



Q450.4

Q700.2

Q600.1

Q1200.1

Owner's Manual

INTRODUCTION

Thank you for purchasing an Image Dynamics amplifier for your automotive sound system.

Your amplifier has been designed and manufactured to the highest standards ensuring years of enjoyment in your vehicle. For maximum performance and extended warranty coverage, we highly recommend that you have your new amplifier installed by an authorized Image Dynamics dealer. Your authorized dealer has the training, expertise and installation equipment to ensure optimum performance from this product. Should you decide to install the amplifier yourself, please take the time to read this manual thoroughly so as to familiarize yourself with its installation requirements and setup procedures.

FEATURES - CLASS AB AMPLIFIER

- MOSFET POWER SUPPLY AMPLIFIER
- AUDIOPHILE GRADE NE5532 OPAMPS
- HIGH CURRENT BI-POLAR OUTPUTS
- 12dB/Oct. CROSSOVER
 - VARIABLE HIGH PASS CROSSOVER (50Hz-500Hz & 500Hz-5KHz)
 - VARIABLE LOW PASS CROSSOVER (50Hz-500Hz & 500Hz-5KHz)
- BANDPASS CROSSOVER ON 450.4
- VARIABLE 0dB TO 12dB BASS EQ AT 45Hz
- 5 WAY PROTECTION CIRCUIT TO ENSURE LONG LIFE
- THROUGH OUTPUT RCA FOR RUNNING MULTIPLE AMPLIFIERS
- 2 OHM STEREO 4 OHM MONO OPERATION
- SOFT START / MUTE CIRCUIT

FEATURES - CLASS AB MONO AMPLIFIER

- MOSFET POWER SUPPLY AMPLIFIER
- AUDIOPHILE GRADE NE5532 OPAMPS
- HIGH CURRENT BI-POLAR OUTPUTS
- 24dB/Oct. CROSSOVER
 - VARIABLE LOW PASS CROSSOVER (50Hz-250Hz)
- VARIABLE 24dB/Oct. SUBSONIC FILTER 15Hz - 45Hz
- VARIABLE PHASE SHIFT 0° - 180°
- 5 WAY PROTECTION CIRCUIT ENSURES LONG LIFE
- THROUGH OUTPUT RCA FOR MULTIPLE AMPLIFIERS
- BASS REMOTE CONTROL
- 1 OHM STABLE CIRCUIT
- SOFT START / MUTE CIRCUIT

WARNING

High powered audio systems in a vehicle are capable of generating “Live Concert” levels of sound pressure. Continued exposure to excessively high volume sound levels may cause hearing loss or damage. Also, operation of a motor vehicle while listening to audio equipment at high volume levels may impair your ability to hear external sounds such as; horns, warning signals, or emergency vehicles, thus constituting to a potential traffic hazard.

PLANNING and INSTALLING YOUR SYSTEM

Installation Applications

This amplifier is designed for operation in vehicles with 12V, negative-ground electrical systems. Use of this product in vehicles with positive ground and/or voltages other than 12V may result in damage to the product and will void the warranty.

Planning Your Installation

It is important that you take the time to read this manual and that you plan out your installation carefully. The following are some considerations that you must take into account when planning your installation.

Installation Guidelines

Mounting your Amplifier is easy. Keep in mind the following guidelines:

- Supply ample power, Amplifiers do not make power they convert the current from the cars battery into musical energy through the speakers in your system.
- Proper ground connection is required. The ground for the amplifier must carry the same current as the positive power wire. It is suggested to upgrade the factory ground wire from the battery to the chassis of your vehicle.
- The amplifier requires adequate ventilation. Position the amplifier with sufficient surrounding area for proper cooling. If possible mount amplifier in a vertical position .
- Keep the amplifier out of the engine compartment and other locations that may cause excessive heat or moisture.
- **Do not mount the amplifier to a subwoofer enclosure or any other place that may have excessive vibration!**
- **It is required that the main power wire for the amplifier(s) be fused within 18” of the battery for safety.**

Mistakes to Avoid:

- Check before drilling any holes in your vehicle to make sure that you will not be drilling through a gas tank, brake line, wiring harness or other vital vehicle system.

- Do not run system wiring outside or underneath the vehicle. This is an extremely dangerous practice which can result in severe damage to your vehicle and person.

- Protect all system wires from sharp metal edges and wear by carefully routing them, tying them down, and using grommets & loom where appropriate.

PLANNING and INSTALLING YOUR SYSTEM (continued)

STEPS FOR AMPLIFIER INSTALLATION-

The following represents the steps for a typical amplifier installation, using an aftermarket source unit or OEM source Interface. Not all installations are the same and different procedures may be required. If you have any questions, please contact your authorized Image Dynamics dealer for assistance.

- 1-** Disconnect the negative battery connection and secure it to prevent accidental re-connection during installation. This is a required step!
- 2-** Run power wire (minimum 4 AWG) from the battery to the amplifier, taking care to route it in such a way that it will not be damaged and will not interfere with vehicle operation. Use 2 AWG or 1/0 AWG power wire if multiple are being installed.
- 3-** Connect power wire to the positive battery post. Fuse the wire within 18 inches wire length of the positive battery post. This fuse protects the vehicle in the case of a short circuit. Do not install the fuse until the power wire has been connected to the amplifier.
- 4-** Run RCA cables and remote turn-on wire from the source unit to the amplifier.
- 5-** Run speaker wire from the speaker locations to the amplifier.
- 6-** Find a good, solid metal grounding point close to the amplifier, remove all paint and sound deadener to bare metal, then connect the negative power wire using a minimum of a #12 screw or 1/4" bolt. Use minimum 4 AWG power wire from the amplifier to the ground connection point. In most vehicles, it is necessary to upgrade the battery to chassis ground wire to a minimum of 4 AWG.
- 7-** Securely mount the amplifier using supplied hardware.
- 8-** Connect the positive and negative power wires to the amplifier. A fuse near the amplifier is not recommended.
- 9-** Connect the remote turn-on wire to the amplifier.
- 10-** Connect the RCA cables to the amplifier.
- 11-** Connect the speaker wires to the amplifier.
- 12-** Carefully select the proper settings for the Amplifier according to the needs of the system.
- 13-** Install power wire fuse and reconnect the negative battery post terminal.
- 14-** Turn on the system at a low level to check that the amplifier is configured correctly. Resist the temptation to crank it up until you have verified the control settings.
- 15-** Make necessary adjustments to the input sensitivity controls to obtain the right overall output and the desired balance in the system.
- 16-** Enjoy your system.

POWER CONNECTIONS

CAUTION

Prior to installing the amplifier, disconnect the negative (ground) wire from the vehicle's battery. This will prevent accidental damage to the system, the vehicle and your person during installation.

The Q series amplifiers power and ground connections are designed to accept 4 AWG power wire. 4 AWG is the minimum recommended power wire size for this amplifier. If you are installing multiple amplifiers and wish to use a single main power wire, use 2 AWG or 1/0 AWG main power wire (depending on total system current demands). The main 2 AWG or 1/0 AWG power wire should terminate into a distribution block mounted as close to the amplifiers as possible and should connect to the amplifier with 8 - 4 AWG power wire.

The ground connection should be made using the same gauge wire as the power connection and should be kept as short as possible, to a solid piece of sheet metal in the vehicle. The surface of the sheet metal should be sanded at the contact point to create a clean, metal-to-metal connection between the chassis and the ground wire termination. For proper grounding use a bolt with a star washer, a #10/12 sheet metal screw can be used alternately.

Any wires run through metal barriers (such as fire walls), must be protected with a high quality insulating grommet to prevent damage to the insulation of the wire. Failure to do so may result in a dangerous short circuit.

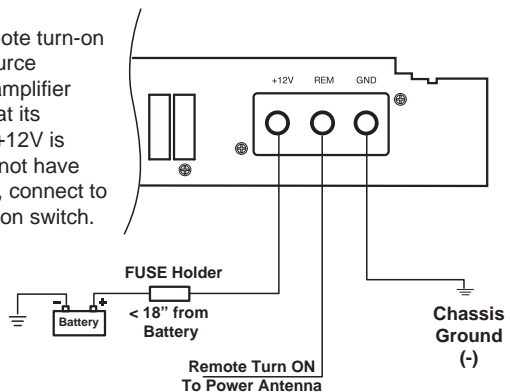
NOTE: Many vehicles use small gauge wire to ground the battery to the vehicle chassis and to connect the alternator to the battery. These wires should be upgraded to 4 AWG when installing large or multiple amplifier systems exceeding 500 watts.

FUSES

It is required that the main power wire to the amplifier(s) in the system be fused within 18 inches of the positive battery connection. The fuse value at each power wire should be high enough for all of the equipment being run from that power wire. If only an individual amplifier is being run from that power wire, we recommend a fuse equal to the amplifiers fuses be used. No fuse is required or recommended directly before the amplifier power

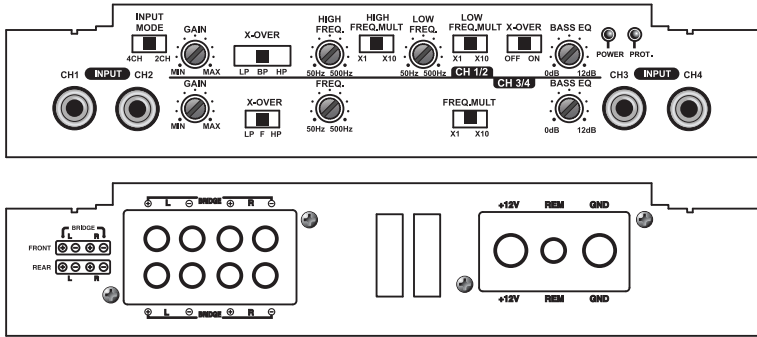
REMOTE TURN-ON

The Q Amplifiers uses a +12V remote turn-on lead, typically controlled by the source unit's remote turn-on output. The amplifier will turn on when +12V is present at its "Remote" input and turn off when +12V is switched off. If a source unit does not have a dedicated remote turn-on output, connect to +12V circuit controlled by the ignition switch.

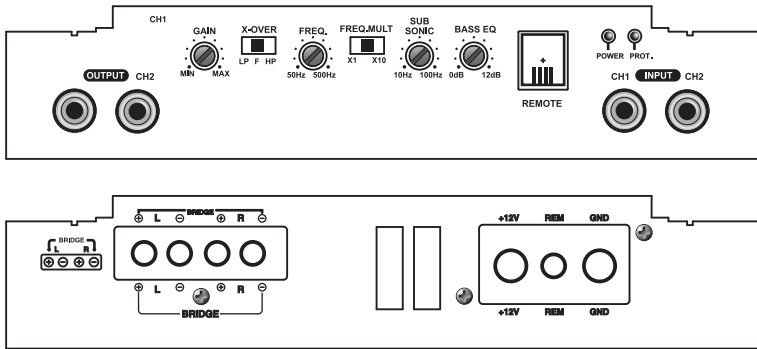


CONTROLS AND SETTINGS

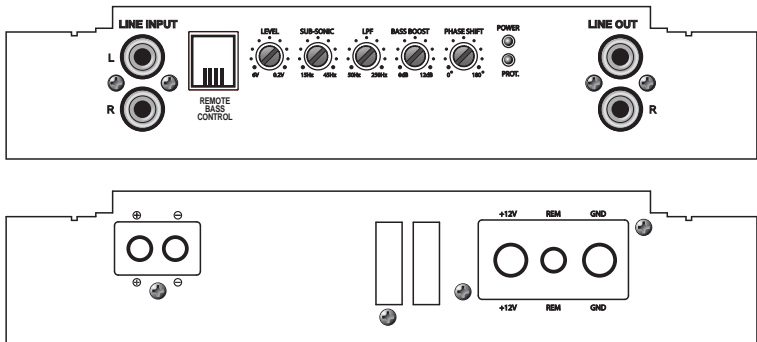
● 4 Channel



● 2 Channel



● Mono



CONTROLS AND SETTINGS

Input Sections

RCA CONNECTORS- The Q Amplifiers use differential low level RCA type inputs, 2 channel and Mono models have one set of L/R inputs and one set of full range L/R outputs. 4 channel models have two sets of L/R inputs with an INPUT MODE switch. If you wish to operate all four channels with a single stereo input select 2CH, if you wish to provide separate inputs for all four channels select 4CH.



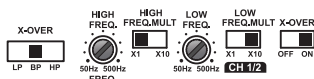
INPUT GAIN- To allow the Q series amplifiers to operate correctly from wide variety of source units and in varying configurations. The gain control does **not limit output power** nor is it a volume control. The gain varies the sensitivity of the amplifiers input circuits. The main purpose of the input gain control is to properly match the levels of different speakers in your system for best sound according to your tastes while allowing you to adjust for maximum undistorted output. Turned to MAX the amplifier will require a higher volume from the source to achieve maximum output, turned to MIN the amplifier will achieve full volume from a lower level from the source. On the 2-channel and Mono models you can control the gain using the remote connection to provide remote level adjustment for subwoofers.

CROSSOVER CONTROLS- Crossovers filters allow only certain frequencies to pass through them and attenuate frequencies outside the selected range. This enables the user to specify what frequency range will be sent through the amplifier. The purpose of this is so each speaker only reproduces the range of frequencies it is intended for, providing lower distortion and improved sound quality.

XOVER



2-Channel



4-Channel

LP or LPF(mono models) Sets the crossover to low pass attenuating frequencies above the selected frequency. Normally used for connecting to a subwoofer on that channel.

HP Sets the crossover to high pass attenuating frequencies below the selected frequency. Normally used for connecting component speakers or pair of tweeters on that channel.

BP (4 Channel only) Sets the crossover to band pass attenuating frequencies below the selected high frequency and above the selected low frequency. This creates a band pass response where only frequencies in between the two selected frequencies are reproduced. Normally used for connecting to a midbass or midrange driver in a 2-way active front sound stage.

F Sets the input so that the amplifier will produce a full range output attenuating any frequencies.

FREQ. -or- HIGH FREQ. / LOW FREQ. This rotary control selects the crossover frequency.

FREQ. MULT X1 or X10 Switches the crossover frequency range from 50-500 to 500-5000

SUB-SONIC (mono models) Is a high pass filter that prevents the subwoofer from playing below the selected frequency. This is normally used to prevent over excursion of a subwoofer in a ported enclosure or when installed infinite baffle.

BASS EQ The amplifiers have a bass equalization circuit centered at 45Hz with up to 12dB of boost. Use the BASS EQ carefully, Too much equalization can easily cause amplifier clipping and may even damage your speakers.. It is better to work with subwoofer position and enclosure to get the proper response rather than relying upon the BASS EQ function.

STATUS LIGHTS The green Power LED when illuminated indicates that the amplifier is on and operating normally. The red Protection LED indicates the amplifier has detected a fault and gone into protection. If illuminated, turn off amplifier and check for shorted speaker leads, proper battery voltage, or grounded RCA input.

SPECIFICATIONS

SPEC.	MODEL	Q600.1	Q1200.1
POWER @ 14.4V <1% THD + N			
RMS AT 4 Ohm , STEREO		250W X 1CH	500W X 1CH
RMS AT 2 Ohm , STEREO		400W X 1CH	800W X 1CH
RMS AT 1 Ohm , STEREO		600W X 1CH	1200W X 1CH
S/N RATIO @ rated power		> 98dB	> 98 dB
THD+N typical/rated power		0.05% / <1%	0.05% / <1%
CHANNEL SEPARATION		~~~~~	~~~~~
INPUT SENSITIVITY		0.15V ~6.0V	0.15V ~6.0V
INPUT IMPEDENCE		20 KOhm	20 KOhm
SLEW RATE		25V / μ Sec	30V / μ Sec
DAMPING FACTOR @ 50 Hz		> 100 @ 2ohms	> 100 @ 2ohms
FUSE RATING		40A X 2	30A x 4
DIMENSION			
* WIDTH		8.5" / 222mm	8.5" / 222mm
* HEIGHT		2.125" / 54mm	2.125" / 54mm
* LENGTH		13.75" / 349mm	18.5" / 470mm

SPECIFICATIONS

SPEC.	MODEL	Q700.2	Q450.4
POWER @ 14.4V <1% THD + N			
RMS AT 4 Ohm , STEREO		175W X 2CH	75W X 4CH
RMS AT 2 Ohm , STEREO		325W X 2CH	125W X 4CH
RMS AT 4 Ohm , MONO		650W X 1CH	250W X 2CH
S/N RATIO @ rated power		> 100dB	> 100dB
THD+N typical/rated power		0.05% / <1%	0.05% / <1%
CHANNEL SEPARATION		> 75dB	> 65dB
INPUT SENSITIVITY		0.15V ~5.0mV	0.15V ~5.0mV
INPUT IMPEDENCE		20 KOhm	20 KOhm
SLEW RATE		25V / μ Sec	23V / μ Sec
DAMPING FACTOR @ 50 Hz		> 100 @ 2 ohms	> 100 @ 2ohms
FUSE RATING		30A x 3	40A x 2
DIMENSION			
* WIDTH		8.5" / 222mm	8.5" / 222mm
* HEIGHT		2.125" / 54mm	2.125" / 54mm
* LENGTH		17.25" / 438mm	13.75" / 349mm

IMAGE DYNAMICS USA LIMITED WARRANTY

IMAGE DYNAMICS USA warrants this product is free from defects in material and workmanship for a period of 2 (TWO) years from date of original purchase when installed by an authorized retailer or in a retailer approved installation, this must be indicated in writing on the original sales receipt.

Ninety (90) days if not installed by an authorized dealer or in an authorized retailer approved installation.

This warranty is not transferable and applies only to the original retail purchaser of the product from an authorized IMAGE DYNAMICS USA Retailer. Upon inspection by Image Dynamics USA should service be necessary under this warranty for any reason due to manufacturing defects IMAGE DYNAMICS will, at its sole discretion, repair or replace the defective product with new or re-manufactured product at no charge.

This warranty is limited and does not cover claims for damage caused by misuse, abuse, neglect, alteration, normal wear and tear, and is limited to material failures or defects arising during normal use in a dealer approved installation.

All warranty returns should be sent to IMAGE DYNAMICS USA freight prepaid through an authorized IMAGE DYNAMICS USA retailer and must be accompanied by proof of purchase (a copy of the original sales receipt). Direct returns from consumers or non-authorized retailers will be refused unless specifically authorized by IMAGE DYNAMICS USA customer service with a valid return authorization number. This warranty does not cover the cost of removing or reinstalling the amplifiers.

All warranty returns must be packaged in original retail packaging and be accompanied by a copy of the original sales receipt. Products damaged in shipment due to improper packaging will not be covered under this warranty.

No other warranties are expressed or implied.

In no event will IMAGE DYNAMICS be liable for incidental, consequential, or other damages resulting from the use of this product, this includes but is not limited to, damage to hearing, property or person, damage based upon inconvenience or on loss of use of the product, and, to the extent permitted by law, damages for personal injury.

This warranty gives you specific legal rights, and you may have other rights, which vary from state to state. This warranty applies to products sold and used in the United States of America. In all other countries, contact your distributor. If you have any questions please contact customer service @ 866-933-1414.

CAUTION:

THESE PRODUCTS ARE CAPABLE OF VERY HIGH SOUND PRESSURE LEVELS. PROLONGED EXPOSURE TO SOUND PRESSURE LEVELS IN EXCESS OF 100DB CAN CAUSE PERMANENT HEARING LOSS. PLEASE LISTEN USING COMMON SENSE AND RESTRAINT

Image Dynamics USA Ph. 866-933-1414 Fax 866-239-4399
620-C S. Magnolia Ave. Ontario, CA 91762
www.imagedynamicsusa.com