



## OWNER'S MANUAL AND INSTALLATION GUIDE

### 4503IQ

(1995-MSRP \$559.00)

#### 4-CHANNEL MULTI-CONFIGURATION AMPLIFIERS

##### INTRODUCTION

The **4503IQ** is a multi-channel amplifier providing both power and flexibility. The **4503IQ** is rated at 50 watts per channel into both 2 and 4-ohm loads. The amp has an unregulated driven power supply for greater dynamic headroom. Each of the four channels in this amplifier has its own dedicated 12dB/octave crossover. The mode of operation for the amplifier is user selectable, for one of three possible configurations - **full range**, **bi-amp**, or **satellite**. In the full range mode, all four channels cover the entire music spectrum. The bi-amp mode dedicates the front channels for a high pass output and the rear channels become the subwoofer output, electronically crossed over at 80Hz. In the satellite mode, both front and rear outputs are high pass outputs with the low pass RCA outputs active providing subwoofer information for a separate amplifier. These are also crossed over at 80Hz in the **4503IQ**. The outputs of this amplifier have inverted right channel outputs allowing the user to bridge the speaker outputs. Using a mixed stereo/mono configuration on both front and rear outputs offers a possibility of six-channel operation with this amplifier.

##### INSTALLATION

**WIRING:** Disconnect battery ground cable before making any power connections.

**RED WIRE:** +12 volts - Connect directly to battery positive terminal and should be fused within 18 inches of battery and another fuse where the connection to the amplifier is made. Remember to use the proper size fuses. **Do not** install power fuse until installation of amplifier is complete.

**WARNING: USE OF OVERSIZED FUSES IS DANGEROUS AND WILL  
DAMAGE YOUR AMPLIFIER.**

**BLACK WIRE:** Negative ground - Connect to clean unpainted metal surface on car chassis.

**RED/WHITE WIRE:** Remote turn on lead requires +12 volts; connect to power antenna lead from radio. When this is not available you may connect to a +12 volts wire that is on with the ignition on or in the accessory position.

**RCA CONNECTIONS:** Connect with quality-shielded patch cords from source, crossover, or any other sound processor.

**MODE SELECTION:** A switch, accessible through the plug on the bottom of the amplifier, selects one of the three operating modes for the amplifier. Position A (satellite mode): both front and rear outputs are high pass (80Hz and above) in the **4503IQ**. The subwoofer RCA output is active with subwoofer information for another amplifier being supplied, 80Hz and below in the **4503IQ**. Position B (bi-amp configuration): the front outputs are high pass, 80Hz and above in **4503IQ** and the rear outputs become subwoofer outputs (80Hz and below). Position C is full range operation front and rear. NOTE: In all modes both front and rear inputs are required. You can use "Y" RCA connectors to accomplish this, if you are using only one RCA cable coming from the radio.

**SPEAKER CONNECTIONS:** The speaker connections are accomplished by connecting speaker wire to removable plugs. These plugs will accept up to a 12-gauge speaker wire. Facing the plug while it is connected to the amplifier the polarity for both plugs in Left (-), Left (+), Right (-), Right (+) with the left plug being the front outputs and the Right being the rear outputs. The exception to this is when in Position B of the mode selector: the front speaker plug is your high pass output and the rear speaker plug is your low pass (or, subwoofer output).

**MINIMUM OHM LOADS:** Normal operation is 4 ohms per channel or 8 ohms mono. The amplifier will operate at 2 ohms per channel or 4 ohms mono but the following must be done: You must change the "power supply impedance matching connectors". Remove faceplate and bottom cover and locate toroid coil, just below it are two disconnects on taps marked "4". Change them to "2", replace cover and complete installation. Failure to change these connections can cause premature failure of your amplifier. NOTE: For speaker protection the **4253IQ** has internal fuses. If there is no output check these fuses. Replace with the same size fuse (4 amp). Over fusing is easily detectable and will damage your amp.

**GAIN ADJUSTMENT:** There are two gain adjustments on the amplifier, one for front and one for rear. Follow these directions for both: Set the amp gain to minimum, turn the source up until it just starts to distort, then back down slightly. This is the point where the output of the source is cleanest. Now adjust the amplifier gain up until it just starts to distort and back down slightly. This will allow the source and amp to reach maximum usable output at the same time.

## **MOUNTING**

1. The amplifier works best if it is kept as cool as possible. Mount in a position that allows air to flow freely through the fins. Be sure there is ample space above the amplifier to avoid trapping heated air rising from the amplifier. The amplifier should not be mounted upside down. Avoid mounting any amplifier in the dash or on the firewall to avoid noises being radiated directly onto the case.

2. The case of your amplifier is designed to act as a noise shield. To maintain this protection, be sure the metal case of the amp does not touch the metal of the car. Do not remove or damage the rubber grommets, which provide electrical insulation and vibration isolation.

## **OPERATION / ADJUSTMENT**

For any system to operate at minimum distortion with minimum noise and still reach full power output, the equipment should be aligned to operate at the same point on the distortion curve at the same time. In a basic system, using a single amplifier, set the amp sensitivity adjustment to minimum, turn the deck up until it just starts to distort, then back down slightly. This is the point where the output of the deck is cleanest. Now, bring the sensitivity control of the amp up until it just starts to distort, and back it down slightly. This will allow the amp and the deck to reach maximum usable output at the same time.

## **GENERAL TROUBLESHOOTING**

### **NO SOUND**

Check all connections. Check main power fuses. Check accessory fuse. With a trouble light or meter, be sure +12v is present at the amplifier on the power wires and the red/white turn-on wire. Check for a good ground connection. Check by substitution, or other method, for proper operation of music source.

### **BLOWS FUSES**

check all connections to be sure power wires and speaker wires do not touch each other or ground. Re-check polarity of main power wires. Check impedance of speaker loads and setting of the internal power taps to insure proper match.

### **SHUTS OFF**

As this amplifier is equipped with thermal and short circuit shut-down electronics, in the event of high ambient temperature or improper speaker impedances, the amp will turn itself off. To avoid damage to speakers, turn down the volume while waiting for the amp to turn itself back on. If this occurs repeatedly, use a fan to cool the amplifier and check for proper speaker loads and connections.

**SERVICE OR REPAIR**

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3455 LANELL LANE, PEARL, MS 39208 (601) 932-8477

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## SPECIFICATIONS

### 4503IQ

	4503IQ
Rated output 4/2 ohms	50w/ch
Rated THD 4 ohms	.04%
2 ohms	.10%
Damping factor 4 ohms	280
2 ohms	150
Signal to noise (Min/Max gain)	100db/80db
Channel separation (Min/Max gain)	78db/68db
Input sensitivity	150mV-5V
Input impedance	50Kohms
Power Consumption	
At Idle	.5A
4 ohms rated power	28A
2 ohms rated power	35A
Fuse rating	30A
Dimensions HxWxL	2.25"x10.25"x9.25"

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