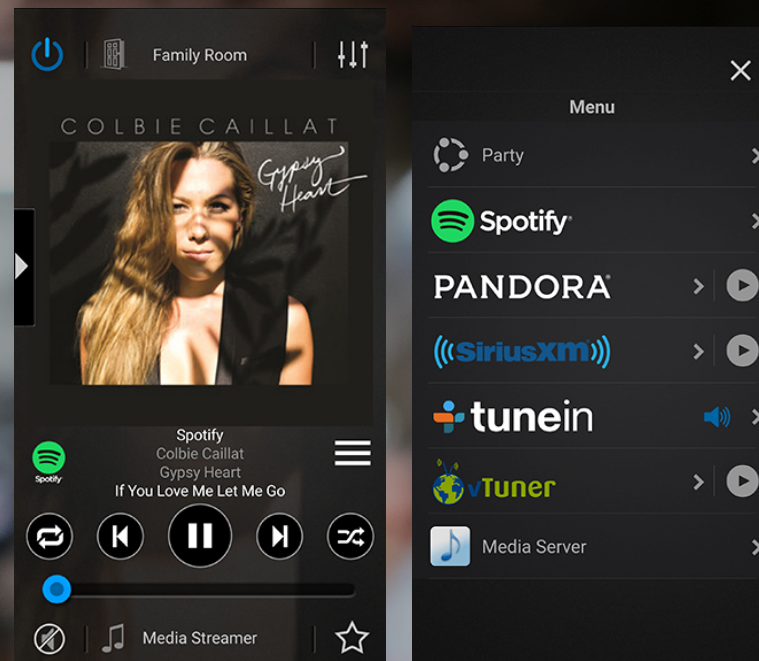
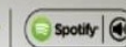


MCA-88X

8 Source / 8 Zone Controller Amplifier
with Built-In XSource Music Streamer



MCA Advanced Multi-zone Controllers



MCA-88X

8-source/8-zone Controller Amplifier Streamer

XZone70V Streaming Mixer Amplifier

XSTREAM™

Next Generation of Streaming Audio



Built-in Support



Apple AirPlay



Protecting Profits for the CI

On-Line Sales Killer / Lockdown Feature

- All Russound gear in the RCI program is shipped locked
- Will not operate until an RCI connects and unlocks the system
- On power up, the interface indicates that the 88X must be unlocked
 - The message will contain the IP address of the controller



Protecting Profits for the CI

Are you RCI Certified?

- Two things must be done that require an internet connection:
 - 1. Enter valid Russound Certified Installer credentials
 - Shipped locked / must be unlocked & configured by an RCI
 - 2. Check/Download latest firmware update using Web Config
 - Note: If you plan on installing this on a job site without internet access, configure it at your shop with internet access BEFORE you take it to the job site



MCA-88X Controller Amplifier Streamer

New Features C-Series Controllers

Web-based Programming

Web configuration with easy access using smartphone, tablet, or laptop

Digital Audio Inputs

3 SPDIF coaxial and 1 Toslink optical connection for digital sources

Bluetooth Extension Input

Connect Russound BTC-1X



RCI credentials required to activate and install this product



Network Connection

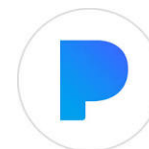
Programming performed over IP only

Factory Reset Button

A 3-second press and hold resets network to DHCP. A 10-second press and hold deletes all configuration information and locks the unit.



Spotify



MCA-88X Controller Amplifier Streamer

Key Features

- Features built-in XStream™ music streamer for playing content from the cloud, home network, tablets and phones
- Zones 1 – 6, 40W per ch (Class D) (7 & 8 pre amp out only)
- 8 analog inputs/3 digital input coax/1 optical input
- Audiophile quality DAC's support Hi-Res Audio (24 bit/192kHz)



MCA-88X Controller Amplifier Streamer

Key Features

- Fixed/Variable Line Out for All Zones
- RS232 and IP Controllable
- 6 Routed IR Outputs, plus 1 common
- Control via intelligent IR learning



MCA-88X Controller Amplifier Streamer

Key Features

- Supports Bluetooth® with optional BTC-1X
- Expandable (x6) to up to 48 Zones (1-88X w/5-88's)
- Paging system support with dedicated 12v trigger input
- Home Theater 12v trigger in/out for shared sources





MCA-88X Controller Amplifier Streamer

Web Config Features

- Allows the installer to connect via its IP address using phone, tablet, or laptop and configure the entire system
- Designed to be used with any internet browser
- The installer now has the ability to get a system up and running right from their phone or tablet, quickly and easily

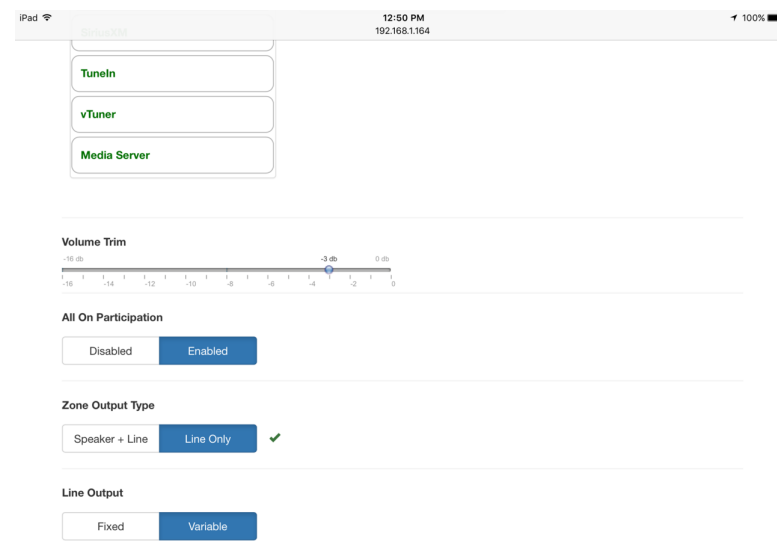
MCA-88 Status Administration Configuration Support		
Status		
	Controller	
Version	01.01.00	
MAC	00:21:C7:FF:03:F0	
DHCP	enabled	
IP	192.168.1.7	
Netmask	255.255.255.0	
Gateway	192.168.1.1	
DNS	192.168.1.1	

MCA-88X Status Administration Configuration Support			
Status			
	Controller		Streamer
Version	02.00.12		20110818.9421.3666
MAC	00:21:C7:04:00:11		18:cf:5e:46:1f:c4
DHCP	enabled		enabled
IP	192.168.1.15		192.168.1.17
Netmask	255.255.255.0		255.255.255.0
Gateway	192.168.1.1		192.168.1.1
DNS	192.168.1.1		192.168.1.1

MCA-88X Controller Amplifier Streamer

Web Config Features

- Assign Zone and Source names
- Network configuration (DHCP/static IP)
- Firmware Updates
- Zone Volume Trim
- Enable/Disable Zone “All On” Participation
- Source Type and Volume Trim
- Switch between Digital and Analog inputs

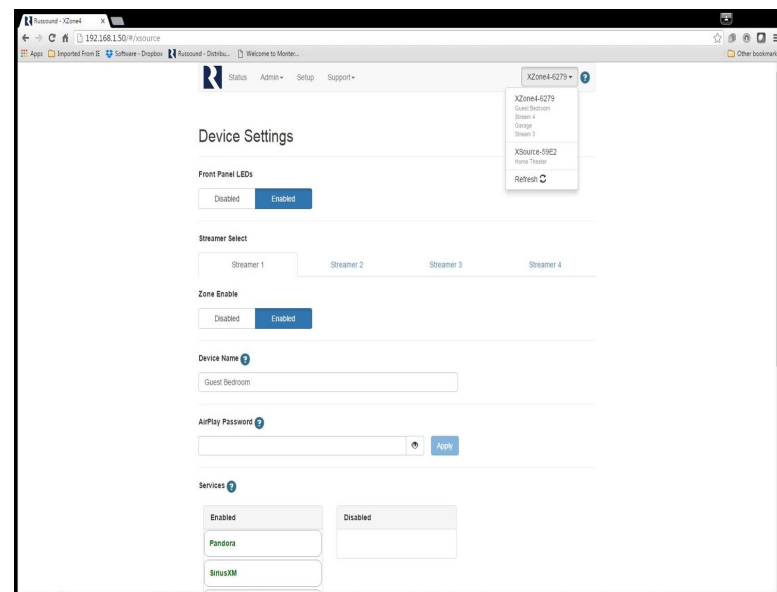


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MCA-88X Controller Amplifier Streamer

Web Config Features

- IR Source Programming
- Learned IR Programming
- Macro Setup
- Save/Load configuration files
- Zone Page enable/disable
- Keypad button configuration
- Power Management configuration
- Source and Zone Linking
- Backup and restore



MCA-88X Controller Amplifier Streamer

Advanced Configuration Options

- Zone and Source Names - a list of predefined names are available
- Custom naming is also possible
- Source Exclusion - limit the sources available to a particular zone
- Party Mode Participation - defines whether a zone can participate



MCA-88X Controller Amplifier Streamer

Advanced Configuration Options

- Zone and Source Linked Groups - two groups of each type are allowed per controller
- Groups share source selection and party mode participation
- All ON Participation - defines whether or not a zone will respond to the All ON command



MCA-88X Controller Amplifier Streamer

Advanced Configuration Options

- Adjust Bass, Treble, Balance, Loudness and Turn On Volume initial settings per audio zone
- IR Keycode Learning - allows IR codes to be learned, saved, and managed
- Page Input on Source 8 - assigns Source 8 as a paging input



MCA-88X Controller Amplifier Streamer

Advanced Configuration Options

- Page Participation - defines whether a zone will respond to a page event
- Page Volume - sets the volume of a page event in each zone
- Both options set in Web Config



MCA-88X Controller Amplifier Streamer

Power Management

- Automatically turns the sources on/off when the system is in use or standby or the home theater trigger has a 12VDC signal present
- Initialized when the first KP/zone is turned on, then listens for audio
- If no audio is detected, an installer determined “Power On” IR command or macro is sent to that source to turn it on



MCA-88X Controller Amplifier Streamer

Controller / Keypad Connection

- Each dedicated keypad connects to a keypad port near the top left
- These RJ-45 ports support MDK-C5, MDK-C6 and SLK-1 keypads



Distributed Audio Cabling Standard

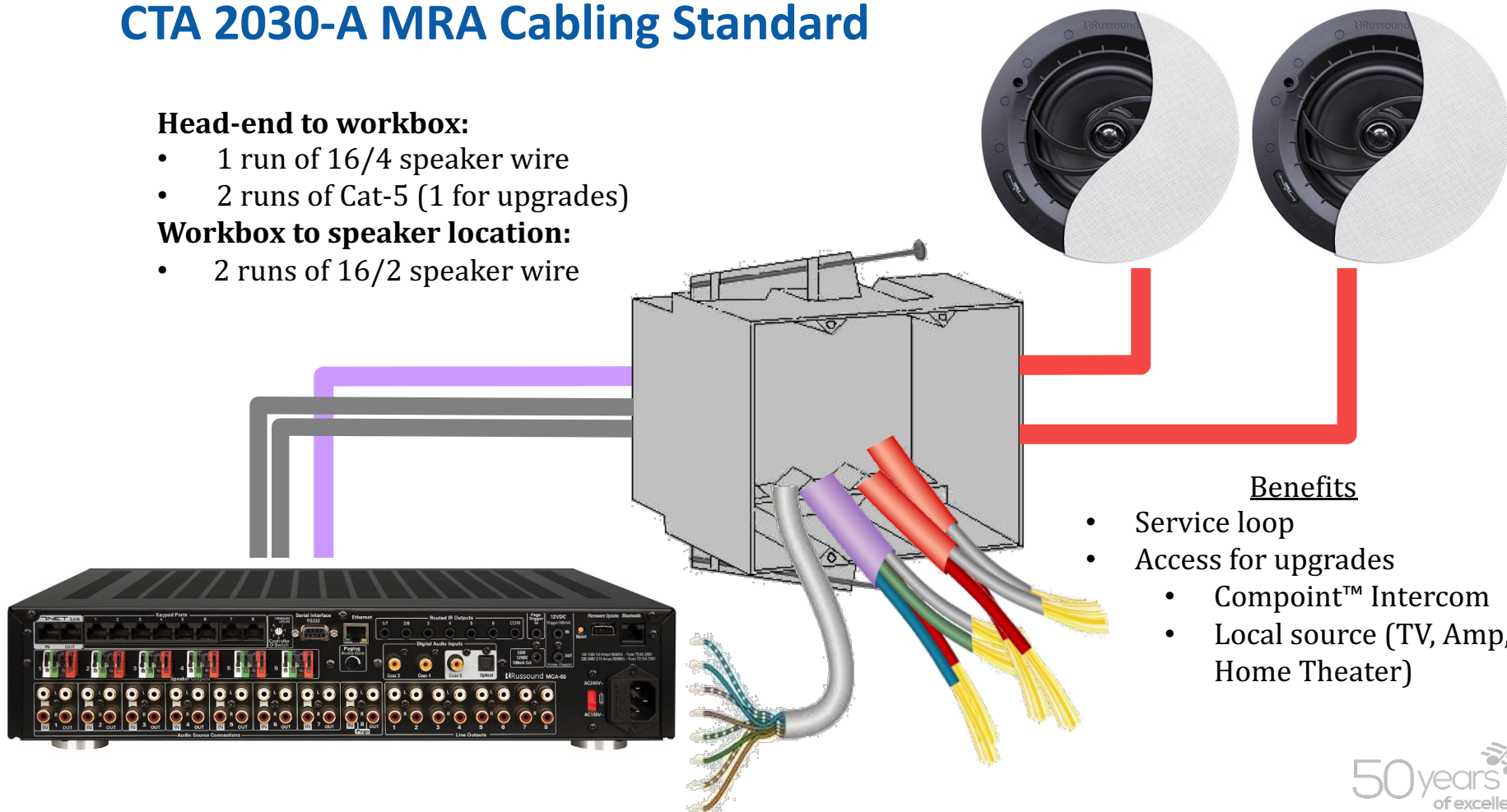
CTA 2030-A MRA Cabling Standard

Head-end to workbox:

- 1 run of 16/4 speaker wire
- 2 runs of Cat-5 (1 for upgrades)

Workbox to speaker location:

- 2 runs of 16/2 speaker wire



Benefits

- Service loop
- Access for upgrades
 - Compoint™ Intercom
 - Local source (TV, Amp, Home Theater)

MCA-88X System Control Options

Advanced Multi-zone System Control



MyRussound App



XTS
Wall-mounted
Color Touchscreen



MDK-C6
Multiline Display
Keypad



SLK-1
Single Line
Keypad



USRC
Universal Remote Control

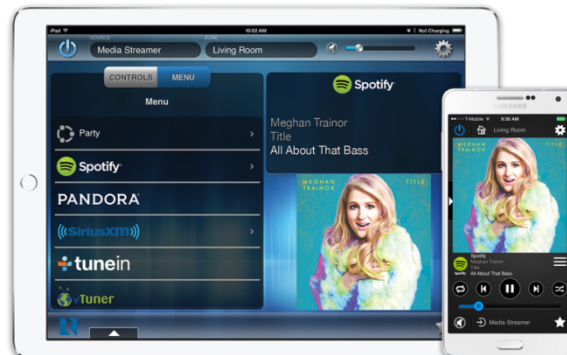
Wired & Wireless Control Options



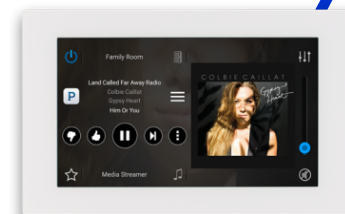
SLK-1



MDK-C6



APP



XTS



MDK-C6 Keypad

- All On / All Off
- DND
- Party Mode
- F1 & F2 Favorites
- AUX IR Input
- Plus...
- Built in clock
 - Sleep timer
 - Alarm clock
 - Snooze feature

Home Screen



MDK-C6 Keypad

UL/CSA approved doublegang at least 32 cu. in.



Keypad installation

- 1 keypad inside the workbox
- Needs 1 run of Cat-5

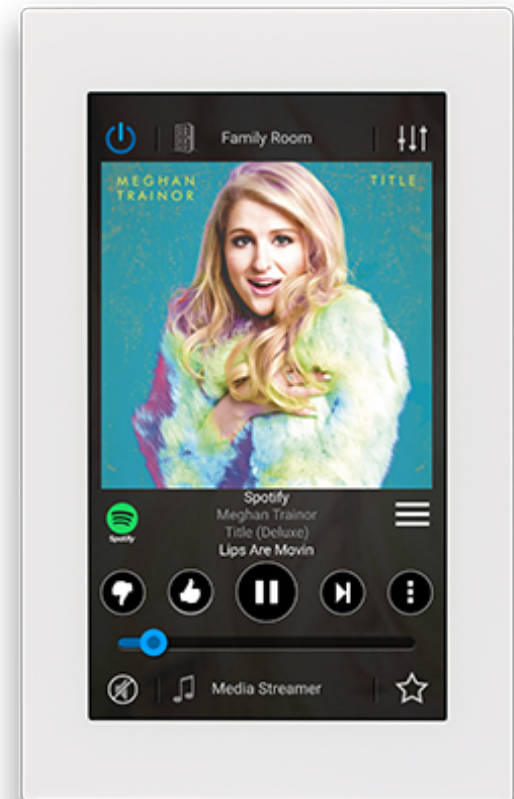
SA-ZX3 Keypad Splitter



XTS Network Touchscreen

The In-Wall App! XTS Touchscreen

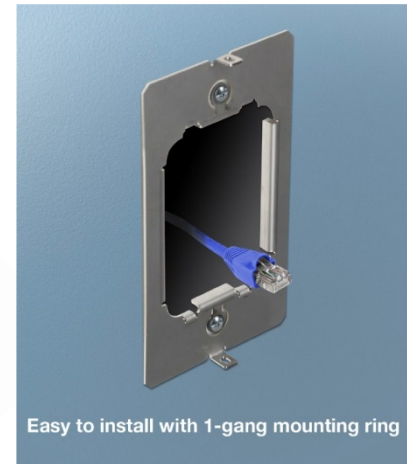
- Elegant, low-profile design
- 4.7" (11.9 cm) high res QHD LCD display
- Powerful Cortex-A9 Processor
- Runs the MyRussound™ App in a permanent location on the wall
- Gigabit Ethernet, with PoE
- Supports all MCA-Series/C-Series controllers and XStream systems



XTS Network Touchscreen

In-Wall App! XTS Touchscreen

- Included in the box:
 - XTS mounting bracket
 - 2 screws
- Recommend low profile P-ring or electrical box
- Must be flush to the wall surface
- Install in Portrait or Landscape orientation



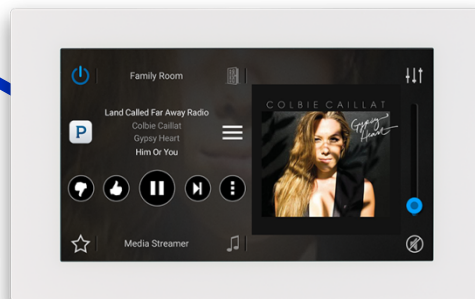
XTS Network Touchscreen

In-Wall App! XTS Touchscreen

- The XTS is an IP-Networked Device
- Connects network device (*not* the keypad port on the MCA)
- Connects to the same network as the Russound controller



**Do Not Connect
to the MCA**



**Connect to the
network**

XTS Network Touchscreen

Networking & Power Options

Connects to a PoE power injector
OR
802.3af (standard PoE) switch



PoE Injector



8-Port Gigabit PoE Switch

Installations where using PoE power is not possible:

- o Power Supply 12VDC @ 2Amp (not included)

MCA-88X Controller Amplifier Streamer

Speaker Output Connections

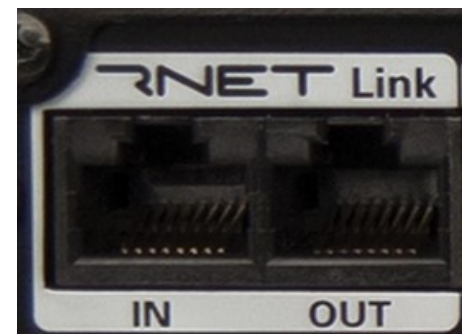
- Digital Amplifiers zones 1-6 (2X40W per ch @8Ω X 6)
- High-current digital amplifiers (8Ω recommended)
- Line level outputs are available for all 8 zones
 - Can be configured for fixed or variable output



MCA-88X Controller Amplifier Streamer

RNET Sources (SMS, ST, BGK...)

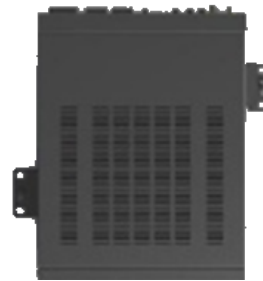
- RNET Link ports are used to connect RNET sources
- CAT-5e cable (18" max) from either RNET Link ports on the controller to either RNET Link ports of the RNET source
- Bi-directional In/Out (labeled for convenience)



MCA-88X AM/FM Tuner Option

ST-1 AM/FM Tuner Option

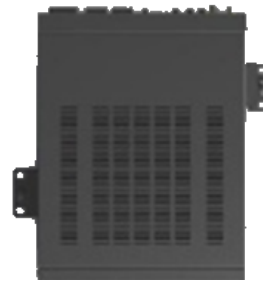
- Internal tuner, on previous controllers, was replaced with a Bluetooth® input extension BTC-1X receiver
- For AM/FM, add our ST-1 component tuner



MCA-88X AM/FM Tuner Option

ST-1 AM/FM Tuner Option

- AM/FM tuner with RDS
- 6 Banks & 6 Presets
- Built-in 110-240 VAC power supply
- Great solution for adding a tuner to the 88X



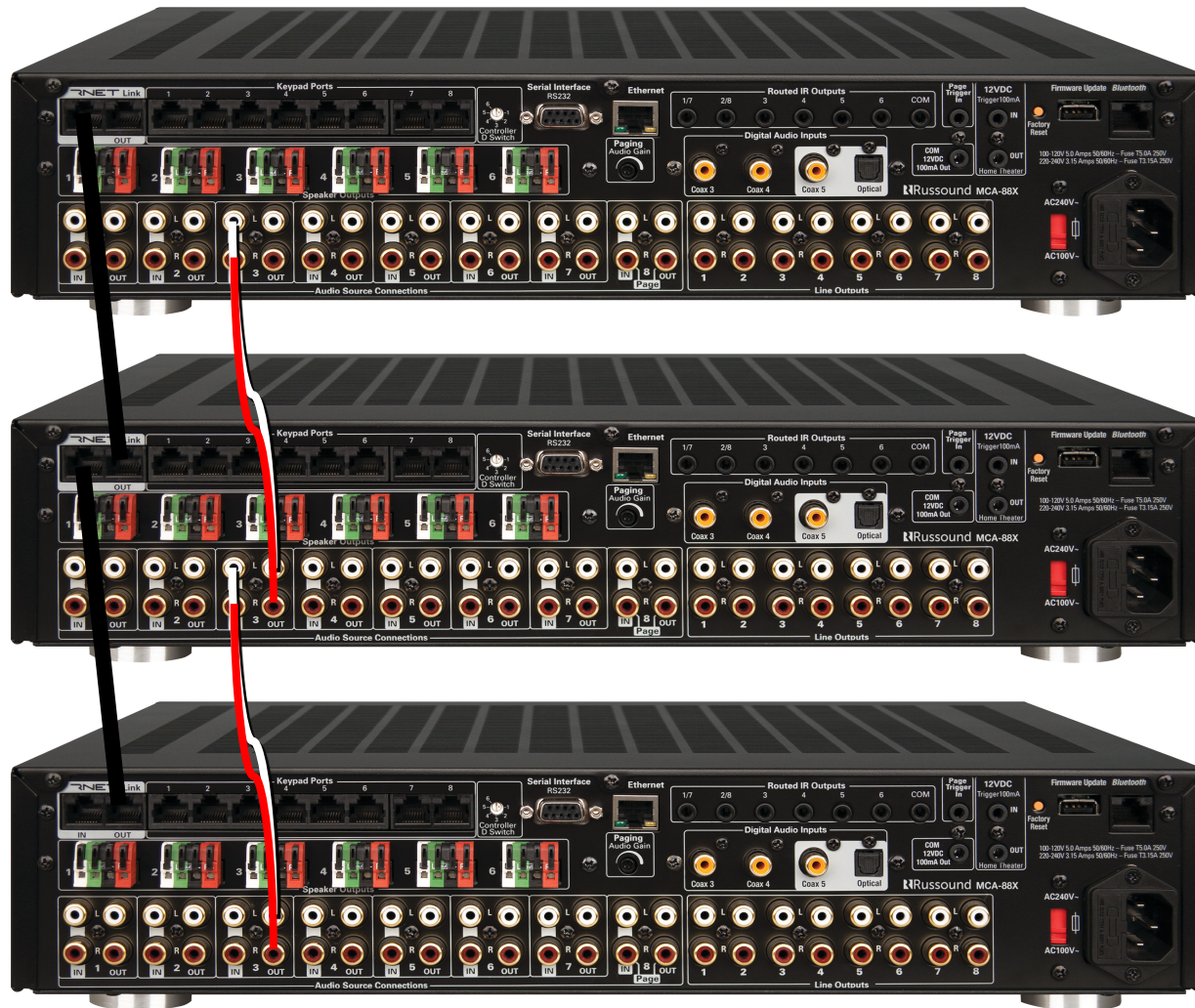
MCA-88X Controller Amplifier Streamer

Source Audio Connections

- Source inputs 1 - 8 are signal sensing stereo audio inputs
 - “Listen” for audio from all connected sources
- These sources can be global sources, or local sources
- Source outputs are buffered loop outputs
 - Loop out for multiple controllers
 - What goes in is what comes out



MCA-88X Controller Amplifier Streamer



MCA-88X Controller Amplifier Streamer

Source Audio Connections

- By default:
- Bluetooth is configured to be source 1
- Streamer is configured to be source 2
 - Additional XSource streamers start at source 3 input



MCA-88X Controller Amplifier Streamer

Primary Zone

- Allows a zone to serve as the default zone for a source
- Music services can instantly turn on the Primary Zone and start playing music from your phone
- Default, Zone 1 is Primary Zone for the built-in XStream streamer



MCA-88X Controller Amplifier Streamer

Bluetooth (Optional BTC-1X)

- Optional Bluetooth module can be located up to 300 feet away
- Connection takes up Source #1
 - If not being used, Source #1 can be configured for a different analog source
- Primary Zone can be set as the default zone for Bluetooth



MCA-88X Controller Amplifier Streamer

Digital Audio Inputs

- Digital source inputs, for both coaxial and optical audio connections
- Sources 3, 4, and 5 are available as either analog or digital inputs
- Designate whether to use the analog or the digital connection



MCA-88X Controller Amplifier Streamer

Digital Audio Inputs

- Use only one type of connection for each source (Coax or Optical)
- Built-in XStream music streamer for popular streaming services
- Default, source 2 is configured for the internal XSource music streamer



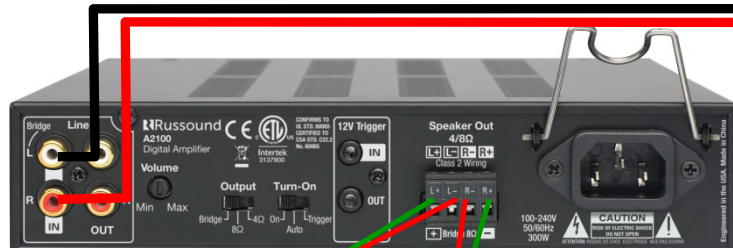
MCA-88X Controller Amplifier Streamer

ZONE AMPLIFIERS

- Fixed / Variable Line Outputs all zones
- Variable (zone KP volume control) or Fixed (for outboard amp w/ VC's)
 - Fixed, zone audio signal is always on
- Zones 7 and 8 are pre amp out only



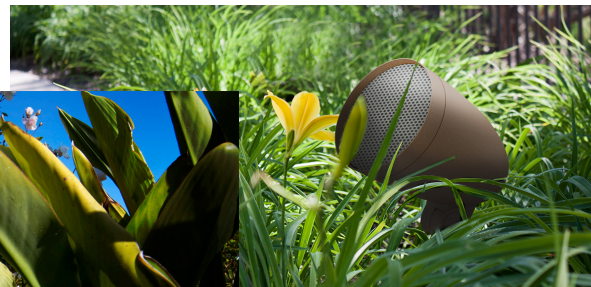
NEW A2100 Power Amplifier



- Perfect solution to power zones 7 & 8 on your MCA-88X
- Mount 2 side x side in 1 single rack space w/included brackets

The XZone70V - Constant Voltage / Mono

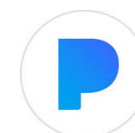
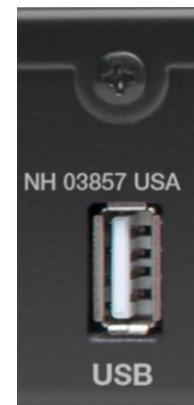
Creating Outdoor Zones Without Common Restrictions



XZone70V Streaming Mixer Amplifier



- 300 Watt Output / 70v Operation
- Built-In XStream Music Streamer
- USB Port for Flash/Hard Drive Audio
- Built-In support for Apple Airplay



XZone70V Streaming Mixer Amplifier



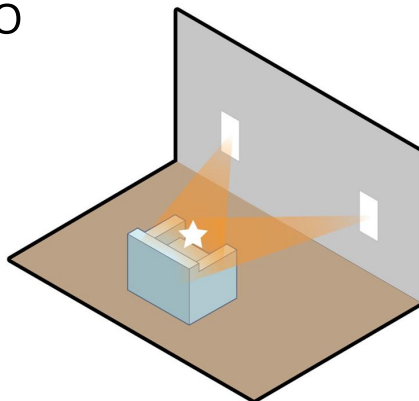
- Mic Input (Phantom Power Support)
- 3.5mm Audio Source Input
- Easy Browser-based Configuration
- Flexible Mounting Options



Go Mono not Stereo

Mono

- For stereo imaging to be effective, you need to be in the sweet spot
- In outdoor locations, where is the sweet spot?
- Mono will provide more even coverage
- Put the sound where the people are...
- Go mono



Transformers & Tap Settings

Step-Up Transformers

- Amplifiers use *step-up* transformers to create constant voltage (70V/100V)
- Constant voltage is sent down a single speaker wire

Step-Down Transformers

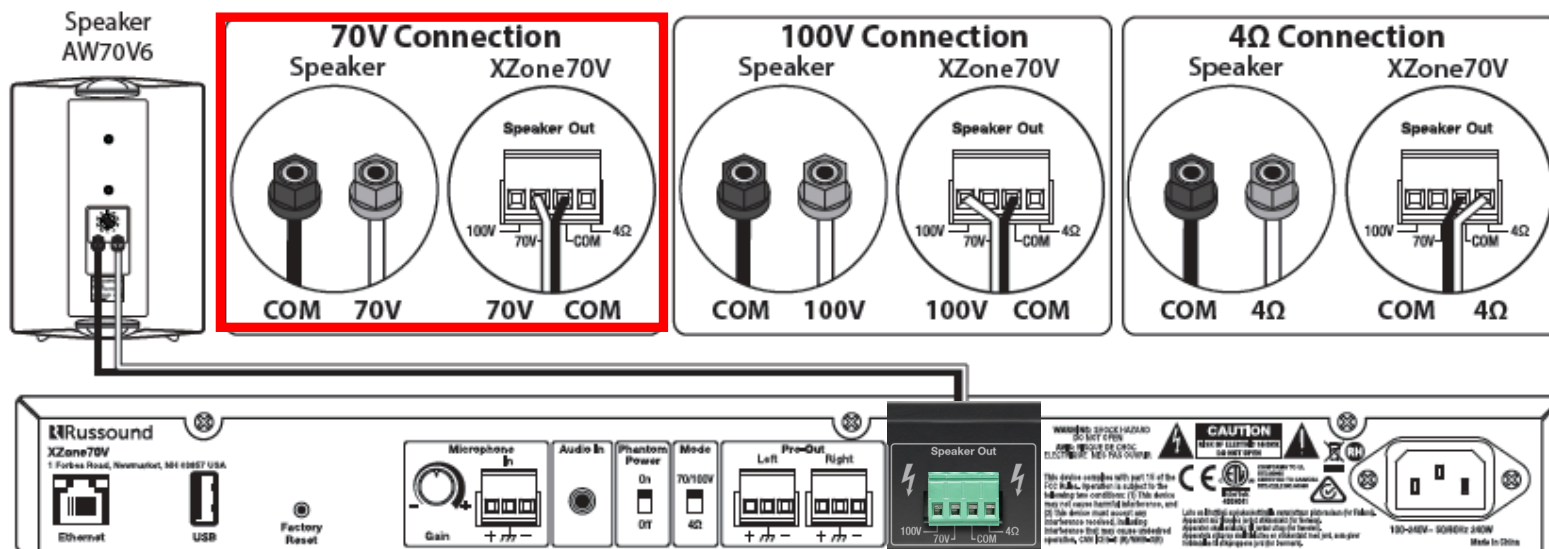
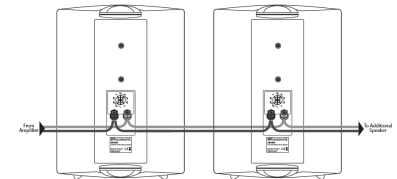
- Speakers use *step-down* transformers to budget that voltage down to a usable level
 - Various tap settings allow the installer to adjust the output at each speaker



Connecting 70V Speakers

Speaker Connections

- Wiring is much simpler than a traditional Low Z residential amplifier
- All connections are made in parallel
- Multiple speakers can be run on a single speaker wire



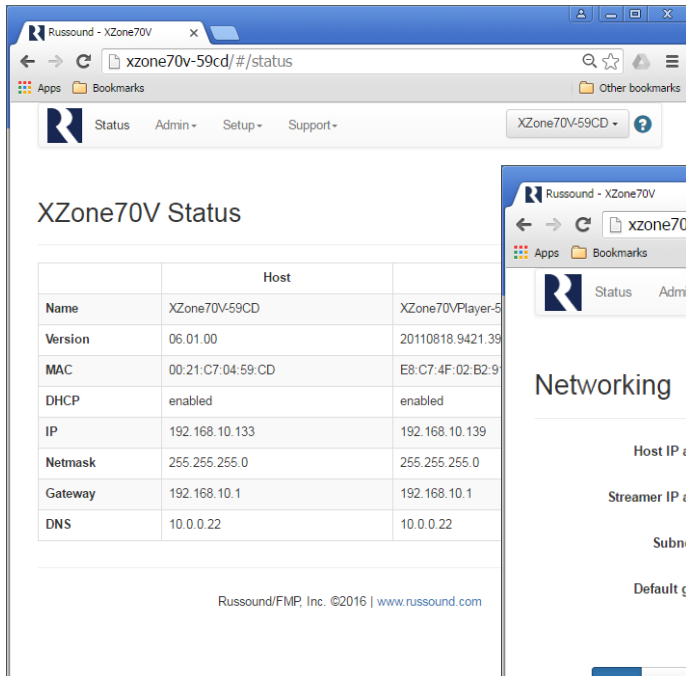
Designing a Typical 70V Zone

16 Speaker Example

- You have an XZone70V / 300W amplifier
- You have 16 speakers tapped at 15 watts each
- 16 Speakers X 15watts each = 240 watt load
- 60 watts of reserve power (headroom)
- 20% recommended headroom (60w)
- More speakers at lower tap settings / avoids hot spots / provides even coverage / make more \$



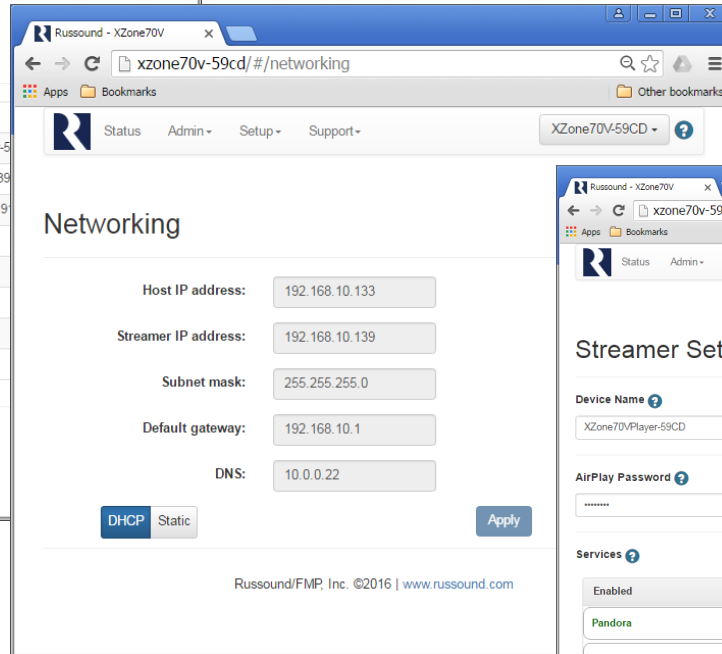
Web Config for Your Outdoor Zone



XZone70V Status

	Host	
Name	XZone70V-59CD	XZone70VPlayer-5
Version	06.01.00	20110818.9421.39
MAC	00:21:C7:04:59:CD	E8:C7:4F:02:B2:9
DHCP	enabled	enabled
IP	192.168.10.133	192.168.10.139
Netmask	255.255.255.0	255.255.255.0
Gateway	192.168.10.1	192.168.10.1
DNS	10.0.0.22	10.0.0.22

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Networking

Host IP address: 192.168.10.133

Streamer IP address: 192.168.10.139

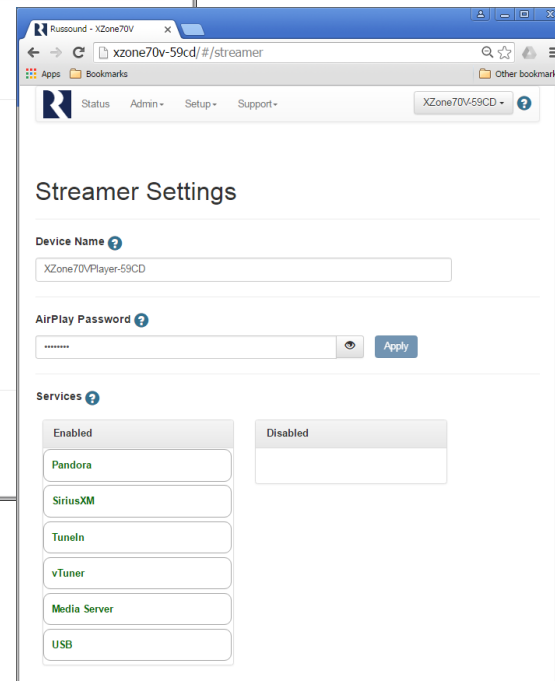
Subnet mask: 255.255.255.0

Default gateway: 192.168.10.1


DNS: 10.0.0.22


☒ DHCP ☐ Static


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Streamer Settings

Device Name 
XZone70VPlayer-59CD

AirPlay Password 
.....

Services 

Enabled	Disabled
<input checked="" type="checkbox"/> Pandora	
<input checked="" type="checkbox"/> SiriusXM	
<input checked="" type="checkbox"/> TuneIn	
<input checked="" type="checkbox"/> vTuner	
<input checked="" type="checkbox"/> Media Server	
<input checked="" type="checkbox"/> USB	

MCA-88X Controller Amplifier Streamer

Common 12VDC Trigger Output

- Used to trigger additional amps when needed
- Supplies 12VDC 100mA when any one zone is turned on
- As long as at least one zone is on, the output will remain active
- Will become inactive once all zones of the controller are turned off



MCA-88X Controller Amplifier Streamer

Page Input Source

- Paging audio input on Source 8 (right channel only)
- Line level audio signals via an RCA cable
- Interfaces with the page output of a 3rd party telephone system
- When a page event is engaged, it interrupts audio outputs for all enabled zones



MCA-88X Controller Amplifier Streamer

Page Input Source

- Paging can be disabled permanently in each zone by software programming or temporarily with Do Not Disturb
- To utilize Source 8 for paging input, must be configured as a page source in Web Config
- If Source 8 is enabled for paging, only 7 other source inputs are available



MCA-88X Controller Amplifier Streamer

Page Trigger IN

- Used to trigger a page event
- Configurable per zone using Web Config
- Allows the page to to any zone with paging enabled or not in Do Not Disturb mode
- Connect a mono RCA cable to the right channel input on source 8
- Connect the 12VDC Trigger Out from the phone system to the Page Trigger Input



MCA-88X Controller Amplifier Streamer

Home Theater Trigger

- Used with HT receivers with 12VDC trigger output
- Power Management checks to see if HT is in use before powering down sources
- Delays Power Management from sending the all off command if the Home Theater system in use



MCA-88X Controller Amplifier Streamer

12VDC trigger OUT

- Used to trigger device or component such as a Russound D850 Amplifier
- Two-conductor cable with 3.5mm male mini-plug ports at each end
- The tip is positive (+) and the sleeve is negative (-)



MCA-88X Controller Amplifier Streamer

Routed IR Outputs

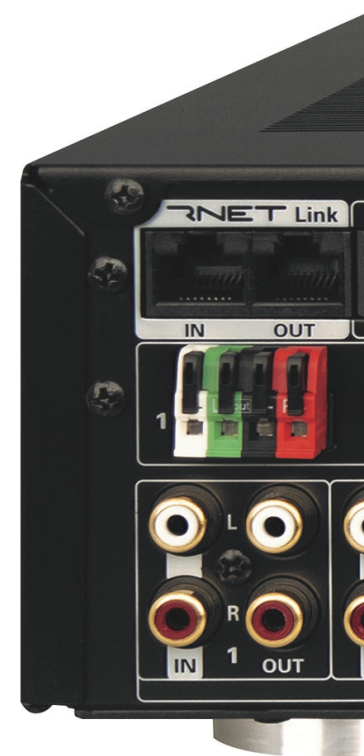
- Six routed IR emitter outputs are supported by the MCA-88X IR engine and support IR pass-through
- Zones 1 and 7 share an output as do Zones 2 and 8, allowing IR routing to up to 6 total sources
- A common IR output is also available
- The IR signals travel the RNET Link cable to additional controllers



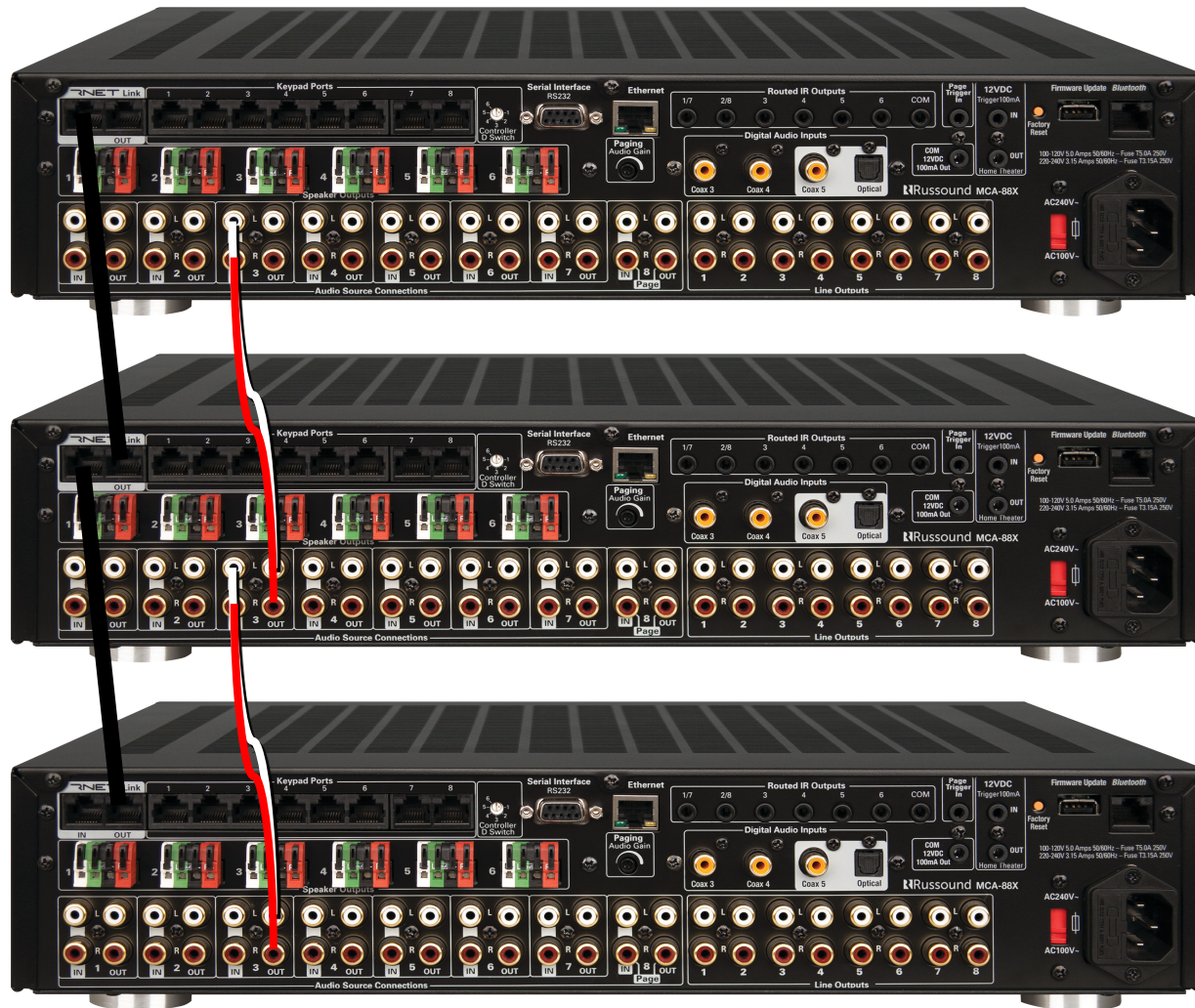
MCA-88X Controller Amplifier Streamer

Multi-Controller Installs

- RNET Link ports can be used to connect up to 5 additional controllers for up to 48 zones
- CAT-5e patch cable from RNET Link port from controller 1 to RNET Link port on next controller
- RNET passes data signals, source IR signals
- Max link cable length – 18” (avoids crosstalk)
- RJ45 ends using T568A standard



MCA-88X Controller Amplifier Streamer



MCA-88X Controller Amplifier Streamer

Multi-Controller Installs

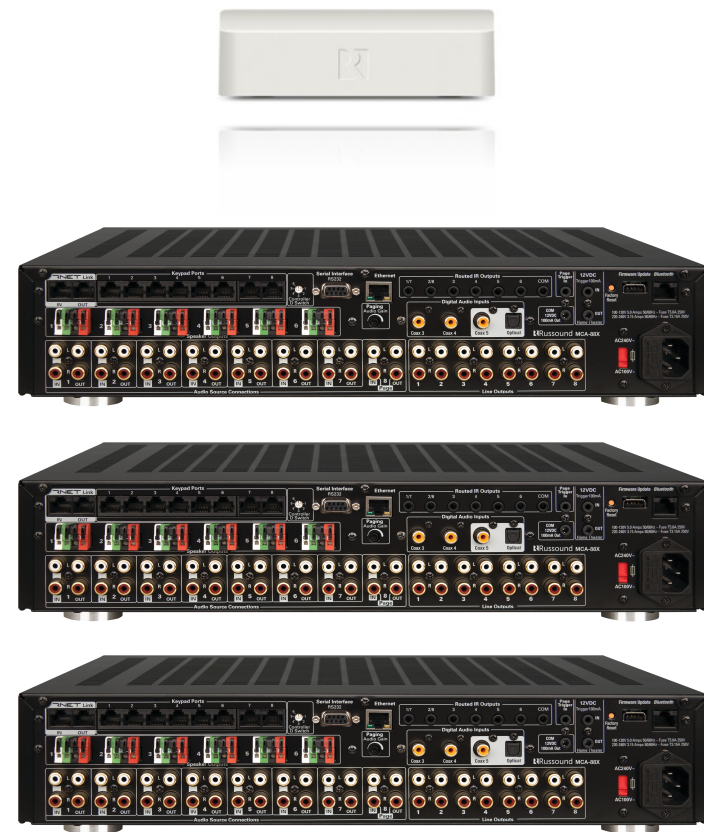
- Standard RCA cables to link sources between multiple controllers
- Left and right source outputs on each controller go to the corresponding source inputs on the next controller
- Ethernet connection to the LAN is only required on Controller #1
- When using the BTC-1X Bluetooth on Source 1, connect the Source 1 OUT on Controller 1 to the Source 1 IN on Controller 2
- Continue the audio loop to other controllers, if necessary



MCA-88X Controller Amplifier Streamer

Multi-Controller Installs

- Only 1 - BTC-1X can be connected in a system (controller 1)
- Signal is then passed to each additional controller
- Only 1 internal streamer from an MCA-88X may be used in a system
- With multiple controllers, use only 1-88X w/up to 5 - 88's as slaves



MCA-88X Controller Amplifier Streamer

MCA-88X with MCA-88s

- Built-in streamer only active on controller number one
- Scalable up to 48 zones

XSTREAM™

1 streamer built-in



**MCA-88
(up to 5)
+
MCA-88X**

Available across
multiple
controllers

MCA-88X Controller Amplifier Streamer

Controller ID Switch Settings

- For multiple controllers, the controller ID must be set
- Each controller must be set to a unique number before power up



MCA-88
(up to 5)
+
MCA-88X



MCA-88X Controller Amplifier Streamer

AirPlay Streaming



- AirPlay enables you to listen to your iTunes library or other audio content from any AirPlay-enabled device through the 88X
 - With AirPlay, your iOS device becomes an extension of your audio system
- Pre configured to zone 1 to allow easy access for AirPlay to instantly turn on a zone and start playing music
- Can be configured to any single zone in the system



MCA-88X Controller Amplifier Streamer

AirPlay Streaming



- When selected from iTunes or an iOS mobile device, the 88X will turn the primary AirPlay zone on and select the internal streamer
- When streaming AirPlay, the volume control on the primary AirPlay *zone* and the AirPlay-enabled *device* are linked
 - A change in volume on the AirPlay-enabled device will also change the zone volume level of the MCA-88X



MCA-88X Controller Amplifier Streamer

Network Audio Files (Media Server)

- Access audio files on a computer or NAS drive (UPnP/DLNA)
- UPnP and DLNA protocols permit devices to discover each other and share content and control
 - Many media player software programs feature UPnP/DLNA
- Install UPnP/DLNA media server software on your computer to access iTunes library for control from a Russound user interface



MCA-88X Controller Amplifier Streamer

DHCP Reset

- Can be performed using the factory reset button on the rear panel
- Reset DHCP by pressing and holding the Reset button for 3 seconds
- This will restore the MCA-88X to a DHCP connection from a static IP connection



MCA-88X Controller Amplifier Streamer

Factory Reset

- 10-second press and hold will reset to its factory default settings
- When performing either of these functions, do not power down
- Will reboot automatically when ready, may take several minutes



MCA-88X Controller Amplifier Streamer

Factory Reset

- Status LED will illuminate green when the process is complete
- Deletes all configuration, personal information and accounts
- After a factory reset, will require valid RCI to config again



MCA-88X Controller Amplifier Streamer

Time to Fire Up This Baby

- 1. Connect sources, speakers, network and keypads
- 2. For multiple controllers, set the controller IDs to unique numbers
 - RNET Link cables no more than 18" to link the controllers
 - Link by interconnecting the RNET Link ports / out to in / in to out
- 3. Plug in and power the sources and controller(s)
- 4. The Power LED on the front panel of each controller should be lit
 - The zone LEDs will cycle until the controller is booted, then the LEDs will go off
 - The Power LED will indicate network status
 - Error codes are derived from the number of times LED blink

MCA-88X Controller Amplifier Streamer

Time to Fire Up This Baby... Checklist

- 5. Unlock the system using your RCI Credentials
- 6. Check for latest FW using Web Config
 - Update all Russound system components if required
- 7. Configure the system using Web Config
- 8. Check ops keypads, power on, and cycle through sources
- 9. Check zone keypads / Check operation of all keypad functions
 - The zone LED should be lit if the corresponding keypad is on
- 11. Check for functional IR signal pass-through
- 12. The system is now ready to use!

Constantly Innovating.
Always Distributed.

Thank you for your time



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