

# Specifications

## SPL 50.4 / SPL 100.4 4-Channel Power Amplifier

CONTINUOUS OUTPUT POWER RATED AT 14.4VDC AND 1% THD (WATTS):

### SPL 100.4

CONTINUOUS POWER OUTPUT

INTO 4 OHM STEREO ..... 120W X 4CH  
 INTO 2 OHM STEREO ..... 200W X 4CH  
 INTO 4 OHM BRIDGED ..... 380W X 2CH

RECOMMENDED FUSE SIZE ..... 3 X30A AMP ATO  
 HEATSINK DIMENSIONS ..... 460(L) X 245(W) X 49(H)

FREQUENCY RESPONSE ..... 3dB 5Hz TO 38KHz  
 SIGNAL TO NOISE RATIO ..... >95dB  
 T.H.D ..... 0.05  
 SIGNAL INPUT SENSE ..... 300 MILLIVOLTS TO 8 VOLTS  
 LP VARIABLE X-OVER ..... 40Hz TO 600Hz @18dB/OCTAVE  
 HP VARIABLE X-OVER ..... 40Hz TO 600Hz @18dB/OCTAVE  
 VARIABLE BASS BOOST ..... 18dB at 45Hz  
 VARIABLE SUBSONIC ..... 20Hz TO 55Hz @18dB/OCTAVE

MINIMUM LOAD STABILTY ..... 2 OHM STEREO / 4 OHM BRIDGED

### SPL 50.4

CONTINUOUS POWER OUTPUT

INTO 4 OHM STEREO ..... 60W X 4CH  
 INTO 2 OHM STEREO ..... 100W X 4CH  
 INTO 4 OHM BRIDGED ..... 190W X 2CH

RECOMMENDED FUSE SIZE ..... 2 X 25A AMP ATO  
 HEATSINK DIMENSIONS ..... 330(L) X 245(W) X 49(H)

FREQUENCY RESPONSE ..... 3dB 5Hz TO 38KHz  
 SIGNAL TO NOISE RATIO ..... >95dB  
 T.H.D ..... 0.05  
 SIGNAL INPUT SENSE ..... 300 MILLIVOLTS TO 8 VOLTS  
 LP VARIABLE X-OVER ..... 40Hz TO 600Hz @18dB/OCTAVE  
 HP VARIABLE X-OVER ..... 40Hz TO 600Hz @18dB/OCTAVE  
 VARIABLE BASS BOOST ..... 18dB at 45Hz  
 VARIABLE SUBSONIC ..... 20Hz TO 55Hz @18dB/OCTAVE

MINIMUM LOAD STABILTY ..... 2 OHM STEREO / 4 OHM BRIDGED

DUE TO ON-GOING/CONTINUOUS PRODUCT DEVELOPMENT, FEATURES, SPECIFICATIONS AND AVAILABILITY ARE SUBJECT TO CHANGE WITHOUT NOTICE.

## POWER CABLE CALCULATOR

Total Amperage	0-4ft	4-7ft	7-10ft	10-13ft	13-16ft	16-19ft	19-22ft	22-28ft
0-20	14	12	12	10	10	8	8	8
20-35	12	10	8	8	6	6	6	6
35-50	10	8	8	6	4	4	4	4
50-65	8	8	6	4	4	4	4	2
65-85	6	6	4	4	2	2	2	0
85-105	6	6	4	2	2	2	2	0
105-125	4	4	4	2	0	0	0	0
125-150	2	2	2	0	0	0	0	0

The above chart shows cable gauges to be used, if no less than a 0.5 volt drop is acceptable. If aluminum wire or tinned wire is used, the gauges should be of an even larger size to compensate. Cable gauge size calculation takes into account terminal connection resistance. 1 Metre = 3.28 Feet

dB level	example
30	Quiet library, soft whispers
40	Living room, refrigerator, away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at 2 feet

The following noises can be dangerous under constant exposure	
90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the deafness Research Foundation.



\*Don't throw this product in the household waste!  
 \*Bring it back to your retailer!  
 \*You allow this product to be recycled!  
 \*You protect the environment!



## Product Manual

### 4-Channel Power Amplifier



4 Channel Power Amplifier

2 Ohm Stable MOSFET Amplifier Design

PWM MOSFET Power Supply

Accurate Stated Amplifier Ratings

Regulated Amplifier Technology

Variable High-Pass Crossover(40Hz-600Hz)

Variable Low-Pass Crossover(40Hz-600Hz)

Variable Bass-Boost 18dB at 45Hz

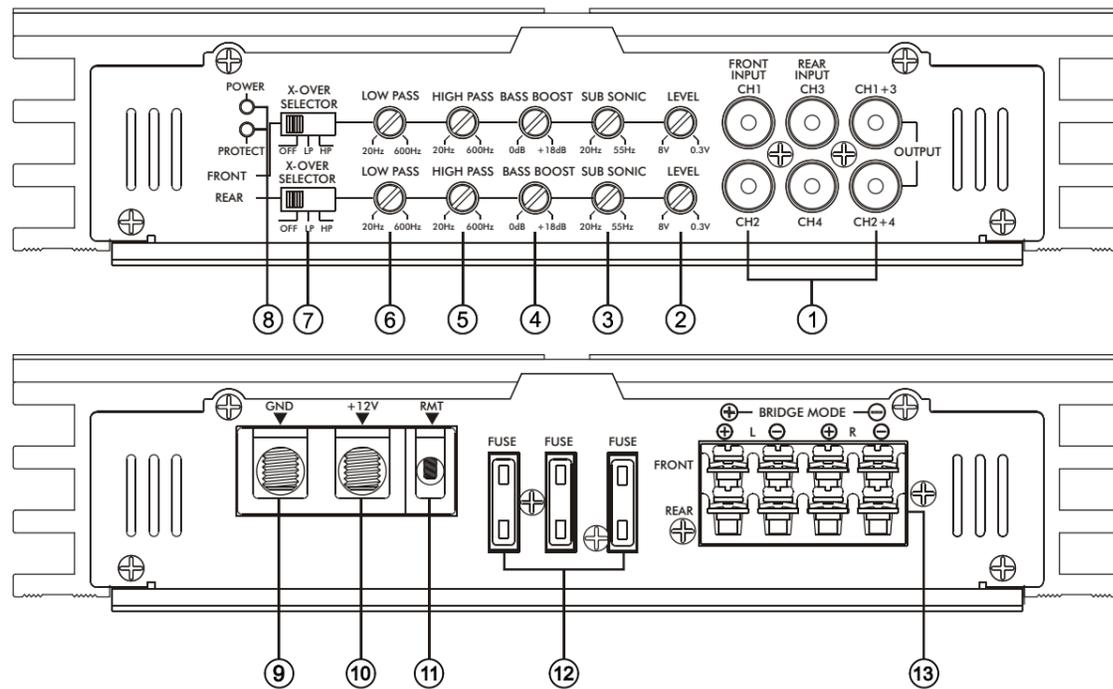
0 Gauge Power and Ground Connections

Silver Plated Audio Input Connections

Silver Plated RCA Output for multi-amp Installations



# Operational Details

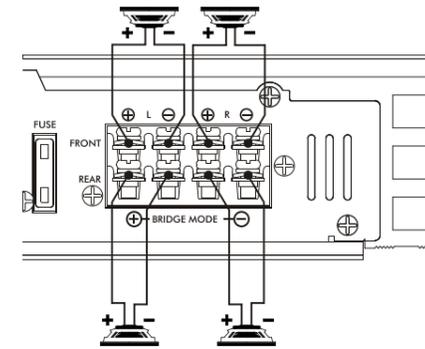


- (1) RCA INPUT :** Connect these RCA connectors to a head unit with a LOW LEVEL output connection.  
**RCA OUTPUT:** Use these RCA output connectors to connect to a secondary amplifier. This output is a selectable by the Crossover Selector switch
- (2) LEVEL (GAIN)**  
 This allows level adjustment of the input signal. Use this control to correctly match the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the BASS and TREBLE on zero, then slowly turn up this amplifier level control towards the MAX end of the control. NOTE : If the sound becomes distorted, turn this control down.
- (3) SUBSONIC FILTER**  
 This is a variable control that filters out all Sub Bass Frequencies point at 12dB/octave.
- (4) BASS BOOST**  
 This a variable control to increase the bass boost at 45Hz from 0 - +18dB of gain, adjust to suit.
- (5) HIGH PASS**  
 Set the crossover switch to HP and turn this control to 65Hz or above when using speaker's smaller than 6 x 9", this feature is designed to filter out all low bass frequencies that only SUBWOOFERS should produce.  
 NOTE : Failure to do so could result in speaker damage.
- (6) LOW PASS**  
 Set the crossover switch to LP when a subwoofer is connected. Ensure the crossover frequency is set at 100Hz or below.  
 NOTE : Failure to do so could result in speaker damage.
- (7) CROSSOVER SELECTOR**  
 Set the appropriate mode of operation. The 3 positions available are OFF, LP and HP.
- (8) POWER, STATUS AND THERMAL LED'S**  
 This shows if the amplifier has been correctly powered up and if any faults are present.
- (9) GROUND INPUT**  
 Connect directly to the vehicle's chassis via a 0 gauge power cable. NOTE : This is to be the first wire to connect when wiring up a amplifiers damage could result if this not done.
- (10) +12V INPUT**  
 This must be connected to the vehicle battery positive(+) terminal via a 0 gauge power cable and with an inline fuse or circuit breaker at the battery end. NOTE : This is to be last wire to connect up during installation as damage could result.
- (11) REMOTE INPUT**  
 This terminal is for turning the amplifier on and off. This requires a switched positive (+)12V to power 'ON' the amplifier, this can be found on the rear of the head unit in the form of a electric antenna output, or a remote on output. If not available you can wire to the ACC position on the key.
- (12) FUSES :** Please ensure correct type of fuse is fitted.
- (13) SPEAKER OUTPUT**  
 See 1 channel installation diagram in this manual for correct speaker connection. PLEASE NOTE : The two (-) terminals are internally wired in parallel inside the amplifier as well as the two (+) terminals.

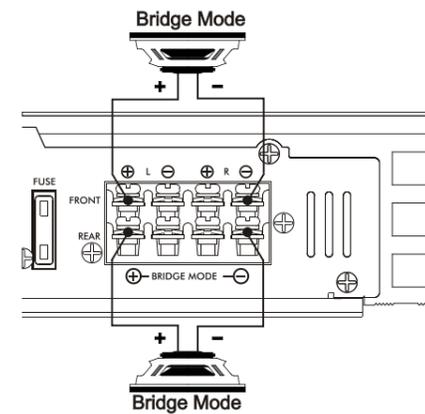
# 4-Channel Power Amplifier SPL 50.4/SPL 100.4

# System Example

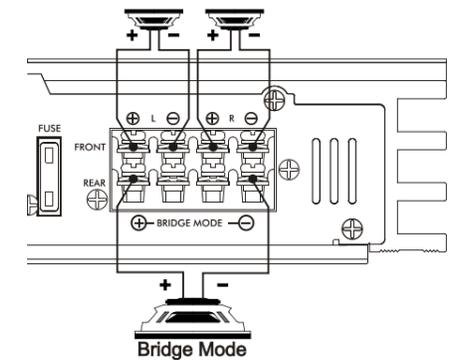
## 4 Channel Installation



## 2 Channel Installation



## 3 Channel Installation



# Tuning Your System

1. Set the crossover switches according to your system setup.
2. Set all amplifier input sensitivity controls to minimum (full counter clockwise).
3. Set the front and rear crossover controls to about the 11 O'Clock position or 90Hz.
4. This is a starting point for the crossovers, you may need to fine tune this setting later.
5. Turn the head unit on with the volume set to minimum.
6. Set the head unit's tone controls, balance and fader to the center (flat) position and turn off any loudness features or other processing effects.
7. Play a CD that represents what type of music you usually listen to. Set the volume control of the head unit up to about 90% of total volume.
8. Disconnect the rear speakers (if possible) so you can concentrate on the sound only coming from the speakers powered by the front channels. Increase (turn clockwise) the sensitivity control for the front channels of the amplifier until you hear distortion then slightly decrease the sensitivity control until the distortion is not audible. The volume level should still be very loud, but free from nearly all distortion.
9. Repeat above step for setting the sensitivity for the rear channels. Be sure to disconnect the front speakers so you can concentrate on the sound only coming from the speakers powered by the rear channels.
10. With all channels playing, listen to the CD at this same high volume and make sure the front and rear levels blend properly. For example, if the front speakers overpower

the subwoofer then slowly balance the system so all channels reach maximum output without distortion at this volume level.

11. Remember the volume level on the head unit set on step 7. This is now the maximum volume level for your system. If you exceed this level the onset of distortion will become very noticeable.

### MORE FINE TUNING TIPS

You will probably want to fine tune the crossover points to get as much midbass out of the front speakers as possible without distortion.  
 Hint: Achieve this by lowering the crossover point of your front speakers until you hear distortion or the speakers bottoming out.  
 For the bass heads looking for more output from the subwoofer slowly increase the bass boost to reach the desired bass level.  
 For the audiophiles, lowering the crossover point for the low pass channels will yield the effect that the bass is coming from the front of the vehicle, however this will sacrifice some overall output.  
 If you change the crossovers a lot, go back through the level setting steps with the new crossover points. Just remember to go slow and use your ears as a guide to achieve the sound you are looking for.