outputs for the standard, on-board crossover. However, in most cases, the noise elimination benefits of balanced lines will be passed through to amplifier(s) connected to these outputs.



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MAINTENANCE

RECOMMENDED CLEANING PROCEDURES

CLEANING THE FAN / CIRCUIT BOARD - EVERY 90 DAYS

- 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!

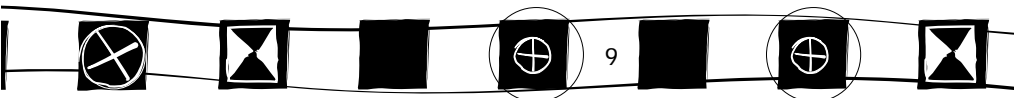
CLEANING THE AMPLIFIER - EVERY 30 DAYS

- 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

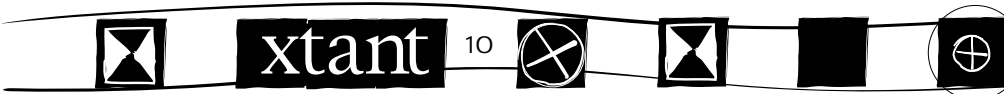
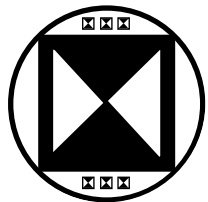
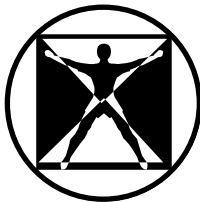
STATEMENT OF PURPOSE

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 to service and return such product in no more than two (2) working days from the time Xtant receives the equipment. 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 Relations Department from 8:00 am to 5:00 pm MST- Monday thru Friday at:

PHONE: (602) 431 8686
FAX: (602) 431 8600





FOUR - YEAR 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 Incorporated (Xtant) warrants its amplifiers and accessories to be free from defects in materials and workmanship under normal use and service for a period of four (4) years from the date of original purchase when the unit is installed by an Authorized Xtant Select Dealer. 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 Select Dealer Installed Products: Xtant will either repair or replace 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 four (4) years from the date of purchase when the unit is installed by an Authorized Xtant Select Dealer and the product is returned immediately to Xtant. This warranty is not transferable.
2. Non-Authorized Xtant Dealer Installed Products: Xtant will either repair or replace 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 amplifier and/or accessory 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 Select Dealer for assistance with the return and factory repair of your Xtant product. If an Authorized Xtant Select Dealer is not available, please contact Xtant's Customer Relations Department at (602) 431 8686 from 8:00 am to 5:00 pm (MST) for assistance.



Xtant Technologies
7676 South 46th Street
Phoenix, Arizona 85040

TO RETURN XTANT PRODUCTS OUT OF WARRANTY: Contact Xtant's Customer Relations 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.



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

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

FRONT CROSSOVER

CIRCLE JUMPER SETTING:

AMPLIFIER:

BYP HIGH LOW

RCA OUTPUTS

BYP HIGH LOW

FREQUENCY VALUE FREQUENCY VALUE

SIP HIGH PASS FQ _____

SIP LOW PASS FQ _____

REAR INPUTS

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

REAR CROSSOVER

CIRCLE JUMPER SETTING:

AMPLIFIER:

BYP HIGH LOW

RCA OUTPUTS

BYP HIGH LOW

OUTPUT GAIN ADJUSTMENT

FRONT REAR
LEFT RIGHT LEFT RIGHT



(DRAW ARROW POSITION)

NOISE GATE ADJUSTMENT

SWITCH: ON OFF

THRESHOLD POSITION



(DRAW ARROW POSITION)

ACCESSORY MODULES (CIRCLE SETTING)

CM 24X FRONT REAR
 YES NO YES NO

BLM-1 FRONT REAR
 YES NO YES NO

PQM-1 (FRONT) YES NO

PQM-1 CHIP FREQUENCY _____

PQM-1 (REAR) YES NO

PQM-1 CHIP FREQUENCY _____

XTANT SELECT DEALER _____

PHONE: _____ **DATE INSTALLED:** _____

INSTALLATION SPECIALIST: _____

