

# MASSIVE<sup>®</sup>

TRIDENT ALL ELEMENT AMPLIFIER

T2/T3/T4

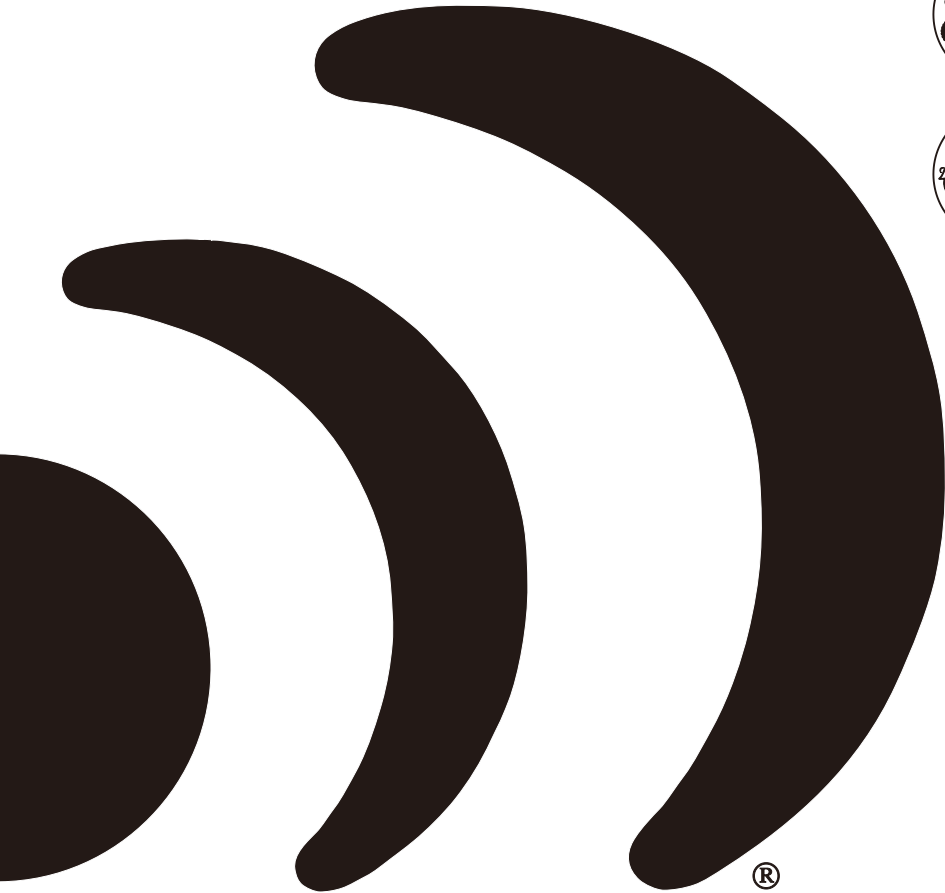
TX2/TX5

TX44/TX48

**Dura-Coated Epoxy 320°**

**Marine Grade PCB**

**High Temp & Humidity**



<sup>®</sup>

# INTRODUCTION

## **Congratulations!**

And thank you for purchasing a "Massive Audio" Trident amplifier for your car audio system. You now own an amplifier of uncompromising design and engineering incorporating the latest advances in micro topology. This handcrafted amplifier is designed to deliver the demands of serious sound competitors. You will soon discover that "Trident" amplifiers display a fine balance between high quality, performance and reliability; all proven qualities of "Massive Audio" products.

"Massive Audio" amplifiers are the result of American Craftsmanship using only the highest quality components and quality control standards. In order to provide you with many years of listening pleasure, we recommend you to have your new amplifier installed by an Authorized "Massive Audio Dealer." This will ensure the proper installation of your product, and will also increase the length of your warranty to **ONE YEAR.**

(Please see the warranty section of this manual for more details.)

Please take a moment to thoroughly read this manual to ensure that you get the maximum benefit from this new addition to your car audio system. When installed properly, this unit will provide years of trouble-free performance.

Should your amplifier ever need service or replacement due to theft, please record the following information, which will help protect your investment.

Model #: \_\_\_\_\_

Dealer's Name: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Installation Shop and Date: \_\_\_\_\_

# DESIGN FEATURES

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- ✓ EXTREME POWER IN A MINI COMPACT FOOTPRINT
- ✓ CONFORMAL COATED PC BOARD TO RESIST MOISTURE, DUST AND EXTREME HEAT
- ✓ 1 OHM STABLE DESIGN (T2,T3,T4)
- ✓ 4 LAYERS PCB DESIGN WITH SMD PARTS
- ✓ BUILT-IN NOISE REDUCTION CIRCUITRY
- ✓ FULL MOSFET WITH HIGH GRADE SWITCHING DEVICES
- ✓ BLUETOOTH AUDIO STREAMING WITH OPTIONAL UBT1 DONGLE (TX2,TX44,TX48,TX5)
- ✓ BUILT-IN AUTO SENSING TURN ON FUNCTION (HI-INPUTS)
- ✓ 12V REMOTE OUTPUT FOR EXTERNAL DEVICES (HI-INPUTS)
- ✓ -3~+12DB VARIABLE BASS BOOST 40HZ-100HZ(T2,T3,T4,TX5)
- ✓ ADVANCED 5 WAY PROTECTION CIRCUITRY
- ✓ WORLD WIDE STANDARDS COMPLIANT.  
(ROHS,E-MARK,CTA-2006,CE)

**Trident**  
Trident



# AMPLIFIER FUNCTIONS

## 1. SPEAKERS

CONNECT SPEAKERS/SUBWOOFERS TO THESE TERMINALS. BE SURE TO CHECK WIRE FOR PROPER POLARITY. NEVER CONNECT THE SPEAKER CABLES TO CHASSIS GROUND.

## 2. +12 VOLT POWER

CONNECT THIS TERMINAL THROUGH A FUSE OR CIRCUIT BREAKER TO THE POSITIVE TERMINAL OF THE VEHICLE BATTERY OR THE POSITIVE TERMINAL OF AN ISOLATED AUDIO SYSTEM BATTERY.

## 3. AUTO SENSING TURN ON FUNCTION / REM OUT(HI-INPUTS)

WHEN USING HI-INPUT, THE AMP WILL DETECT THE DC OFFSET FROM THE HIGH LEVEL INPUT AND ACTIVATE AUTO TURN ON/OFF. WHEN THE AMP TURNS ON, THE REM TERMINAL WILL OUTPUT +12V DC TO CONTROL TURN ON/OFF OF ANY ADDITIONAL DEVICE.

REM IN: WHEN USING LOW LEVEL INPUT, THE AMP REM IN SHOULD BE CONNECTED TO THE REM OUT OF THE SOURCE UNIT. THE SOURCE UNIT CONTROLS THE AMP TURN ON/OFF.

## 4. GND

CONNECT THIS CABLE DIRECTLY TO THE FRAME OF THE VEHICLE. MAKE SURE THE METAL FRAME HAS BEEN STRIPPED OF ALL PAINT DOWN TO THE BARE METAL.

USE THE SHORTEST DISTANCE POSSIBLE. IT IS ALWAYS A GOOD IDEA TO REPLACE THE FACTORY GROUND AT THIS TIME WITH A LARGER CABLE EQUAL TO THE NEW DIRECTLY TO THE VEHICLE BATTERY GROUND TERMINAL OR ANY OTHER FACTORY GROUND POINTS.

## 5. RCA INPUT / AUTO HI-LOW LINE CONVERTOR

THESE RCA INPUT JACKS CONNECT WITH YOUR SOURCE UNIT RCA LOW LEVEL OUTPUTS OR VIA OPTIONAL UW-1 ADAPTER KIT WITH YOUR SOURCE UNIT SPEAKER HIGH LEVEL OUTPUTS. THE USE OF HIGH QUALITY TWISTED PAIR CAR AUDIO CABLES IS RECOMMENDED

## 6. REMOTE(T2,T3,T4, TX5)

CONNECT THE UR-1 REMOTE CONTROLLER TO CONTROL SUBWOOFER AMPLIFIER VOLUME FROM THE DRIVER SEAT LOCATION, FOR EASE OF ADJUSTMENT DURING PLAYING.

## 7. GAIN CONTROL

THIS GAIN CONTROL WILL MATCH THE AMPLIFIER SENSITIVITY TO THE SOURCE UNITS SIGNAL VOLTAGE, THE OPERATING RANGE IS 9V TO 200MV, THIS IS NOT A VOLUME CONTROL.

## 8. LOW PASS FILTER CONTROL(T2,T3,T4, TX5)

THIS CONTROL IS USED TO SELECT THE DESIRED LOW PASS X-OVER FREQUENCY. THE FREQUENCY CAN BE ADJUSTED FROM 50HZ TO 150HZ(T2) & 40HZ TO 200HZ(TX5).

## 9. LOW PASS FILTER CONTROL(T2,T3,T4, TX5)

THIS CONTROL CAN FILTER OUT UNWANTED LOW FREQUENCY FROM 15HZ TO 40HZ. THIS FUNCTION WILL INCREASE THE POWER HANDLING OF YOUR WOOFERS.

## 10. BASS BOOST LEVEL KNOB(T2,T3,T4, TX5)

THIS CONTROL ADJUST THE BOOST LEVEL OF THE BASSBOOST CENTER FREQUENCY. IT CAN BE ADJUSTED FROM -3 TO +12DB. COMBINING WITH BASSBOOST FREQUENCY, YOU CAN ACCURATELY MATCH THE AMPLIFIER PERFORMANCE TO WOOFER RESPONSE.

## 11. BASS BOOST FREQ KNOB(T2,T3,T4)

THIS CONTROLS THE BOOSTED CENTER FREQUENCY. THE FREQUENCY CAN BE ADJUSTED FROM 40HZ TO 100HZ, THIS FUNCTION SHOULD BE COMBINED WITH BASSBOOST LEVEL TUNING.

## 12. X-OVER MODE (TX2, TX44, TX48)

THIS SWITCH WORKS TOGETHER WITH THE FREQ TO ADJUST THE OPERATING FREQUENCY RANGE OF THE AMP WHEN SWITCHED TO LPF OR HPF, THE CORRESPONDING FILTER CAN ADJUST THE OPERATING FREQUENCY RANGE BETWEEN 20HZ TO 300HZ LPF( OR 20HZ TO 500HZ HPF) . PLEASE SWITCH TO LPF MODE; WHEN PUSHING SMALL CALIBER FULL FREQUENCY SPEAKER, MIDDLE AND HIGH FREQUENCY LOUDSPEAKER, PLEASE SWITCH TO HPF MODE. WHEN PUSHING LARGE

CALIBER FULL FREQUENCY SPEAKER, PLEASE SWITCH TO FULL MODE. WHEN SWITCH TO FULL MODE, THE FILTERS WILL NOT FUNCTION.

IF TX44 REAR SOUND FIELD NEEDS TO BE SET OF FULL RANGE MODE, THE X-OVER SHOULD BE SWITCH TO HPF.

WARNING: USE BUTTONS AND HPF KNOB CORRECTLY TO PREVENT LOW FREQUENCY DAMAGE TO TWEETERS.

**13. EXTERNAL CAPACITOR INPUT**

FOR CONNECTING AN OPTIONAL 4 FARAD RAIL CAP TX (SOLD SEPARATELY) EXTERNAL HI-VOLTAGE CAPACITOR. THIS WILL HELP STABILIZING THE AMPLIFIERS NEEDED VOLTAGE DURING OPERATION WHILE IMPROVING FIDELITY AND MAXIMIZING HEAD ROOM.

**14. POWER/PROTECTION INDICATOR**

LED WILL BE BLUE WHEN AMPLIFIER IS POWERED AND WORKING PROPERLY.

LED WILL BE RED WHEN AMPLIFIER IS IN PROTECTION.

**15. AUTO SENSING TURN ON INDICATOR**

LED WILL LIGHT UP BLUE WHEN ATO IS BEING USED.

**16. BLUETOOTH PLUG IN(TX2,TX44,TX48,TX5)**

PLUG IN FOR OPTIONAL UBT1 DONGLE FOR BLUETOOTH AUDIO STREAMING.

**17. OPTIONAL UBT1 BLUETOOTH DONGLE (\*SOLD SEPERATLY)**

UBT1 SATA BLUETOOTH AUDIO STREAMING DONGLE COMPATIBLE WITH TX2,TX44,TX48, TX5.

**18. 2/4CH SWITCH(TX44,TX48)**

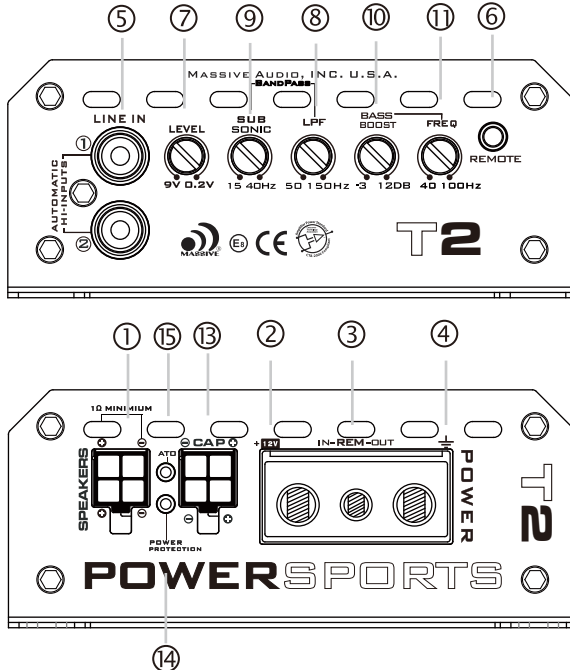
SET THIS SWITCH TO CONJUNCTION WITH HOW MANY INPUT CABLES BEING USED. IN THE 2 CHANNEL SETTING ALL FOUR OUTPUT WILL BE ACTIVATED.

**19. LINE OUT(TX2,TX44,TX48)**

THIS "FULL RANGE OUTPUT" CAN BE CONNECTED TO ANY ADDITIONAL AMPLIFIER. (EXAMPLE: SEPARATE SUBWOOFER AMPLIFIER)

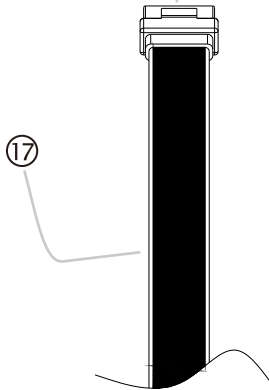
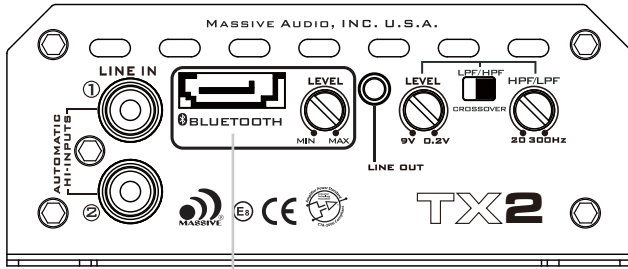
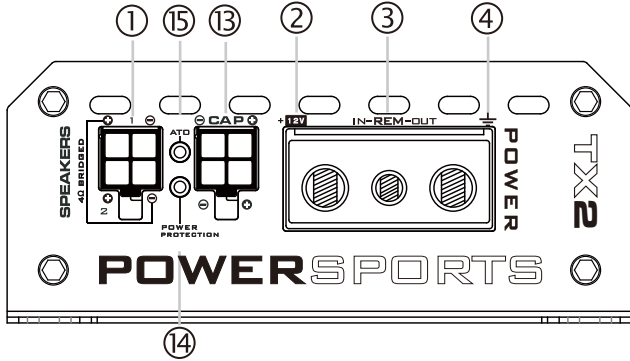
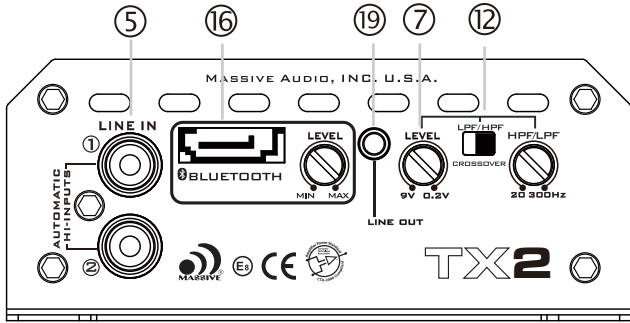
# PANEL LAYOUT

FIG 1. T2/T3/T4 AMPLIFIER PANEL LAYOUT



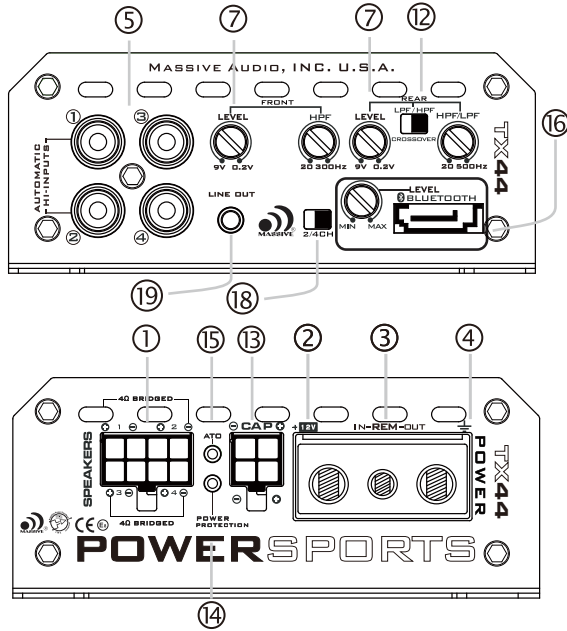
# PANEL LAYOUT

FIG 2. TX2 AMPLIFIER PANEL LAYOUT



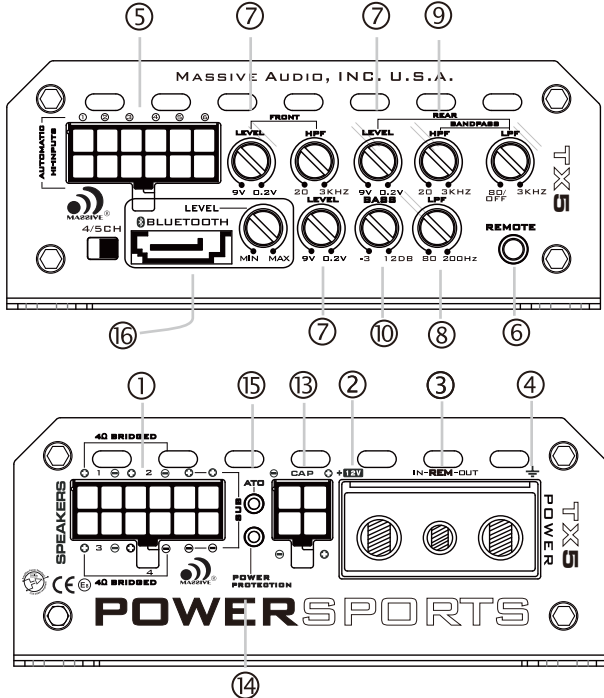
# PANEL LAYOUT

FIG 3. TX44/TX48 AMPLIFIER PANEL LAYOUT



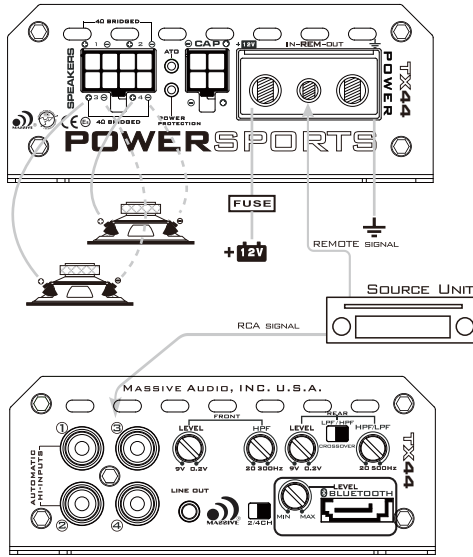
# PANEL LAYOUT

FIG 4. TX5 AMPLIFIER PANEL LAYOUT



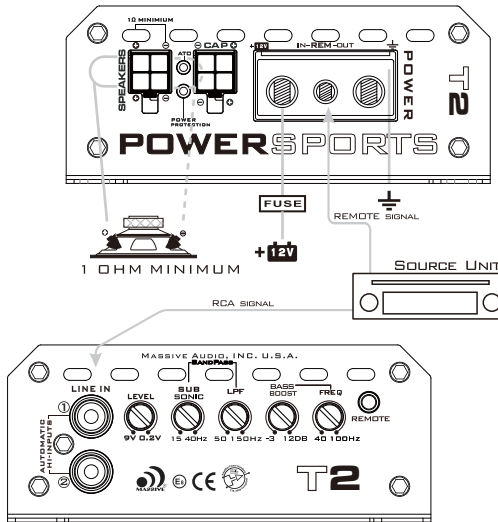
# WIRING DIAGRAM

FIG 5. TX44/TX48 AMPLIFIER WIRING  
(MULTI-WOOFER LOAD)



# WIRING DIAGRAM

FIG 6. T2/T3/T4 AMPLIFIER WIRING  
(SINGLE WOOFER LOAD)

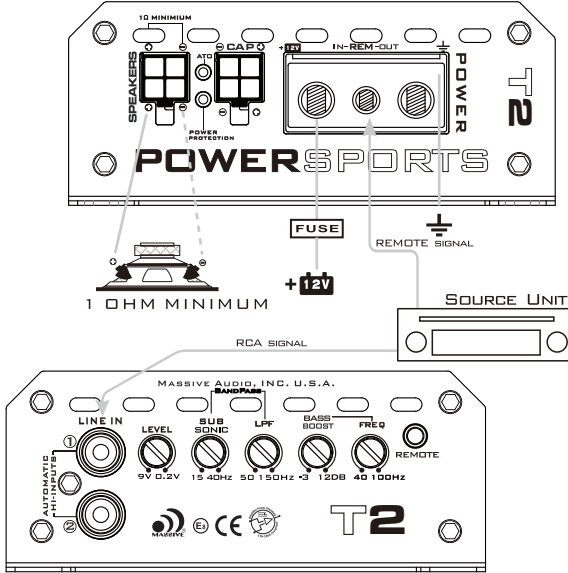


EQUIVALENT PARALLEL WOOFER LOADS CANNOT BE LESS THAN THE MINIMUM STABLE LOAD RATED IN THIS MANUAL. THE TWO NEGATIVE AND TWO POSITIVE SPEAKER TERMINALS ARE WIRED INTERNALLY INSIDE EACH AMPLIFIER. ONLY ONE NEGATIVE AND ONE POSITIVE ARE NEEDED WHEN WIRING TO THE AMPLIFIER.



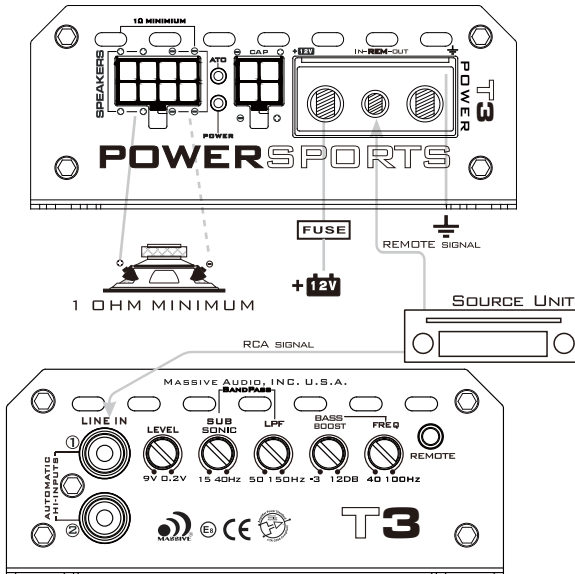
# WIRING DIAGRAM

FIG 7. T2 AMPLIFIER WIRING  
(1-CHANNEL MODE)



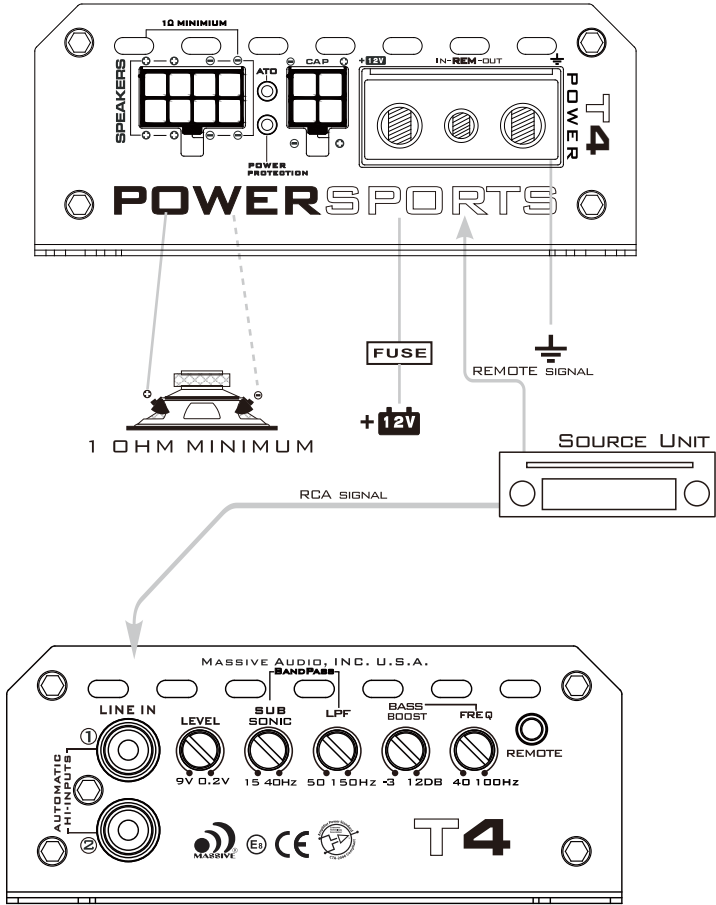
# WIRING DIAGRAM

FIG 8. T3 AMPLIFIER WIRING  
(1-CHANNEL MODE)



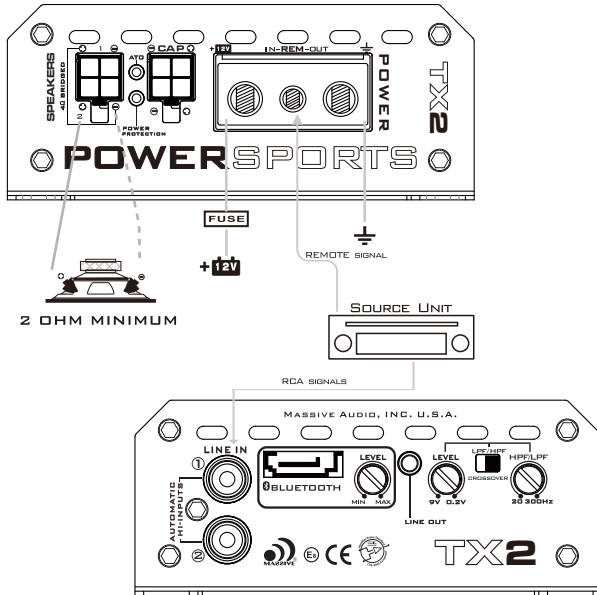
# WIRING DIAGRAM

FIG 9. T4 AMPLIFIER WIRING  
(1-CHANNEL MODE)



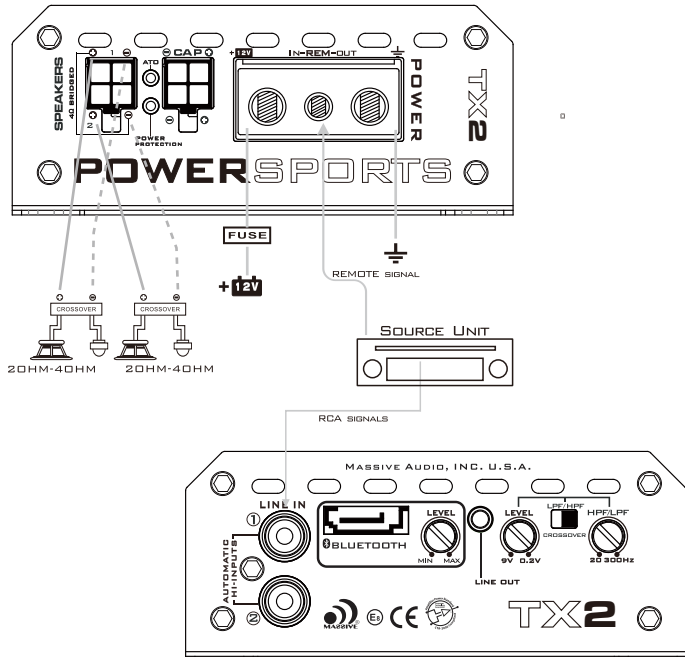
# WIRING DIAGRAM

FIG 10. TX2 AMPLIFIER WIRING  
(1-CHANNEL MODE)



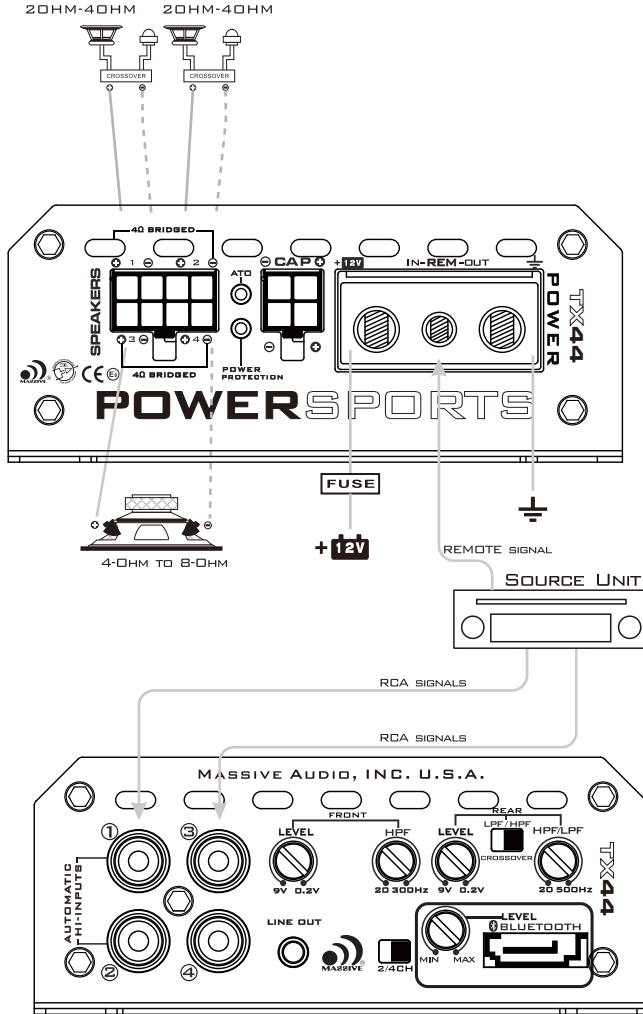
# WIRING DIAGRAM

FIG 11. TX2 AMPLIFIER WIRING  
(2-CHANNEL MODE)



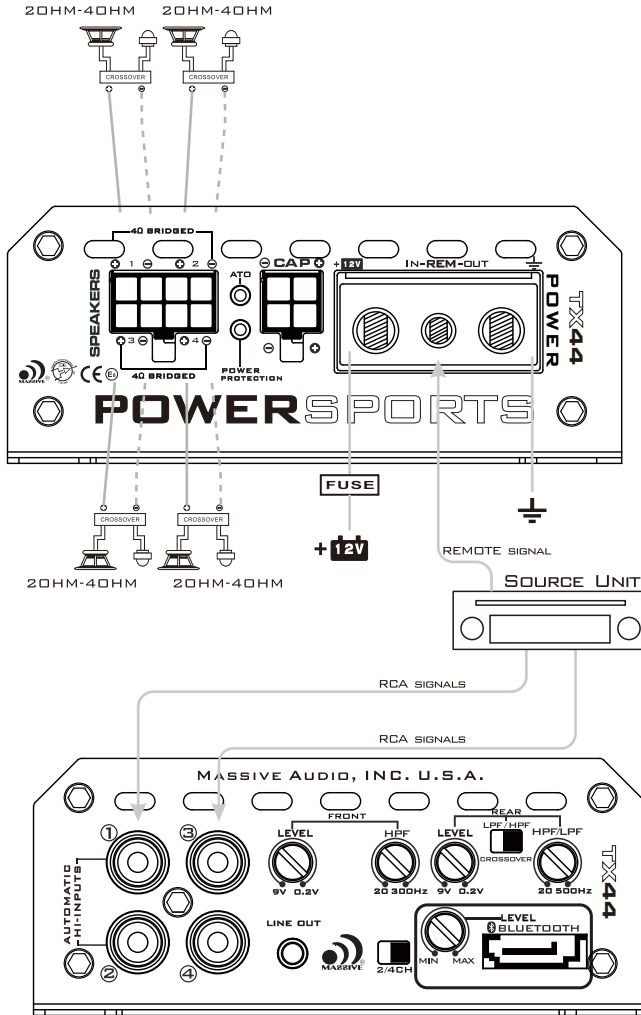
# WIRING DIAGRAM

FIG 12. TX44/TX48 AMPLIFIER WIRING  
(3-CHANNEL MODE)



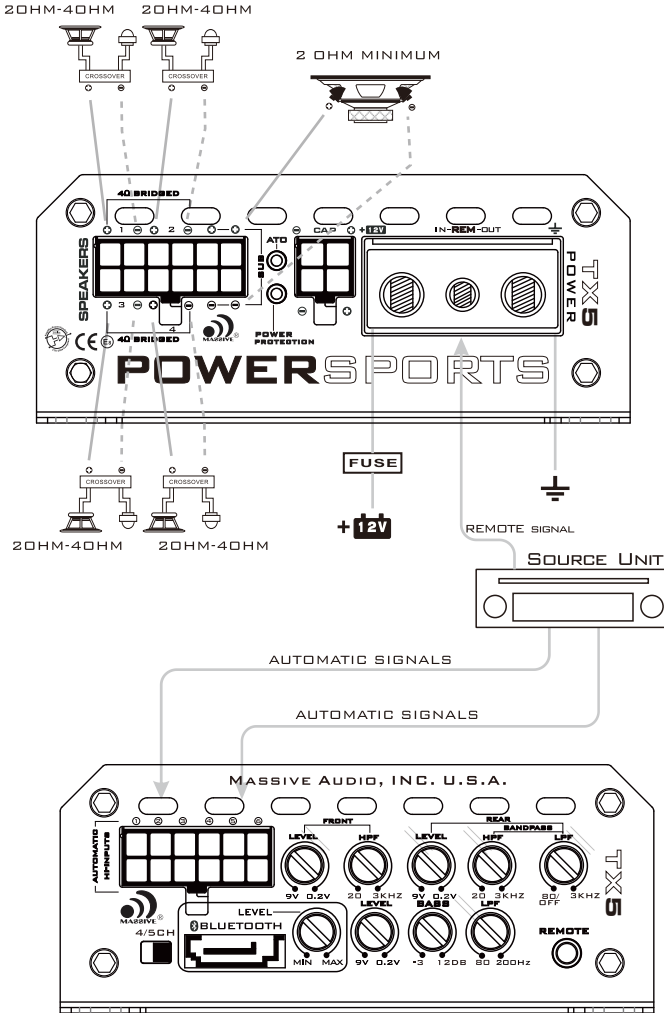
# WIRING DIAGRAM

FIG 13. TX44/TX48 AMPLIFIER WIRING  
(4-CHANNEL MODE)



# WIRING DIAGRAM

FIG 14. TX5 AMPLIFIER WIRING  
(5-CHANNEL MODE)



# TROUBLE SHOOTING

Symptom	Possible Remedy
Amplifier will not power up	Check to make sure you have a good ground connection. Check that there is battery power on the (+)terminal . Check all fuses, replace if necessary . Make sure that the Protection LED is not illuminated.
Protection LED Comes on	Check for short circuits on speaker leads. Check that the speaker load is not beyond the minimum load. Remove speaker lead, and reset the amplifier. If the protection LED still comes on, then the amplifier is faulty and needs servicing .
No output	Check that the RCA audio cables are plugged into the proper inputs. Check all speakers wiring. Check the headunit output and the amplifier level setting.
Low output	Reset the level Control. Check the Crossover Control settings.
High hiss in The speakers	Check the RCA cable is not shorted to power ground at amplifier side. Check the amplifier grounding.
Distorted sound	Check that the Input level control is set to match the signal level of the head unit. Always try to set the Input level as low as possible. Check that all crossover frequencies are properly set. Check for short circuits on the speaker leads
Amplifier gets Very hot	Check that the minimum load impedance for the amplifier model is correct. Check that there is good air circulation around the amplifier. In some applications, It may be necessary to add an external cooling fan. Do not mount amplifier upside down.

# SPECIFICATIONS

MODEL	T 2	T 3	T 4	T X 2	T X 4 4	T X 4 B	T X 5
<b>DESCRIPTION</b>	1600W MAX MONO	2800W MAX MONO	4000W MAX MONO	1x480W MAX	2x480W MAX	2x800W MAX	2x480W+1200W MAX
<b>RMS POWER AT 14.4V</b>							
10HM LOAD	1x800W	1x1400W	1x2000W	N/A	N/A	N/A	N/A
20HM LOAD	1x400W	1x700W	1x1000W	2x240W	4x240W	4x400W	4x240W+600W
40HM LOAD	1x200W	1x450W	1x500W	2x120W	4x120W	4x200W	4x120W+300W
40HM BRIDGED	N/A	N/A	N/A	1x480W	2x480W	2x800W	2x480W+300W
<b>FEATURES</b>							
INPUT LEVEL	0.2~9V(HI INPUTS OR LOW INPUTS)						
FREQUENCY RESPONSE	10HZ~150HZ	10HZ~150HZ	10HZ~150HZ	10HZ~25KHZ	10HZ~25KHZ	10HZ~25KHZ	10HZ~25KHZ
LPF/HPF FILTER	50HZ~150HZ	50HZ~150HZ	50HZ~150HZ	20HZ~300HZ	20HZ~500HZ	20HZ~500HZ	40HZ~3KHZ
SUBSONIC FILTER	15HZ~40HZ	15HZ~40HZ	15HZ~40HZ	FIXED	FIXED	FIXED	FIXED
THD AT 40HM LOAD 30% RATED POWER	< 0.03%	< 0.03%	< 0.03%	< 0.03%	< 0.03%	< 0.03%	< 0.03%
S/N RATIO	> 85DB	> 85DB	> 85DB	> 85DB	> 90DB	> 90DB	> 90DB
BASSBOOST LEVEL	-3~12DB	-3~12DB	-3~12DB	N/A	0~12DB (REAR CHANNEL)	0~12DB (REAR CHANNEL)	-6~12DB (WOOFER CHANNEL)
BASSBOOST FREQ.	40HZ~100HZ	40HZ~100HZ	40HZ~100HZ	N/A	FIXED	FIXED	40HZ~200HZ
BEST EFFICIENCY @ 40HM	> 80%	> 80%	> 80%	> 80%	> 80%	> 80%	> 83%
MINIMUM LOAD	1 OHM	1 OHM	1 OHM	2 OHM	2 OHM	2 OHM	2 OHM
OPTIONAL REMOTE	Yes	Yes	Yes	N/A	N/A	N/A	Yes
AUTO TURN ON PROTECTION	YES(HI-INPUTS)						
SHORTCIRCUIT TEST @ MAX POWER	LOW VOLTAGE PROTECTION						
RECOMMENDED EXTERNAL FUSE	PASS						
OVERHEAT PROTECT TEMPERATURE	60A	120A	240A	40A	50A	80A	80A
COMPONENTS & PCB	SMD PARTS / 4 LAYER MILL SPEC PCB'S						
<b>DIMENSION(INCHES)</b>							
HEIGHT	1.6"						
WIDTH	4.25"						
LENGTH	7.99"	11.50"	13.0"	7.80"	9.76"	10.75"	12.17"



# WARRANTY

Massive Audio, Inc. warrants all manufactured amplifier products to be free from defect in material and workmanship for a period not to exceed **ONE YEAR\*** from the date of original purchase when installed by an authorized “Massive Audio” dealer. Units that are not installed by an authorized “Massive Audio” dealer maintain a warranty not to exceed 90 days from the original purchase date by the original purchaser.

**Products that display abuse such as power deficiency, over driving the amplifier or clipping the input require purchase of a new PCB for replacement.**

“Massive Audio” obligations under this warranty are limited to repairing or replacing, at its own sole option, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence, or misapplication or has been altered or modified in anyway. This warranty applies only to the original purchaser who must have properly registered the product within 30 days of purchase.

*Except as provided herein, Massive Audio, Inc. makes no warranties or representations, express or implied, including any warranty implied by law, whether for merchantability or fitness for a particular purpose and shall be effective only for the period that this express warranty is effective. SEE THE WARRANTY REGISTRATION CARD TO ADDITIONAL INFORMATION.*

\*DUE TO CONSTANT IMPROVEMENT PRICES AND SPECS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTIFICATION.

[www.massiveaudio.com](http://www.massiveaudio.com)

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