

MASSIVE[®]

60W x 4 SOUND QUALITY DSP

DSP-1

DIGITAL SIGNAL PROCESSOR
BUILT-IN 4 CH AMPLIFIER
31 BAND EQ
CSR 5.0 BLUETOOTH™



INTRODUCTION TO THE MASSIVE AUDIO DSP-1 DIGITAL SIGNAL PROCESSOR / AMPLIFIER

Thank you for purchasing the Massive Audio™ DSP-1. The DSP-1 is a unique combination of a Four Channel amplifier and a Digital Signal Processor in one piece. We have used uncompromising design and engineering that Massive Audio customers are accustomed to, incorporating the latest in small format technology. Not only do you get a high performance, high quality product, but you also are saving a lot of space. The same proven quality of Massive Audio lives on in the new DSP-1.

Massive Audio amplifiers are a result of years of premium craftsmanship, using on the best quality components, and quality control standards. You can expect the same from your new Massive Audio™ DSP-1. To ensure many years of great performance from your new DSP-1, we highly recommend you have your new DSP-1 installed by an authorized Massive Audio dealer. This will ensure the professional installation and will add One (1) Year to your Massive Audio manufacturer's warranty. (Please find the included warranty portion of this manual for more details.)

Please take a few moments to thoroughly read this entire manual to make sure that you fully understand all the benefits from this new addition to your car audio system. Once installed properly, you can look forward to years of excellent sonic performance.

Should your Massive Audio DSP-1 ever need repair or replacement, please document the following information for record, which will help protect your investment.

Model #: _____

Dealer's Name: _____

Date of Purchase: _____

Installation Shop and Date: _____

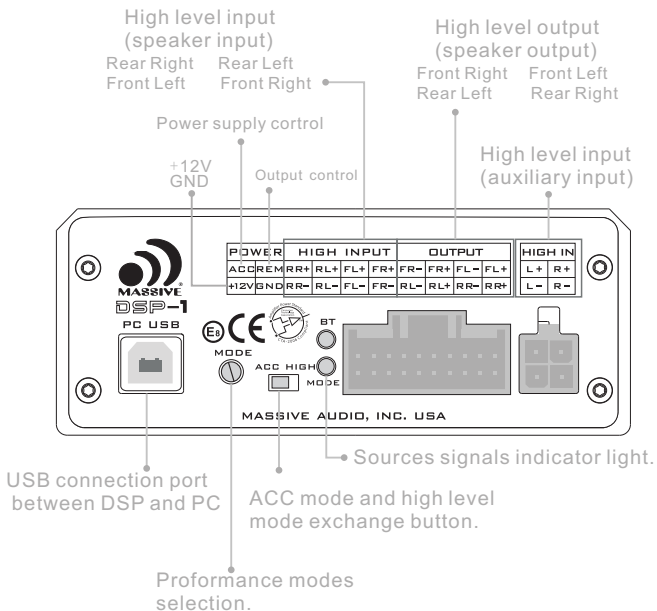
MASSIVE AUDIO™ DSP-1 FEATURES

- 1) EIGHT (8) FULLY CONFIGURABLE OUTPUT CHANNELS CAPABLE OF 4V RMS (12.5V PP) RCA OUTPUT.
- 2) EIGHT (8) SUMMING INPUT CHANNELS, COMPATIBLE WITH LOW-LEVEL & HIGH-LEVEL INPUT TYPES.
- 3) BLUETOOTH AUDIO STREAMING WITH CODEC FOR AUDIOPHILE AUDIO QUALITY.
- 4) ELITE AUDIO REPRODUCTION FROM:
 - A) 24-BIT RESOLUTION ADC/DAC'S
 - B) 56-BIT DOUBLE PRECISION SIGNAL PROCESSING
 - C) FREQUENCY RESPONSE FROM 10HZ TO 20KHZ (+/- 1DB)
 - D) THD (TOTAL HARMONIC DISTORTION) < 0.05%
 - E) SNR (SIGNAL TO NOISE RATIO) > 95DB
- 5) AUDIO SIGN PROCESSOR:
 - A) PRECISION CROSSOVER SYSTEM: LINKWITZ-RILEY & BUTTERWORTH TOPOLOGIES
 - B) 12 / 18 / 24 / 36 / 48 DB OCTAVE CROSSOVER SLOPES AVAILABLE
 - C) FULL PASS / HIGH PASS / LOW PASS / BAND PASS / PEAK / SHELVE FILTERS
 - D) UP TO 31 PARAMETRIC EQUALIZER BANDS WITH ADJUSTABLE FREQUENCY & BANDWIDTH
 - E) FULL TIME-ALIGNMENT CORRECTION & PHASE ROTATION
 - F) R.M.S. LIMITER WITH ADJUSTABLE THRESHOLD, ATTACK, & DECAY

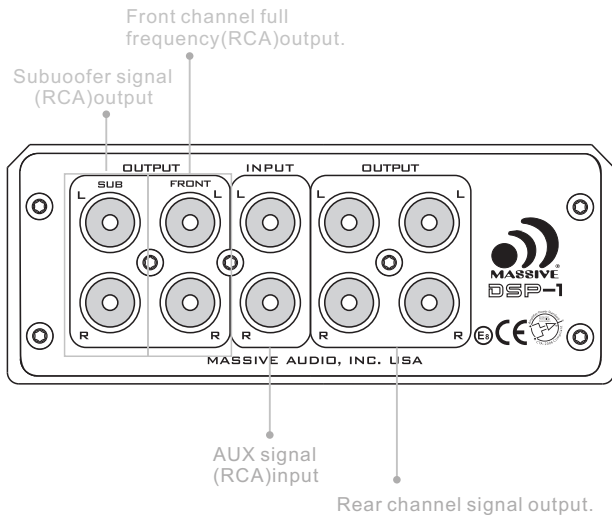
DSP DIGITAL AMPLIFIER



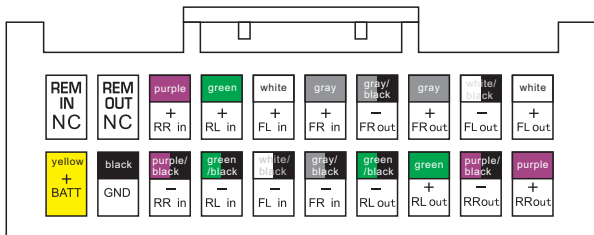
AMPLIFIER POWER & PANEL LAYOUT



AMPLIFIER POWER & PANEL LAYOUT



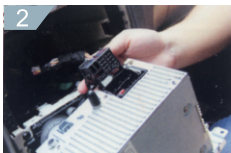
WIRE WIRING DIAGRAM



INSTALLATION FLOW CHART



1 Remove head unit from dash



2 Disconnect wiring harness from head unit



3 Install proper harness for your vehicle



4 Reconnect wiring harness



5 Locate harness for the vehicle



6 Pull through DSP-1 wiring harness to head unit



Pull through DSP-1 wiring harness to installation location

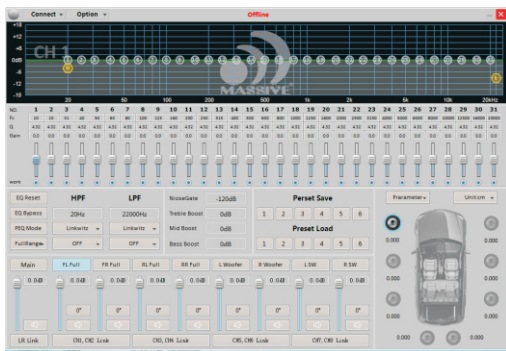


Connect DSP-1 harness to headunit wiring harness



Perfect installation

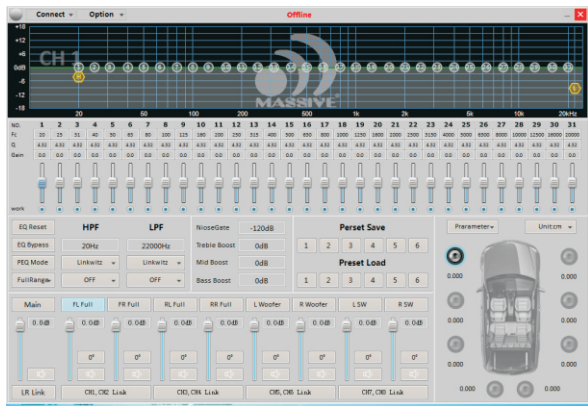
COMPUTER TUNING PC INTERFACE



SOUND EFFECT PATTERNS & MODES

- 1) SOUND FIELD ON THE COLUMN
- 2) SOUND FIELD ON THE DASHBOARD
- 3) SOUND FIELD ON THE SIDE DOORS
- 4) NARROW-HIGH FREQUENCY SOUND FIELD
- 5) POP MUSIC MODE
- 6) CLASSICAL MUSIC MODE
- 7) MANUFACTURES RECOMMENDED MODE
- 8) FACTORY DEFAULT MODE

COMPUTER TUNING PC INTERFACE



SOUND PATTERN ADJUSTMENTS

Increase Subwoofer Bass: +60~80Hz
Increase Upper Bass: +125Hz
Increase Mid-Range: +200~400Hz
Increase High Freq. Tones: +1KHz
Increase Upper Vocals: +3KHz
Enhance Vocal Thickness: +4~8KHz
Extend Audible High Freq. +12~16KHz

Subwoofer Bass: -60~80Hz
Upper Bass: -125Hz
Mid-Range: -400~500Hz
Mid to High Freq. -1250~200Hz
Vocal Adjustment: -3KHz
High freq. Precision: -4~8KHz
Audible High Freq. Top end: -12~16KHz
Reduce Mid-Bass: -160~200Hz
Reduce Upper Mid-Bass: -200Hz
Reduce Lower Mid-Range: -250Hz

IMPORTANT INSTALLATION NOTES

- Please ensure proper installation for best results. Refer to the installation visual guides in the instruction manual BEFORE installation.
- We do not recommend playing music at maximum volume when driving. You may risk hearing and equipment damage, as well as distracted driving.
- Make sure all surfaces and connection points are dry before installing your new DSP-1.
- If your car already has an existing amplifier or after market amplifier, please consult with your Massive Audio™ dealer for best installation set up.
- The DSP-1 requires the wiring harness that is included with the DSP-1, we do not recommend using different wiring harnesses as you risk damage to the DSP-1.

TROUBLE SHOOTING

The wiring plug does not match the original	The wiring harness is dedicated for special vehicles. Please confirm your model and the model of high and low matching, and inform local dealers or agents
There are murmurs in the use of the product	Please make sure that the host connection wire is properly connected and check for loose. There are still murmurs to check if there is any connection with CD or DVD. Still unable to resolve the local dealers or agents.
The work indicates that the class is not bright and has no sound	Please check whether the tail line is properly connected and check whether the original car has its own amplifier or not.
There is no electricity for the original engine and the machine	Check whether the original owner's surface power cord is connected, and whether the grounding black line is connected to the original engine housing and restore the original engine location.

PARAMETER

MODEL	DSP-1
DESCRIPTION	60W x 4 4CH
<i>RMS POWER AT 14.4V</i>	
20HM LOAD	80W x 4
40HM LOAD	60W x 4
<i>FEATURES</i>	
INPUT LEVEL	1~10V (HI INPUTS OR LOW INPUTS)
FREQUENCY RESPONSE	10HZ~20KHZ
LPF/HPF	20HZ~20KHZ
SUBSONIC FILTER	20HZ~20KHZ
THD AT 40HM LOAD 30% RATED POWER	<0.05%
S/N RATIO	>95dB
BASSBOOST LEVEL	0~18dB
BASSBOOST FREQ.	20HZ~20KHZ
BEST EFFICIENCY @ 40HM	>90%
MINIMUM LOAD	2 OHM
OPTIONAL REMOTE	N/A
AUTO TURN ON	YES
LOW VOLTAGE PROTECTION	YES, PROTECT < 8V
SHORTCIRCUIT TEST @ MAX POWER	PASS
RECOMMENDED EXTERNAL FUSE	10A
OVERHEAT PROTECT TEMPERATURE	PROTECT AT 86C / 186.8F
COMPONENTS & PCB	SMD PARTS / 2 LAYER MILL SPEC PCB`S
<i>DIMENSIONS (INCHES)</i>	
HEIGHT	1.6"
WIDTH	4.2"
LENGTH	6.5"

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.



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