DIGITAL DESIGNS

TRUE TO THE SOURCE

SS5

Owner's Manual

HYBRID 5CH HIGH PERFORMANCE AMPLIFIER

Thanks you for purchasing Digital Designs amplifiers for your car audio systems and competitions.
SS5 is hybrid 5channel amplifier as full range digital CH1/4 with CH5 monoblock which are engineered for low frequency applications and full range car audio systems in compact dimensions.
SS5 amplifier is high power full range But can be installed in small space in any locations, small but very powerful to driver full range and mid bass speaker system as well as sub monoblock amplifier.
Well, maybe that's a bit of a stretch, but these amps offer strong power, logical controls and efficient design.
SS5 amplifier is single purpose designs with the sole goal of being the best tool for the job.
No cutbacks and No wimps
SS5 amplifier feature three distinct approaches
SS5 is designed for the highest possible efficiency and highest total output.
SS5 is very compact size which can be easily install in small space.
SS5 amplifier makes good amounts of power from the stock electrical systems
it is designed to make the most sound quality bass and full range amplifier
The high efficiency comes from paying close attention to every stage through the amplifiers' circuit.
High speed controller chipsets, efficient power devices,precise thermal management and best engineerings are the key to the SS5

1. FEATURES

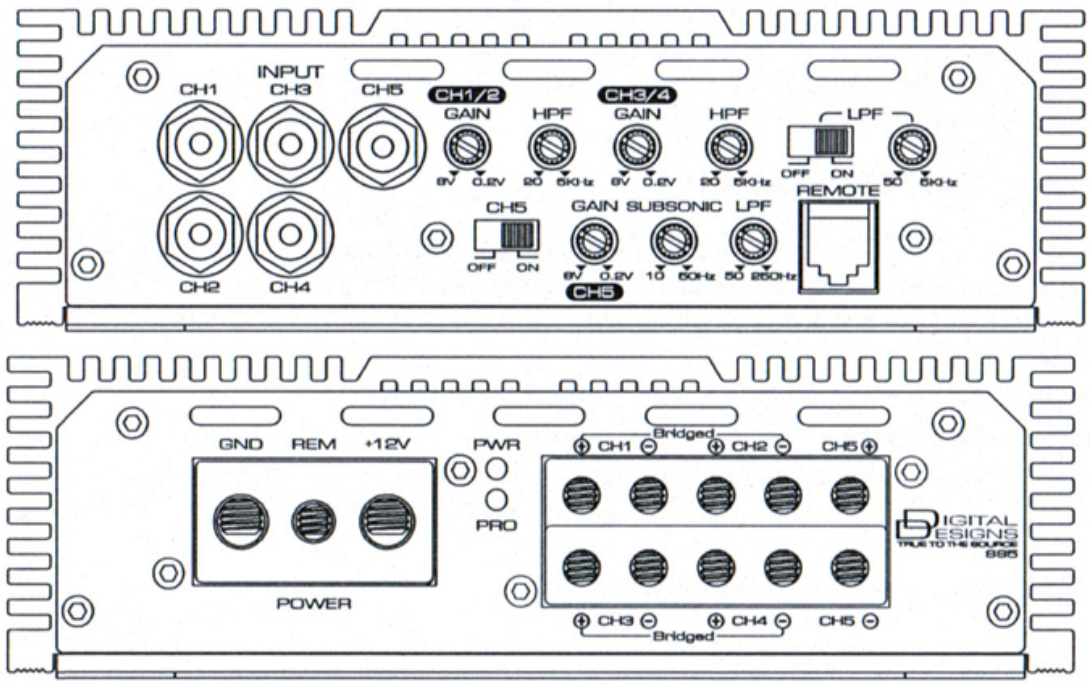
SPECIFICATIONS	SS5
Power @ 4ohm RMS	120W x 4ch + 300W x 1ch
Power @ 2ohm RMS	190W x 4ch + 580W x 1ch
Power @ 1ohm RMS	840W x 1ch
Power @ 4ohm Mono	380W x 2ch + 300W x 1ch
Frequency Response for CH1/4	20Hz ~ 20KHz
Frequency Response for CH5	15Hz ~ 270Hz
Input Sensitivity	8V ~ 0.2V
Signal to Noise Ratio	100dB <
CH1/2	
High Pass Filter	20Hz ~ 5KHz
CH3/4	
High Pass Filter	20Hz ~ 5KHz
Low Pass Filter	50Hz ~ 5KHz
Low Pass Filter X-over switch	OFF / ON
CH5	
Subsonic Filter	10Hz ~ 50Hz
Low pass Filter	50Hz ~ 250Hz
Remote Control	Included for CH5
Fuse Rating	200A (External)
Dimensions (Inches)	14.41 inches
(6.889W x 2.067H)	

All features are subject to change in the continuing effort to improve the products without notice

2. SS5 DESIGN FEATURES

1) The SS5 is Hybrid amplifier. CH1~CH4 are full range digital amplifier and CH5 is digital monoblock amplifier
2) CH1~CH4 are 2ohm stereo stable or 4ohm mono. CH5 is working fully down to 4/2/1 ohm stable
3) SS5 has the possible highest efficiency and sufficient amount of the parts to maximize the performance at especially 12V application.
4) SS5 has 4 ways of acurate protection circuit, as speaker short,DC offset, voltage, thermal protection which are the most safe-guard.
5) SS5 is designed in double sided board and use high current mosfet swtiching devices.
6) SS5 is very compact size which can be mounted for small space car.
6) SS5 has dash mount remote level control which allows convenient level control from the driver's seat with clipping indicator.

3. SS5 CONTROL & CONNECTION



INPUT
Connect preamp signal cables from the headunit to Rca Input of SS5.

GAIN (8V ~ 0.2V)
Matching the output voltage of the headunit's RCA line-outs to SS5 input section.

HIGH PASS FILTER (20Hz ~ 5KHz)
Controls the high pass point for the speaker outputs.

LOW PASS FILTER (50Hz ~ 5KHz)
Controls the low pass point for the speaker outputs.

LPF CROSSOVER SELECTOR
Low Pass Filter selector determines whether SS5 will operate in low pass or full range mode.
in on position, it will play the frequency set on Low Pass.
in off position, the Low pass will have no effect

LOW PASS FILTER (50Hz ~ 5KHz)
Controls the low pass point for the speaker outputs.

SUBSONIC CROSSOVER FREQUENCY
Control the high Pass point for the speaker outputs to eliminate extreme low frequencies. Its range is 10~ 50 Hz

LOW PASS FILTER for CH5 (50Hz ~ 250Hz)
Controls the low pass point for the speaker outputs.

REMOTE LEVEL CONTROL PORT
This port is for connecting turn-down remote level control.
Remote level control adjusts the level

GND (GROUND CONNECTION)
It is connected to the Negative or ground cables of the Vehicle.
Recommended cable is 4 ga for SS5

REM (REMOTE)
It is connected to switched +12V with a Trigger cable coming from the head unit

+12V (POWER CONNECTION)
This must be connected to the fuse positive terminal (+12V) of the battery. Recommended wire is 4 ga for SS5

POWER & PROTECTION INDICATOR
Power LED, Green-lit shows correct operation .
Protect LED, RED-lits shows general malfunction, faulty connection and thermal protection

SPEAKER OUTPUTS
it connects amplifier to speakers. Minimum speaker cable is 12 gauge.
Minimum impedance for CH1~CH4 is 2 ohm stereo or 4ohm mono.
Minimum impedance for CH5 is 1 ohm.

4. INSTALLATION

In case you install SS5 amplifier by yourself, please read owner's manual and follow your installation steps very carefully. Before you start your installation, please take all steps into consideration. Or, you can have Digital Designs authorized distritutors to check installation and turn in your car audio systems

4-1. MOUNTING PREPARATION

Disconnect the negative (−) battery cable before mounting SS5 amplifier or making any connections.
Check the battery and alternator ground (−) connections.
Make sure they are properly connected and free of corrosion.
Before selecting a mounting location for SS5 amplifier, Pls take some concerns into consideration with cooling efficiency and safety.

4-2. MOUNTING PREPARATION

SS5 amplifier uses heavy-duty and good heat radiation heatsink design for avoiding excessive heat from amplifier's circuitry. But for better heat radiation performance, It is good to find the mounting location where you can install SS5 amplifier vertically with the heatsink fins and better air flow around SS5 amplifier.

For the safety, you have to find dry and well ventilated location and make sure any cables and car equipment are not interfaced with mounting location.

Be sure the mounting location and drilling of pilot cables for mounting will not presenta hazard to any cables, control cables, fuel lines, Fuel tanks,hydraulic lines or other vehicle systems or components

4-3. +12V, GND, REM CONNECTION

+12V (POWER CONNECTION)

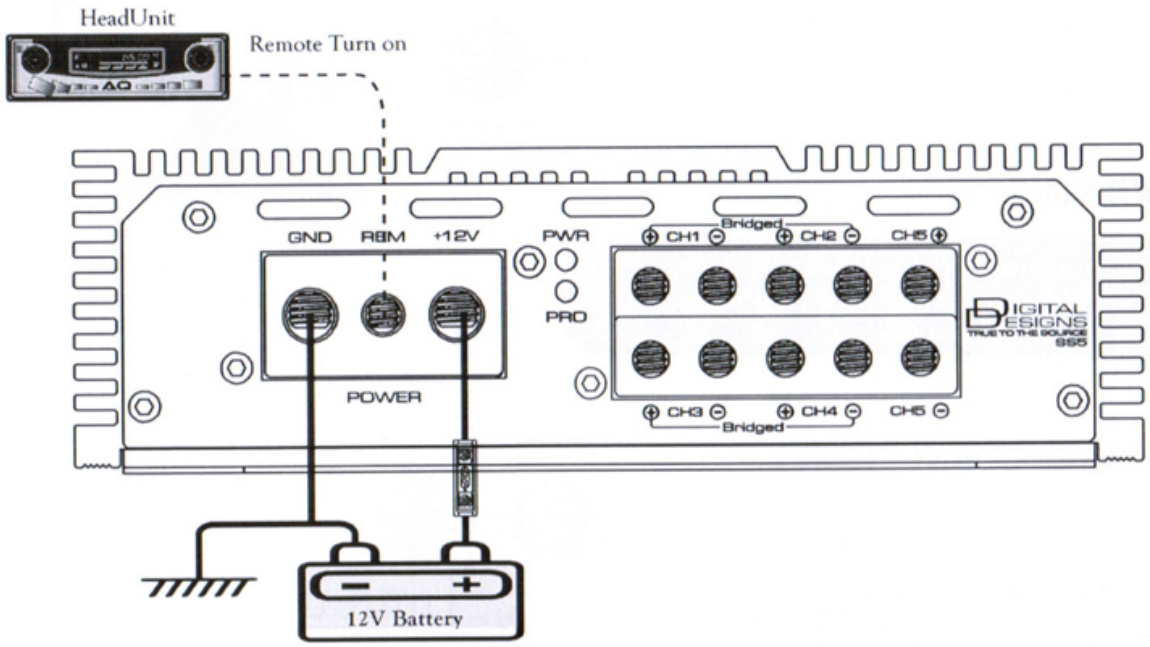
Before mounting SS5, disconnect the negative (−) wire from battery to protect any accidental damage to amplifier and audio system. SS5 is designed to use 4 gauge power and ground connection.
Connect the power cables to power terminal labeled as + 12V.
SS5 is not equipped with fuses so you have to install the external fuses on the power cable.
Connect one end of fuse holder to the power cable and the other end of fuse holder to positive battery within 20 cm of the same cable.
This fuse location will protect the system and the vehicle against the possibility of a short circuit in the power cable. Be sure to use fuses and fuse holder adequate for the application.

GND (GROUND CONNECTION)

Locate a secure grounding connection as close to amplifier as possible.
Make sure the location is clean and provides a direct electrical connection to the frame of the vehicle.
Connect one end of a short piece of the same size cable as the power cable to the grounding point.
Run the one end of the cable to the grounding point.
Run the other end of the cable to the mounting location
Connect the ground cable to the screw terminal labeled as GND.

REM (REMOTE CONNECTION)

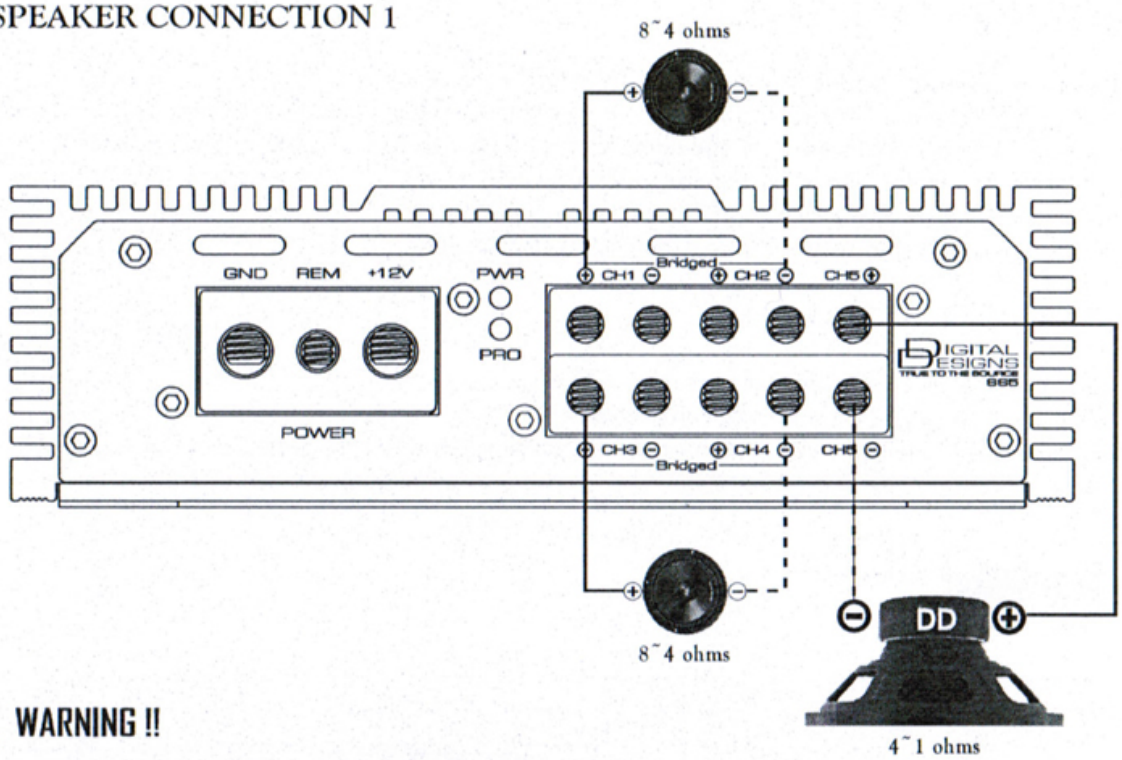
Run a remote turn on cable from the switched + 12V source .
you will be using to turn on the system components.
This may be a toggle switch, a relay, or your source unit's remote trigger cables, or power antenna trigger cable. Connect the remote turn on cable to the power terminal labeled as REM.



4-4. SPEAKER CONNECTION

SS5 is recommended to use 12 gauge speaker connecting cables.
Run 12 gauge speaker connecting cables from your speakers to SS5's mounting location.
Keep speaker cables away from power cables and SS5's input cables.
Use grommets anywhere the cables have to pass through the holes in the metal frame or sheet metal.
Connect to the speakers according to the type of the terminals on each speaker.
Strip 3/8" of insulation from the end of each cable and twist the cables strands together tightly.
Make sure there insulation from the end of each cable and twist the cables together tightly.
Make sure there are no stray strands that might touch other cables or terminals and cause a short circuit.
Crimp spade lugs over the cable ends or tin the ends with solder to provide a secure termination
Connect the cable ends to SS5 as speaker system diagram

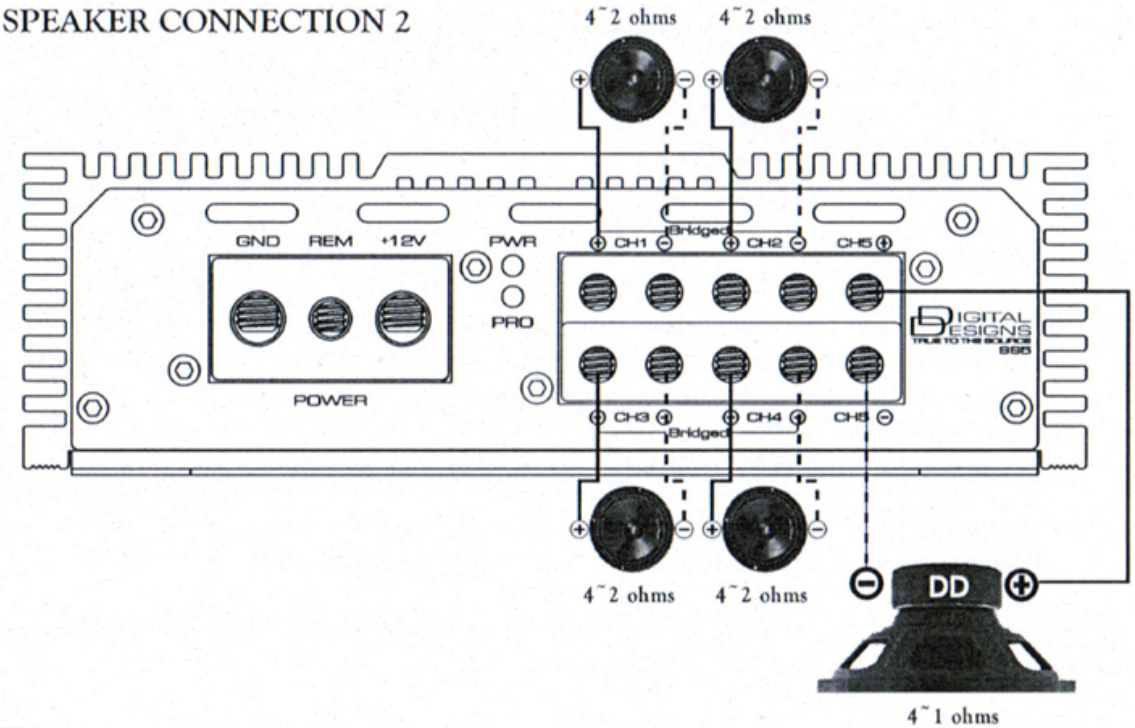
SS5 SPEAKER CONNECTION 1



WARNING !!

SS5 minimum working impedance
CH1 ~ CH4 are 2ohm stereo or 4ohm mono
SUB CH is 1ohm stable

SS5 SPEAKER CONNECTION 2



5. TROUBLE SHOOTING TIPS

NO SOUND (NO OUTPUT)

@ Pls check all connections, cables' rounting, short, voltage at SS5 and headunit
@ Pls check fuses ,If they are blown or burnt , pls replace with new one.
@ Pls check whether speakers work well, you can test speakers by connecting to another amplifier

PROTECTION

@ Pls check overload, overheat (thermal), short and voltage. DC offset
@ SS5 minimum working impedance is 2 ohm stereo or 4ohm mono for CH1~CH4 and 1ohm for CH5.
@ If SS5 amplifier is shut down due to overheat, they will be on some minutes later.
Pls make better airflow and no obstruction around SS5 for thermal protection.
@ When over 4V DC comes into SS5 amplifier, then, they will be DC protected.
Check whether SS5 amplifier works after removing RCA-Input
If SS5 work, then check DC by checking RCA-input L and R.
When DC is over 4V at input, try by replacing headunit or source unit

DISTORTION

@ Readjust input level and check the speaker quality at another amplifier.
If there is still problem, Replace poor quality speakers with good quality ones

POOR BASS RESPONSE

@ Pls check speaker cables and reverse polarity of one channel

BUZZING SOUND

@ Check SS5 and headunit ground contact.
@ Check Rca Jack and repalce with new one or rerout Rca Jack.

WHINING NOISE

@ Engine noise is caused by poor grounding of SS5, headunit, other components, battery or alternator, so pls check all grounding connection.

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