

SECTION 1- SYSTEM DESIGN

Your Genesis dealer has the skill and expertise to do this for you, thereby developing the full performance capability from your chosen equipment.

Should you decide to undertake the installation yourself, follow closely the advice given in this manual. Failure to do so could result in damage to your amplifier which may not be covered by warranty.

The manual contains a selection of system layout diagrams which will be your amplifier connection and cable requirement guide. Choose one which matches the components you propose to use. Now prepare, as shown in Fig.1 a sketch of your vehicle. On it, draw in different colours, the cable routes and positions of components to be fitted. Cable and accessory choice is important. To help you choose correctly, consult your Genesis dealer.

Care taken at the planning stage will save you having to go back and reinstall the equipment.

SECTION 2 - IMPORTANT NOTES ON SYSTEM LAYOUT

1) When selecting a mounting position for your amplifier, choose a location away from the vehicle electronics such as fuel and engine management ECUs. Locate the position of fuel tank, brake lines and wiring looms to ensure clearance prior to any drilling.

If insufficient flat mounting area exists, then shape and fit a panel of MDF or similar material to provide a secure platform. This can be trimmed to match the surrounding area.

2) Make sure there are no water leaks. Electronics and water do not mix, and such damage is not covered by warranty.

3) Choose a position which allows maximum airflow across the amplifier heatsink. To prevent overheating, avoid mounting upside down unless fans are installed to provide airflow.

If space is limited, one or two cooling fans should be fitted to maintain the correct operating temperature. The amplifier is fitted with a regulated fan output for this purpose. Consult your Genesis dealer for further advice relevant to your installation.

4) To avoid vibration damage to your amplifier and wiring, ensure that all equipment is securely mounted. For this reason we do not recommend attaching electronic equipment to Subwoofer boxes.

SECTION 3 - INSTALLATION PREPARATION

POWER SUPPLY :

Poor sound quality and bass performance are commonly caused by power supply problems. Your battery should be less than 1 year old and capable of delivering the continuous current requirements of your vehicle and audio system, therefore an upgrade should be considered. An auxiliary battery with a split charging device is recommended for high power, multi-amplifier systems. For advice on this and alternator requirements, consult your Genesis dealer.

POWER CABLES

Power cables are as important as battery capacity. Your amplifier is capable of delivering its full potential only if connected with cable of the correct gauge.

The Stereo 60 accepts 8 AWG (8mm²) cable, all other models require 4 AWG (21 mm²) for both positive (+) and ground (-).

For ease of identification, use different coloured cables for power and ground.

Conventionally these are coloured red for power and black for ground.

PROTECTION :

A fuse or circuit breaker, rated to the safe current carrying capacity of the cable should be mounted securely close to the battery. This provides protection to the vehicle against the risk of fire should the cable insulation be damaged.

Do not allow the cable to pass through or over any metal panels or brackets before the fuse / circuit breaker.

SIGNAL CABLES:

Use high quality RCA interconnect cables to allow uncompromised signal transfer from source to amplifier. The design and construction of quality cables also provides better shielding against noise generated by the vehicle electrics. Some also have an additional wire built in to be used as the remote on/off switching feed from source unit to amplifier.

SPEAKER CABLES:

Select cable of not less than 14 AWG (2mm²) for front and rear speakers, and 10 AWG (6mm²) for subwoofers.

Whilst this is a minimum requirement, we suggest that you use the highest quality and heaviest gauge that the application allows.

For example, routing into a door often requires a lighter more flexible cable, while the power delivery to subwoofers requires a heavier gauge.

Use high quality gold plated terminals where required for maximum conductivity and signal purity.

Ensure that these are fitted securely, but avoid over-tightening which can damage cable and terminal screws. Protect all power connections from the possibility of shorting out by insulating with a rubber boot.

This applies to fuse holders, circuit breakers, power splitters and battery positive terminals. Do not overlook this most important of safety measures to protect your vehicle from the risk of fire.

Where the cables enter the amplifier, use the cable protection ferrules supplied with the amplifier to prevent loose strands and the possibility of short circuits.

SECTION 4- AMPLIFIER AND SPEAKER CONFIGURATIONS

The normal impedance of In-Car speakers is 3 - 4 ohms.

Subwoofers are available with impedances from 1-8 ohms and some have multiple coil options.

Monoblock, Miniblock and Five channel Sub channel can drive 1 ohm subwoofer loads.

Bridged Stereo amplifiers should have a 3 ohm minimum sub impedance, and will give best performance with 4 ohm loads.

SINGLE CHANNEL (BRIDGED) :

This is for driving one or more subwoofers. The Stereo 60 has a switchable fixed frequency low pass selected by module, while the Stereo 100 and Dual Mono amplifiers have variable low pass filters provided. The minimum impedance in this configuration is 4 ohms for St60 and St100 and 3 ohms for Dual Mono.

TWO CHANNEL (STEREO)

Use this mode to drive 1 or 2 pairs of speakers such as co-axial or 2/3 way component systems.

MULTI MODE / Tri Mode (QUASI-THREE CHANNEL) :

This configuration allows a two channel amplifier to simultaneously drive a pair of full range speakers and a mono subwoofer. Care must be taken to select a high sensitivity subwoofer for this application, which will typically have a low power rating (125w) and require a large enclosure.

It isn't possible to adjust the sub level relative to the front system so this operating mode is now rarely used.

Place the amplifier in its chosen location and using it as a template, mark the screw mounting holes.

Remove the amplifier before drilling to avoid damage to its casing. Do not finally secure it into position until the wiring stage is complete.

The screw kit provided with the amplifier has 4 nylon washers to fit under the screw heads, so they don't mark the case.

The protective film on the amplifier casing should only be removed when the amplifier is securely mounted and all connections are made. Operating the amplifier with the film in place will result in overheating.

For installations where the amplifier is mounted so the badge is upside down, it can be removed and refitted the right way up using a Torx 6 driver.

WIRING :

Mount fuse holder (fuse removed) or circuit breaker (switched off) in a secure position as close to the battery as possible. Connect this to the battery positive (+) terminal using red power cable of the correct gauge, and quality terminals with protective boots.

From the output terminal on the fuse holder or circuit breaker, run the remaining power cable along its chosen route to the amplifier. Take care to ensure that any hole in metal through which it passes is protected by a rubber grommet, and smooth or protect any sharp metal edges which could damage the insulation.

Lay the cable under the carpet away from vehicle wiring and electrical components. Avoid positions where damage could occur when trim panels are refitted.

For optimum audio performance, and to avoid alternator or ignition interference, a good ground (-) point must be found close to the amplifier. If your system uses more than one amplifier, they should all be grounded at the same point. The chassis or floor pan, as the path of least resistance back to the battery negative terminal provides the most efficient completion of the electrical circuit.

To reduce the possibility of short circuits in the cabling snakeskin cable sheathing is recommended. This provides an additional barrier against abrasion and damage to the soft cable insulation.

Protect all cable terminations with heatshrink sleeving. Glue lined is recommended as the glue retains it even under harsh conditions.

The amplifier cases are polished aluminium, and can be cleaned and repolished as required.

To restore the finish, use a metal polish designed for Aluminium. Remove the gold badge before polishing otherwise this may be damaged. A Star / Torx 6 driver fits the badge screws.

Controls and setup:

Crossovers & Filters

These controls allow the selection of frequencies that are fed to the system speakers.

Our hearing spans a 1000:1 range of frequencies and a single speaker cannot accurately reproduce this range.

Several different speaker elements are therefore used to cover this wide range of frequencies.

For the bass notes (low frequency) we need a big speaker that can move a lot of air around. This task is given to the sub woofer as it has a large cone that can move a lot of air. Typically a subwoofer will cover the frequencies from 20Hz to around 80Hz.

Upper bass and midrange is handled in a 2 way system by the midbass driver, so called as it handles bass and midrange frequencies. The frequency range covered by a midbass is typically 80-3000Hz.

The very high notes are reproduced by the tweeter which covers the range 3000Hz to beyond 20,000Hz

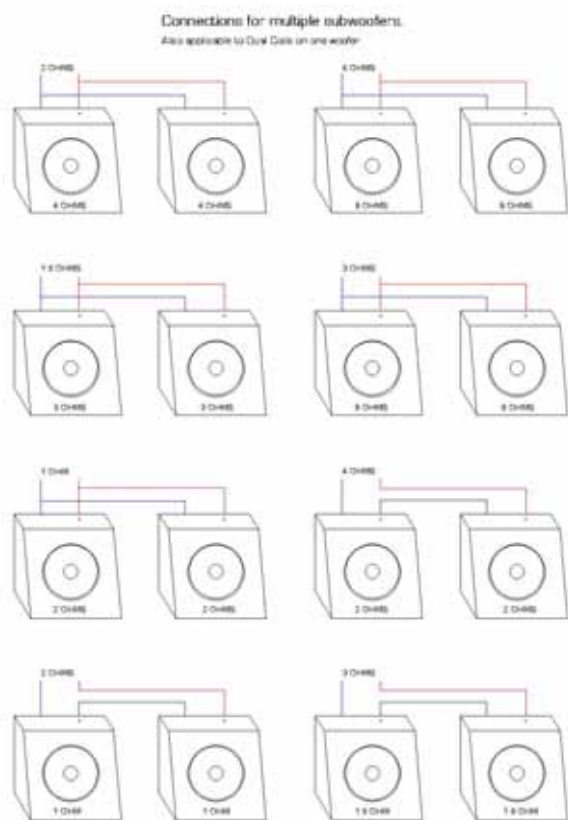
MULTICHANNEL (Five channel / 5 Channel Limited):

A simple one amplifier solution to running either front and rear full range speakers or a front 2 way system in active mode, or a 3 way system in quasi active mode, and between one and four subwoofers.

The Limited model has higher output power especially on the sub channel.

Refer to the system layout diagrams to see these configuration options of this very flexible amplifier.

SUBWOOFER WIRING CONFIGURATIONS :



SECTION 5 - INSTALLATION

Battery ground (-) terminal must be disconnected and remain so until installation is complete.

IMPORTANT WARNING :

Gather together all the accessories, wiring and components. The following is a basic list of tools required.

- 1) Electric Hand Drill with assorted bits
- 2) Pozidrive and Flathead screwdrivers
- 3) Pliers
- 4) Wire Cutters
- 5) Wire Strippers
- 6) Crimping Tool
- 7) Sharp Knife
- 8) Cable Ties
- 9) Soldering Iron
- 10) Insulation Tape
- 11) Multimeter
- 12) Insulation Grommets/Boots
- 13) Selection of Self tapping screws
- 14) Cable clips

Remove vehicle trim to allow access to areas required. Retain all fixings in separate bags and where necessary take notes detailing refitting procedure. Never use undue force to remove trim, as broken fixings and panels will buzz and rattle, detracting from your listening pleasure.

Mounting :

Check that you have space for the cables and input connectors before drilling any holes! Also check that there are no cable conduits or fuel lines behind panels where you intend to drill. Access to allow setup will also be needed.

3 Way systems use an additional midrange driver with a dedicated woofer to give more accurate reproduction.

Most systems will use passive crossovers between the midbass and tweeter, so crossovers are most often used to split the signal between the front system and the subwoofer.

All Genesis amplifiers have independent high pass and Lowpass filters. The filter names are descriptive of how they work, the Lowpass passes low frequencies and cuts the high frequencies, so is suitable for subwoofers.

The Highpass filter passes high frequencies through and cuts lower frequencies so is ideal for removing the very low frequencies from the front speaker system.

The frequency controls set the cut-off frequency of the crossovers. For highpass filters the frequencies lower than the setting will be progressively reduced.

To set the crossovers precisely to your system requirements requires the use of professional measuring equipment, however the settings shown in the connection diagrams will be an excellent starting point for most systems.

Avoid setting the highpass frequency on your midbass drivers too low, remember the cone excursion increases by 8 times if you halve the crossover frequency!

Sending frequencies to speakers they can't properly reproduce increases distortion, wastes amplifier power and can damage the midbass speaker at high volume.

Most 5 inch and 6.5 inch midbass drivers will only take their full power rating when fed frequencies of 80Hz and higher. Sending lower frequencies to them will reduce the power handling and output level capability.

The highpass filter can be used as a subsonic filter to reduce frequencies below the tuning frequency of a vented box.

Remote subwoofer level:

This is supplied with Miniblock, Monoblock and 5 Channel as standard, and is an option on Dual Mono and Four Channel.

It provides easy control of the subwoofer level by a discreetly mounted control knob.

We use studio grade specialist circuitry controlled by a DC signal, so the Audio is never run down the Remote cable.

Note that the RS control only works when the LP filter is switched on!

Fan output:

All Series 3 amplifiers except Stereo 60 have a dedicated fan output terminal. This provides a controlled feed to run up to four 12 volt computer fans, or 2 barrel fans.

The amplifier controls the fan speed by varying the voltage on the fan terminal. The fan will begin turning at around 50 C / 120 F, and be at full speed by 70 C / 160F.

Fans are usually necessary when the amplifiers are mounted in under-floor installations, or where amplifiers are working at minimum impedance driving subwoofers at high SPL.

High Level inputs.

Genesis offers a stand alone interface to connect Series 3 amplifiers with factory fit head units.

This provides Four channels of high quality RCA level output at 3 volts RMS. A remote trigger output is also provided to turn on the amplifiers for vehicles without an 'accessory' feed.

Connection diagrams follow on the subsequent pages:

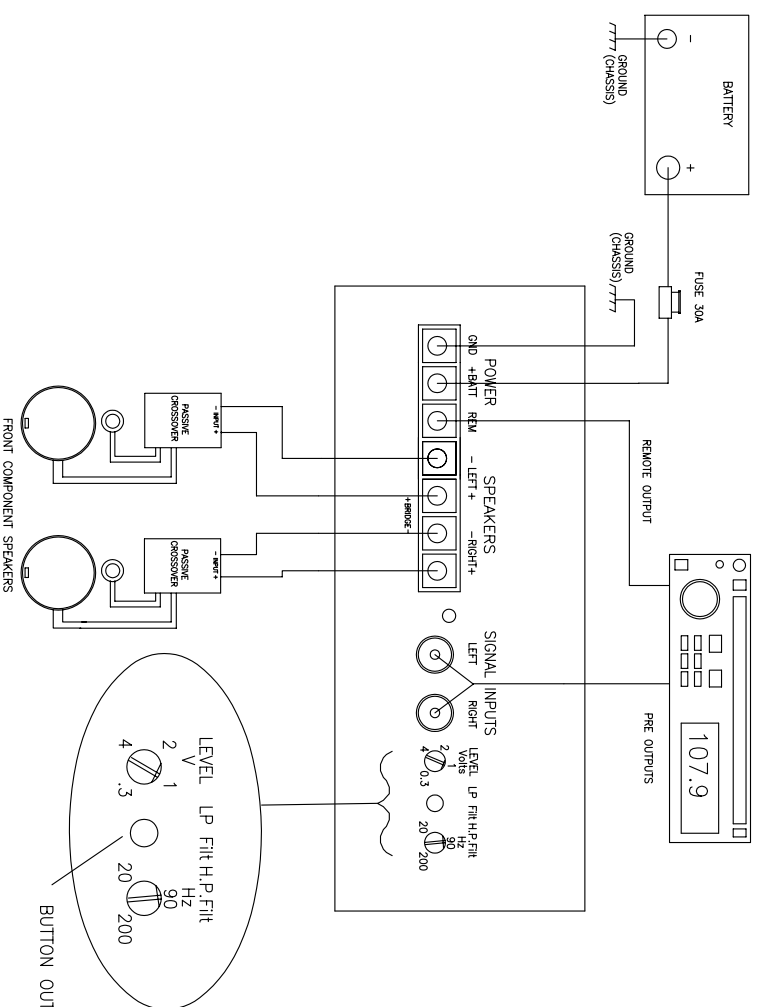
Connection guide

Stereo 60

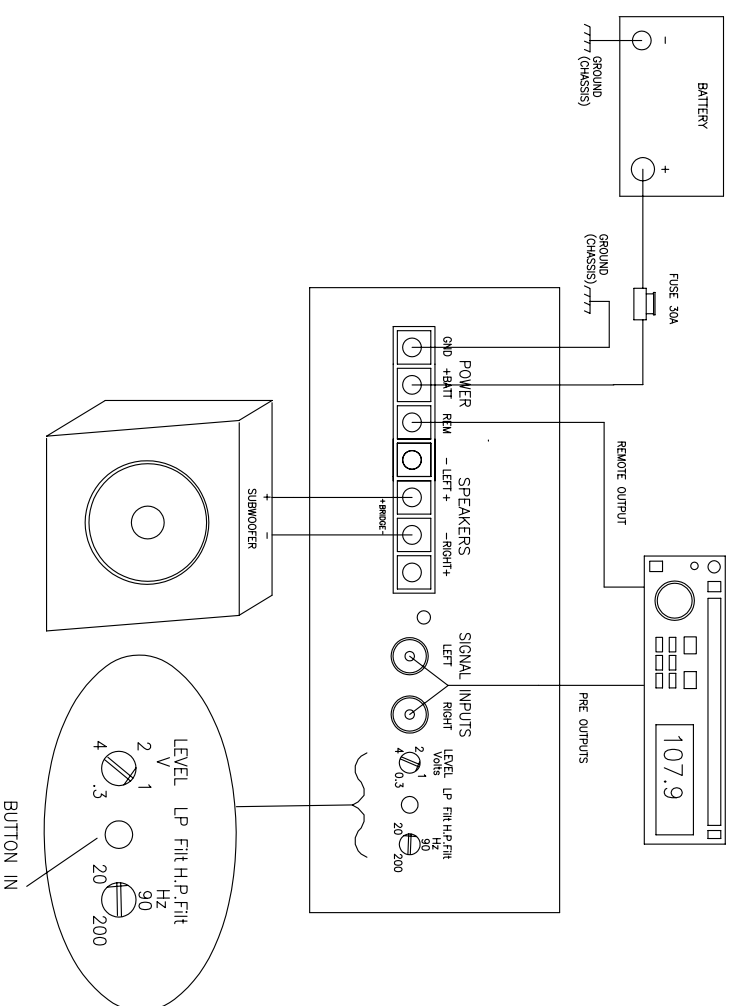
Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
2. Power cable should be 6mm (10AWG) up to 1 metre in length, and 10mm (8AWG) for lengths over 1 metre.
3. Up to 2 pairs of 4 ohm speakers can be connected to each output. The Minimum bridged load (subwoofer) is 3 ohms.
4. Lowpass filter frequency is set by a replaceable module underneath the amplifier (covered by a rubber bung)
5. The Inbuilt Highpass filter may be used as a subsonic filter. The setting shown is approx 25Hz and suitable for most subwoofers.

Stereo mode for Front or rear speakers



Bridge mode for Subwoofers

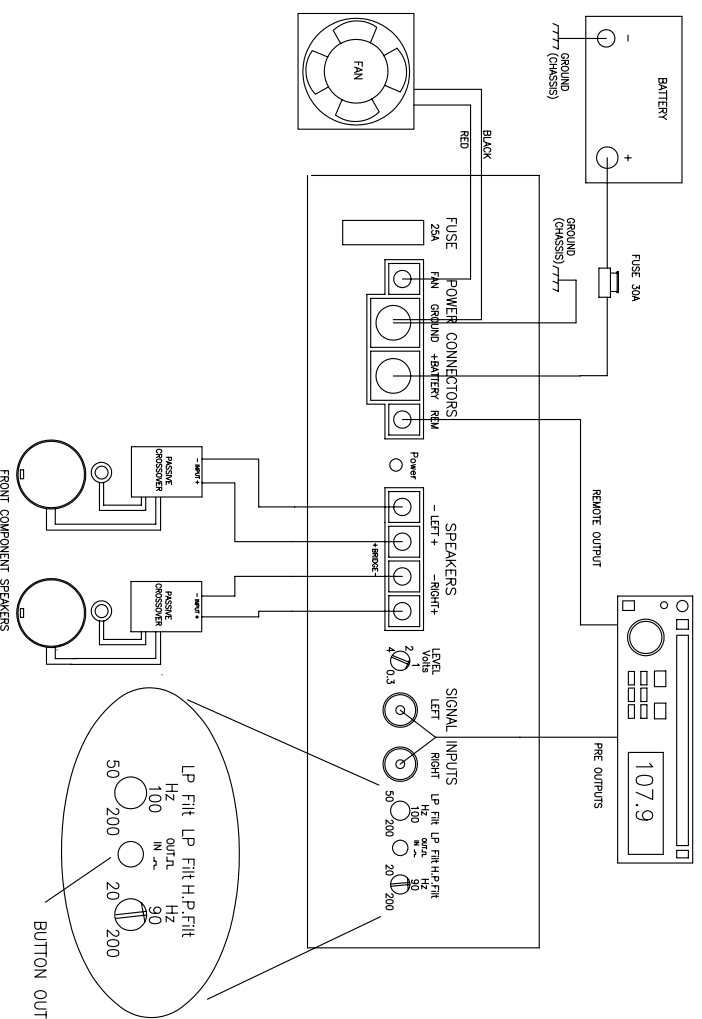


Connection guide Stereo 100

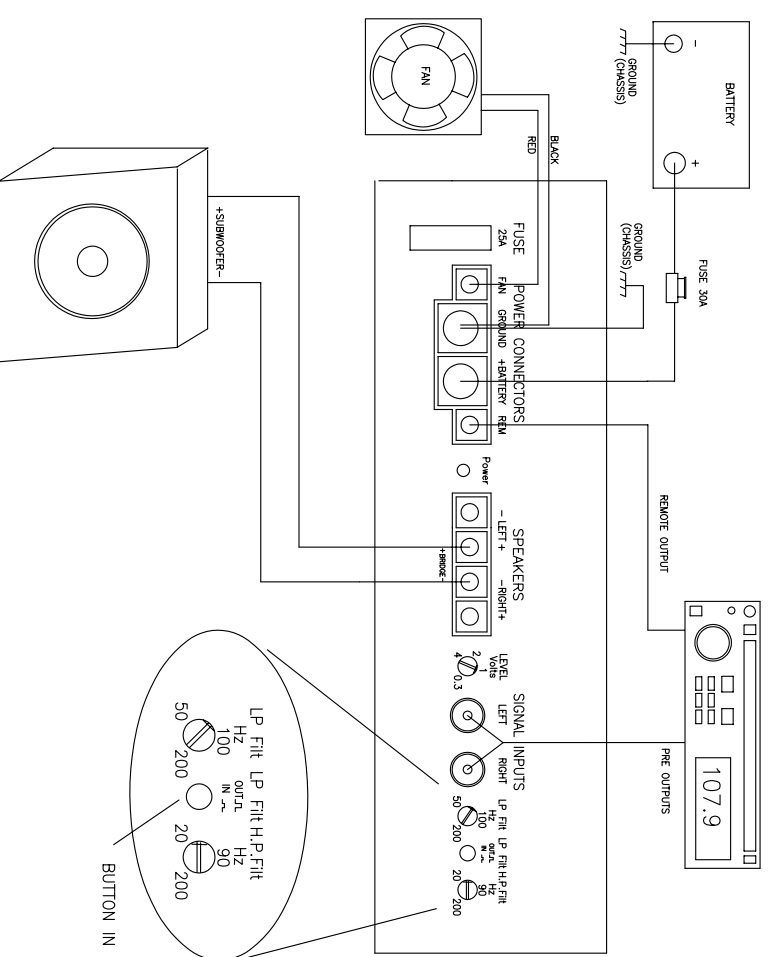
Guide to setting up:

1. Highpass settings shown for component speakers are approximate for 13 and 16cm speakers. Consult speaker manual to confirm these are suitable.
2. Power cable should be 10mm (6 AWG) up to 1 metre in length, and 21mm (4AWG) for lengths over 1 metre.
3. Up to 2 pairs of 4 ohm speakers can be connected to each output. The minimum bridged load (subwoofer) is 3 ohms.
4. Lowpass filter is continuously adjustable from 50 to 200Hz to allow fine tuning of sub integration.
5. The inbuilt Highpass filter may be used as a subsonic filter. The setting shown is approx 25Hz and suitable for most subwoofers.

Stereo mode for Front or rear speakers



Bridge mode for Subwoofers



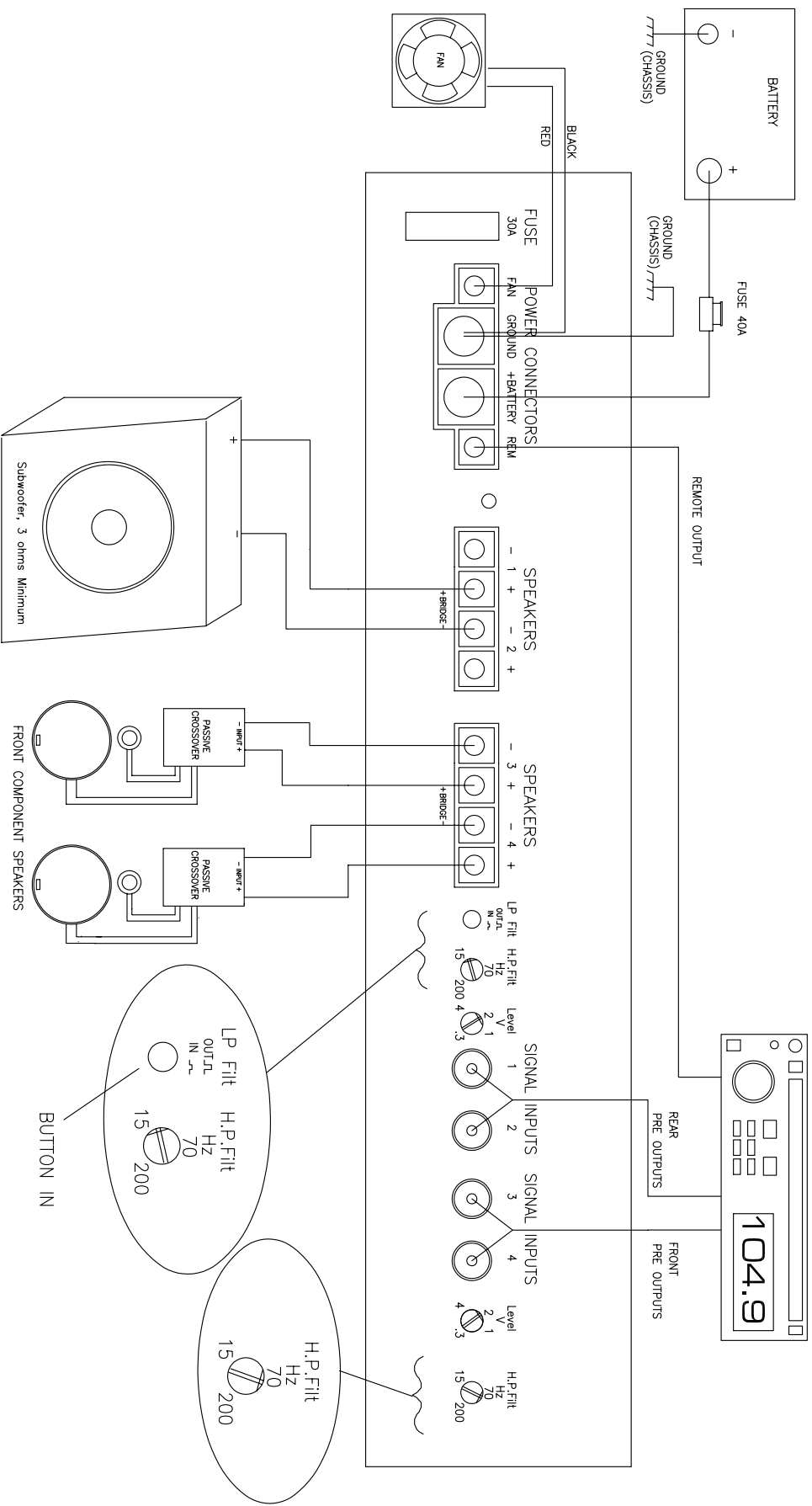
Connection guide

Compact Four

Stereo Front and Subwoofer

Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
2. Power cable should be 10mm (6 AWG) up to 1 metre in length, and 21mm (4AWG) for lengths over 1 metre.
3. Up to 2 pairs of 4 ohm speakers can be connected to each output. Minimum sub load is 3 ohms.
4. If only 2 preouts are available, connect these to Inputs 1&2. Signal will automatically connect to channels 3&4 internally.
5. Fan only needed if amplifier is enclosed. Amplifier controls fan speed automatically, and it will only run as required.
6. Lowpass filter is set by a module located under amplifier. Remove rubber cover to change module, set freq according to chart on bag.



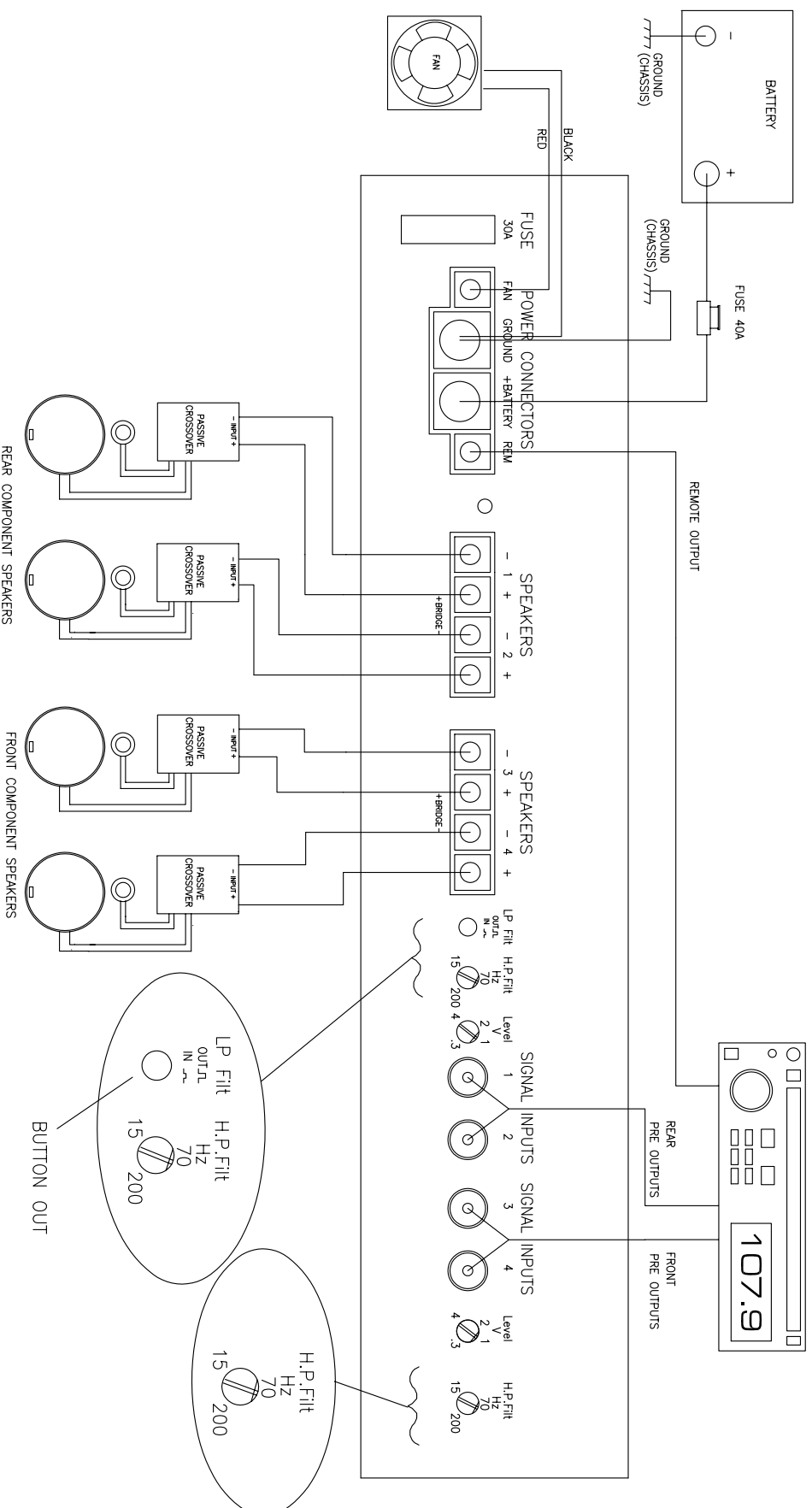
Connection guide

Compact Four

Stereo Front and Rear

Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
2. Power cable should be 10mm (6 AWG) up to 1 metre in length, and 21mm (4AWG) for lengths over 1 metre.
3. Up to 2 pairs of 4 ohm speakers can be connected to each output.
4. If only 2 preouts are available, connect these to Inputs 1&2. Signal will automatically connect to channels 3&4 internally.
5. Fan only needed if amplifier is enclosed. Amplifier controls fan speed automatically, and it will only run as required.



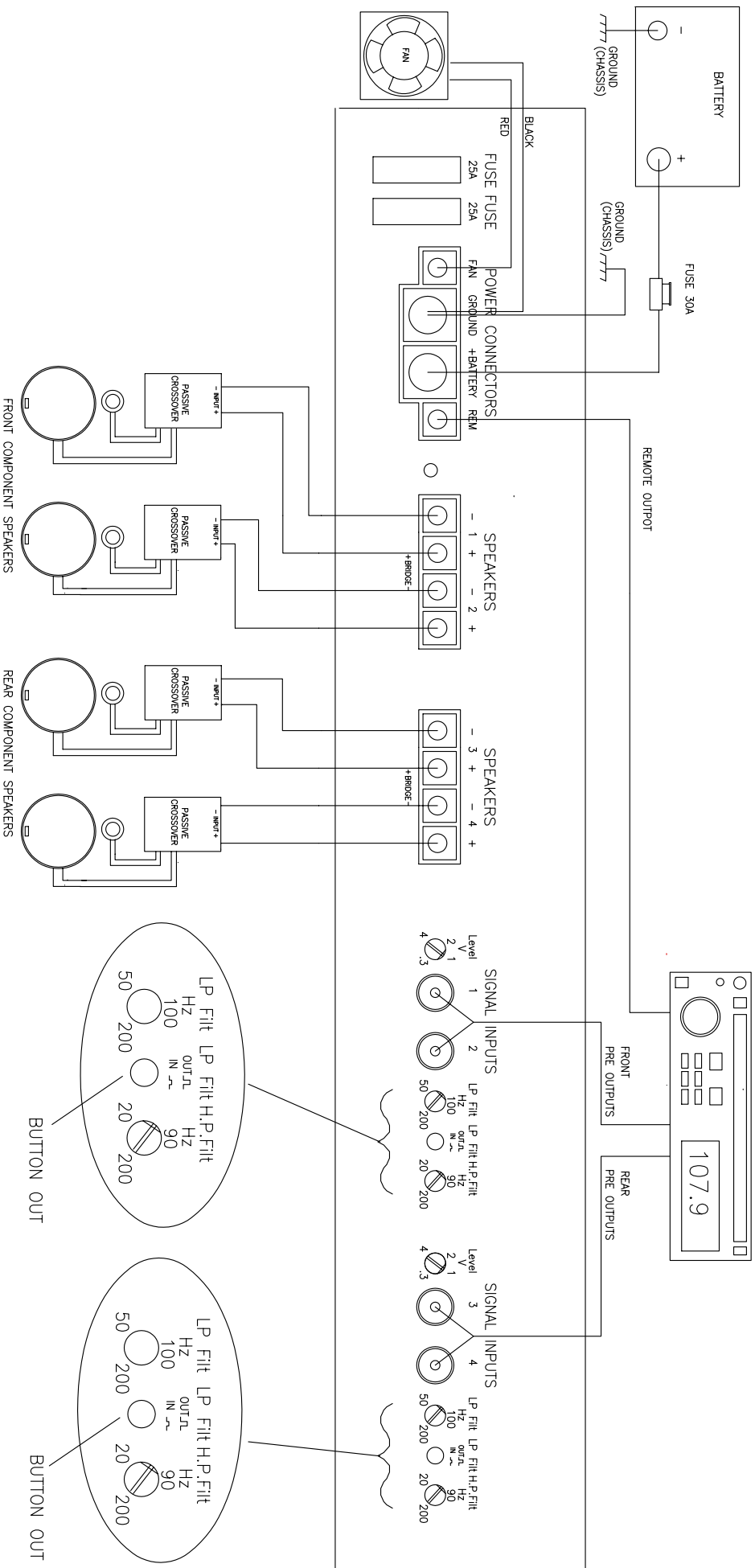
Connection guide

Four Channel

Stereo Front and Rear

Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
2. Power and ground cable should be 21mm (4AWG).
3. Up to 2 pairs of 4 ohm speakers can be connected to each output.
4. If only 2 preouts are available, connect these to inputs 1&2. Signal will automatically connect to channels 3&4 internally.
5. Fan only needed if amplifier is enclosed or run at max level. Amplifier controls fan speed automatically, and it will only run as required.



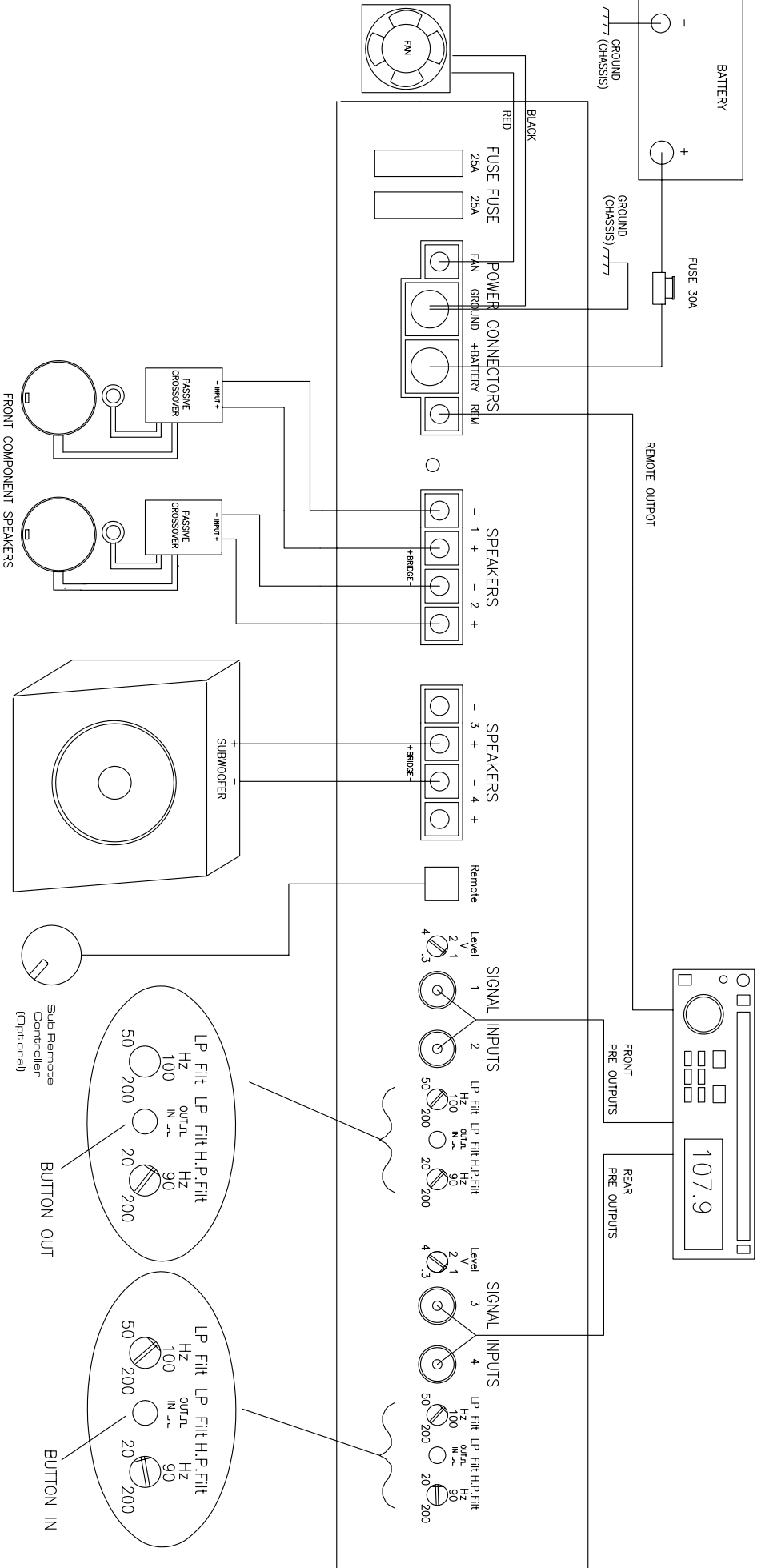
Connection guide

Four Channel

Stereo Front and Subwoofer

Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
2. Power and ground cable should be 21mm (4AWG).
3. Up to 2 pairs of 4 ohm speakers can be connected to each output. Minimum sub load is 3 ohms.
4. If only 2 preouts are available, connect these to Inputs 1&2. Signal will automatically connect to channels 3&4 internally.
5. Fan only needed if amplifier is enclosed or run at max level. Amplifier controls fan speed automatically, and it will only run as required.
6. Optional Sub remote only works when Lowpass Filter is switched on (Button pushed in). An upgrade kit is available to enable this feature, or it can be ordered factory fitted.



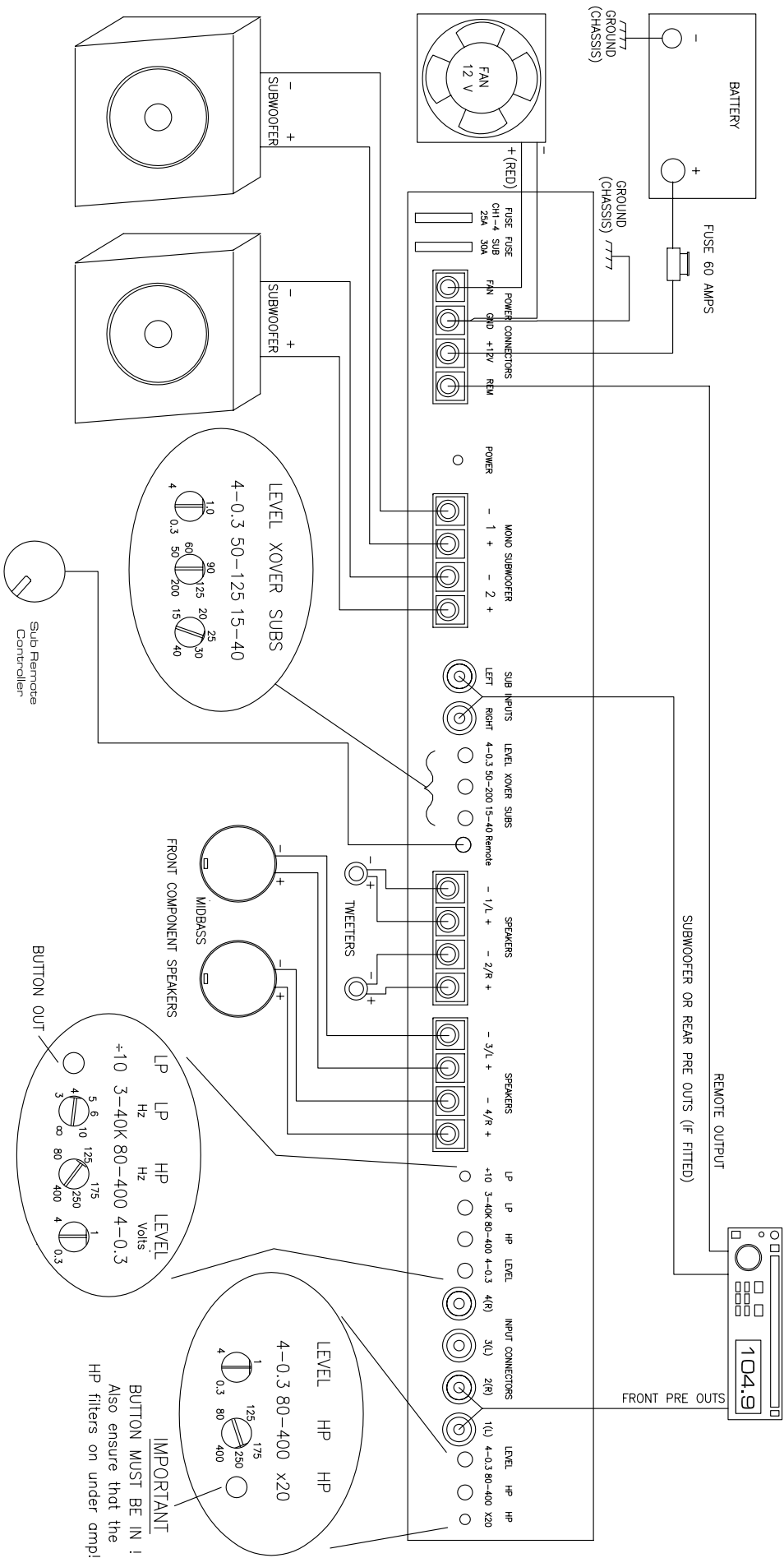
Connection guide

Five Channel

Active Front system and Subwoofer

Guide to setting up:

1. Settings shown are a good starting point for most speakers. Consult speaker data for more accurate information.
2. Power and ground cable should be 21mm (4AWG).
3. Up to 2 pairs of 4 ohm speakers can be connected to each output. Minimum sub load is 1 ohm. Set sub impedance on switch located under small bung near sub channel connections.
4. If only 2 preouts are available, connect these to Inputs 1&2. Signal will automatically connect to channels 3&4 and the Sub channel internally.
5. Fan only needed if amplifier is enclosed or run at max level. Amplifier controls fan speed automatically, and it will only run as required.
6. Highpass filters for Channels 1&2 and 3&4 must be switched on, check under amplifier! Also x 30 switch must be on otherwise tweeters will be damaged! We recommend fitting a 1 amp fast blow fuse or 0.6 amp multifuse in line with tweeters to protect them.

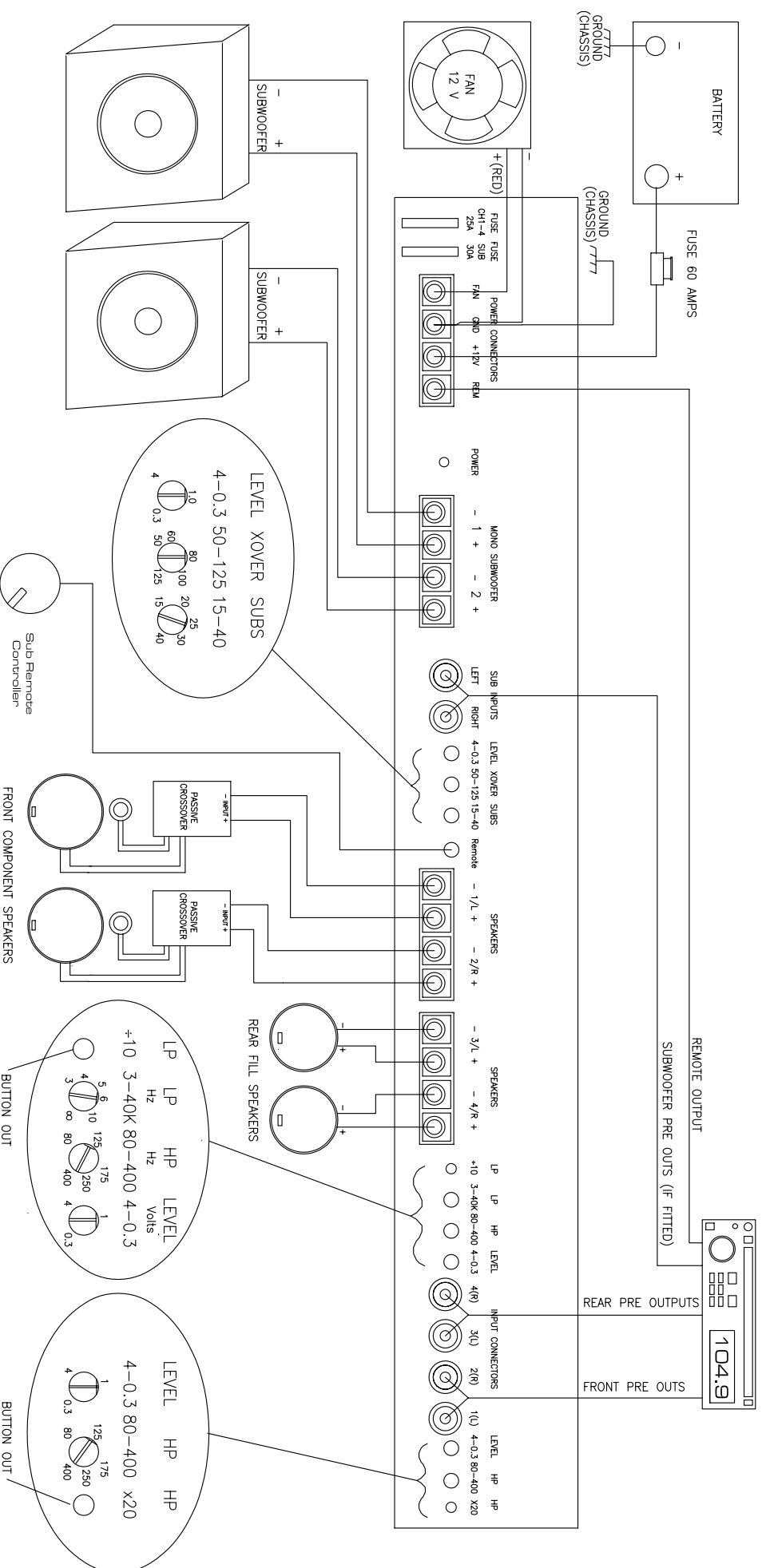


Connection guide Five Channel

Stereo Front, Rear Fill and Subwoofer

Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
 2. Power and ground cable should be 21mm (4AWG).
 3. Up to 2 pairs of 4 ohm speakers can be connected to each output. Minimum sub load is 1 ohm. Set sub impedance on switch located under small bung near sub channel connections.
 4. If only 2 preouts are available, connect these to Inputs 1&2. Signal will automatically connect to channels 3&4 and the Sub channel internally. internally.
 5. Fan only needed if amplifier is enclosed or run at max level. Amplifier controls fan speed automatically, and it will only run as required.
6. Highpass filters for Channels 1&2 and 3&4 can be switched off - switches located underneath amp behind rubber bung located near input sockets..

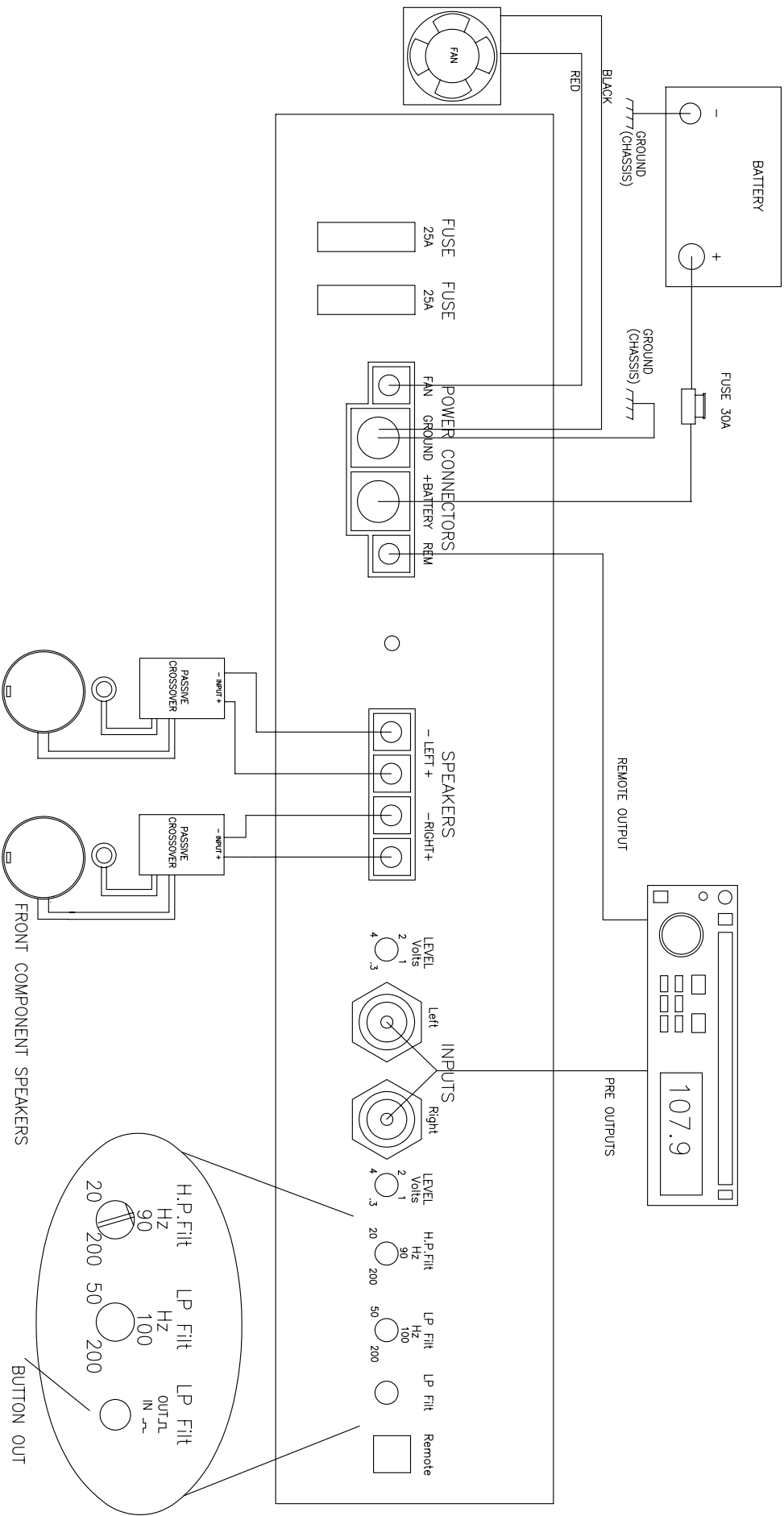


Dual Mono Connection Guide

Stereo Front System

Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
2. Power and ground cable should be 21mm (4AWG).
3. Up to 2 pairs of 4 ohm speakers can be connected to each output however 4 ohm speakers recommended for best sound quality
4. Left and Right gain controls operate independently, remember to set both gains!
5. Fan only needed if amplifier is enclosed or run at max level. Amplifier controls fan speed automatically, and it will only run as required.
6. Undistorted power output 150W typically per channel. Ensure speakers are rated accordingly!

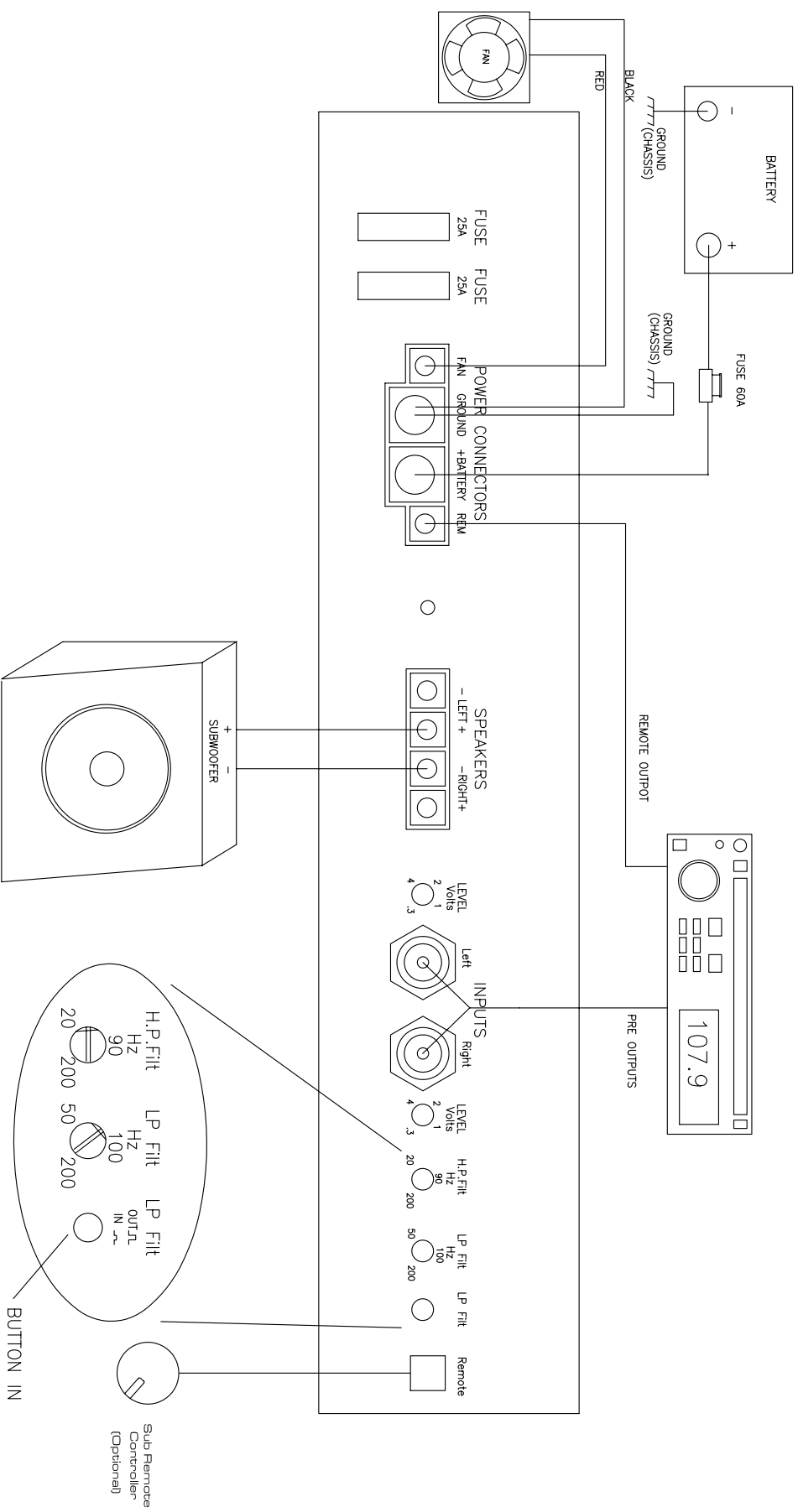


Dual Mono Connection Guide

Subwoofer

Guide to setting up:

1. Power and ground cable should be 21mm (4AWG).
2. Minimum recommended subwoofer load is 3 ohms however amplifier will run at 2 ohms. Fan cooling essential at 2 ohms!
4. Left and Right gain controls operate independently, remember to set both gains equally!
5. Fan should be used when loaded at 3 ohm or amp is enclosed. Amplifier controls fan speed automatically, and it will only run as required. Fan should be 12volt.
6. Undistorted power output is typically 500W at 4 ohm bridge, 600W at 3 ohms. Ensure subwoofers are rated accordingly!
7. Sub remote is factory fitted option, label by Serial number will indicate "RS fitted". A kit to upgrade standard amplifiers is available.



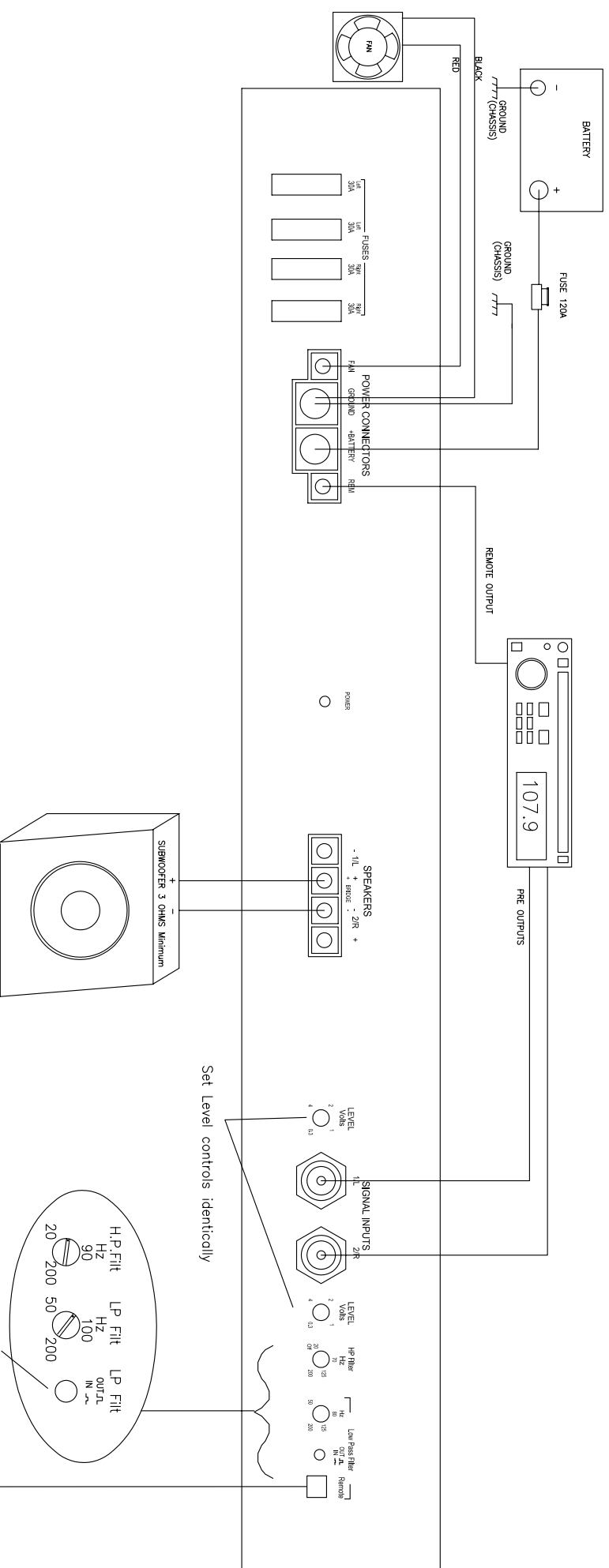
Connection guide

Dual Mono Xtreme

Subwoofer

Guide to setting up:

1. Power and ground cable should be 21mm (4AWG).
2. Minimum recommended subwoofer load is 3 ohms however amplifier will run at 2 ohms. Fan cooling essential at 2 ohms!
3. RS control only operates when Lowpass filter switched on. If using external crossover, turn LP control to 200Hz and switch LP filter on.
4. Left and Right gain controls operate independently, remember to set both gains equally!
5. Fan should be used when loaded at 3 ohm or amp is enclosed. Amplifier controls fan speed automatically, and it will only run as required. Fan should be 12volt.
6. Undistorted power output 1000W at 4 ohm bridge, 1100W at 3 ohms. Ensure subwoofers are rated accordingly!
7. RS control only operates when Lowpass filter switched on. If using external crossover, turn LP control to 200Hz and switch LP filter on.



Sub Remote
Level Control.

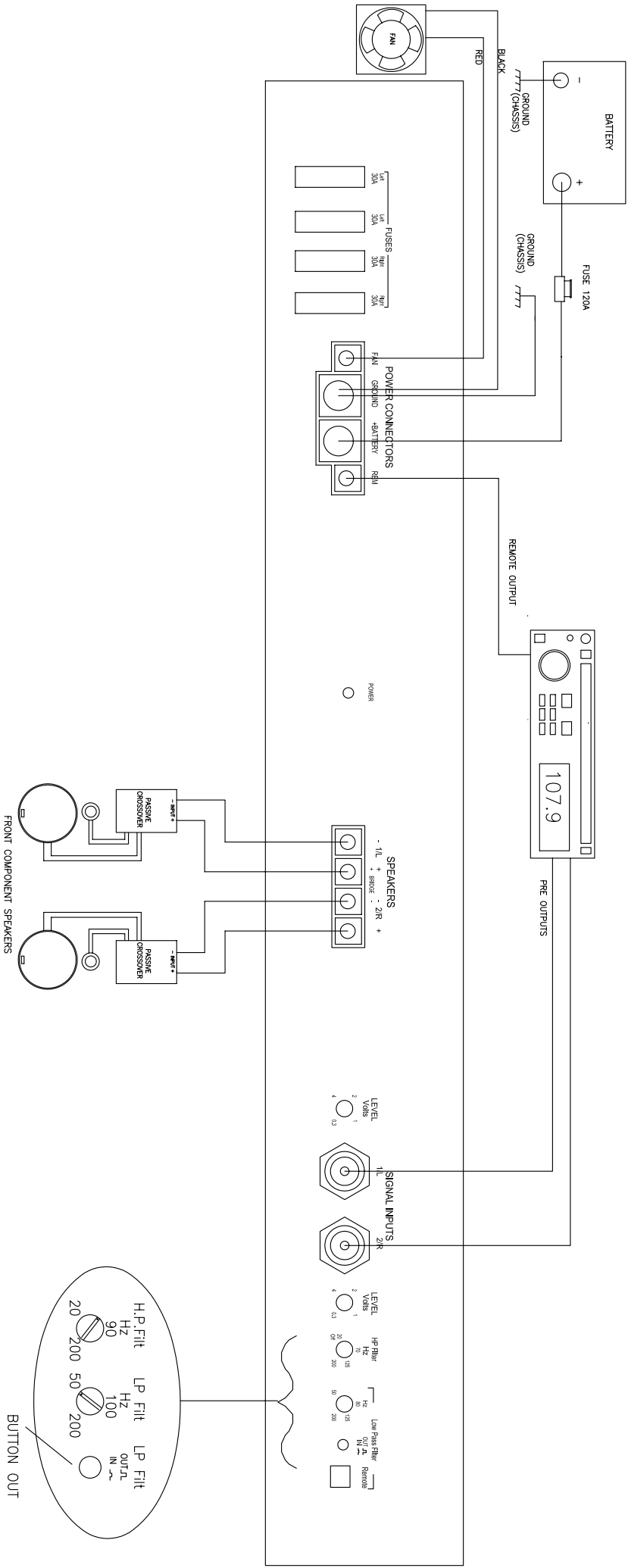
Connection guide

Dual Mono Xtreme

Stereo Front System

Guide to setting up:

1. Settings shown are approximate for 13 and 16cm speakers. Consult speaker data for more accurate information.
2. Power and ground cable should be 27mm (4AWG).
3. Up to 2 pairs of 4 ohm speakers can be connected to each output however 4 ohm speakers recommended for best sound quality
4. Left and Right gain controls operate independently, remember to set both gains!
5. Fan only needed if amplifier is enclosed or run at max level. Amplifier controls fan speed automatically, and it will only run as required.
6. Undistorted power output is typically 325W per channel. Ensure speakers are rated accordingly!

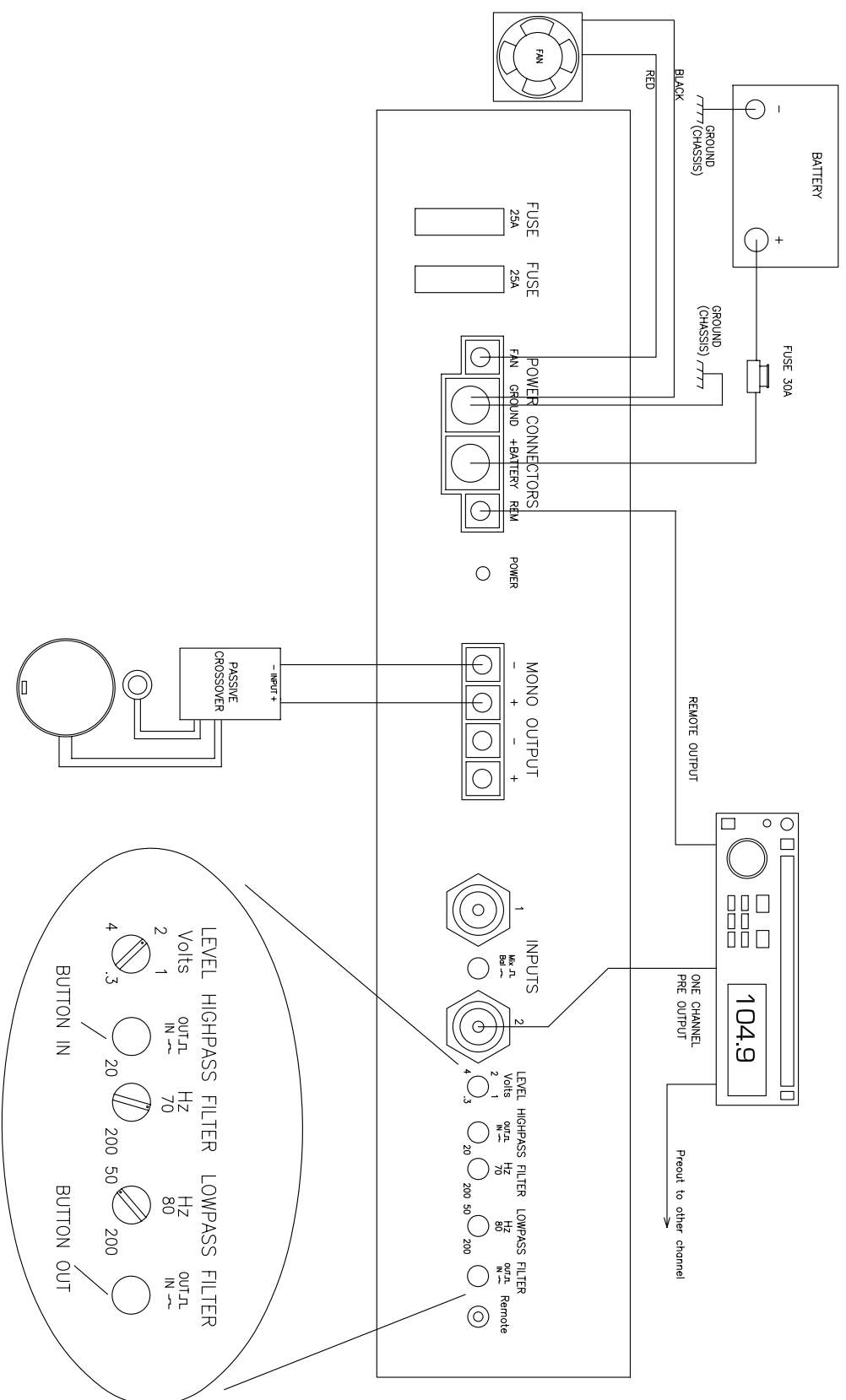


Miniblock Connection guide

Stereo Front System

Setup Guide:

1. To set input level, refer to section 5 under the Controls and setup heading.
2. Minimum load is 1 ohm, however for best sound quality 4 ohms is recommended.
3. Both sets of output terminals are joined internally, + to + and - to -. This allows easy biwiring for high end crossovers.
4. Amplifier will provide 275 watts of undistorted output at 4 ohms, ample sure speakers are rated accordingly!
5. Filter settings are shown for 80Hz Highpass, and are indicative only. Set up according to speaker system requirements.
6. Fan output can support up to 1 amp load. Output increases with temp to 12 volts @ 60 deg C.

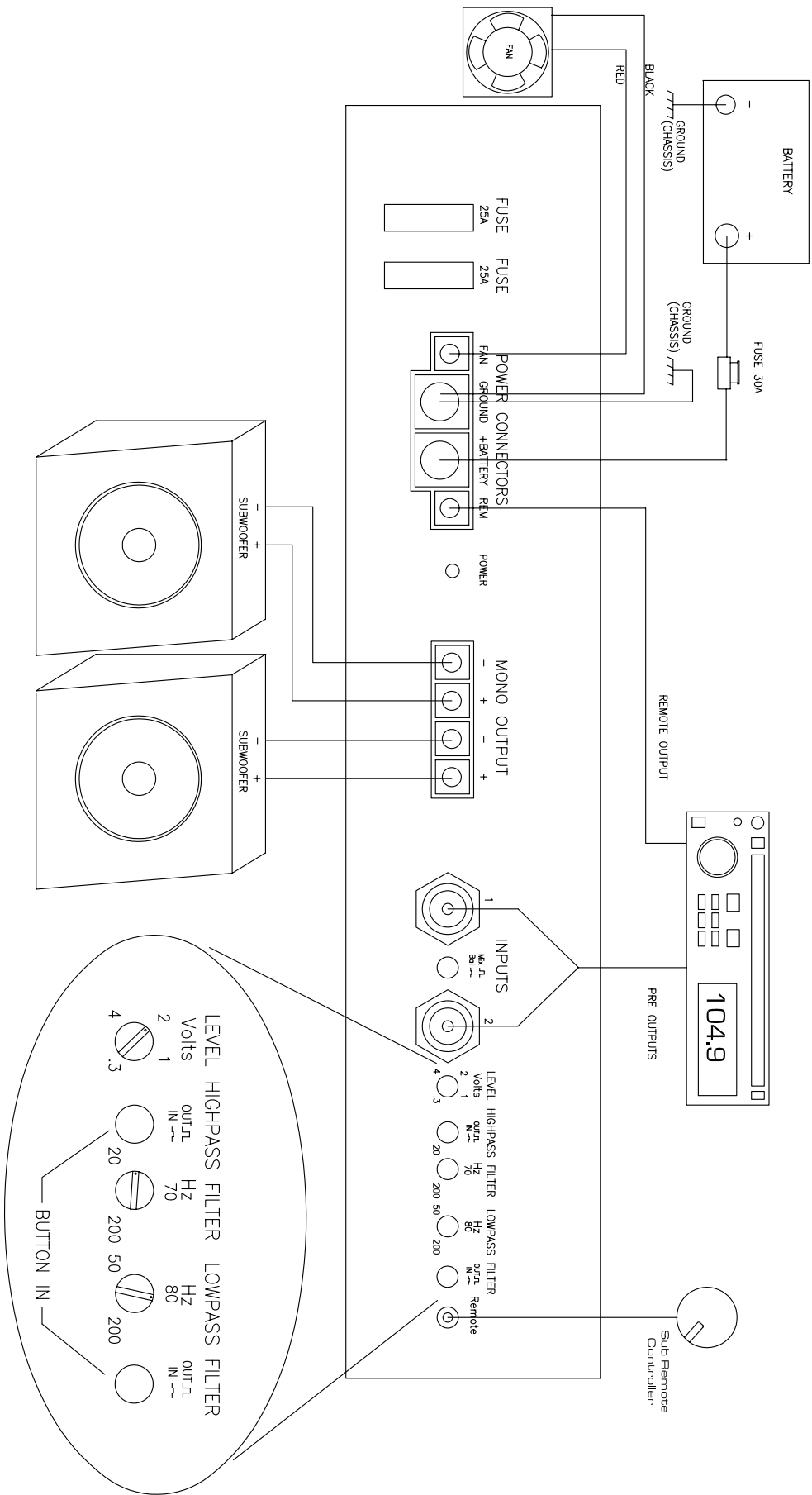


Miniblock Connection Guide

Subwoofer

Setup Guide:

1. To set input level, refer to section 5
2. Up to Four 4 ohm subwoofers may be connected in parallel.
3. Both sets of output terminals are joined internally, + to + and - to -.
4. Set the Mix/Bal switch to mix to combine Stereo signals to Mono, or Bal for balanced inputs
5. When using Velodyne Sub with processor, switch out HP & LP filters.
6. Fan output can support up to 1 amp load. Fan only runs when amp is hot. Use any 12 volt computer or barrel fan.

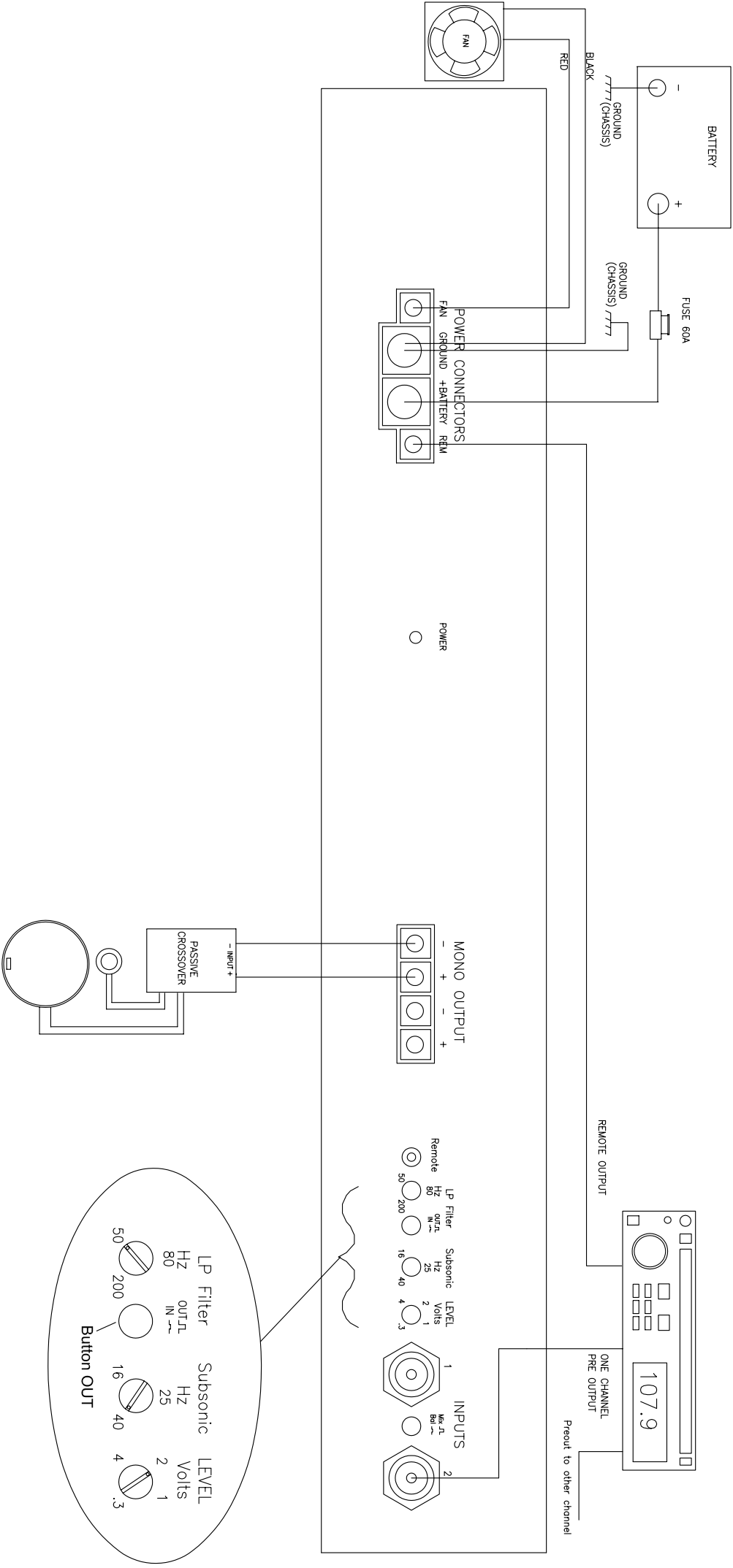


Monoblock Connection guide

Front Stage

Setup Guide

1. To set input level, refer to section 5
2. Minimum load is 1 ohm, however for best sound quality 4 ohm operation is recommended.
3. Both sets of output terminals are joined internally, + to + and - to -.
4. Set the Mix/Bal switch to Mix unless using balanced signal source.
5. Filter Settings are for 40Hz Highpass. Frequency settings higher than this will require the use of an outboard processor.
6. Fan output can support up to 1 amp load. Output increases with temp to 12 volts @ 60 deg C.



Monoblock Connection Guide

Subwoofer

Setup Guide:

1. To set input level, refer to section 5
2. Up to Three 3 ohm or Four 4 ohm subwoofers may be connected in parallel.
3. Both sets of output terminals are joined internally, + to + and - to - to make wiring easier.
4. Set the Mix/ Bal switch to mix to combine Stereo signals to Mono, or Bal for balanced inputs
5. Settings shown are for 25Hz Subsonic and 80Hz lowpass. This provides a good starting point for most systems.
6. Fan output can support up to 1 amp load. Fan only runs when amp is hot. Use any 1/2 vdc computer or barrel fan.

