Integrator Series
Room Combine 788
Quick Start Guide

Symetrix

The Vision Behind the Sound

Engineered by Symetrix

What Ships In the Box

- Room Combine 788 hardware device.
- Room Combine 788 CD-ROM (Windows).
- Detachable power cord.
- 25 detachable Phoenix (or Euroblock, as applicable) connectors.
- This Quick Start Guide.

What You Need to Provide

- A Windows® PC with 1 GHz or higher processor and:
- Windows XP or Vista.
- 250 MB free storage space.
- 1024x768 graphics capability.
- 16-bit or higher colors.
- CD-ROM drive or Internet connection.
- 512 MB or more of RAM as required by your operating system.
- Network (Ethernet) interface.
- CAT5 cable or an existing Ethernet network.

Getting Help

Room Combine 788, the Windows application that controls the hardware, includes a help module which acts as a complete User's Guide for both hardware and software. If you have questions beyond the scope of this Quick Start Guide or the software help file, contact our Customer Support Group in the following ways:

Tel: +1.425.778.7728
8:00 am to 4:30 pm
Monday through Friday,
Pacific Time
Web: http://www.SymetrixAudio.com

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

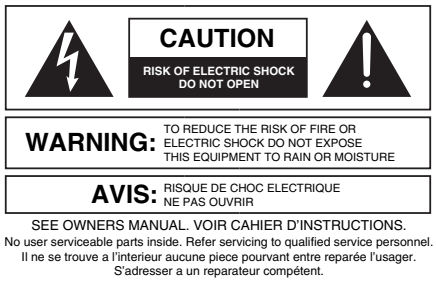
This Class B Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations

Cet appariel numerique de la classe B respecte toutes les Exigences du Reglement sur le materiel brouilleur du Canada.

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. This apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install only 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. This apparatus shall be connected to a mains socket outlet with a protective earthing connection. 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 are 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 cord 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.



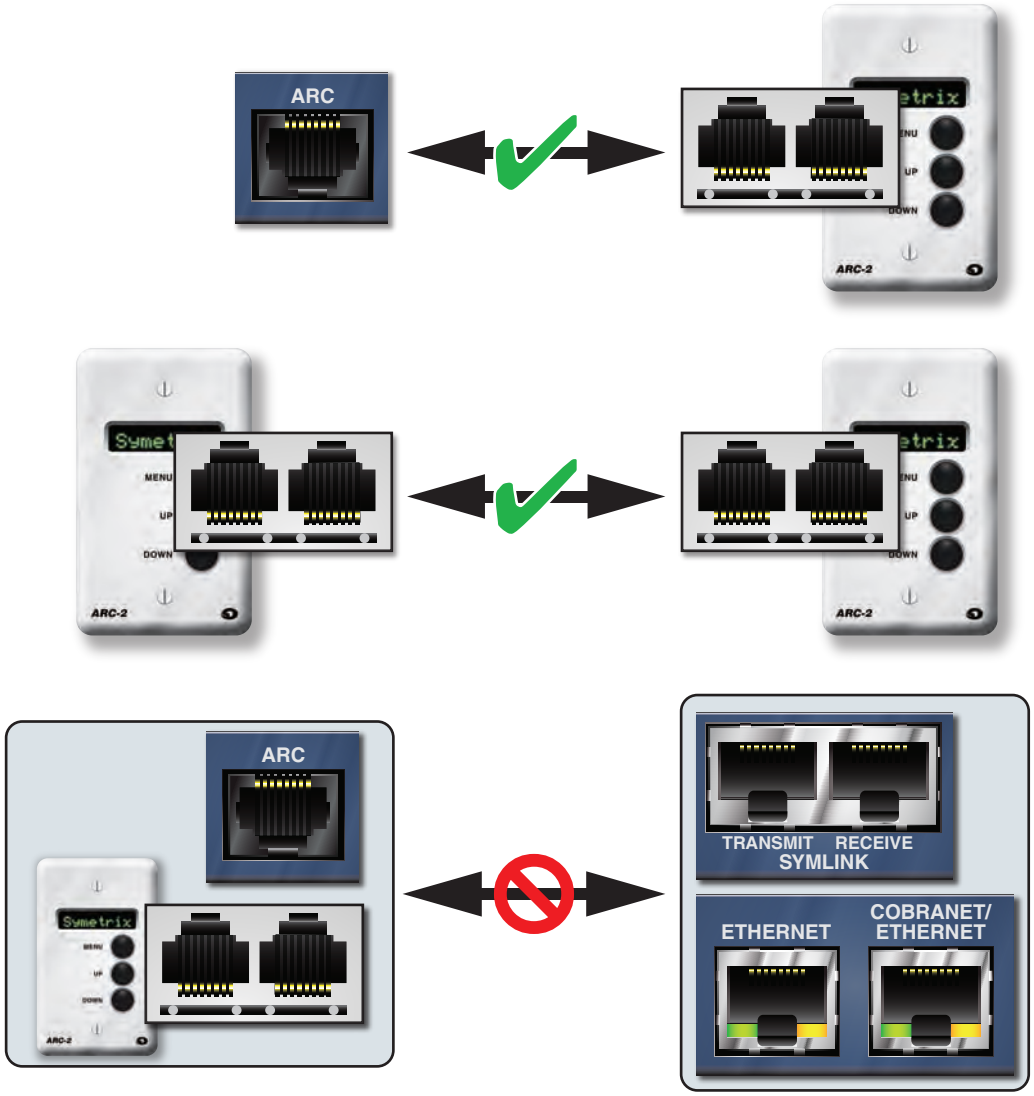
- **The lightning flash** with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product (i.e. this Quick Start Guide).
- **CAUTION:** To prevent electric shock, do not use the polarized plug supplied with the unit with any extension cord, receptacle, or other outlet unless the prongs can be fully inserted.
- **Power Source:** This Symetrix hardware uses a switching power supply that automatically adjusts to the applied voltage. Ensure that your AC mains voltage is somewhere between 100-240 VAC, 50-60 Hz. Use only the power cord and connector specified for the product and your operating locale. A protective ground connection, by way of the grounding conductor in the power cord, is essential for safe operation. The appliance inlet and coupler shall remain readily operable once the apparatus has been installed.
- **User Serviceable Parts:** There are no user serviceable parts inside this Symetrix product. In case of failure, customers inside the U.S. should refer all servicing to the Symetrix factory. Customers outside the U.S. should refer all servicing to an authorized Symetrix distributor. Distributor contact information is available online at: http://www.SymetrixAudio.com.

WARNING!

The RJ45 connectors labeled "ARC" are only for use with the ARC series of remotes.

DO NOT plug the ARC connectors on Symetrix products into any RJ45 connector labeled "SYMLINK","ETHERNET" or "COBRANET".

The "ARC" RJ45 connectors on Symetrix products can carry anywhere from 6 to 24 VDC which can damage SymLink, Ethernet and CobraNet circuitry.



Introduction

Integrator Series products are designed with specific applications in mind. The Room Combine 788 is a complete solution for selectively combining or separating automixing, paging and background music in up to eight (8) rooms in hotels, banquet halls, schools, and conference venues.

Today's hospitality and meeting centers demand sophisticated audio systems that are easy to operate. The 788 delivers with complete signal processing, automixing and combining of eight (8) microphones and four (4) background music (BGM) sources into as many as eight (8) rooms, each with comprehensive loudspeaker management. Combinations of audio, page, and BGM routing, including non-adjacent spaces, are assigned in the setup software. But ease of setup is only half the story.

The other half is real time user control. Our ARC-SWK wall panel (sold separately) is perfectly suited for audio source selection and volume control. Multiple ARC-SWK's dynamically synchronize as spaces are combined and separated. Preset room combinations can be recalled from the 788's front panel, the ARC-2i wall panel, or your favorite third-party control system. The 788 also easily accommodates "soft wall" sensors with its eight (8) analog control inputs for a simple, foolproof triggering of combinations.

As with all of the Integrator Series products, ease of integration is key. Software Wizards effortlessly guide connection, wall panel programming, and graphical layout of the rooms and their relationships. Room Combine 788, Engineered by Symetrix to save integrators time and money.

Features

- The easiest to configure complete room combining solution for hotels, banquet halls, schools and conference venues.
- Eight (8) Mic/Line Inputs with filters, EQ, and feedback elimination into Gain-sharing Automixing, assignable to any of the eight rooms or used as a common paging source.
- Four (4) Line Inputs featuring filters, EQ and Automatic Gain Control (AGC), handle all Background Music (BGM) with ease.
- Eight (8) Outputs: Route audio to as many as eight (8) unique rooms, common or overflow areas.
- Wizard-driven software set-up; network ready.

PERFORMANCE DATA

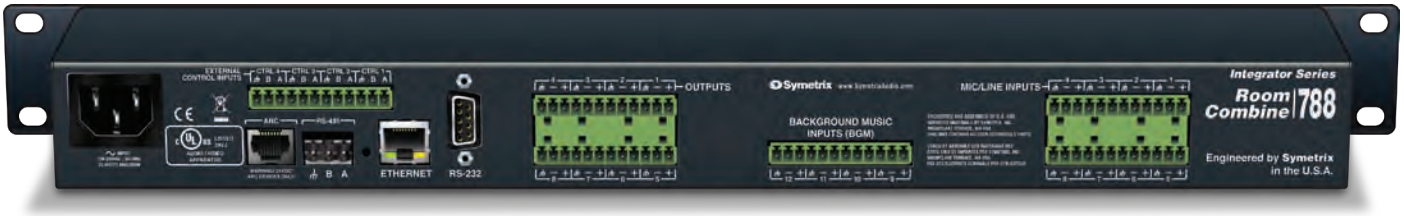
Item	Specifications
Sampling Rate	48 kHz, +/- 100 ppm
Frequency Response	20 Hz – 20 kHz, +/- 0.5 dB
Dynamic Range	> 110 dB (A-weighted)
Total THD+Noise	-85 dB typical at +22 dBu, 1 kHz, 0 dB gain
Input Impedance	> 4 kΩ balanced, > 2 kΩ unbalanced
Output Impedance	200 Ω balanced, 100 Ω unbalanced
Maximum Input Level	+23 dBu
Maximum Output Level	+24 dBu
Mic Pre-amp EIN	< -127 dBu, 22 Hz - 22 kHz, 100 Ω source impedance
Mic Pre-amp Gain	+20 dB, +40 dB or +50 dB, mic inputs; +0 dBu or +11.8 dBu, line inputs (both via internal jumpers)
Phantom Power	+48 VDC
Input CMRR	> 55 dB @ 1 kHz, unity gain
Interchannel Crosstalk	> -90 dB @ 1 kHz, typical

Mechanical Data

Item	Specifications	Remarks
Space Required	1U (WDH: 48.02 cm x 22.15 cm x 4.37 cm / 18.91 in x 8.72 in x 1.72 in), depth is specified from front panel to back of connectors.	Allow at least 1 inch additional clearance for rear panel connections. Additional depth may be required depending upon your specific wiring and connections.
Electrical	100 – 240 VAC, 50/60 Hz, 25 Watts maximum.	No line voltage switching required.
Ventilation	Maximum recommended ambient operating temperature is 30 C / 86 F.	Ensure that the left and right equipment sides are unobstructed (5.08 cm, 2 in. minimum clearance). The ventilation should not be impeded by covering the ventilation openings with items such as newspapers, tablecloths, curtains, etc.
Weight	8.15 lbs. (3.70 kg)	

Front Panel

Item	Description	Comments
MENU / UP / DOWN	Momentary push buttons	• Press MENU while on the home or idle screen to cycle through menus programed into the front panel control interface. • Press MENU after adjusting a parameter to confirm your selection (as in Presets) or to cycle to the next menu. • Press and Hold MENU for at least 5 seconds to enter or exit the System Menu. • Press the UP button to adjust a parameter UP. • Press the DOWN button to adjust a parameter DOWN.
Mic/Line Inputs	Twelve (12) Bi-color LEDs	Illuminate green to indicate signal present (> -26 dBu), amber between +5 and +22.5 dBu and red to indicate clipping (> +22.5 dBu) on inputs 1 through 12.
Outputs	Eight (8) Bi-color LEDs	Illuminate green to indicate signal present (> -26 dBu), amber between +5 and +23 dBu and red to indicate clipping (> +23 dBu) on outputs 1 through 8.
Power	Green LED	Illuminates to indicate the device is powered on.
Network	Bi-color LED	Illuminates green to indicate a network (Ethernet) activity, amber to indicate acquisition of a network address in DHCP mode.
ARC	Green LED	Illuminates to indicate ARC port (RS-485) connection.



Rear Panel

Item	Description	Comments
Power Input	IEC 3 prong jack	Accepts power from detachable IEC power cable (100-240 VAC, 50-60 Hz, 25 Watts max). Connect only to a grounded power outlet.
EXTERNAL CONTROL INPUTS 1 through 4	Four (4) 3-pin Phoenix	Allows real-time control of any volume using standard 10k Ohm linear potentiometers or mutes, presets and combines using standard contact closures, relays or air wall sensors providing a dry closure. May also be used for emergency system integration. Purpose configured by the External Control Wizard. Each connection accommodates one potentiometer or two switches. Uses standard shielded twisted pair cabling.
ARC	RJ45 jack	Distributes power and RS-485 data to one or more ARC devices. Uses standard straight-through UTP CAT5 cabling. **Warning!** Refer to the RJ45 Warning for compatibility information.
RS-485	One (1) 3-pin Euroblock	Connects to an ARC-PS, ARC Wall Panel or other Symetrix-manufactured RS-485 controller, wired in parallel (A to A, B to B and GND to GND) using shielded twisted pair cabling. Port Settings: 38.4 kbaud, 8 data bits, 1 stop bit, no parity, no flow control.
Ethernet	RJ45 jack	Communications interface for the 788 application running on the host PC as well as 3rd party control for systems such as AMX or Crestron. Uses standard straight-through UTP CAT5 cabling. Features auto-crossover sensing for direct device-to-device connections.
RS-232	Female DB9	Serial communications interface for a 3rd party accessory controller. Wired straight-through, only pins 2, 3 and 5 are required. Port Settings: 57.6 kbaud (default), 8 data bits, 1 stop bit, no parity, no flow control.
Outputs	Eight (8) 3-pin Phoenix connectors	Eight (8) balanced analog line level audio outputs, individually software-selectable levels of -10 dBV or +4 dBu (default).
Background Music Inputs (BGM)	Four (4) 3-pin Phoenix connectors	Four (4) balanced analog audio inputs, nominal input level set via internal jumpers at -10 dBV or +4 dBu (default).
Mic/Line Inputs	Eight (8) 3-pin Phoenix connectors	Eight (8) balanced analog audio inputs with software selectable +48 VDC phantom power and Mic/Line input mode. Mic level gain set via internal jumpers at +20 dB or +40 dB (default) or +50 dB. Note: Input 8 may be switched internally to the ARC Audio input. Mode is configured by Mic/Line input #8's input panel in the software.

Power

POWER INPUT

Connect the IEC connector end of the supplied AC cord to the receptacle on the rear of the 788. Connect the AC connector end of the supplied AC cord to an AC power source that is of the correct voltage and frequency (100-240 VAC, 50-60 Hz). Use only the power cord and connector specified for the product and your operating locale.

When the 788 is powered up correctly, the POWER LED on the front of the unit will be lit solid green.

External Control

EXT CTRL 1 — 4

Using standard shielded twisted pair terminated with a Phoenix connector on one end, you may connect up to two contact closures or one potentiometer to each EXTERNAL CONTROL input. Configuration of the EXTERNAL CONTROL inputs is done with the External Control Wizard. These ports may also be used to integrate with an alarm or emergency system.

Ethernet

RJ45 Connector

Using a standard straight-through CAT5 cable terminated with RJ45 connectors, connect the 788's ETHERNET port to either your computer's Ethernet port or to an existing Ethernet network. You may wish to review the Network Configuration section for more information.

When the 788 has a physical network connection, the amber "link" LED on the ETHERNET connector will be lit solid.

When there is network communication, the green "activity" LED on the ETHERNET connector and the NETWORK LED on the front of the unit will flash accordingly.

NOTE: The 788's Ethernet port will automatically sense a device-to-device connection so that a standard straight-through Ethernet cable may always be used. A cross-over cable is not required.

ARC

ARC

Using a standard straight-through CAT5 cable terminated with RJ45 connectors or standard shielded twisted pair terminated with a Euroblock on one end, connect your ARC Wall Panels to either the ARC or RS-485 ports according to the guidelines in the ARC Network Design section.

When an ARC Wall Panel network is connected to the 788, the green ARC LED on the front of the unit will be lit solid green.

WARNING: When designing an ARC network, one must be careful not to double power any ARCs. If all pins on the CAT5 connections are used, power can travel over the CAT5 cable and reach any ARC on that particular chain. Power over CAT5 could potentially come from the ARC that is powered locally and then daisy-chained via CAT5 to other ARCs or directly from a particular ARC's terminal block connections. In general, we recommend using only one type of power connection on the ARCs, either the RJ45s (with CAT5 cable) or the terminal blocks but not both.

CAUTION: DO NOT plug the RJ45 connectors of an ARC Wall Panel into any RJ45 connector labeled "ETHERNET", "COBRALINK" or "SYMLINK". Refer to the RJ45 Warning for compatibility information.

Accessory Communications

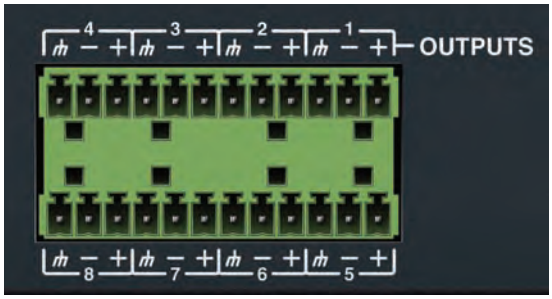
RS-232

Using a standard RS-232 cable wired straight-through, terminated on one end with a female DB9 connector and a male DB9 connector on the other, connect the male end to the 788 and the female end to an available RS-232 port on your controlling device.
Port settings: 57.6 kbaud (default), 8 data bits, 1 stop bit, no parity, no flow control.

NOTE: Default settings can be changed via the Room Combine 788 software application. Refer to Accessory Port Settings for details.

Outputs

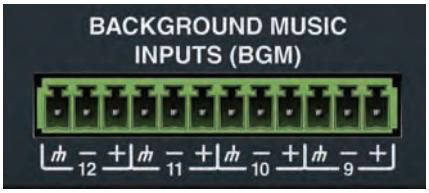
Using standard mic/line cables terminated on one end with Phoenix connectors and appropriate connectors for your destination devices on the other end, connect the Phoenix ends into the OUTPUTS of the 788 and the opposite ends into your destination device's inputs. These outputs are +4 dBu balanced line level outputs by default. If you need an unbalanced output, see the analog audio wiring diagrams in the Audio Wiring Reference.



NOTE: Wiring the outputs to an unbalanced cable will typically result in an output level that is 6 dB lower than the output level achieved using a balanced cable. If wiring to an unbalanced destination, you may need to change the 788's output level. Refer to the OUTPUT LEVEL SET within the LIMITER module found in the OUTPUT DSP section of the software.

Background Music Inputs (BGM)

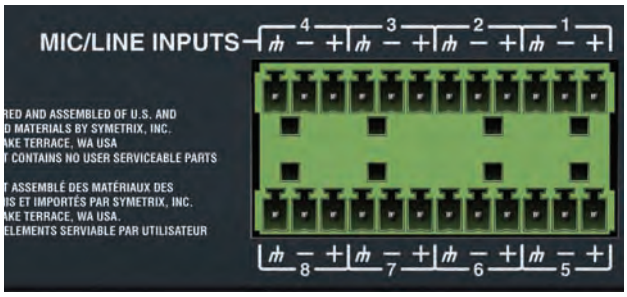
Using standard mic/line cables terminated on one end with Phoenix connectors and appropriate connectors for your line sources on the other end, connect the Phoenix ends into the BGM INPUTS of the 788 and the opposite ends into your source devices' outputs. Refer to the Audio Wiring Reference for more information.



NOTE: Wiring the inputs to an unbalanced cable will typically result in an input level that is 6 dB lower than the input level achieved using a balanced cable. If wiring to an unbalanced source, you may need to adjust the 788's input level. The nominal input level for the line inputs is set to +4 dBu at the factory. This should be adequate for most situations, even for unbalanced inputs. However if more gain is required, internal jumpers allow for +11.8 dB of gain effectively making the nominal input level -10 dBV.

MIC/LINE INPUTS

Using standard mic/line cables terminated on one end with Phoenix connectors and appropriate connectors for your mic/line sources on the other end, connect the Phoenix ends into the MIC/LINE INPUTS of the 788 and the opposite ends into your source devices' outputs. Refer to the Audio Wiring Reference for more information.



NOTE: Wiring the inputs to an unbalanced cable will typically result in an input level that is 6 dB lower than the input level achieved using a balanced cable. If wiring to an unbalanced source, you may need to adjust the 788's input level. To switch between Mic and Line level input, refer to the INPUT tab within the MIC/LINE INPUTS DSP section. Coarse mic pre-amp gain is set to +40 dB at the factory. This should be adequate for most mics. However, internal jumpers allow for settings of +50 dB and +20 dB.

INTERNAL LEVEL JUMPERS

At the factory, coarse mic pre-amp gain is set to +40 dB and the line inputs are set for a nominal input level of +4 dBu. This should be adequate for most mics and balanced line level sources. However, internal jumpers allow for settings of +50 dB and +20 dB on the mic inputs and +11.8 dB of gain on the line inputs effectively making the nominal input level -10 dBV.

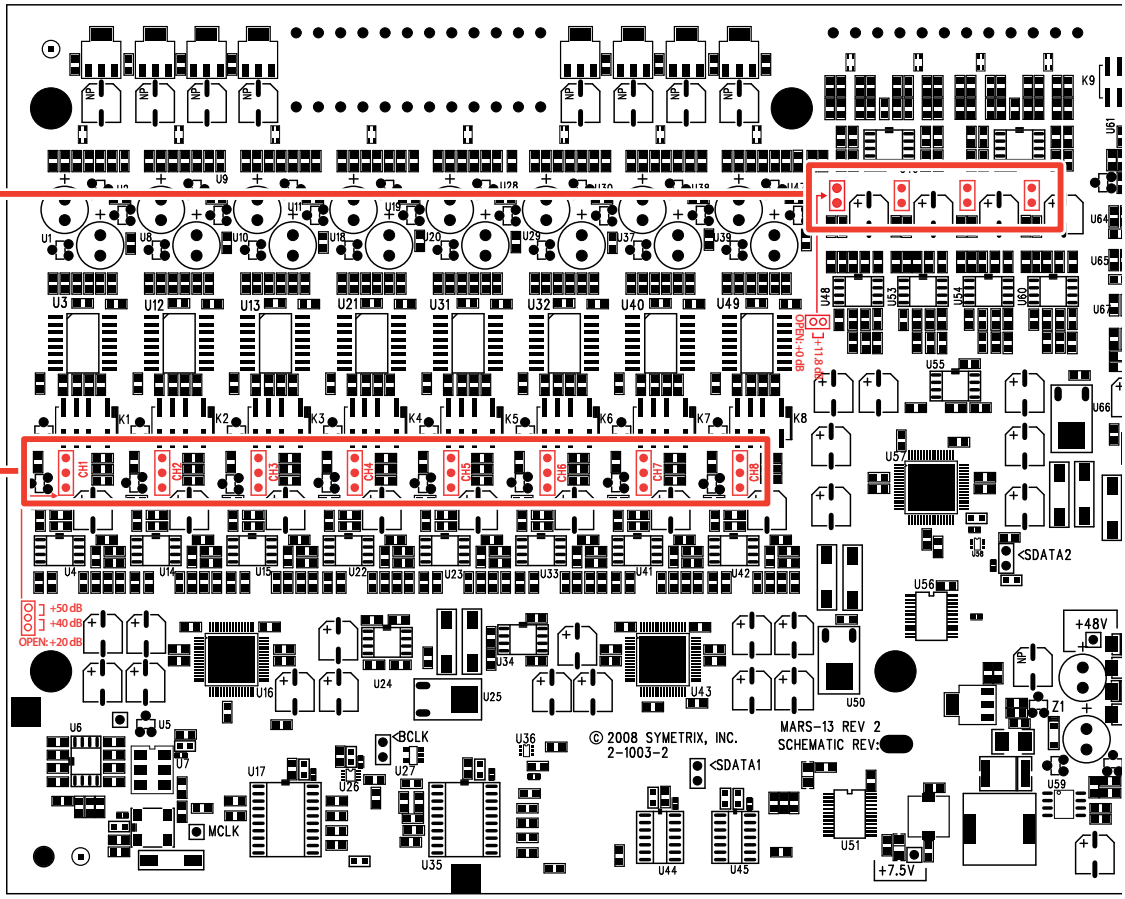
Refer to the diagrams below to locate the jumpers on the 788's I/O board. To access the jumpers, you will need to remove the top cover of the 788.

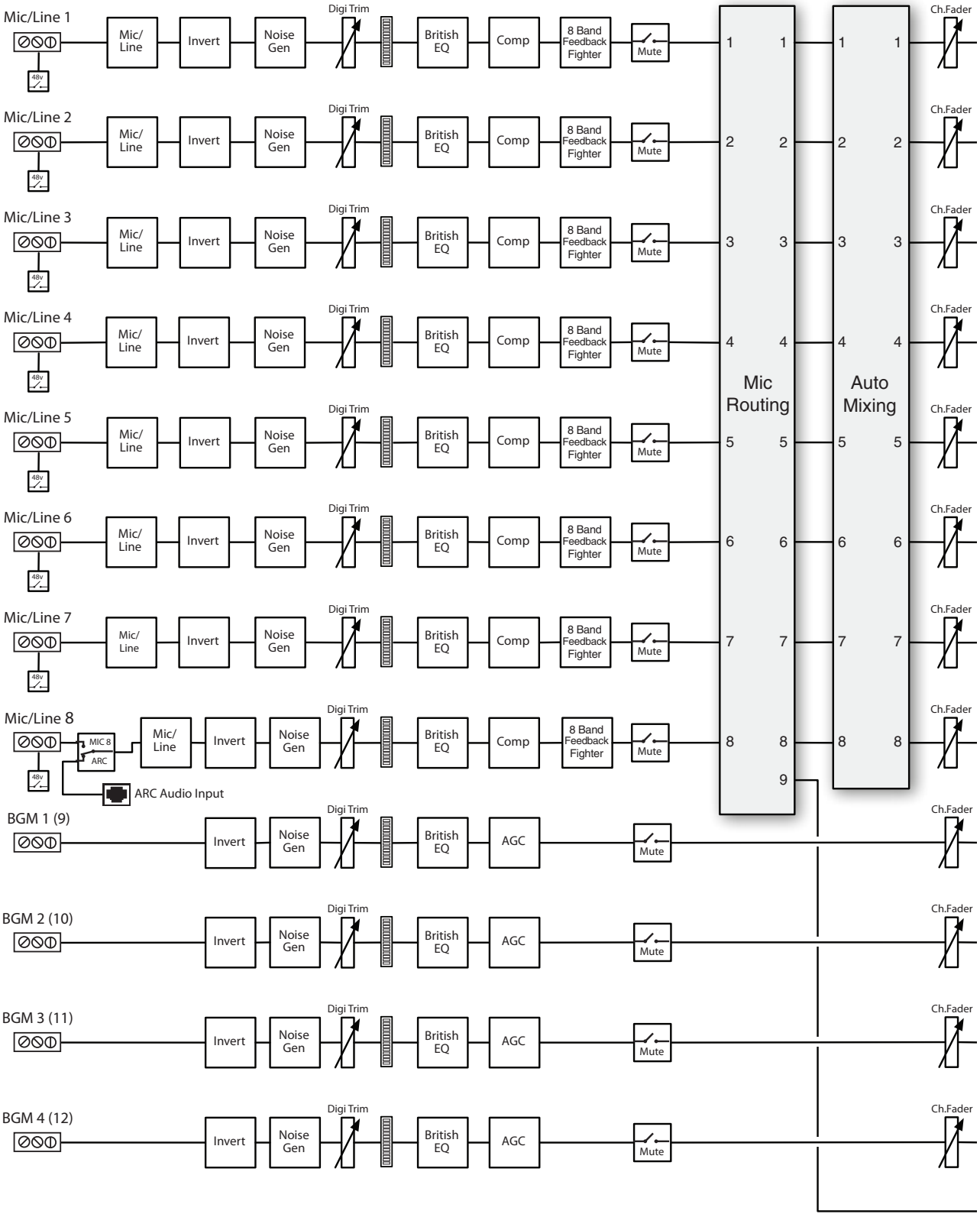
Line Level Jumpers

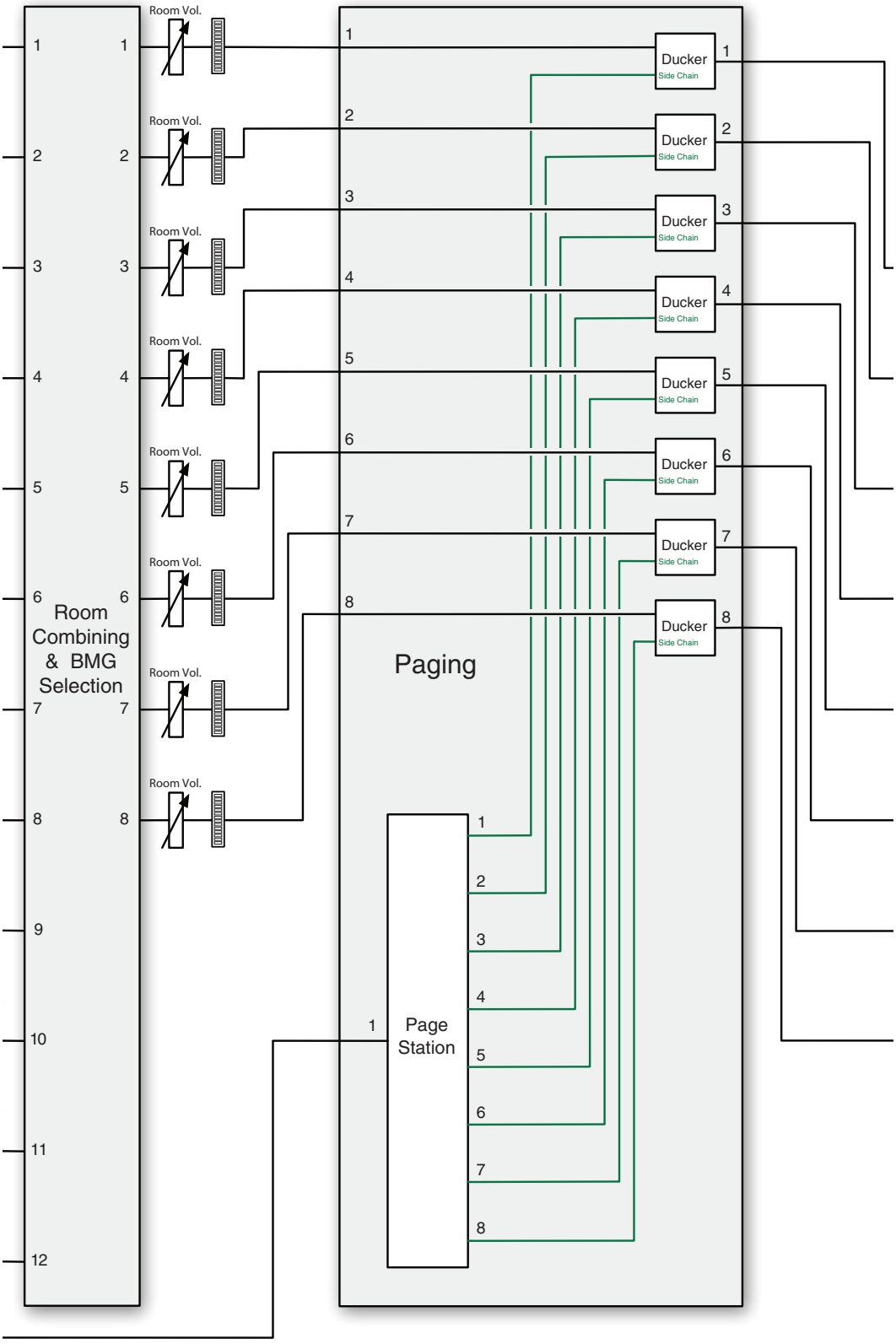
+11.8 dB
OPEN: +0 dB

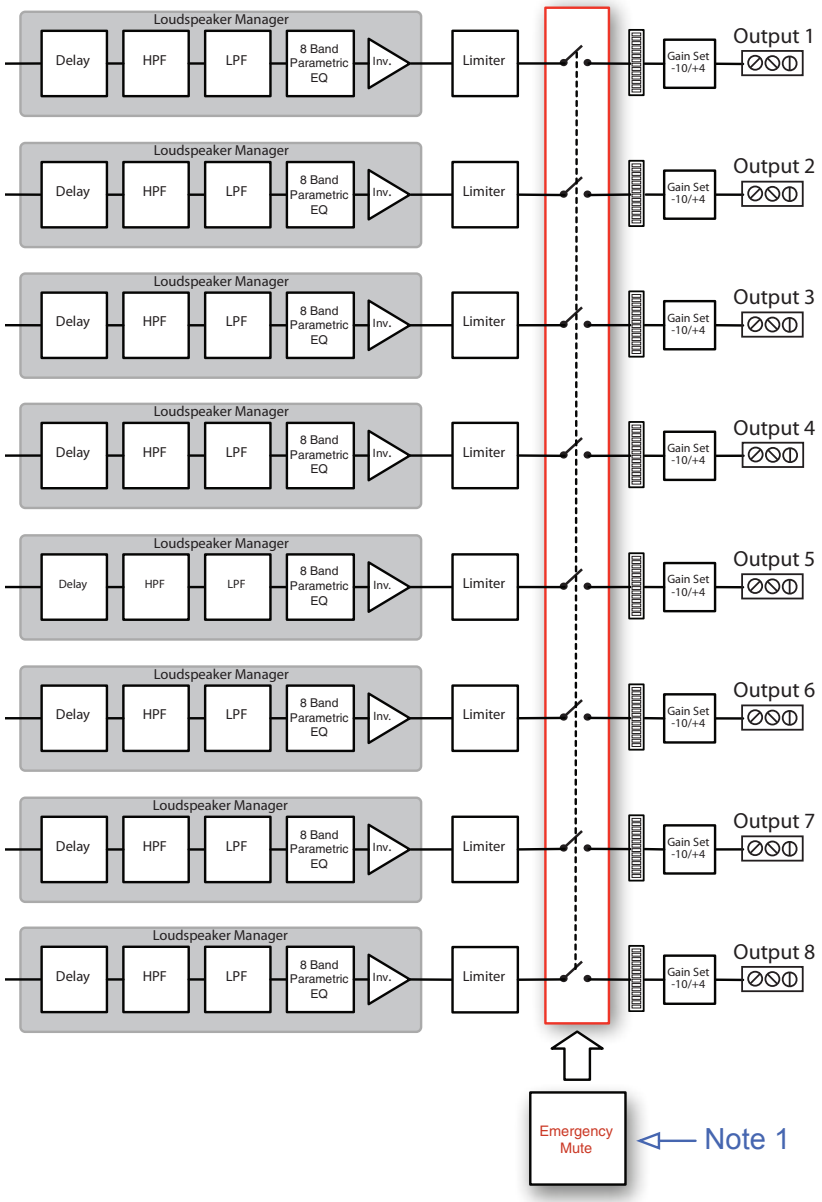
Mic Level Jumpers

+50 dB
+40 dB
OPEN: +20 dB




Mic/Line 1
Mic/Line 2
Mic/Line 3
Mic/Line 4
Mic/Line 5
Mic/Line 6
Mic/Line 7
Mic/Line 8
48v
MIC 8
ARC
ARC Audio Input
Mic/ Line
Invert
Noise Gen
Digi Trim
British EQ
Comp
8 Band Feedback Fighter
Mute
BGM 1 (9)
BGM 2 (10)
BGM 3 (11)
BGM 4 (12)
AGC
1
2
3
4
5
6
7
8
9
Mic Routing
Auto Mixing
Ch.Fader


Room Vol.
Room Combining & BMG Selection
Paging
Ducker
Side Chain
Page Station



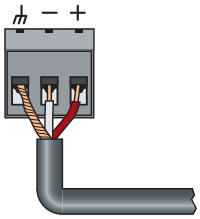
Note 1 :
Can be controlled via external analog control input.

Balanced Connections

Any of these connectors can appear on either side of a balanced connection.

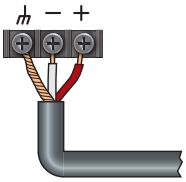
NOTE: In the case of an XLR connector, the Female attaches to an output, while the Male attaches to an input.

Euroblock [balanced]

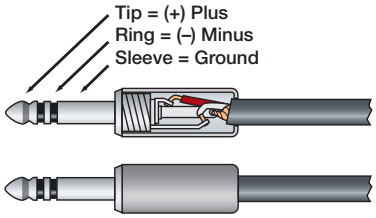


NOTE: Detachable Euroblock and Terminal Strip connectors are designed for use with bare wire. Do not tin stranded wires before inserting them into the connectors.

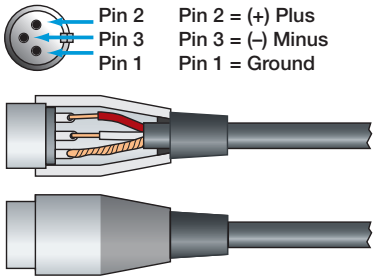
Terminal Strip [balanced]



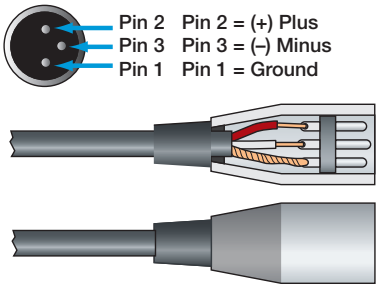
TRS 1/4" Plug [balanced]



XLR Female Plug [balanced]



XLR Male Plug [balanced]

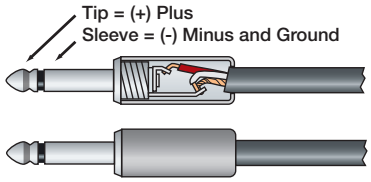


Special Case: Female XLR connectors will ALWAYS be used coming from the OUTPUT of a device.
Male connecters plug into the INPUT of a device.

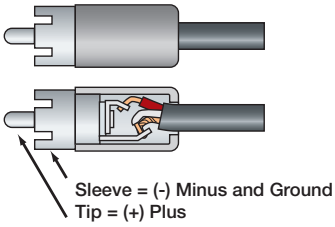
Unbalanced Connections

The RCA connector and the 1/4” TS connector are unbalanced connectors, wired with a single strand shielded wire and can be placed on either end of an unbalanced connection

TS 1/4" Plug [unbalanced]



RCA Plug [unbalanced]



IMPORTANT NOTICE

The wiring diagrams on these pages are included **for information purposes only**.

Symetrix can not anticipate every connector type on non-Symetrix products. **It is the user’s responsibility to determine what connection is needed.**

In addition, **Symetrix accepts no responsibility for injury or damage caused by user created wiring.**

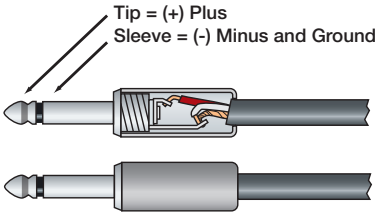
Unbalanced Connections:

Unbalanced out to balanced in

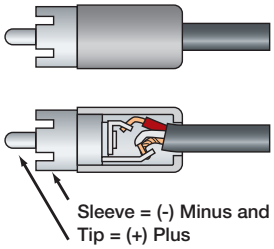
The RCA connector and the 1/4" TS connector are unbalanced connectors. However, the wiring differs depending on if they are sending to, or receiving from a balanced connector.

In this example, the unbalanced connector is sending signal to a balanced connector. When wiring this connection, use a shielded twisted pair cable. The balanced side wires the same as a standard, balanced connection. On the unbalanced side, you wire the white (minus) wire together with the ground. This provides some common mode rejection at the balanced input.

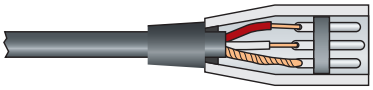
TS 1/4" Plug [unbalanced out to balanced in]



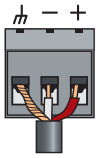
RCA Plug [unbalanced out to balanced in]



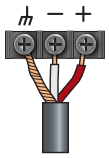
XLR Male Plug [balanced]



Euroblock [balanced]



Terminal Strip [balanced]



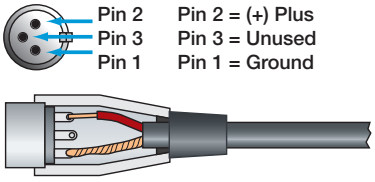
TRS 1/4" Plug [balanced]

Unbalanced Connections:

Balanced out to unbalanced in

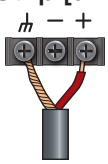
When your output requires a balanced connector, but you are sending signal to an unbalanced input, the rules change. Use a single strand shielded wire. Wire only to the plus and ground terminals of what would typically be the balanced connector.

XLR Female Plug [unbalanced]

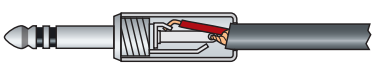


Euroblock [unbalanced]

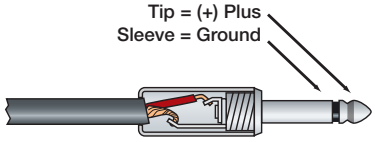
Terminal Strip [unbalanced]



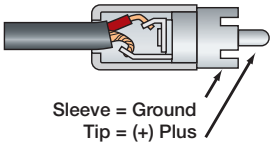
TRS 1/4" Plug [balanced]



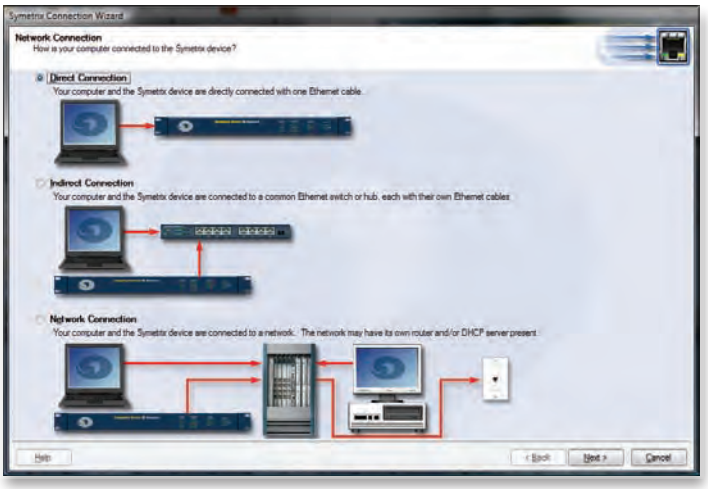
TS 1/4" Plug [balanced out to unbalanced in]



RCA Plug [balanced out to unbalanced in]



Network Configuration



TThe 788 is setup and controlled by a host computer via Ethernet. This requires the host computer to be connected to the 788 directly via a standard CAT5 Ethernet cable, indirectly via an Ethernet switch, or via an existing Ethernet network.

The primary difference between the three methods of connection is that in the first two, the 788 software application assumes there is no DHCP server or other network infrastructure in place. It assumes the 788 is using a self-generated IP address and adjusts its connection steps appropriately. In the third method, it is assumed that a DHCP server and/or router with DHCP server are already present on the existing network so the 788 may already have obtained an IP address. Consult your network administrator if in doubt.

General Notes

1. The 788 boots up with DHCP enabled by default. This means that as soon as you connect it to a network, it will look for a DHCP server in order to obtain an IP address. If a DHCP server is present, the 788 will get its IP address from it. This process may take several minutes. With your PC attached to the same network and thus getting its IP address from the same DHCP server, all will be ready to go.
2. If your network does not have a DHCP server, the 788 will not be able to obtain an IP address. While waiting, the 788 will default to a private IP address in the range of 169.254.x.x where x.x is the last four alphanumeric characters of the 788's MAC address. The 788's MAC address can be found on a sticker on the bottom of the 788 or within the front panel System menu. When there is no DHCP server present to assign IP addresses to either the 788 or your PC, you may need to configure your PC with a static IP in the range of 169.254.x.x with a Subnet Mask of 255.255.0.0 in order to communicate with the 788 in a direct connect mode. However, if your PC is using the default network settings, it should also have automatically self-assigned a similar private IP address in the range of 169.254.x.x, and if this is the case, you should be able to connect to the 788 directly. Even if the PC's default settings have been changed, the 788 will try to establish communications by setting up appropriate routing table entries to reach devices with 169.254.x.x addresses.
3. In the case of the first two methods (direct connection and indirect connection), the 788 software will attempt to set-up appropriate routing table entries for a seamless connection regardless of the IP addresses of your PC and 788. However, under Windows® Vista, administrative privileges are required to allow the 788 software to modify the routing table. For best results, launch the 788 software while logged in as an administrator, or choose to run the software as an administrator. **Note:** To run a program as the Administrator under Vista, right click on the program's icon or shortcut and choose "Run as administrator".
4. The 788 will display its current IP address, subnet mask, and gateway as well as other useful information on the front panel display when in System Mode. To enter System Mode, hold down the Menu button for 5 seconds. Then the up and down arrow keys can be used to move between various displays. This information may be useful for troubleshooting.

Network configuration of the 788:

Connecting to the 788 from a host computer on the same LAN

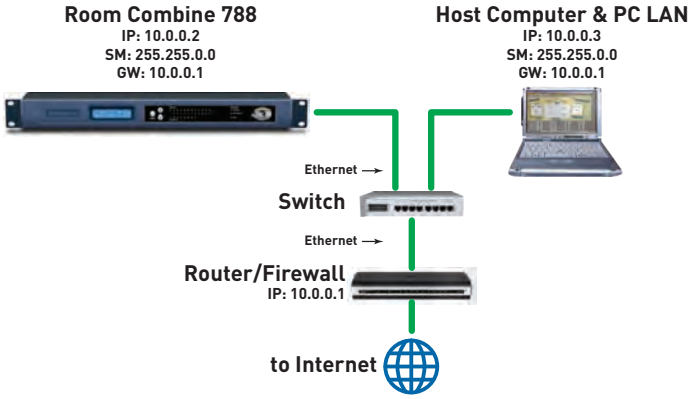
Both the 788 and the host computer require the following 3 items:

1. IP Address - The unique address of a node on a network.
2. Subnet Mask - Configuration that defines which IP Addresses are included in a particular subnet.
3. Default Gateway (optional) - The IP address of a device that routes traffic from one subnet to another. (This is only needed when the PC and 788 are on different subnets).

If you are putting the 788 on an existing network, a network administrator will be able to provide the above information or it may have been provided automatically by a DHCP server. For security reasons, it is not recommended to put the 788 directly on the Internet. If you do, a network administrator or your Internet Service Provider can provide the above information.

If you are on your own private network, directly or indirectly connected to the 788, you may allow the 788 to choose an automatic IP address or you may choose to to assign it a static IP address. If you are building your own separate network with static assigned addresses, you may consider using an IP Address from one of the ”Private-Use” networks noted in RFC-1918:

1. 172.16.0.0/12 = IP Addresses 172.16.0.1 through 172.31.254.254 and a Subnet Mask of 255.240.0.0
2. 192.168.0.0/16 = IP Addresses 192.168.0.1 through 192.168.254.254 and a Subnet Mask of 255.255.0.0
3. 10.0.0.0/8 = IP Addresses 10.0.0.1 through 10.254.254.254 and a Subnet Mask of 255.255.0.0

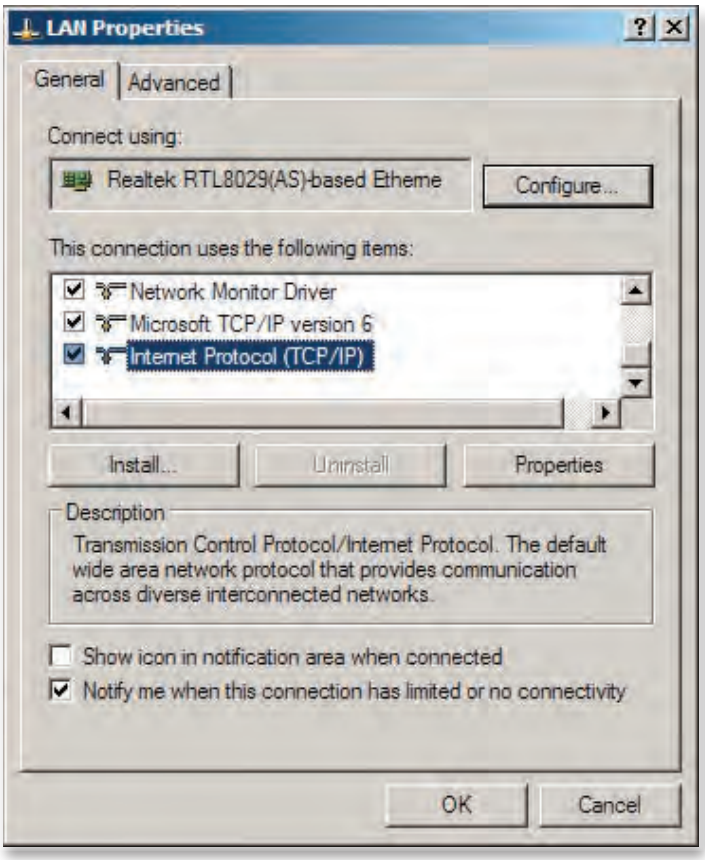


Connecting to the 788 through a Firewall/VPN

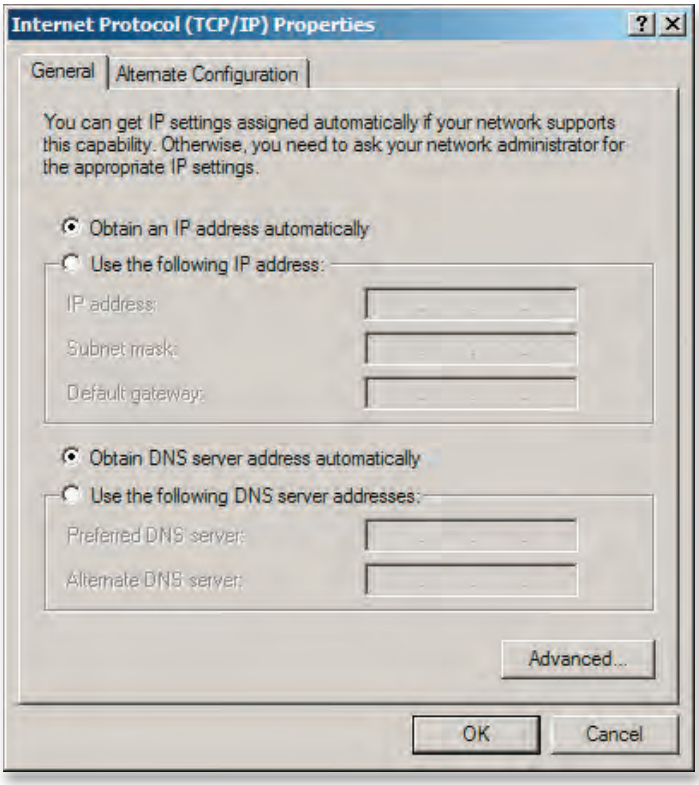
We have successfully tested control of a 788 through a firewall and VPN, but are unable to guarantee performance of these types of connections at this time. Configuration instructions are specific to each firewall and VPN, so specifics are not available. Additionally, wireless communications are also not guaranteed, though have also been successfully tested.

Configuring your computer for a network connection: Windows® XP

1. Select “Start->Control Panel”.
2. Open the “Network Connections” Control Panel.
3. Right click on your “Local Area Connection” and select ””Properties”.
4. Under “This connection uses the following items”, select “Internet Protocol (TCP/IP)” and press “Properties”.



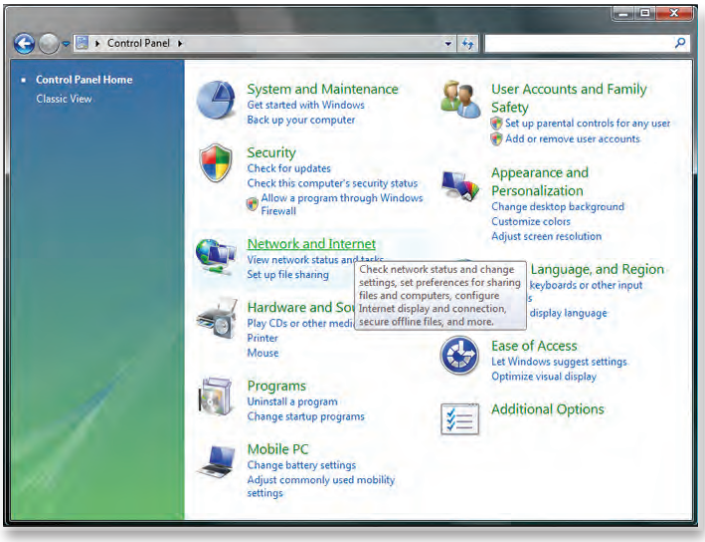
5. On the “General” tab, you may select “Use the following IP address” to enter in the appropriate information if using static assigned addresses. (DNS server is not required for connection to a 788). Otherwise, leave set to “Obtain an IP address automatically” if using DHCP.



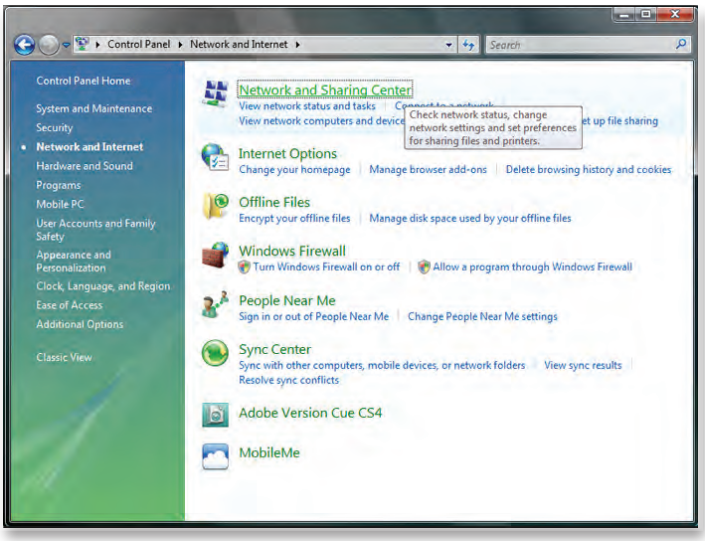
6. Press OK to save and “Close” to exit out of the “Local Area Connection Properties”.

Configuring your computer for a network connection: Windows® Vista

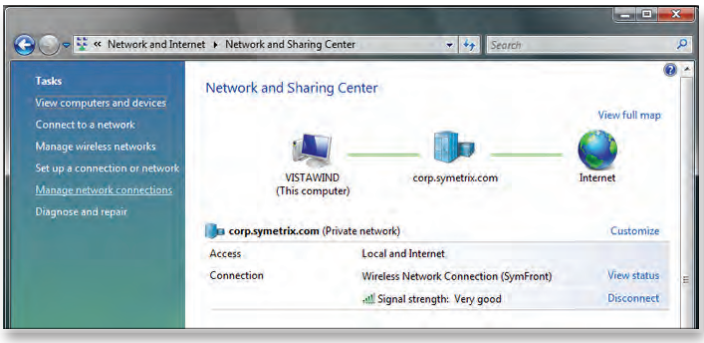
1. Select “Start->Control Panel”.
2. Select “Network and Internet”.



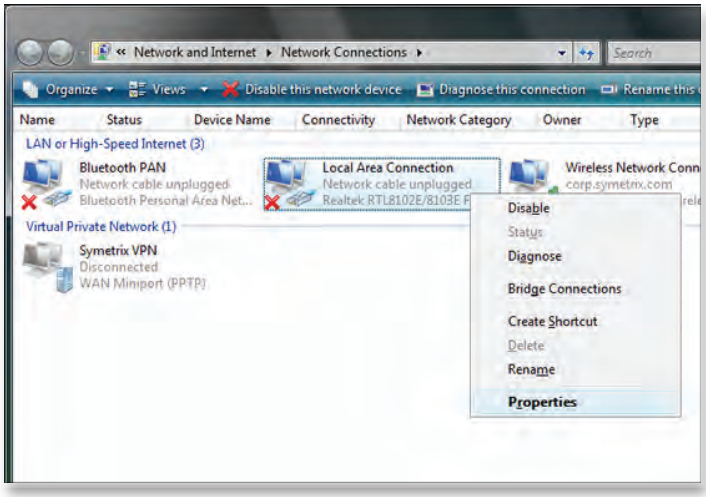
3. Open the “Network and Sharing Center”.



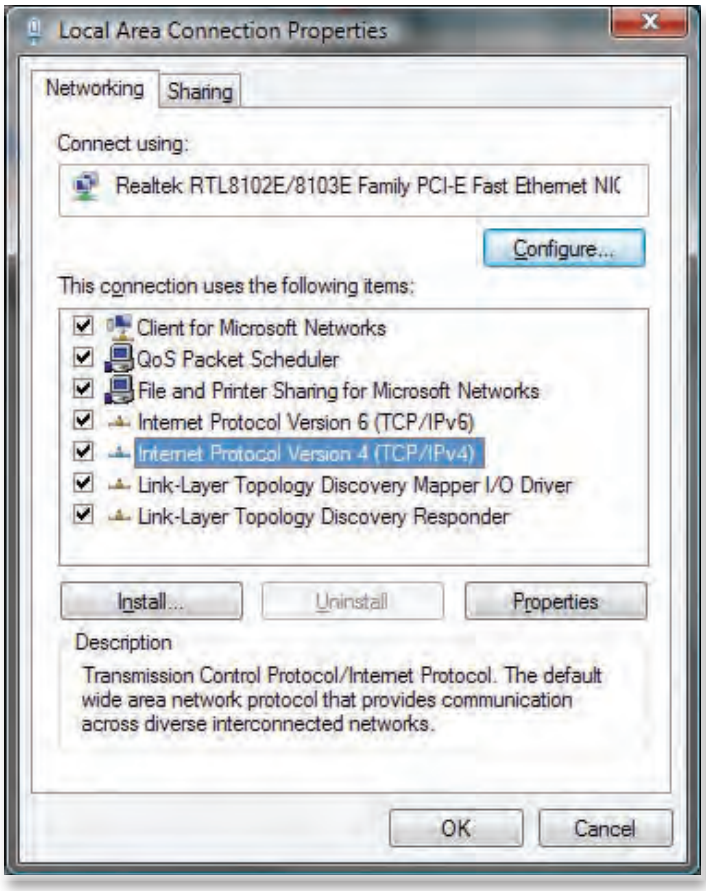
4. Choose “Manage network connections” on the left.



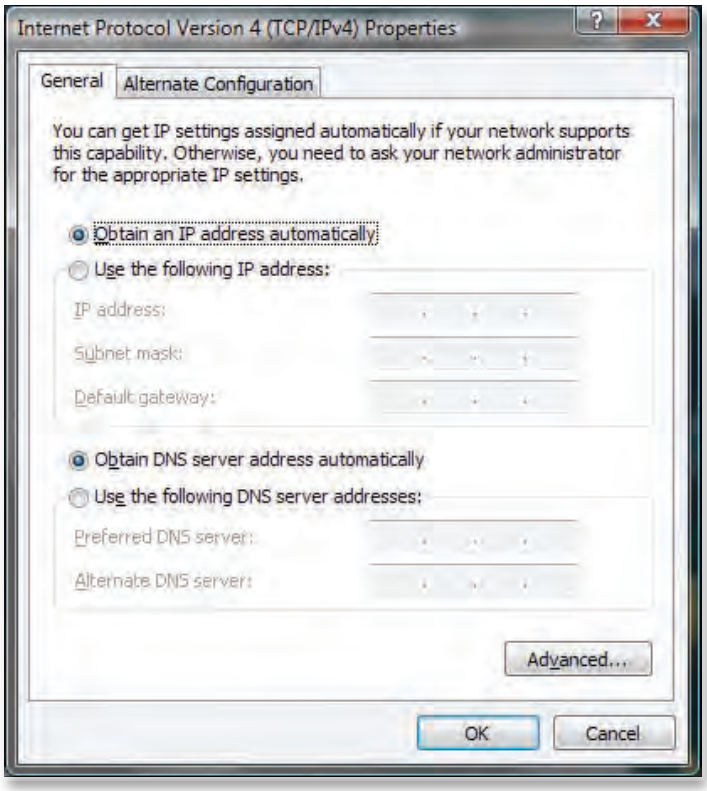
5. Right-click the desired connection and choose “Properties”.



6. Under “This connection uses the following items”, select “Internet Protocol Version 4 (TCP/IPv4)” and press “Properties”.



7. On the “General” tab, you may select “Use the following IPv4 address” to enter in the appropriate information if using static assigned addresses. (DNS server is not required for connection to a 788). Otherwise, leave set to “Obtain an IPv4 address automatically” if using DHCP. Press OK to close.



8. Repeat steps 6 and 7 for “Internet Protocol Version 6 (TCP/IPv6)” if on an IPv6 network. Consult your IT staff if you are unsure.
9. Press OK to save and “Close” to exit out of the “Local Area Connection Properties”.

For more information about configuring the host computer, visit http://www.microsoft.com.

Note: Typically, only Admins or users belonging to the Network Configuration Operators group can alter networking configurations in Windows Vista.

Once you have completed the setup of your network and any network hardware/interfaces, you may install the 788 software or launch the software if you have already installed it, then run the Connection Wizard.

Room Combine 788 Software

Installation

The Room Combine 788 software provides real-time set-up and control from a Windows PC environment.

Use one of the following procedures to install the Room Combine 788 software on your computer.

From the CD-ROM:

1. Insert the CD into your computer's CD-ROM drive.
2. Open "My Computer". The "My Computer" icon is typically on your desktop or in the "Start" menu.
3. Double click on your CD-ROM drive. This is typically drive "D:\". If your CD-ROM drive isn't "D:\", then substitute its drive letter.
4. Double-click "Setup.exe".

From the Symetrix web site (http://www.SymetrixAudio.com):

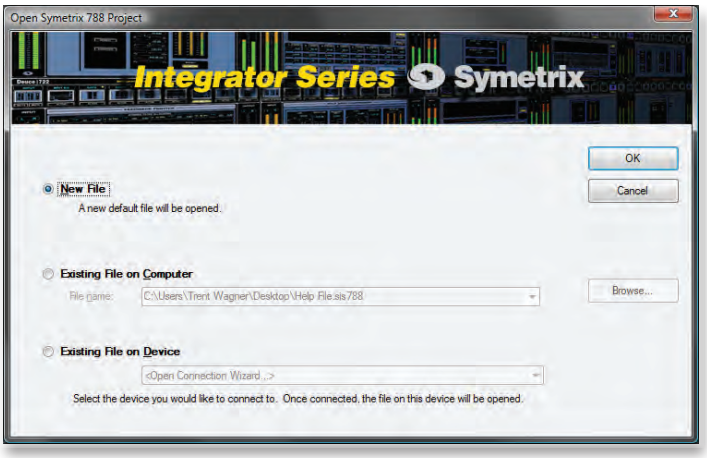
1. Download the Room Combine 788 software installer from the Symetrix web site.
2. Double-click on the file you just downloaded and follow the on screen directions to install.

The software always starts up in offline mode. Regardless, you can explore the software, experiment to your heart's content, and perhaps even get useful work done. You can save any device files that you create to your hard drive and transfer them to hardware later.

After installing the software, browse the rest of the Help File, or move on to the Connection Wizard to get connected to your 788.

Launch the software

You can launch the Room Combine 788 software via either the Start Menu or the Desktop icon. Once launched, the Room Combine 788 software presents the following options:



You may choose to create a New File using the factory default settings.

If you choose to open an Existing File on Computer, a list of recently used files is presented. A Browse button is also available to manually locate the file of your choosing from a local drive or network share.

If you choose to open an Existing File on Device, a list of recently connected-to devices is presented. An "Open Connection Wizard" choice is also available in the event that you are unsure of which device to connect to or your device is not listed among the recently connected to devices.

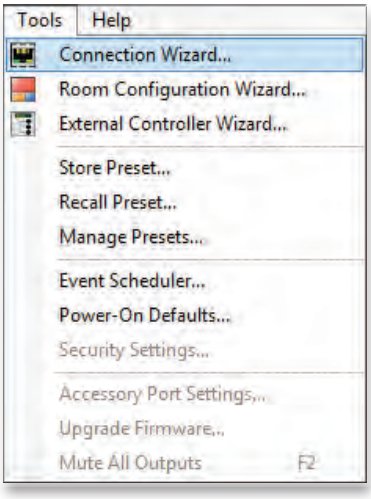
After installing and launching the software and choosing your operating mode above, you may browse the rest of the Help File, or move on to the Connection Wizard to get connected to your 788.

Connection Wizard

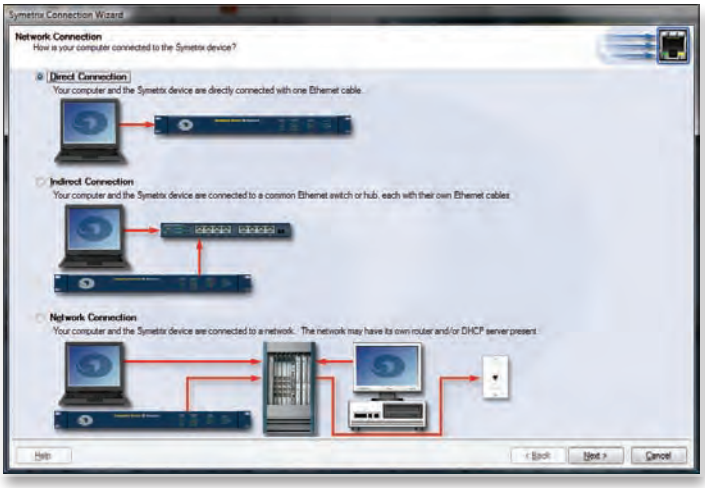
Once you have completed the Hardware Connections and connected your network (refer to Network Configuration), you may open the 788 Application and run the Connection Wizard.

The Connection Wizard can be run by clicking on its icon in the toolbar...

...or from the Tools menu:

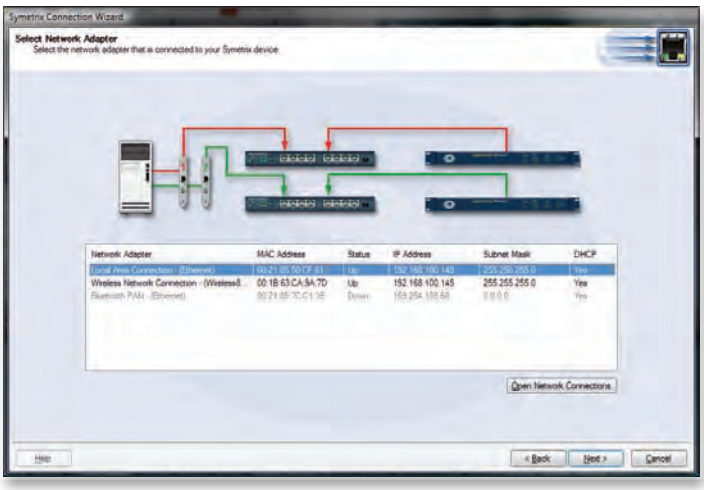


The Connection Wizard opens with the following screen:



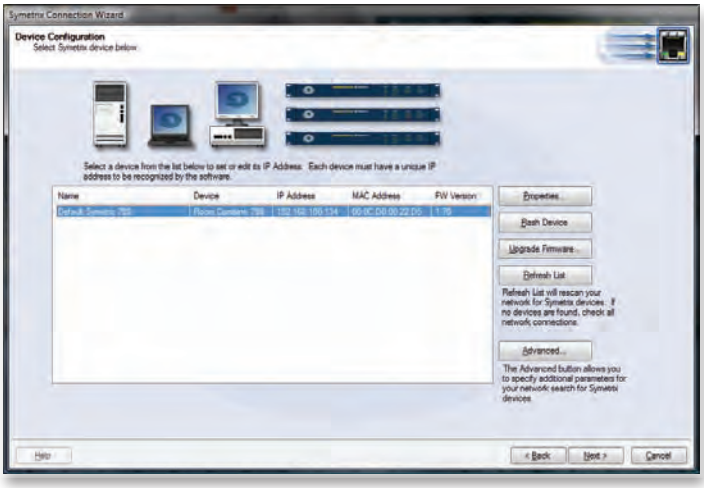
Select the option that best represents your network topology and then click the Next button. (Refer to Network Configuration for further help.)

In the event that your computer has multiple Network Interfaces Cards (NICs), the following screen will allow you to select the network you wish to search for 788 devices. Note that only valid NICs will be selectable (those with a network connection and valid IP address).



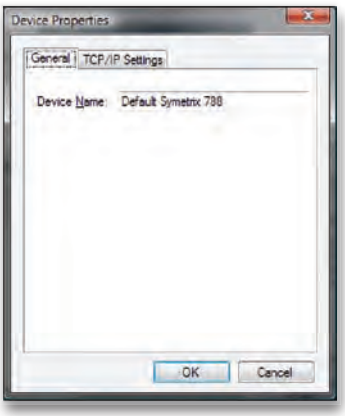
Select the NIC you wish to use and then click the Next button.

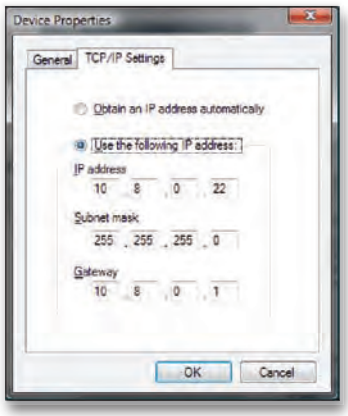
The following screen displays a list of 788 devices found on your network. At the very least, you can select the device you wish to connect to and click the Next button. However, there are a few more functions on this screen worth mentioning...



Properties:

The (device) Properties dialog allows you to give a device a unique name to help identify it. It also allows you to switch the unit between dynamic (DHCP) IP addressing and static IP addressing.





Flash Device:

Clicking the Flash Device button will cause all LEDs on the front of the device to flash for a short time. This can be helpful to distinguish units which have the same or similar names.

Upgrade Firmware:

The 788 Firmware must be matched with the version of the Room Combine Application you are using. The correct firmware for the Application is always distributed with the Application and installed on your hard drive by the Application's installer. If there is ever any doubt, follow the instructions in the Upgrade Firmware topic to check your firmware version or to upgrade the firmware.

Refresh List:

Clicking the Refresh List button will re-scan the network for devices and refresh the list of devices. If at first your device is not located, double-check network connections and that the device(s) is/are powered on. Then click the Refresh List button.

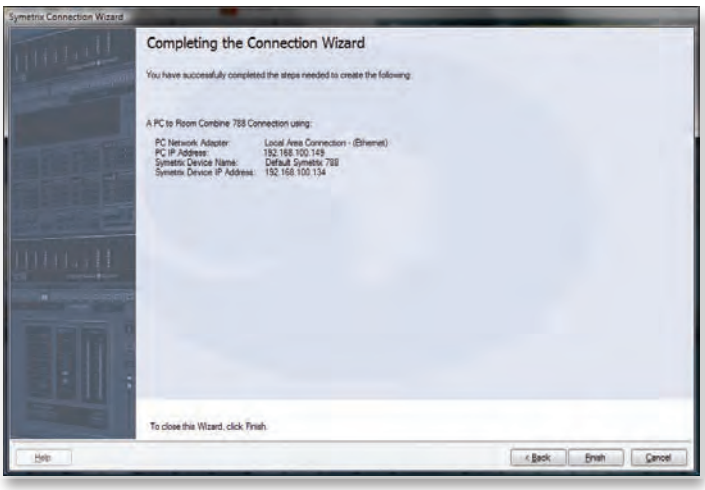
Advanced:

The Advanced dialog will allow you to broaden your network search for devices allowing you to manually designate a Search IP address base and Search subnet mask. These options can be used to search a network for devices (through a router) other than the one your computer is currently on.

General Notes:

1. The 788 boots up with DHCP enabled by default. This means that as soon as you connect it to a network, it will look for a DHCP server in order to obtain an IP address. If a DHCP server is present, the 788 will get its IP address from it. This process may take several minutes. With your PC attached to the same network and thus getting its IP address from the same DHCP server, all will be ready to go.
2. If your network does not have a DHCP server, the 788 will not be able to obtain an IP address. While waiting, the 788 will default to a private IP address in the range of 169.254.x.x where x.x is the last four alphanumeric characters of the 788's MAC address. The 788's MAC address can be found on a sticker on the bottom of the 788. When there is no DHCP server present to assign IP addresses to either the 788 or your PC, you may need to configure your PC with a static IP in the range of 169.254.x.x with a Subnet Mask of 255.255.0.0 in order to communicate with the 788 in a direct connect mode. However, if your PC is using the default network settings, it should also have automatically self-assigned a similar private IP address in the range of 169.254.x.x, and if this is the case, you should be able to connect to the 788 directly. Even if the PC's default settings have been changed, the 788 will try to establish communications by setting up appropriate routing table entries to reach devices with 169.254.x.x addresses.
3. In the case of the first two methods (direct connection and indirect connection), the 788 software will attempt to set-up appropriate routing table entries for a seamless connection regardless of the IP addresses of your PC and 788. However, under Windows® Vista, administrative privileges are required to allow the 788 software to modify the routing table. For best results, launch the 788 software while logged in as an administrator, or run choose to run the software as an administrator. **Note:** To run a program as the Administrator under Vista, right click on the program's icon or shortcut and choose "Run as administrator".
4. The 788 will display its current IP address, subnet mask, and gateway as well as other useful information on the front panel display when in Status mode. To enter Status mode, hold down the Menu button for 5 seconds. Then the up and down arrow keys can be used to move between various displays. This information may be useful for troubleshooting.

Upon clicking the Next button, you are finished with the Connection Wizard. A summary of your actions appears on the following screen.



Click the Finish button to exit the Connection Wizard. You are now ready to Go Online.

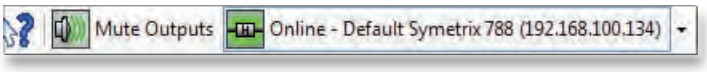
Going Online

Once you have completed the Hardware Connections, connected your network (refer to Network Configuration), launched the 788 software and run the Connection Wizard, you should be ready to Go Online with your device.

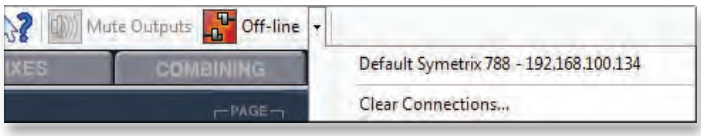
The process of Going Online with a device can go one of two ways: either you are transferring a file currently open on your computer to the device, or you are transferring a file on the device to your computer. Either way, the 788 software must "know" about the device first, which is what the Connection Wizard accomplishes.

After you have successfully run the Connection Wizard and determined the unit you will be going online with, you can click the "Offline" button in the toolbar to toggle it to "Online". The following dialog will appear offering you the two choices detailed in the previous paragraph:

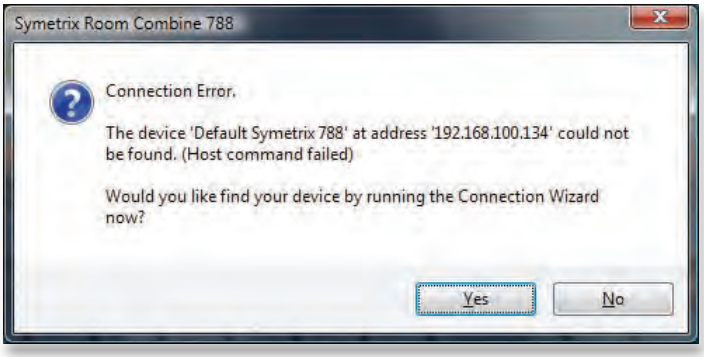
Make your choice and click OK. You are now online and the "Online/Offline" button in the toolbar will display "Online" as well as the device's name and IP address with which you are online:



Additionally, the 788 software keeps a list of recently connected devices which you can use to quickly get online with a specific unit - if you already know the name and/or IP address of the unit you wish to connect to and that unit is currently available on the network:



If the specified unit can not be found on the network, you will be prompted to run the Connection Wizard to discover a unit to go online with:

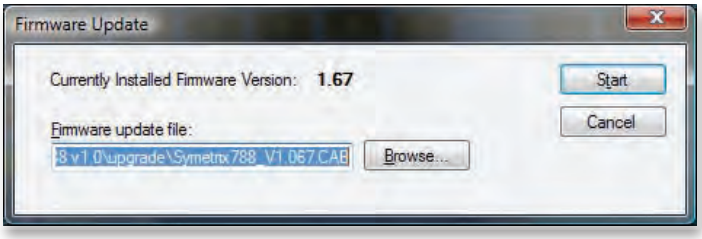


Upgrade Firmware.

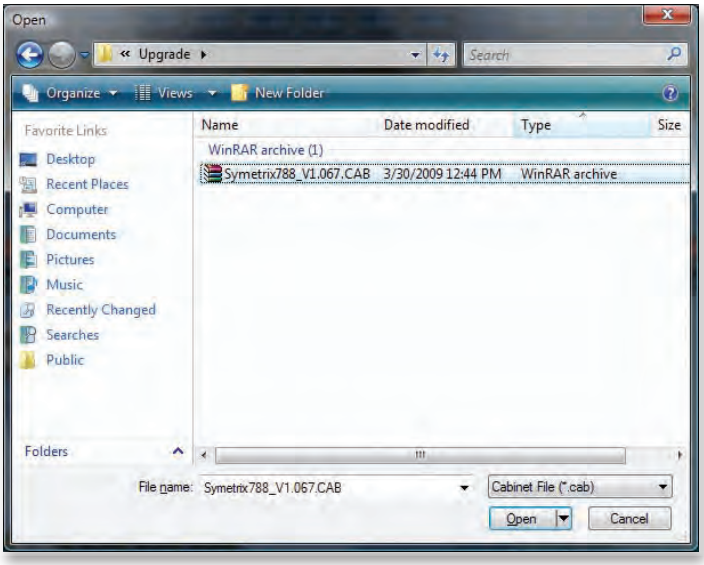
IMPORTANT: The 788 Firmware must be matched with the version of the Room Combine Application you are using. The correct firmware for the Application is always distributed with the Application and installed on your hard drive by the Application's installer. If there is every any doubt, follow the instructions below to check your firmware version or to upgrade the firmware.

You must be online with a unit to upgrade the firmware. To upgrade the firmware, launch the Room Combine 788 Application and go online to access the Upgrade Firmware dialog found in the Tools pull down menu.

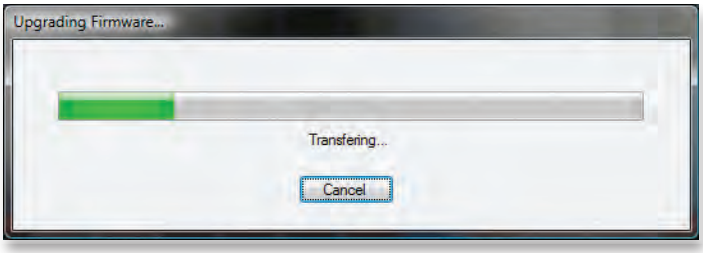
From the Firmware Update dialog, click Browse... to locate the upgrade .cab file.



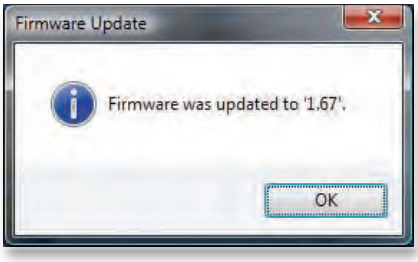
Select the firmware upgrade .cab file and click Open.



Click the Start button to begin the process and a status bar will show progress of the upgrade.



When finished a confirmation window will appear. Click OK to complete the Firmware Upgrade process.



Architects and Engineers Specifications

The device shall provide eight inputs that are selectable as line or mic level with phantom power and four line level inputs. All signal processing, mixing and routing functions (including input gains) shall be controllable via software. Audio inputs and outputs shall be accessed via rear panel Phoenix connectors.

The Graphical User Interface (GUI) software shall be installer programmable using the Windows® XP or Vista operating system. Computer connection and control shall be via the device's rear panel Ethernet connector. The GUI shall provide display and control of all signal processing and configuration functions including, but not limited to: Input and Output Gain • Highpass Filtering • Lowpass Filtering • Parametric Equalization • Compression • Limiting • Automatic Gain Control • Feedback Elimination • Automatic Mixing • Signal Routing • Delay • Polarity. The Room Combining layout, relationship, and logic shall be configured by a Wizard. This Wizard shall also configure all input routing including paging signal as required.

The front panel shall include input and output signal level indicators as well as indicators for POWER, NETWORK, and ARC. Additionally, a front panel LCD shall display certain system parameters and may be programmed as an ARC for custom user control via the front panel UP, DOWN and MENU buttons.

External control shall include preset selection as well as I/O level control and muting, and shall be via industry-standard CAT5 cable with RJ45 connectors using the optional ARC Wall Panel remote controls or the front panel. All program memory shall be non-volatile and provide program security should power fail. The device shall provide an on board real time clock to facilitate automatic, timed changing of presets. A rear panel RS-232 port is provided for additional 3rd party control options.

Audio conversion shall be 24-bit, 48 kHz. The dynamic range of the processor shall not be lower than 110 dB A-weighted.

The device shall have an IEC power input socket. The device shall meet UL/CSA and CE safety requirements and comply with CE and FCC Part 15 emissions limits. The device shall be RoHS compliant. The chassis shall be constructed of cold rolled steel and moulded plastic, and mount into a standard 19" 1U EIA rack. The device shall be a Symetrix model Room Combine 788.

Declaration of Conformity

We, **Symetrix Incorporated**, 6408 216th St. SW, Mountlake Terrace, Washington, USA, declare under our sole responsibility that the product:

Room Combine 788

to which this declaration relates, is in conformity with the following standards:

UL 60065, cUL 60065, IEC 60065, EN 55103-1, EN 55103-2, FCC Part 15 compliant

The technical construction file is maintained at:

Symetrix, Inc.

6408 216th St. SW

Mountlake Terrace, WA, 98043 USA

The authorized representative located within the European Community is:

World Marketing Associates

P.O. Box 100

St. Austell, Cornwall, PL26 6YU, U.K.

Date of issue: May 31, 2009

Place of issue: Mountlake Terrace, Washington, USA

Authorized signature:

Dane Butcher, President, **Symetrix Incorporated.**

The Symetrix Limited Warranty

Symetrix, Inc. expressly warrants that the product will be free from defects in material and workmanship for two (2) years from the date the product is shipped from the factory. Symetrix's obligations under this warranty will be limited to repairing or replacing, at Symetrix's option, the part or parts of the product which prove defective in material or workmanship within two (2) years from the date the product is shipped from the factory, provided that the Buyer gives Symetrix prompt notice of any defect or failure and satisfactory proof thereof. Products may be returned by Buyer only after a Return Authorization number (RA) has been obtained from Symetrix. Buyer will prepay all freight charges to return the product to the Symetrix factory. Symetrix reserves the right to inspect any products which may be the subject of any warranty claim before repair or replacement is carried out. Symetrix may, at its option, require proof of the original date of purchase (dated copy of original retail dealer's invoice). Final determination of warranty coverage lies solely with Symetrix. Products repaired under warranty will be returned freight prepaid via United Parcel Service by Symetrix, to any location within the Continental United States. Outside the Continental United States, products will be returned freight collect.

The foregoing warranties are in lieu of all other warranties, whether oral, written, express, implied or statutory. Symetrix, Inc. expressly disclaims any IMPLIED warranties, including fitness for a particular purpose or merchantability. Symetrix's warranty obligation and buyer's remedies hereunder are SOLELY and exclusively as stated herein.

This Symetrix product is designed and manufactured for use in professional and studio audio systems and is not intended for other usage. With respect to products purchased by consumers for personal, family, or household use, **Symetrix expressly disclaims all implied warranties, including but not limited to warranties of merchantability and fitness for a particular purpose.**

This limited warranty, with all terms, conditions and disclaimers set forth herein, shall extend to the original purchaser and anyone who purchases the product within the specified warranty period.

Symetrix does not authorize any third party, including any dealer or sales representative, to assume any liability or make any additional warranties or representation regarding this product information on behalf of Symetrix.

This limited warranty gives the buyer certain rights. You may have additional rights provided by applicable law.

Note: Some Symetrix products contain embedded software and may also be accompanied by control software intended to be run on a personal computer. Said software is specifically excluded from this warranty.

Limitation of Liability

The total liability of Symetrix on any claim, whether in contract, tort (including negligence) or otherwise arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair, replacement or use of any product will not exceed the price allocatable to the product or any part thereof which gives rise to the claim. In no event will Symetrix be liable for any incidental or consequential damages including but not limited to damage for loss of revenue, cost of capital, claims of customers for service interruptions or failure to supply, and costs and expenses incurred in connection with labor, overhead, transportation, installation or removal of products, substitute facilities or supply houses.

Servicing Your Symetrix Product

If you have determined that your Symetrix product requires repair services and you live outside of the United States please contact your local Symetrix dealer or distributor for instructions on how to obtain service. If you reside in the U.S. then proceed as follows:

Return Authorization

At the Symetrix factory, Symetrix will perform in-warranty or out-of-warranty service on any product it has manufactured for a period of three (3) years from date of discontinued manufacture.

Before sending anything to Symetrix, please contact our Customer Service Department for a Return Authorization (RA) number. The telephone number is +1.425.778.7728. Additionally, support is available via the web site: http://support.SymetrixAudio.com.

In-warranty Repairs

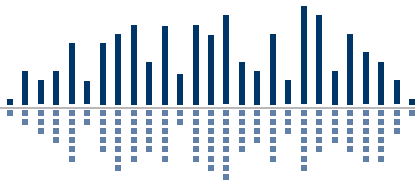
To get your Symetrix product repaired under the terms of the warranty:

1. Call us for an RA number (have the serial number, shipping and contact information and description of the problem ready).
2. Pack the unit in its original packaging materials.
3. Include your name, address, daytime telephone number, and a brief statement of the problem.
4. Write the RA number on the **outside** of the box.
5. Ship the unit to Symetrix, freight prepaid. We do not accept freight collect shipments.

Just do these five things, and repairs made in-warranty will cost you only one-way freight charges. We'll pay the return freight. If you do not have the factory packaging materials, we recommend using an oversize box. Wrap the unit in a plastic bag, surround it with bubble-wrap, and place it in the box surrounded by Styrofoam peanuts. Be sure there is enough clearance in the box to protect the rack ears. We won't return the unit in anything but Symetrix packaging for which there will be a nominal charge. If the problem is due to operator misuse or error, charges for parts and/or labor may be applied. In any event, if there are charges for the repair, you will pay for the return freight. All billing must be prearranged at the time the RA is issued unless you have made other arrangements. Repaired units will not be returned until payment terms have been arranged. SYMETRIX WILL NOT BE RESPONSIBLE FOR REPAIRED UNITS LEFT UNPAID MORE THAN 60 DAYS FROM DATE OF REPAIR. UNITS LEFT MORE THAN 60 DAYS MAY, WILL BECOME THE PROPERTY OF SYMETRIX, INC..

Out-of-warranty Repairs

If the warranty period has passed, you'll be billed for all necessary parts, labor, packaging materials, and freight charges. Please remember, you must call for an RA number before sending the unit to Symetrix.



Symetrix

The Vision Behind the Sound

Engineered by Symetrix

Item No. 53-0040

Room Combine 788 Quick Start Guide

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