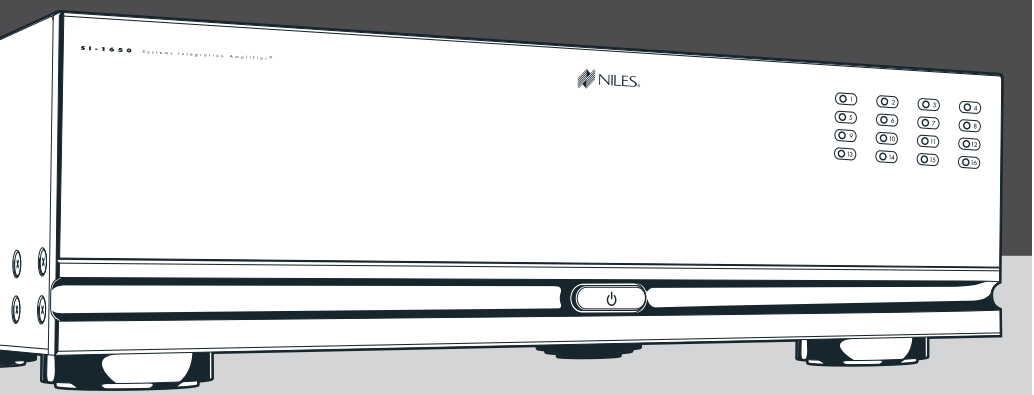
SI

AMPLIFIERS

INSTALLATION GUIDE

SI-1650



NILES®

BLENDING HIGH FIDELITY AND ARCHITECTURE®

CONGRATULATIONS!

Thank you for purchasing the Niles SI-1650, one of the most versatile and powerful multi-channel amplifiers ever offered. Like all Niles products, the SI-1650 is built to the highest standards of quality and reliability. With proper installation and operation, you'll enjoy years of trouble-free use.

TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.

6. Clean only with a dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

11. Only use attachments/accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.

16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.

17. The power supply cord (sometimes referred to as the "Mains Plug") is used as the disconnect device and shall remain accessible and operable at all times.

18. Do not expose batteries to excessive heat such as sunshine, fire or the like.

19. Open flame sources, such as lighted candles, should NOT be placed on the apparatus.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

FCC Required Text:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate, radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

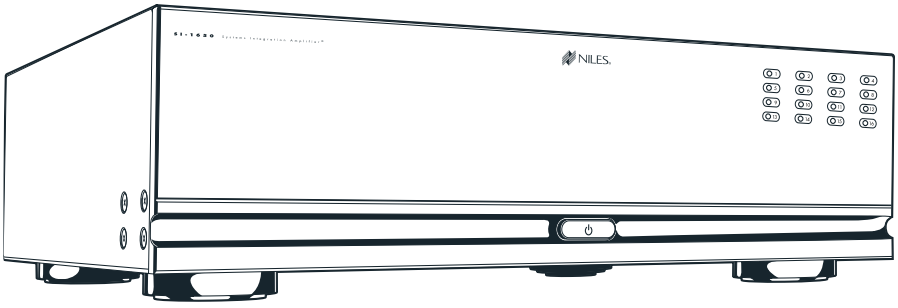
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

INTRODUCTION

We call the SI-1650 a Systems Integration Amplifier because it is a power amplifier specifically designed to solve the problems of interfacing with different brands and models of equipment, different acoustic environments in different rooms, and different kinds of applications: home theater, stereo, and background music. The Niles SI-1650 Systems Integration Amplifier brings extremely high current power to a custom installed A/V System in a remarkably convenient way.



SI-1650

FEATURES AND BENEFITS

REAL WORLD POWER

The SI-1650 is 16-channel amplifier configurable to deliver a solid 50 watts per channel RMS into 8 ohms or 100 watts per channel RMS into 8 ohms using a special high power mode. A new digital power transformer design provides the energy necessary to efficiently deliver solid, deep, controlled bass response to a house full of speakers.

SIXTEEN TO EIGHT CHANNEL IP CONFIGURABLE POWER

Each of the SI-1650's eight adjacent speaker output pairs are configurable into a single high power output. You can create up to eight 100 watt channels using the embedded webserver. This enables you to allocate more power to specific locations, such as large rooms, outdoor applications or subwoofers.

FREEDOM FROM NOISE AND CROSS-TALK

The SI-1650's BusMatrix™ incorporates advanced PCB construction ensuring extremely high channel to channel isolation. Signal to noise ratios and cross-talk are equivalent to a professional mixing board found in a recording studio. With the SI-1650, the music playing in the living room cannot interfere with the music in the den.

TRANSPARENT SOUND

The audio circuitry of the SI-1650 is constructed with the finest parts available, including metal film resistors, high quality capacitors and oversized heat sinks. All this attention to technical detail results in a sound that is clear and uncolored.

IP CONFIGURABLE BUSMATRIX™ SELECTOR

A web based IP Configuration utility provides control of the BusMatrix™ selector giving you the flexibility to assign each speaker channel to any of the sixteen signal inputs. Adjacent signal input pairs can also be combined and assigned to a speaker channel for mono sound applications. With BusMatrix™, routing surround sound to the master bedroom, stereo to the den, mono to the powder room or high power to a subwoofer has never been easier. BusMatrix™ makes the SI-1650 an ideal multi-room or multi-zone amplifier and offers exciting new features and system design possibilities to the professional installer.

FEATURES AND BENEFITS CONTINUED...

IP CONFIGURABLE EQ ADJUSTMENT, VOLUME LEVEL AND HIGH/LOW PASS SELECTION

A web based IP Configuration utility provides independent EQ adjustment and volume level for each amplifier channel enabling you to EQ and set volume levels for 16 different speakers individually. A High/Low Pass Filter setting for each channel accommodates passive subwoofers and small full range speakers. Installers can now acoustically optimize each speaker for both its type and individual location using a web browser.

TURN-ON MODES

The SI-1650 features three turn-on modes: 1. Manual turn-on via the front panel switch, 2. Audio Sense and 3. External Voltage trigger. Audio Sense and External Voltage trigger modes enable you to configure the SI-1650 to interface with any kind of system and turn on automatically.

AUTOMATIC PROTECTION

Each channel has independent thermal and short circuit protection. In the unlikely event that a problem occurs on one channel, the other channels will continue to play. When conditions return to normal, regular operation resumes.

STATUS DISPLAY FOR TROUBLESHOOTING

LED's on the front panel indicate Power, Active and Protection Status. With a glance at the front panel a troubleshooter is quickly provided with key information.

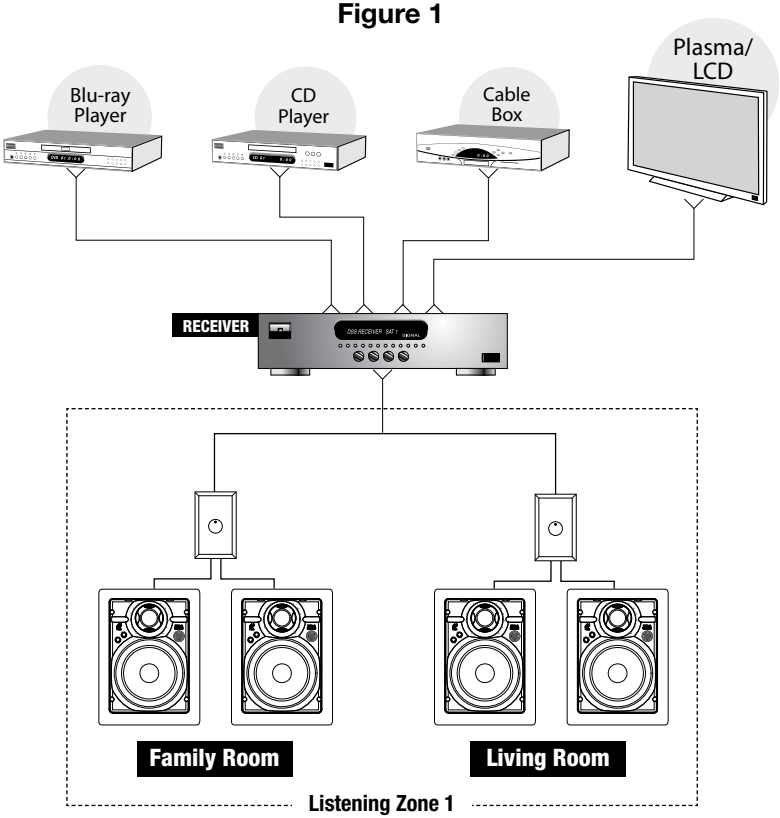
DESIGNED AND ENGINEERED IN THE USA

Limited two-year parts and labor warranty. (See page 42)

SYSTEM DESIGN BASICS

As shown in Figure 1, a distributed audio/video system is defined by the number of listening zones it has. Within a listening zone you can listen to only one source (e.g. CD, Radio, iPod, etc.) at any one time. A listening zone can consist of a single room or a group of rooms. To achieve different volumes and greater convenience in different rooms within a zone, individual volume controls can be used. Niles makes volume controls in various styles and colors. When designing your system, take into account who will use the system and when they will use it. Consult your local Niles dealer for more information.

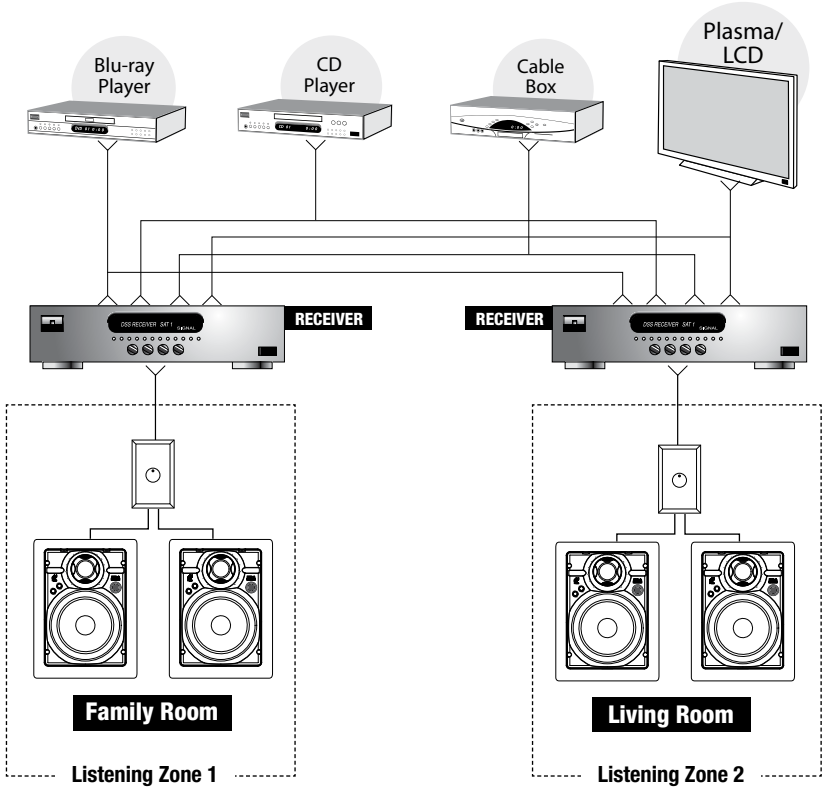
Figure 1



SYSTEM DESIGN BASICS CONTINUED...

A MultiZone system as shown in Figure 2, offers the household more flexibility. For instance, a family might have their family room wired for surround sound and their living room wired for background music. In a two zone system, the children can watch TV in surround sound while Mom and Dad are reading the paper and enjoying background music in the living room.

Figure 2



SYSTEM DESIGN CONSIDERATIONS

CABLE AND WIRE

Because the SI-1650 has many connections on the rear panel (see page 32 & 33), it is important that you correctly label all of the input cables and speaker wires. Label the cables and wires with their destination or source, rather than the SI-1650 terminal to which they are connected. This will make it easier to reconfigure your system in the future.

The SI-1650 connects to your sources via shielded line level audio cables with RCA connectors. Use high quality cables with your Niles amplifier for the lowest possible noise and best overall performance. Your Niles dealer can recommend the proper cable.

The SI-1650 connects to your speakers using two conductor speaker wire. For most applications, we recommend you use 16 or 18 gauge wire. For wiring runs longer than 80 feet, we recommend 14 gauge wire. The SI-1650's high-quality, gold-plated 5-way binding posts will accommodate up to 12-gauge wire. Attaching banana plugs to the wire will enable the connection of larger wire sizes.

USING MONO FOR SMOOTHER COVERAGE

In large or irregularly shaped rooms, you may find that the main listening area may be closer to one of the speakers. If the speakers in the room are connected to a stereo amplifier you will only hear half the music. The SI-1650's BusMatrix™ enables you to create mono sound from one speaker without impacting the stereo quality in the rest of the system. You can configure each amplifier channel individually to Left, Right or mono as needed with no ill effects. Some of the most popular areas where mono will greatly enhance the sound quality would be:

- Large rooms with many seating areas and/or many pairs of speakers.
- Irregularly shaped rooms.
- Bathrooms with one speaker over the tub and one speaker over the sink(s).
- Hallways or passageways (including those with multiple speakers).
- Small rooms, such as walk-in closets where more than a single speaker is not required.

SYSTEM DESIGN CONSIDERATIONS CONTINUED...

CREATING HIGH POWER AMPLIFIER CHANNELS FOR AREAS THAT REQUIRE MORE VOLUME AND POWER

All of the odd numbered amplifier channels of the SI-1650 (channels 1, 3, 5, 7, 9, 11, 13, and 15) include a power output of 50 or 100 watts that is selected using a web based IP Configuration utility. When an odd numbered amplifier channel is configured to100 watts, it's even numbered adjacent amplifier channel (e.g. channel 1 and 2, channels 3 and 4, channels 5 and 6, etc.) is deactivated.

There are several situations where having an SI-1650 channel with more power is an excellent way to improve the sound. There are also applications where having an SI-1650 channel with more power would seem to be appropriate but is not recommended.

These are some of the most common DOs and DON'Ts:

1. **Outdoors (DO)** — Sound dissipates faster outside than it does in a room where the walls enclose the sound and reflect it back to the listener. A pair of speakers playing into a large patio or yard will greatly benefit from two 100 watt channels.

2. **Surround Sound Systems (DO)** — The dynamic demands for the center channel are much greater than the left, right or surround channels. This is an excellent application for configuring a channel to the 100 watt mode.

3. **More than one pair of 8 ohm speakers (DON'T)** — In large rooms or long hallways, often the best way to get good background music is to install multiple pairs of speakers. You will deliver sound much more reliably using two pairs of 8 ohm speakers with four 50 watt amplifier channels than you would using two 100 watt amplifier channels connected to two pairs of speakers in parallel.

SYSTEM DESIGN CONSIDERATIONS CONTINUED...

SPEAKER COMPATIBILITY

Any SI-1650 amplifier channel configured to the 50 watt mode is capable of driving a 4 ohm impedance speaker load. No more than two 8 ohm speakers or no more than one 4-6 ohm speaker can be safely connected to a single channel. Proper ventilation of the SI-1650 is critical when driving lower impedance loads. If the SI-1650 is not properly ventilated, the protection circuits may activate and shut off the channel at higher volume levels (for more information on proper amplifier placement, see Installation Considerations on page 29).

Any odd numbered SI-1650 amplifier channel configured to the 100 watt mode is capable of driving an impedance load of 8 ohms. Proper ventilation of the SI-1650 is critical when driving an 8 ohm load with amplifier channels configured to 100 watts. If the SI-1650 is not properly ventilated, the protection circuits may activate and shut off the channel at higher volume levels (for more information on proper amplifier placement, see Installation Considerations on page 29).

When designing your system, try to specify 6-8 ohm speakers (Niles offers a complete line of in-wall, in-ceiling, outdoor and home theater loudspeakers with all models rated from 6-8 ohms).

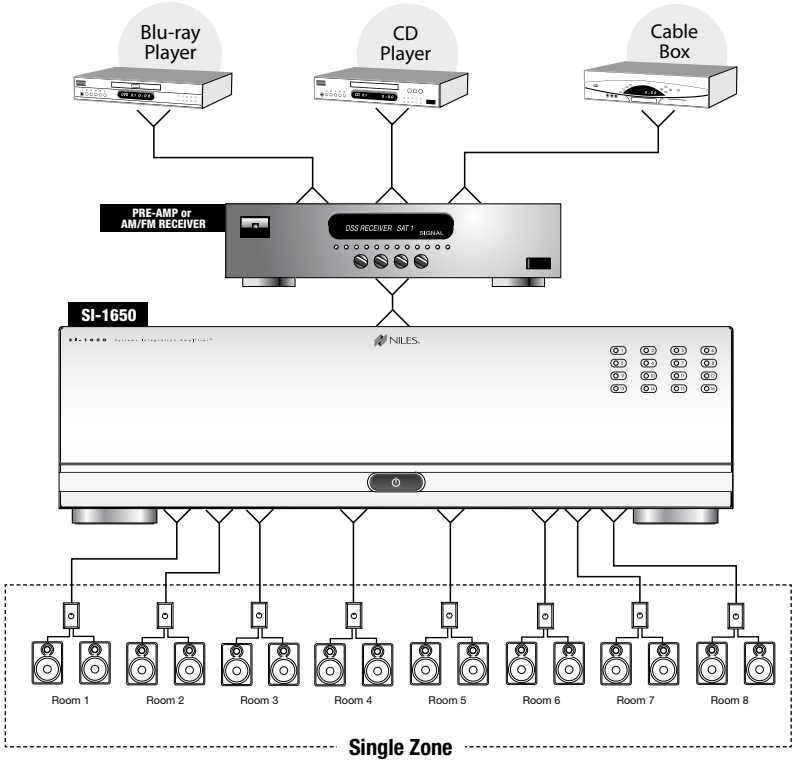
APPLICATIONS

ADVANTAGES OF USING THE SI-1650 IN A SINGLE ZONE SYSTEM

When you connect the preamplifier outputs of your stereo receiver or stereo preamplifier to the SI-1650 BusMatrix™ you dedicate a robust 50 watts to each speaker in your multi-room system.

The SI-1650 has an IP Configuration and Setup tool to adjust volume and tone for each channel individually so you can compensate for architectural differences that create sonic imbalances. In addition, you can fine tune the system so that when all of the room volume controls are set to the loudest level, the large rooms and the small rooms play at the same volume.

Figure 3



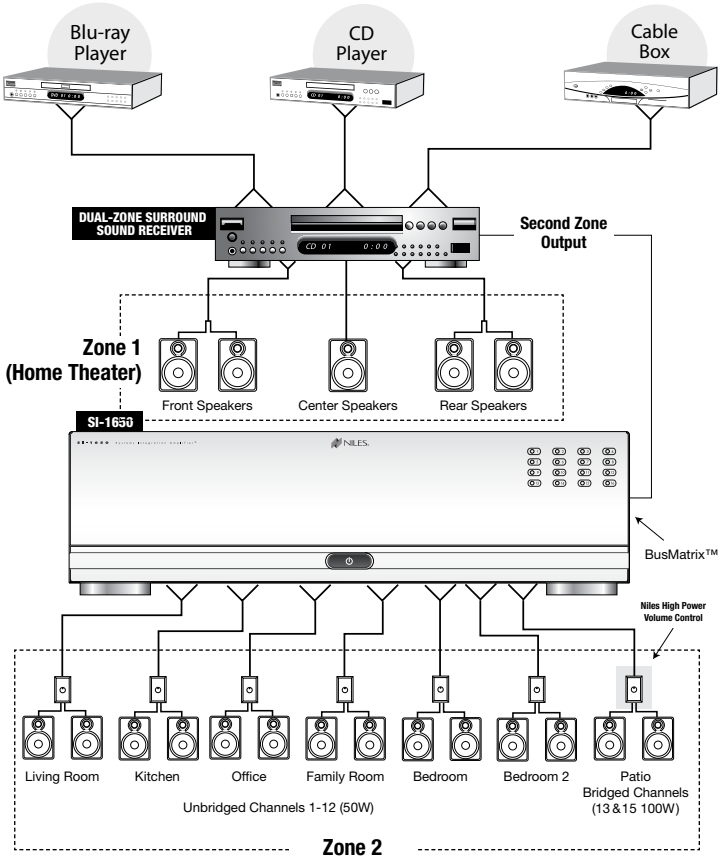
APPLICATIONS

USING A DUAL-ZONE RECEIVER FOR TWO LISTENING ZONES

Most of today's Audio Video Receivers include a second zone preamplifier output to create a second listening zone. Using this output with the SI-1650 BusMatrix™ input provides amplification for multiple rooms within a second listening zone as shown in Figure 4.

In addition, in this example high power is supplied to the patio stereo speakers by configuring channel 13 for high power (left speaker) and configuring channel 15 for high power (right speaker).

Figure 4



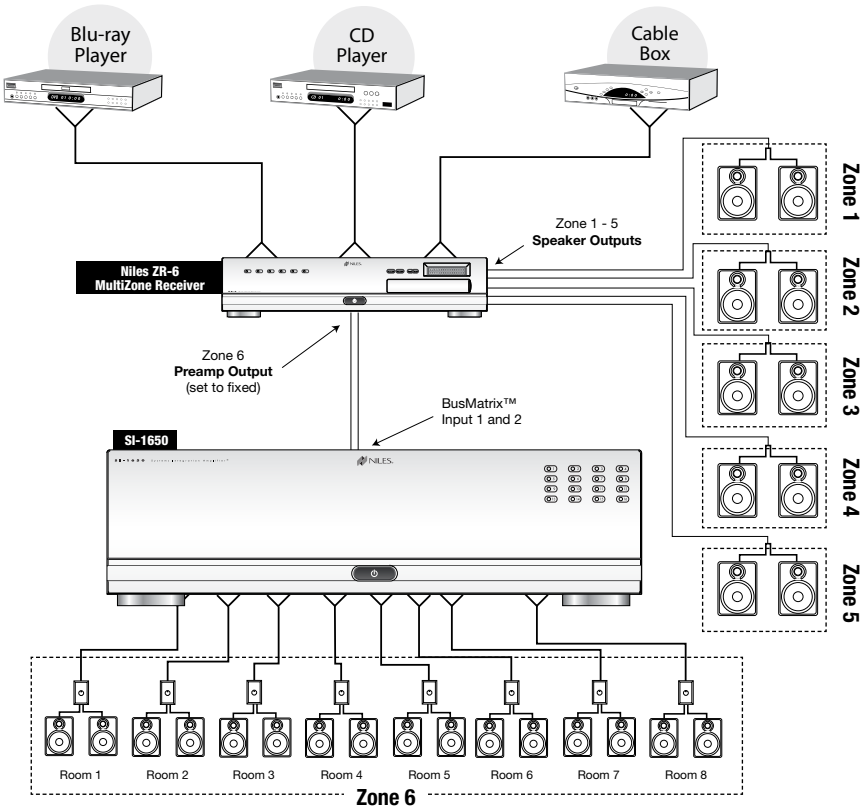
APPLICATIONS

EXPANDING A MULTIZONE SYSTEM TO INCLUDE MORE ROOMS

Many MultiZone systems incorporate multiple rooms within a single zone. The SI-1650 BusMatrix™ Input simplifies the connections required for this system design.

As shown in Figure 5, a Niles ZR-6 MultiZone Controller has its speaker outputs connected directly to speakers in zones 1-5. The ZR-6's preamp output six, set to a fixed output mode, is connected to the SI-1650's BusMatrix™ inputs. The BusMatrix™ input signals are then routed to all the amplifier channels via the IP Configuration and Setup Tool. All eight rooms connect to the SI-1650 in Zone #6 with their own room volume control for adjusting room volume levels individually.

Figure 5



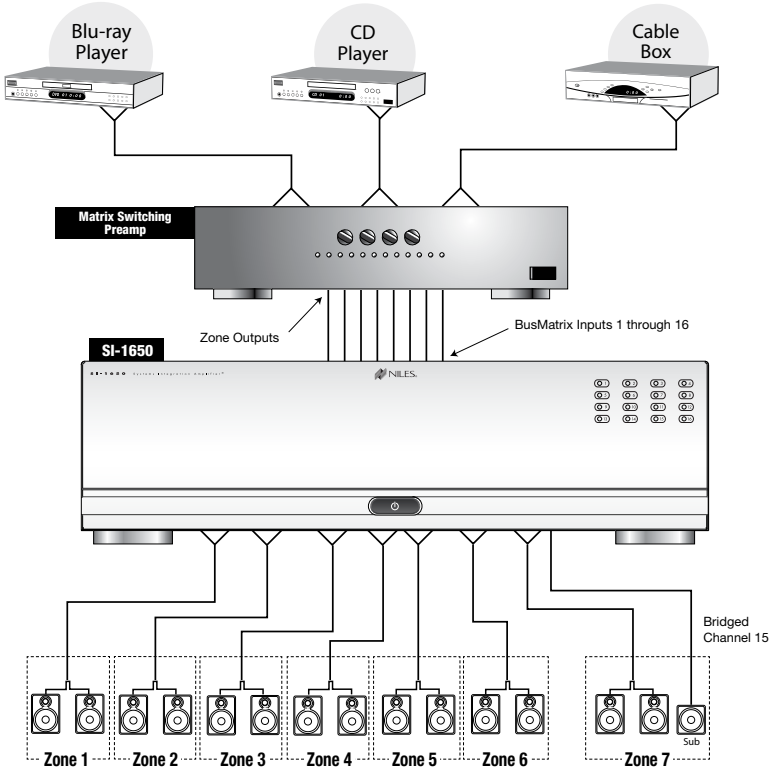
APPLICATIONS

ADDING PREAMPS TO CREATE MORE LISTENING ZONES

In the ultimate MultiZone system, you connect individual stereo preamplifiers (or a single component multi-zone/multi-source preamplifier) to the BusMatrix™ inputs of SI-1650. These independent input signals are then routed to the appropriate amplifier channels via the IP Configuration and Setup Tool creating completely independent listening zones.

MultiZone systems enable listeners located in the separate zones to simultaneously listen to different source components as shown in Figure 6. This example also has the SI-1650's High/Low Cut output feature setup to provide satellite speaker amplification (Low Cut from 50 watt channels 13 and 14) and subwoofer amplification (High Cut from 100 watt channel 15) for zone 7.

Figure 6



CONFIGURING YOUR SYSTEM

Because the SI-1650 offers so many configuration possibilities it is important to plan carefully before you install it. Draw a block diagram of your system and use the Configuration Worksheet on page 41 to record how you plan to connect your SI-1650.

Here is an example filled out.

SAMPLE CONFIGURATION WORKSHEET - SI-1650

Turn-On Mode	Constant	Audio Sense X	Voltage Trigger
Input Names			
Input 1 **Zone 2 Left**	Input 2 **Zone 2 Right**	Input 3	Input 4
Input 5	Input 6	Input 7	Input 8
Input 9	Input 10	Input 11	Input 12
Input 13	Input 14	Input 15	Input 16

Channel Names and Configurations					
Channel 1 Name	**Living Room Left**				
Signal Route **Zone 2 Left**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Large**
Channel 2 Name	**Living Room Right**				
Signal Route **Zone 2 Right**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Large**
Channel 3 Name	**Kitchen Left**				
Signal Route **Zone 2 Left**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Small**
Channel 4 Name	**Kitchen Right**				
Signal Route **Zone 2 Right**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Small**
Channel 5 Name	**Office Left**				
Signal Route **Zone 2 Left**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Small**
Channel 6 Name	**Office Right**				
Signal Route **Zone 2 Right**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Small**
Channel 7 Name	**Bedroom Left**				
Signal Route **Zone 2 Left**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Flat**
Channel 8 Name	**Bedroom Right**				
Signal Route **Zone 2 Right**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Flat**
Channel 9 Name	**Room 5 Left**				
Signal Route **Zone 2 Left**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Flat**
Channel 10 Name	**Room 5 Right**				
Signal Route **Zone 2 Right**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Flat**
Channel 11 Name	**Room 6 Left**				
Signal Route **Zone 2 Left**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Flat**
Channel 12 Name	**Room 6 Right**				
Signal Route **Zone 2 Right**	Power: ■ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Flat**
Channel 13 Name	**Patio Left**				
Signal Route **Zone 2 Left**	Power: ❑ 50W ■ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Outdoor**
Channel 14 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 15 Name	**Patio Right**				
Signal Route **Zone 2 Right**	Power: ❑ 50W ■ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ **Outdoor**
Channel 16 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ■ Off	Low Pass ❑	High Pass ❑	Room EQ

CONFIGURING YOUR SYSTEM

The SI-1650 includes a Configuration and Setup Tool that provides easy access to the all essential features of the amplifier using the web browser on a laptop, PC, iPad , tablet or smartphone (e.g. IE, Firefox, Chrome, Safari, etc.).

CONNECTING FOR CONFIGURATION

A direct wired Ethernet connection or a local area network connection to the RJ-45 network connector on the rear panel of the SI-1650 is necessary to access the SI-1650 Configuration and Setup Tool using a web browser.

DIRECT ETHERNET CONNECTION

A direct Ethernet connection is made by connecting the RJ-45 network connector of a PC directly to the RJ-45 network connector on the rear panel of the SI-1650. Use the numbered steps below to establish network communication between a PC and the SI-1650 when using a direct wired Ethernet connection.

Note: *A crossover network cable is not required when using a direct wired Ethernet connection as the SI-1650's network connector is auto sensing.*

Windows XP

1. Select Windows Control Panel > Network Connections.
2. Right click Local Area Network and select properties.
3. Highlight Internet Protocol (TCP/IP) in the connections list and then select properties.
4. Set a unique IP address compatible with the factory default IP address http://192.168.1.1 (e.g 192.168.1.220)
5. Set Subnet to 255.255.255.0

Windows 7

1. Select Windows Control Panel > Network and Internet > Network and Sharing Center.
2. Select Change Adapter Settings.
3. Right click Local Area Connection and select Properties.
4. Highlight Internet Protocol Version 4 (TCP/IPv4) in the connections list and then select Properties.
5. Set a unique IP address compatible with the factory default IP address http://192.168.1.1 (e.g 192.168.1.220)
6. Set Subnet to 255.255.255.0

CONFIGURING YOUR SYSTEM

LOCAL AREA NETWORK CONNECTION

The network IP address of the SI-1650 (both the factory default address and any address set manually using the Configuration and Setup Tool) is static and must be a unique IP address compatible with the local area network it is connecting to. Use the following steps to establish network communication between a PC, iPad or Tablet and the SI-1650 when using a local area network connection.

1. Use a Windows PC and a Direct Ethernet Connection, as described above, to initially establish communication with the SI-1650.

2. Use the Network Settings Main Selection instructions located in the on the next page of this manual to set an IP address compatible with the local area network.

3. Connect the RJ-45 network connector on the rear panel of SI-1650 to the local area network router or Ethernet Switch.

If you plan on connecting multiple SI-1650's to a network, connect them one at a time changing each amplifier's IP address to a unique address compatible with your network.

Warning: Never allow two or more SI-1650's to connect to the same network with the same IP address.

Note: If necessary, the MAC ID is located on the bottom rear of the unit.

CONFIGURATION AND SETUP TOOL

Open the Configuration and Setup Tool Using a Web Browser. Once a direct Ethernet or local area network connection is made, use the web browser included with your laptop, PC, iPad, tablet or smartphone to log into the web server in the SI-1650. Enter the current IP address of the SI-1650 into the URL line of your web browser.

The factory default IP address of the SI-1650 is *http://192.168.1.1*

Note: This may be the same for another product on your network. Make sure there are no conflicts.

The Network Settings main selection is displayed when the web interface is first opened.

NETWORK SETTINGS MAIN SELECTION

Choose the Network Settings main selection and the Network Settings page is displayed. The current IP address and subnet mask of the SI-1650 are displayed. Both the IP address and the subnet mask can be changed and saved to the amplifier's memory by selecting the save option.

Note: *Changing the IP address is only recommended when connecting to a local area network. A recessed reset button located on the back of the SI-1650 restores the IP address, network settings and amplifier configuration back to factory default.*

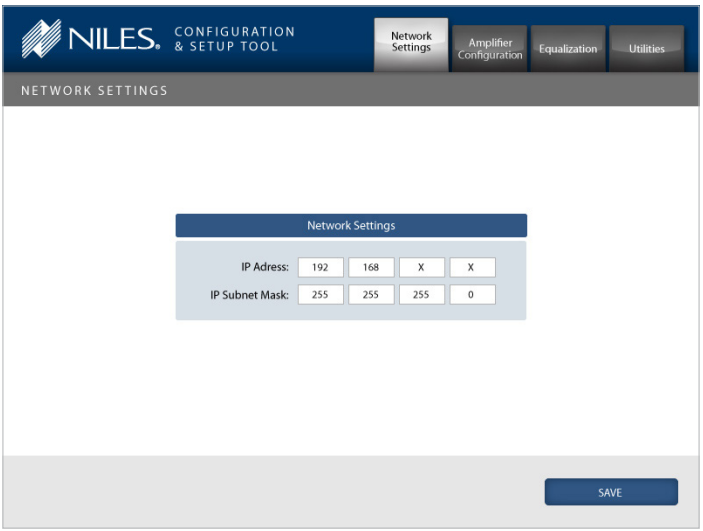


FIGURE 8

CONFIGURATION AND SETUP TOOL

AMPLIFIER CONFIGURATION MAIN SELECTION

Choose the Amplifier Configuration main selection and the Input/Channel Names sub selection page is displayed. The Channel Power, Turn On Mode and Signal Routing sub selections are also displayed for selection and configuration.

AMPLIFIER CONFIGURATION MAIN SELECTION – INPUT/CHANNEL NAMES SUB SELECTION

Editable Input and Channel name fields are displayed for all 16 inputs and all 16 channel outputs.

Note: *Even numbered channels are listed inactive if their adjacent odd numbered channel is set to 100 watts (e.g. when channel 15 is set to 100 watts, channel 16 is listed as inactive).*

1. Select a name field.
2. Enter the input source name, room name or zone name.
3. Select Save to save the names to the amplifier's memory.

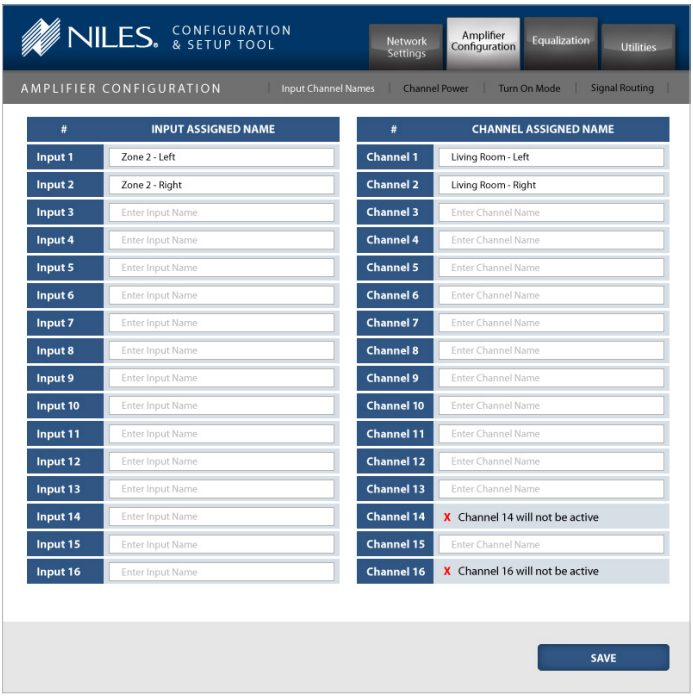


FIGURE 9

CONFIGURATION AND SETUP TOOL

AMPLIFIER CONFIGURATION MAIN SELECTION – CHANNEL POWER SUB SELECTION

Choose the Channel Power sub selection and the Channel Power page is displayed. All odd numbered amplifier channels are configurable to output either 50 watts or 100 watts. Odd channels are listed along with two checkbox columns. The first checkbox column is named 100 watts and the second is named 50 watts.

Note: *If an odd numbered channel is set to 100 watts, that channels adjacent even number channel is listed inactive (e.g. when channel 15 set to 100 watts, channel is 16 listed as inactive).*

1. Select either 100 watts or 50 watts for each of the odd numbered channels.
2. Select Save to save the Channel Power settings to the amplifier's memory.

Default Setting: 50W (All channels on)

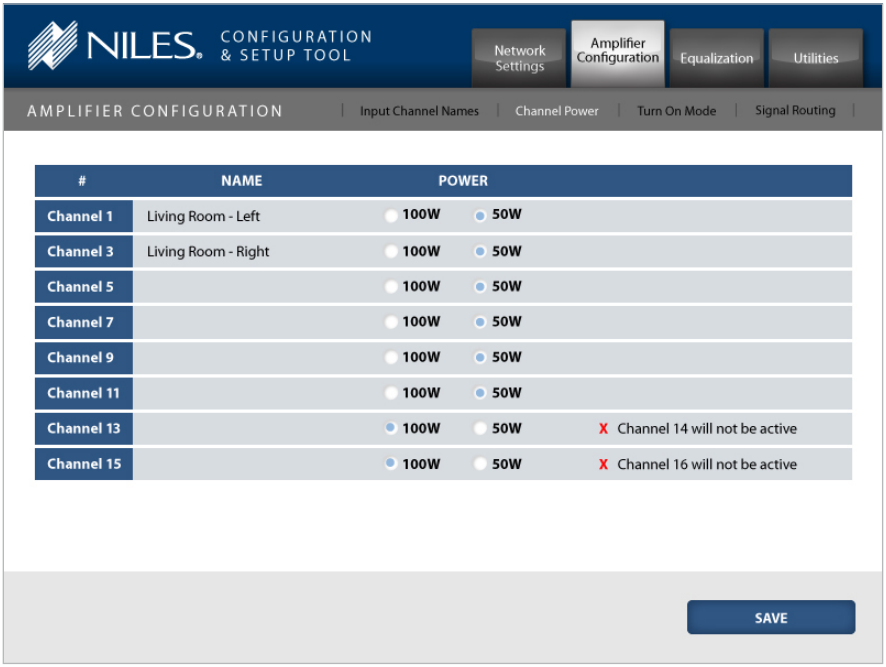


FIGURE 10

CONFIGURATION AND SETUP TOOL

AMPLIFIER CONFIGURATION MAIN SELECTION – TURN ON MODE SUB SELECTION

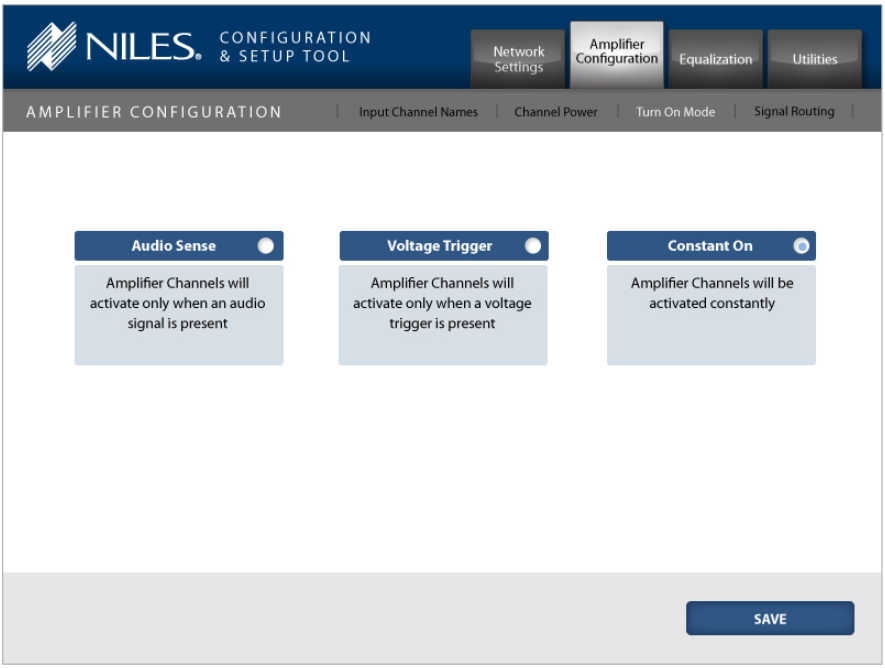
Choose the Turn On Mode sub selection and the Turn On Mode page is displayed. Refer to page 28 for more details on the three available turn on modes.

1. Select one of three available check boxes that corresponds to the Turn On Mode you wish to use, Audio Sense, Voltage Trigger or Constant On.

2. Select Save to save the Turn On Mode to the amplifier's memory.

Default Setting: Constant On

FIGURE 11



CONFIGURATION AND SETUP TOOL

AMPLIFIER CONFIGURATION MAIN SELECTION – SIGNAL ROUTING SUB SELECTION

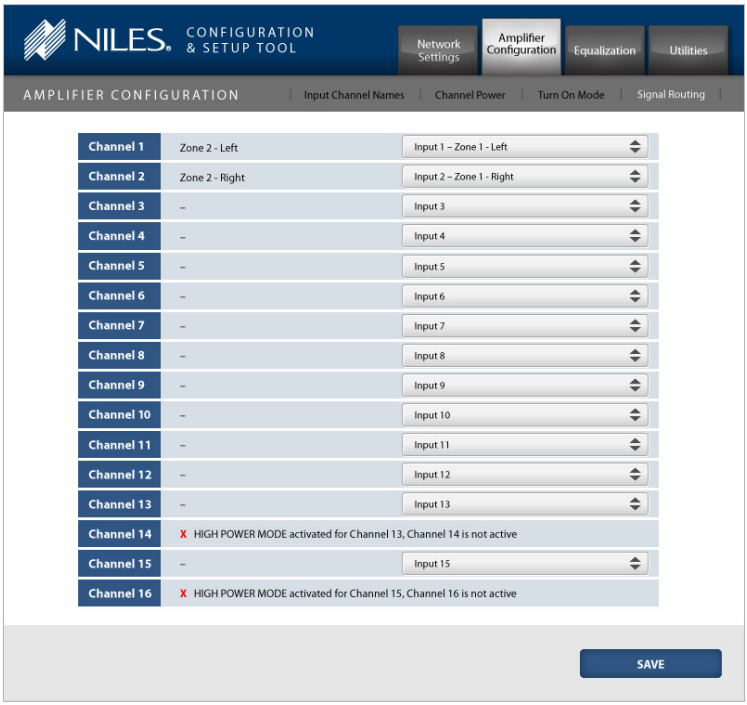
Choose the Signal Routing sub selection and the Signal Routing page is displayed. All 16 amplifier channels are listed on the left with their names and currently selected input shown to the right.

Note: *Even numbered channels are listed inactive if their adjacent odd numbered channel is set to 100 watts (e.g. when channel 15 set to 100 watts, channel is 16 listed as inactive).*

1. Use the pull down list of available inputs to assign a different input signal to any channel. All available inputs and possible input combinations are included in the pull down list along with their names (e.g. inputs 1 through 16, inputs 1+2, inputs 3+4, inputs 5+6, etc.).

2. Select Save to save Signal Routing to the amplifier's memory.

FIGURE 12



CONFIGURATION AND SETUP TOOL

EQUALIZATION MAIN SELECTION

Choose the Equalization main selection and the Manual EQ Presets page is displayed. The Room EQ sub selection is also displayed for selection and configuration.

EQUALIZATION MAIN SELECTION – ROOM EQ PRESETS

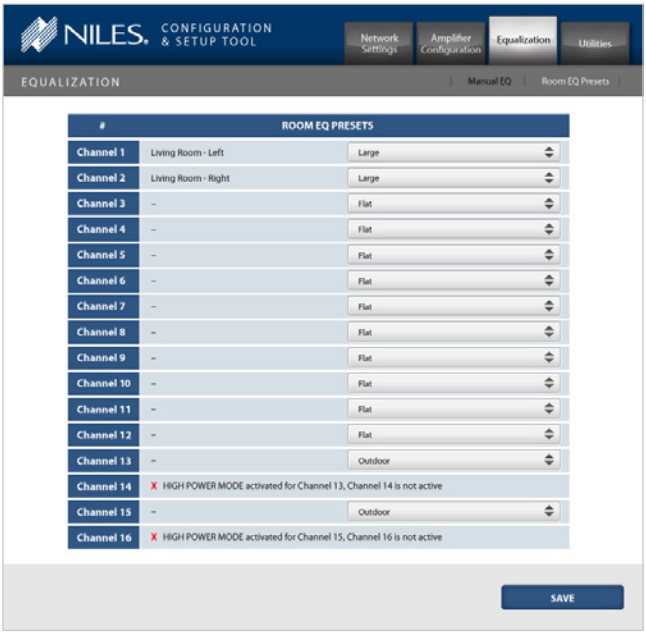
Choose the Room EQ Presets sub-selection and the Room EQ Presets page is displayed. All 16 channels are listed with their names and currently selected Room EQ Preset shown to the left.

Note: *Even numbered channels are listed inactive if their adjacent odd numbered channel is set to 100 watts (e.g. when channel 15 set to 100 watts, channel is 16 listed as inactive).*

1. Use the pull down list of available Room EQ Presets to assign a different preset to any channel (Flat, Small, Large or Outdoor).

2. Select Save to save Room EQ Presets to the amplifier's memory.

FIGURE 13



CONFIGURATION AND SETUP TOOL

EQUALIZATION MAIN SELECTION – MANUAL EQ SELECTION

Choose the Manual EQ sub-selection and the Manual EQ page is displayed. The amplifier channels are included in a single pull down list along with their names.

Note: *If an odd numbered channel is set to 100 watts, it even numbered adjacent channel will not be included in the pull down list (e.g. when channel 15 set to 100 watts, channel 16 will not be included in the pull down list).*

1. Choose a channel from the pull down list to adjust its EQ parameters. The current Room EQ Preset is displayed for the selected channel. If any manual adjustments are made and saved, the room preset display changes to "None".

2. Select or deselect Loudness, Low Cut or High Cut and use the individual arrow buttons to adjust volume, bass, midrange, treble, midrange center frequency and midrange bandwidth for the selected channel.

3. Copy EQ Settings saves all manual EQ parameters for the selected channel to a clipboard including loudness, low cut, high cut, volume, bass, midrange, treble, midrange center frequency and midrange bandwidth.

4. Paste EQ Settings applies the saved clipboard settings to any other selected channel.

5. Set Flat sets the selected channel to the default Flat Room EQ Preset and volume at 0dB.

6. Select Save to save Manual EQ settings to the amplifier's memory.

FIGURE 14

CONFIGURATION AND SETUP TOOL

UTILITIES MAIN SELECTION

Choose the Utilities Main Selection and the Project Information page is displayed. The Generate Report, Create Backup File and Restore From File sub selections are also displayed for selection and use.

UTILITIES MAIN SELECTION – PROJECT INFORMATION SUB SELECTION

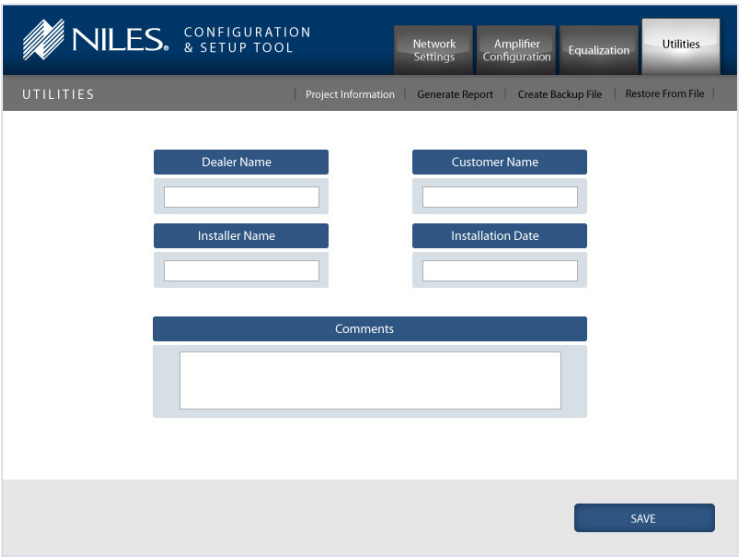
Choose the Project Information sub selection and the Project Information page is displayed. Editable project information includes dealer name, customer name, installer name, installation date and comments.

1. Place the cursor in a data field and enter new information using the keyboard

2. Select Save to save the Project Information edits to the amplifier's memory.

Note: Name and date fields are 20 characters maximum. Comments field is 110 characters maximum.

FIGURE 16



CONFIGURATION AND SETUP TOOL

UTILITIES MAIN SELECTION – GENERATE REPORT SUB SELECTION

Choose the Generate Report sub selection and the Generate Report page is displayed.

1. Select Generate Report to Screen to generate a complete configuration report to a new browser window.

2. Select Generate Report to File to save the report to a htm file. Use the Save As window to browse for a location for the Report.htm file. Enter a unique name and select Save.

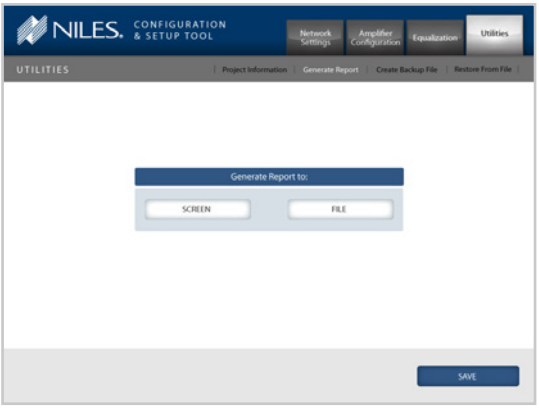
UTILITIES MAIN SELECTION – CREATE BACKUP FILE SUB SELECTION

Select this option to create a backup SI-1650 configuration file with all the current settings of the SI-1650 you are connected to. Click Save then use the Save As window to browse for a location for the configuration file, enter a unique name and select Save.

UTILITIES MAIN SELECTION – RESTORE FROM FILE SUB SELECTION

Select this option to restore a previously saved configuration file back into a connected SI-1650. Click Browse and use the “Choose file to upload” window to browse for the configuration file and select Open. Click Upload to finish the operation. The selected backup SI-1650 configuration file will replace the current configuration in the SI-1650.

FIGURE 17



INSTALLATION CONSIDERATIONS

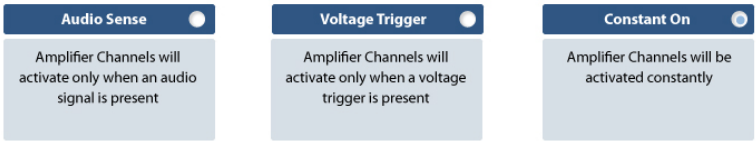
TURN-ON MODES

Automating the turn-on of your SI-1650 is one of the easiest steps when installing it in a distributed system. However, do not plug the main power cord into the switched AC outlet of your preamplifier or receiver. The high power design of the SI-1650 requires large amounts of current from its AC power source. Additionally, it is always recommended to activate the system preamplifier/receiver before turning on your SI-1650 in order to prevent system "turn-on thumps".

In order to address these important needs, the SI-1650 has three special turn-on modes that let you turn the amplifier on only when it is needed. Use the Configuration and Setup Tool to access and select one of these three Turn-On options.

Important! The Front Panel Power Switch must be in the ON (switch in) position for any of the three turn-on options to function (refer to page 36 for more information concerning the Front Panel Power Switch).

FIGURE 18



Constant – The auto turn-on circuitry is off. The front panel master power switch operates the amplifier. In is "On", Out is "Off".

Audio Sense – The master switch on the front panel must be in the "On" position. The amplifier is off when there is no audio signal present at any of the audio inputs, but the sensing circuitry is on. The turn-on sensing circuitry looks for a tiny amount of audio signal present at any of the audio inputs. If it detects a signal, all the amplifier channels will turn on. Once the audio signal stops, the sensing circuit waits three minutes, then turns all amplifier channels off.

INSTALLATION CONSIDERATIONS

3-24 VOLT AC/DC OPTO-ISOLATED VOLTAGE TRIGGER - The Power switch on the front panel must be in the "On" position for the voltage trigger to function. When a Trigger Plug is inserted into the rear panel connector and the sensing circuitry detects a voltage, the amplifier is turned on. Once the Trigger voltage is turned off, the sensing circuit instantly turns the amplifier off. The amplifier is off when there is no 3-24V AC or DC voltage detected at the trigger input. Voltage triggers can be supplied by Niles automated switchers, some video projectors, some surround sound processors, or something as simple as a 12 volt AC wall adapter plugged into the switched outlet of your stereo receiver. Linear DC wall adapters are not recommended; the long discharge time of the DC adapter's filter capacitor will delay the turn-off of the amplifier. Trigger sources must be 3-24VAC or DC, 20mA or greater.

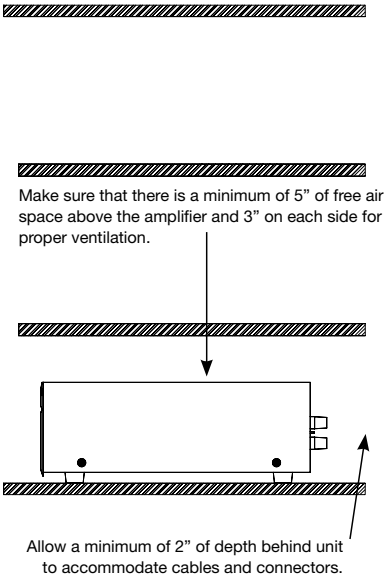


FIGURE 19

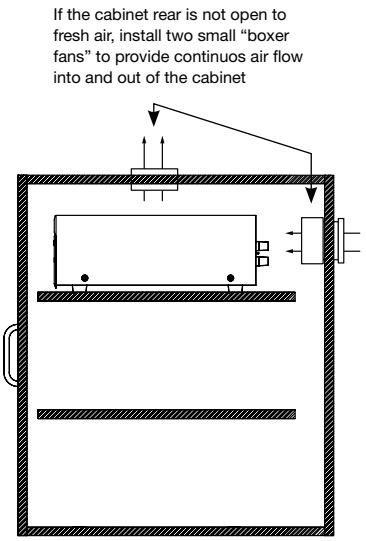


FIGURE 20

INSTALLATION CONSIDERATIONS

PLACEMENT

Place the SI-1650 on a flat, level surface like a table or shelf. It should be placed upright so that its weight rests on the unit's four feet. PLACING THE WEIGHT OF THE AMPLIFIER ON THE REAR OR FRONT PANEL FOR EVEN AN INSTANT WILL RESULT IN DAMAGE TO THE AMPLIFIER'S CONNECTORS AND CONTROLS.

The SI-1650, like any hi-fi component, will last much longer if it is given adequate ventilation for proper cooling. When installing the SI-1650 in a cabinet, be sure that the rear of the cabinet is open to fresh air to provide proper cooling (see Figure 19). If the cabinet's design will not accommodate an open rear, install two small "boxer fans" to provide continuous air flow into and out of the cabinet (see **Figure 20**). Place the SI-1650 so that there is at least 5" of free air space above the chassis and 3" of space on each side. If the amplifier is located on a carpeted surface, place a board under the amplifier's feet. Do not block the ventilation holes on the top and bottom of the SI-1650.

The SI-1650 is equipped with a power transformer. This transformer generates a powerful magnetic field which could induce hum in a turntable (particularly a turntable equipped with a moving coil cartridge). Do not place a turntable directly above or directly adjacent to the SI-1650.

INSTALLATION

BUS MATRIX™ LINE LEVEL AUDIO INPUTS

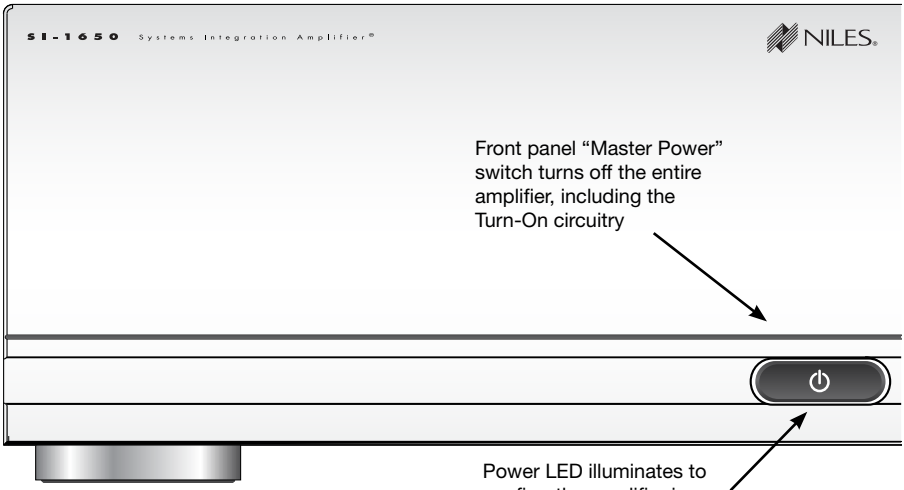
CAUTION! THE AMPLIFIER MUST BE OFF WHENEVER YOU MAKE CHANGES TO THE INPUT CONNECTIONS.

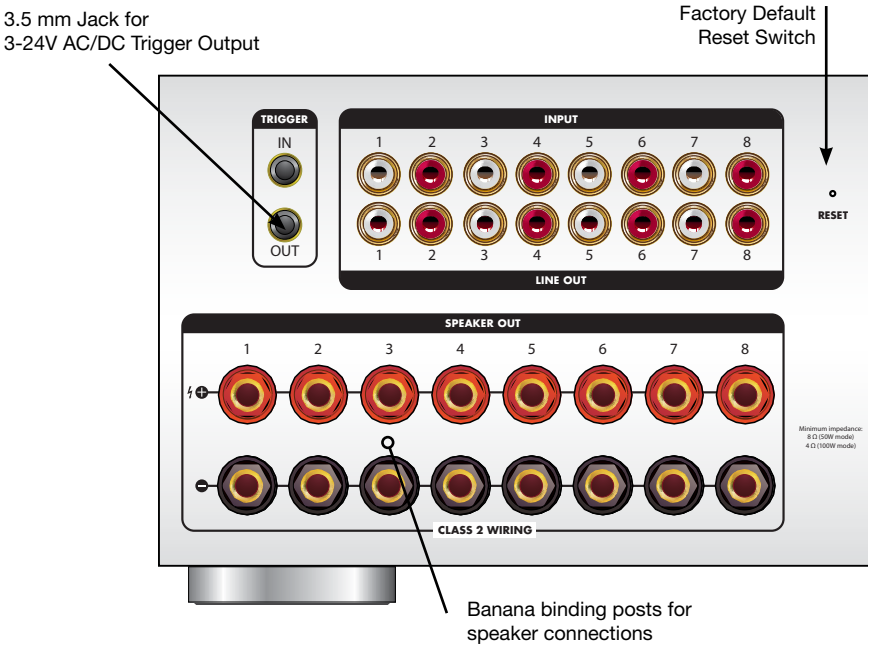
STEP	DESCRIPTION
1. Label all of the interconnecting cables for the sources they connect to.	Use audio patch cables with RCA phono plugs attached to the ends.
2. Connect the sources by inserting the RCA plug into the amplifier's jacks.	Connect outputs from your sources to inputs on the amplifier. Never connect a source or preamplifier's input (e.g., record inputs) to the inputs of your SI-1650.

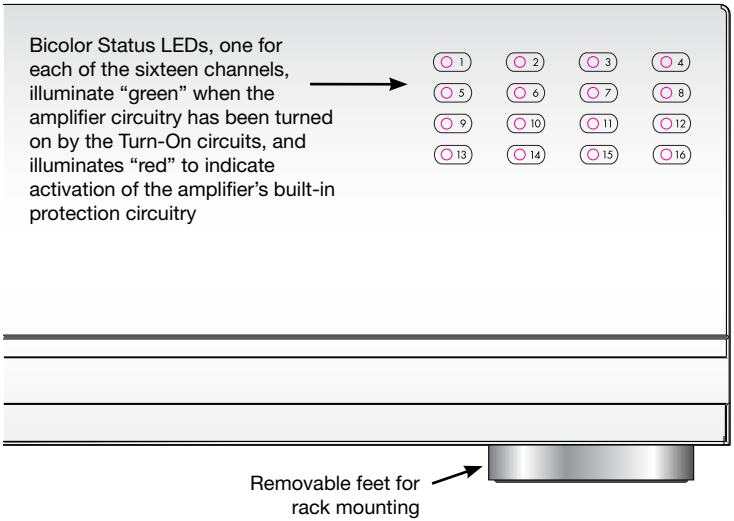
CASCADE AUDIO OUTPUTS

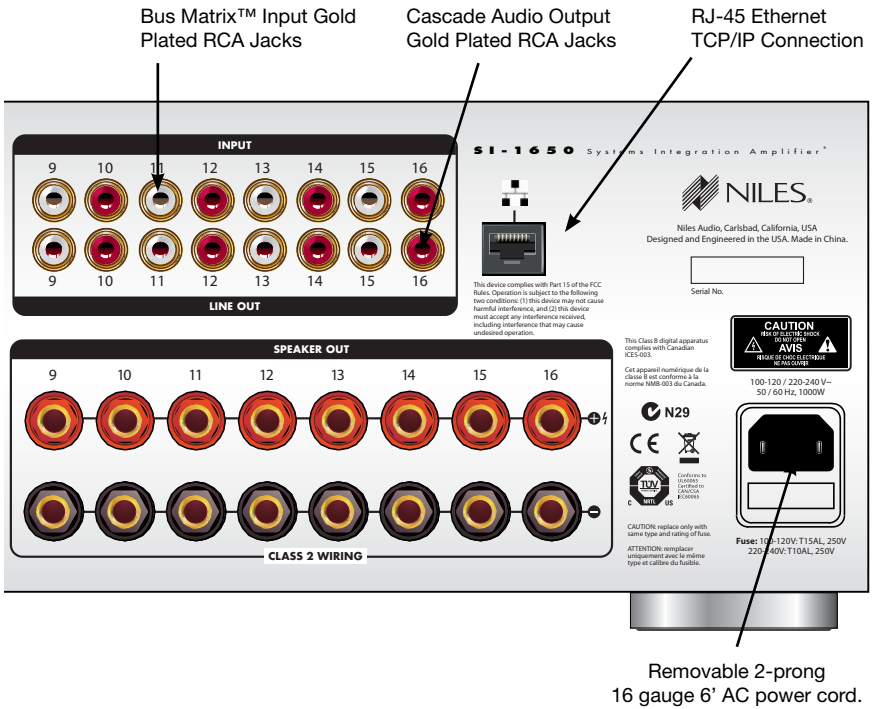
The Cascade Audio Outputs enable you to connect another amplifier to your preamplifier output. The connectors are gold-plated RCA phono jacks. Connect them to another amplifier's inputs with a standard audio patch cable. The outputs are not buffered; if you wish to daisy-chain more than 5 Niles amplifiers you will need a Niles AVDA-3 buffered distribution amplifier. If your preamp has a vacuum tube output stage, you must use a Niles AVDA-3 to drive more than a single SI-1650.

STEP	DESCRIPTION
1. Plug the female IEC socket of the supplied AC power cord (the supplied power cord is designed for 120V AC wall outlets), or use an appropriate IEC AC power cord to match the electrical wall outlet you are using (e.g. 240V AC), into the IEC receptacle on the rear of the amplifier. Replace the fuse in the bay below the power cord inlet with one of the 10A fuses provided if using a 220-240V outlet.	If you use a grounded power strip, surge suppressor or extension cord, verify that proper ground is maintained.
CAUTION! Do not plug the amplifier's cord into a preamplifier's convenience outlets.	The SI-1650 draws a maximum of approximately 1600 watts from an AC wall outlet. This is much more than the typical accessory outlet on the back of a component will provide. Use the SI-1650's auto turn on circuitry to turn on the SI-1650 whenever the preamp is on.


SI-1650 Systems Integration Amplifier®
NILES
Front panel “Master Power” switch turns off the entire amplifier, including the Turn-On circuitry
Power LED illuminates to confirm the amplifier is connected to a live AC power outlet and that the master power switch is on.


3.5 mm Jack for 3-24V AC/DC Trigger Output
Factory Default Reset Switch
TRIGGER
IN
OUT
INPUT
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8
LINE OUT
RESET
SPEAKER OUT
1 2 3 4 5 6 7 8
CLASS 2 WIRING
Minimum impedance:
8 Ω (50W mode)
4 Ω (100W mode)
Banana binding posts for speaker connections


Bicolor Status LEDs, one for each of the sixteen channels, illuminate “green” when the amplifier circuitry has been turned on by the Turn-On circuits, and illuminates “red” to indicate activation of the amplifier’s built-in protection circuitry
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Removable feet for rack mounting


Bus Matrix™ Input Gold Plated RCA Jacks
Cascade Audio Output Gold Plated RCA Jacks
RJ-45 Ethernet TCP/IP Connection
INPUT
LINE OUT
SPEAKER OUT
CLASS 2 WIRING
SI-1650 Systems Integration Amplifier
NILES
Niles Audio, Carlsbad, California, USA
Designed and Engineered in the USA. Made in China.
Serial No.
CAUTION
AVIS
100-120 / 220-240 V~
50 / 60 Hz, 1000W
Fuse: 100-120V: T15AL, 250V
220-240V: T10AL, 250V
Removable 2-prong 16 gauge 6’ AC power cord.

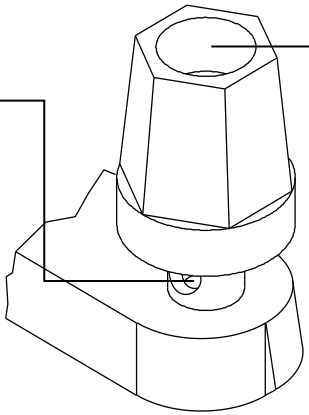
INSTALLATION

SPEAKER WIRE CONNECTIONS

CAUTION! ALL SPEAKER WIRE CONNECTIONS MUST BE MADE WITH THE AMPLIFIER OFF.

Bare Wire

Unscrew the red or black plastic knob, insert the bare wire end into the opening, and then tighten the knob until the wire is securely clamped



Banana Plugs

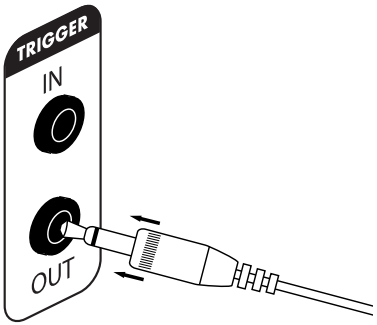
There are many types of banana plugs, some crimp, some solder. The Niles gold banana plug has 3 quick-connect binding posts for the bare wire on the body of the plug. A banana plug is simply inserted into the jack at the end of the amplifier's binding post.

STEP	DESCRIPTION
1. Label all wires.	If you label the wires for their destination, rather than which terminal of the SI-1650 they are connected to, it will be easier to reconfigure your system in the future.
2. Connect one stripped wire end or banana plug to the black terminal and one to the red terminal. CAUTION- Avoid having even a single strand of wire touching the chassis or another connector.	A. Split the speaker wire insulation so that at least two inches of each conductor are separated. B. Strip one half inch of insulation from the end of each conductor of the speaker wire C. Attach banana plugs or twist the strands of wire together and insert them into the appropriate binding post.

INSTALLATION

THE CONTROL OUTPUT

This terminal provides a 12V DC signal suitable for triggering Niles automated switchers, some motorized screens, some electric curtain controls, etc. This voltage is present only when the amplifier is active or on. When the amplifier turns off, the 12V signal is off.



STEP	DESCRIPTION
1. Check the requirements of the device you want to control.	The control output has a maximum current capability of 150 mA.
2. Connect the 3.5 mm Jack to the control output maintaining proper polarity (tip = +).	Niles makes an accessory cable plug FG00724.

OPERATION

POWER SWITCH

The front panel switch is a master or “vacation” power switch. No matter which turn-on mode you have selected, the master power switch will turn off all circuitry including the sensing circuitry. If you will not be using the amplifier for an extended period of time, turn the master power switch “Off” (push button switch out). When you would like to return to normal operation, turn the switch “On” (push button switch in).

IMPORTANT NOTES: EQUIPMENT IS NOT COMPLETELY DISCONNECTED FROM MAIN POWER SOURCE WHEN POWER SWITCH IS IN THE “OFF” POSITION.

POWER LED

The power LED indicates that the AC cord is plugged into a working AC power receptacle and that the power switch is in the “On” position.

BICOLOR STATUS LED

The bicolor Status LEDs illuminate “green” when the amplifier circuitry for the respective channel has been turned on by the Turn-On circuits, and illuminates “red” to indicate activation of the amplifier channel’s built-in protection circuitry due to either a fault in the wiring or the speaker, or with the Niles System Integration Amplifier® itself.

USING LEVEL CONTROLS AS LIMITERS

If your system is remote controlled, or if you think that some of the users like to play the stereo too loudly, you can choose to calibrate the system so that it is limited to a volume level you assign. The SI-1650 allows you to set different volume levels for different rooms. Calibrate your system volume levels with the steps outlined below:

1. Lower all of the SI-1650 level controls to the minimum volume position. If there are any other amplifiers in the system, lower their level controls to the minimum (all of the amplifiers in your system must have level controls).
2. Raise all of the individual in-wall volume controls to the loudest setting.
3. Play a loud radio station with the tuner set to Mono.
4. Raise the volume of your preamplifier or receiver slowly– if you hear any sound, lower the volume again and recheck all of your amplifier levels, they must be at minimum. If no sound is heard, proceed to step five.
5. Have someone step into each room and listen as you adjust each level control to the desired maximum level for that room. Adjust the balance between speakers for the most common listening position in each room.

OPERATION

LISTENING AT HIGHER VOLUMES

Fifty watts is enough power to play a conventional speaker in a normal sized room loudly enough to completely drown out conversation. Even at levels like that, the SI-1650 will sound clear and clean. However, it requires more power to achieve a reasonable volume of sound in a large room than it does in a small room. It is possible (even if you are not a teenager) to turn the volume so high that the amplifier runs out of power. This creates “clipping” distortion.

Clipping distortion makes treble sound very harsh and unmusical. When you hear harsh sounding treble from any good speaker, turn the volume down immediately! Those harsh sounds are masking some much more powerful high frequency sound spikes which will quickly damage the tweeter of any loudspeaker.

If you continue to operate the amplifier at “clipping” power levels the protection circuits will operate when the amplifier overheats. The protection circuits reset when the amplifier’s internal circuitry cools. Reduce the volume to prevent a reoccurrence. Perpetually overdriving your speakers and amplifier is abuse and probably voids the manufacturer’s warranty of all affected products.

CLEANING AND MAINTENANCE

The internal parts of the SI-1650 are electronic and require no maintenance. Once a year it is appropriate to twist the RCA connectors on each input to remove any oxidation and improve conductivity.

You can clean only with dry cloth. Do not use any spray-type, abrasive cleaners on the amplifier.

TROUBLE-SHOOTING GUIDE

When there is a problem consult this guide first. If the problem persists, or you have additional questions, call your local Niles dealer or call Niles Technical Support at 1-800-289-4434. The most common problems relate to hook up. Have your configuration worksheet handy when you call.

Symptom	Possible Causes and Test Procedure
No sound on one channel	Short circuit or loose wire at speaker or amplifier terminals. Check that connections are secure and that there are no loose strands of wire crossing from the positive to the negative terminal at the back of the amplifier and the speaker. Short circuit or a break in the speaker wire. Disconnect the speaker wire at both ends, separate the 2 conductors at both ends and test with a meter for a short circuit. If there is no short, connect the two conductors at one end and test with a meter for continuity. Speaker is not working. Connect the speaker to a channel that plays another speaker. Audio cable to dedicated input is bad. Connect the non-working channel input to another cable that is known to be good. Adjacent channel set to High Power Mode. Check your configuration worksheet for the correct setting and verify. The thermal protection circuit has operated because of overheating caused by overdriving or inadequate ventilation. Check front panel status LEDs.
No sound on some or all channels	Check your configuration worksheet and verify all settings. Audio cable to the inputs is bad. Connect the nonworking channel input to another cable that is known to be good. Some or all of the internal amplifier fuses are blown. (Return the amplifier to your dealer for service).
Hum from all the speakers	Hum may be caused by a ground loop between two components in the system. Test for a ground loop by reversing the AC plugs of any components in the system with non polarized AC plugs. Check for faulty cables, faulty source material, an ungrounded phono system, cable TV feed or a defective component.
Amp will not turn on	Master power switch must be on. AC power cord must be plugged into a working outlet. Test that the AC power receptacle is working. If the outlet tests O.K., the internal fuses are blown. Return the amplifier to your dealer for service.

TROUBLE-SHOOTING GUIDE

Symptom	Possible Causes and Test Procedure
Sound is distorted on one or all of the channels at normal volumes	Check your configuration worksheet and verify all settings.
Normal volume cannot be reached	One of the internal amplifier fuses is blown. (Return the amplifier to your dealer for service).
Bass sound is weak and the stereo image is "phasey" sounding in one room	Check that the bridging switch is "Off". If two adjacent channels are connected normally but the bridging switch is set to the "Bridged" position, the two speakers will play out of phase with each other. The loudspeakers are wired out of phase. Reverse the connections at the back of one speaker.

BY PHONE (IN USA)

1-800-BUY-HIFI (289-4434)

BY PHONE (OUTSIDE USA)

1-760-710-0992

CUSTOMER SERVICE HOURS

8:00 AM to 5:30 PM PT

TECHNICAL SUPPORT HOURS

6:00 AM to 4:00 PM PT

ON THE WEB

www.nilesaudio.com

EMAIL TECHNICAL SUPPORT

techsupport@nilesaudio.com

EMAIL FOR PRODUCT SUGGESTIONS

productsuggestions@nilesaudio.com

SPECIFICATIONS

Detail	SI-1650
Design Principle	Digital, high current bridgeable multi-channel amplifier
Continuous Average Power Output	50 watts RMS per channel into 8 Ohms , 100 watts RMS per channel into 4 Ohms
Continuous Average Power Output Bridged	100 watts RMS per channel into 8 Ohms
Frequency Response	Bandwidth Limited from 5Hz to 25kHz
Signal to Noise Ratio	20Hz to 20kHz un-weighted > 102 dB
Total Harmonic Distortion	@ 1kHz <0.06% THD + N
Channel Separation	@ 1kHz >70dB
Overall Dimensions	438.1 mm (17 ¼“) wide 144.7 (5 ¾”) high (including feet) 411.1mm (16 ¼“) deep
Weight	Weight 26.2 lb., 11.9 kg
AC Mains:	100-120 / 220-240 V~, 50 / 60 Hz

CONFIGURATION WORKSHEET

For ease of use, the Configuration Worksheet can be enlarged on a photocopier.

CONFIGURATION WORKSHEET - SI-1650			
Turn-On Mode	Constant	Audio Sense	Voltage Trigger
Input Names			
Input 1	Input 2	Input 3	Input 4
Input 5	Input 6	Input 7	Input 8
Input 9	Input 10	Input 11	Input 12
Input 13	Input 14	Input 15	Input 16

Channel Names and Configurations					
Channel 1 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 2 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 3 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 4 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 5 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 6 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 7 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 8 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 9 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 10 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 11 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 12 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 13 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 14 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 15 Name					
Signal Route	Power: ❑ 50W ❑ 100W	Loudness ❑ On ❑ Off	Low Pass ❑	High Pass ❑	Room EQ
Channel 16 Name					

LIMITED WARRANTY

Niles Audio Corporation ("NILES") warrants to the original retail purchaser only that this product will be free of manufacturing defects in material and workmanship for the following periods and subject to the limitations and exclusions set forth below:

Lifetime Warranty
All Passive Amplifier Products (those not requiring AC or battery power).

Ten years from the date of purchase
All Other Passive Products (those not requiring AC or battery power).

Two years from the date of purchase
All Active Products (those requiring AC or battery power).

This warranty is not transferable to subsequent purchasers of the product. To obtain warranty service, contact the authorized dealer where you purchased your product or take the unit to the nearest authorized NILES dealer (with proof of purchase – claims made without proof of purchase will be denied) who will test the product and if necessary, forward it to NILES for service. If there are no authorized NILES dealers in your area, you must contact NILES to receive a factory Return Authorization Number. DO NOT RETURN ANY UNIT WITHOUT FIRST RECEIVING WRITTEN AUTHORIZATION AND SHIPPING INSTRUCTIONS FROM NILES.

Upon examination, NILES will, at its sole option and expense, repair or replace any product found to be defective. NILES will return the repaired or replaced unit to you via its usual shipping method from the factory to your address in the United States of America or Canada only. Any shipping costs for addresses outside of the United States or Canada shall be the responsibility of the purchaser. In the event that this model is no longer available and cannot be repaired effectively, NILES, at its sole option, may replace it with a different model of equal or greater value, or refund the original purchase price paid. **THE FOREGOING ARE YOUR EXCLUSIVE REMEDIES FOR BREACH OF WARRANTY.**

This Warranty does not include service or parts to repair damage caused by improper use or handling, including but not limited to damage caused by accident, mishandling, improper installation, commercial use, abuse, negligence, or any defect caused by repair to the product by anyone other than NILES.

This warranty does not cover reimbursement for your costs of removing and transporting the product for warranty service evaluation, or installation of any replacement product provided under this warranty.

This Warranty will be void if:

- the Serial Number on the product has been removed, tampered with or defaced.
- the product was not purchased from an authorized dealer or reseller.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESSED AND IMPLIED WARRANTIES. NILES EXPRESSLY DISCLAIMS ALL SUCH OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT, WITH RESPECT TO THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, NILES SHALL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES EXCEPT TO THE EXTENT PROVIDED (OR PROHIBITED) BY APPLICABLE LAW, EVEN IF NILES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Notwithstanding the above, if you qualify as a "consumer" under the Magnuson-Moss Warranty Act, or applicable state laws, then you may be entitled to any implied warranties allowed by law for the Warranty Period. Further, some states do not allow limitations on how long an implied warranty lasts or allow the exclusion or limitation of consequential damages, so such limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

For the name of your nearest authorized NILES dealer, contact: CORE Brands LLC, 1690 Corporate Circle, Petaluma, California 94954, or call 1-760-710-0992. Please be advised that NILES only sells its products via the Internet through a select group of authorized Internet dealers. These are listed on our website at www.nilesaudio.com. Products offered on the Internet through unauthorized Internet dealers are not covered by the NILES warranty and may be either:

1) goods acquired on a secondary or grey market
2) counterfeit or stolen goods
3) damaged, or defective goods

Please fill in your product information and retain for your records.

Model _____ Serial No. _____ Purchase Date _____

ATTENTION: TO OUR VALUED CONSUMERS:
To insure that consumers obtain quality pre-sale and after-sale support and service, NILES products are sold exclusively through authorized dealers. This warranty is VOID if the products have been purchased from an unauthorized dealer.

NOTES

BLENDING HIGH FIDELITY AND ARCHITECTURE®

1690 Corporate Circle, Petaluma, CA 94954

1-760-710-0992

1-800-BUY-HIFI – www.nilesaudio.com