



Installation Manual

RMC-66P

6 Zone 6 Source Audio Matrix Preamplifier



DEAR CUSTOMER

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

WARNING

1. Do not expose this unit to water, moisture, or excessive humidity.
 2. Do not install or place this unit in a built-in cabinet, or other confined space without adequate ventilation.
 3. To prevent risk of electrical shock or fire hazard, due to overheating do not obstruct unit's ventilation openings.
 4. Do not install near any source of heat, including other units that may produce heat.
 5. Do not place unit near flames.
 6. Only clean unit with a dry cloth.
 7. Unplug unit during lightening storms or when not used for an extended period of time. A surge protector is strongly recommended.
 8. Protect the power cord from being walked on or pinched, particularly at the plugs.
 9. Use unit only with accessories specified by the manufacturer.
 10. Refer all servicing to qualified personnel.
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CAUTION

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK), NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



INTRODUCTION

The RMC-66P is a functional, easy-to-install, highly compatible, expandable, and user-friendly audio distribution system. The RMC-66P provides 6 Source inputs and 6 zones with stereo RCA preamp outputs. The RMC-66P combined with the optimal power amplifier creates a customized audio distribution system. With optional expansion cables the RMC-66P is expandable up to 18 zones. This system can be controlled with (optional) keypads, RS232, IR or with the iOS and Android APP. Enjoy the quality and reliability of your new RAVE Technology RMC-66P.

FEATURES

- 6 Source Inputs: 3 Stereo RCA, 2 Stereo 3.5mm and 1 Optical Connector
- 6 Zone Stereo RCA outputs
- APP Control iOS and Android
- RJ45 Ethernet Connection Ports
- RS-232 Communication Port
- Built-in IR Emitters
- 12V DC Trigger Outputs
- Expandable up to 18 Zones
- Zone status LED
- Optional Keypad and IR Remote Control

PACKAGE CONTENT

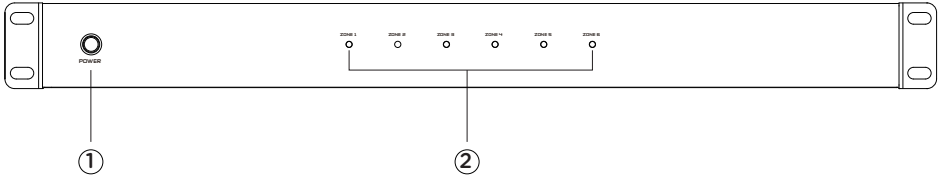
- RMC-66P Matrix Controller Preamplifier
- Rack Mounting Ears 2 (Installed)
- External Power Supply
- User Manual

Note:

RMC-66K (Optional) Accessory Kit

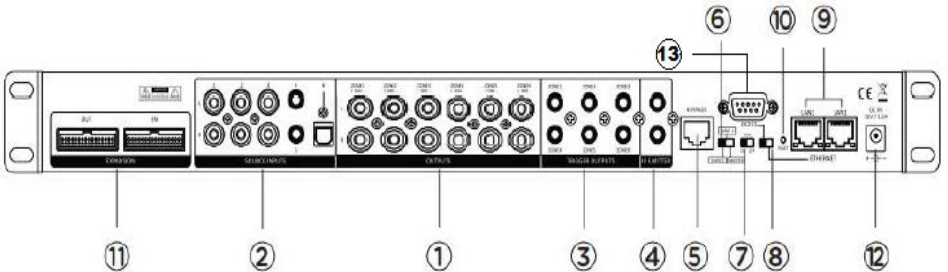
- 1 IR Remote Control
- 1 Expansion Cable
- 1 Wall Plate Keypad Hub
- 6 Wall Plate Keypads

PRODUCT FEATURES



1. POWER ON/OFF SWITCH

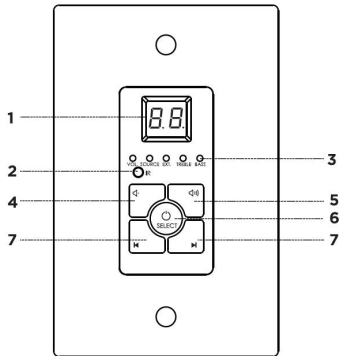
2. LED ZONE STATUS (Blue: Standby-White: ON-Blue/White: Mute)



1. PRE-AMP OUTPUTS
2. SOURCE INPUTS
3. 12V TRIGGER OUTPUTS
4. IR EMITTER OUTPUTS
5. KEYPAD HUB CONNECTION
6. UNIT ID SWITCH (Master-Slave1-Slave2)
7. AUTO GAIN CONTROL
8. COMMUNICATION (Ethernet/RS232)
9. ETHERNET PORTS
10. NETWORK RESET (Factory default)
11. EXPANSION INPUT/OUTPUT
12. POWER SUPPLY INPUT JACK
13. RS232 COMMUNICATION PORT

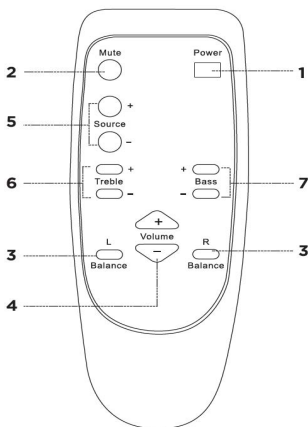
KEYPAD AND IR REMOTE FEATURES

The optional keypads can control zone power on/off, volume up/down, selection of sources 1-6, zone treble, zone bass, zone un-mute and zone standby. The keypads have Infrared receivers which allows control of source devices and the RMC-66P with the optional IR remote. The IR system can also send IR commands to the IR output jacks of the RMC-66P for control of your source components.



1. Numeric LED Display
2. IR Receiver Target
3. Selection and Status LED's
4. Power/Status. Press and Hold to Turn Zone ON/OFF. When ON, Press to toggle through settings
5. Increase Volume, Treble or Bass
6. Decrease Volume, Treble or Bass
7. Source Select

The optional Infrared remote provides zone control of the MRC-66P through the (IR) receiver located in the center of the keypad. All keypad functions can be accessed with the remote. An additional mute button to temporarily mute audio in the zone. The keypad LED display will flash indicating the mute status. Press the mute button again to return to un-mute the zone.



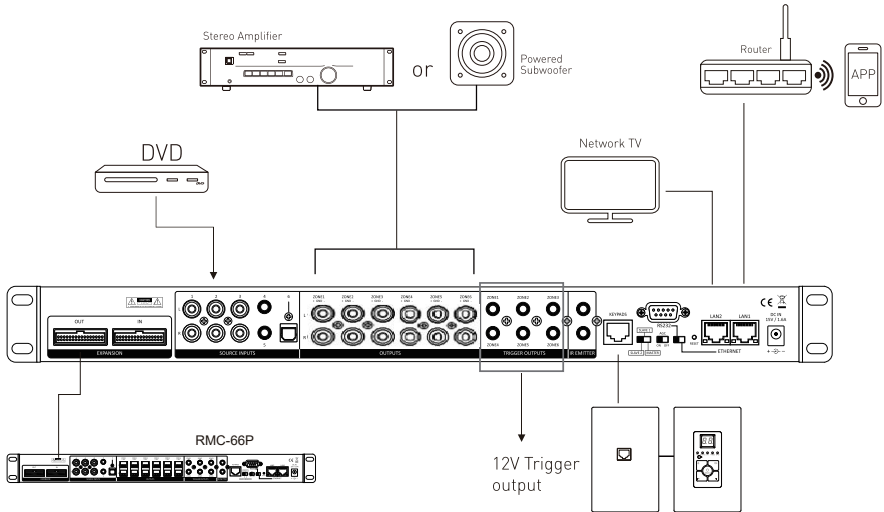
1. Power: switches power (On/Off) for the certain zone.
2. Mute: allows you to mute a certain zone.
3. BAL: These L & R buttons can adjust the balance of L/R channel in stereo mode.
4. VOL: Volume adjustment
5. Source: Used to select signal input.
6. Treble: This allows you to enhance or reduce Treble of signal in individual zone.
7. Bass: This allows you to adjust the Bass for the individual zone

INSTALLATION

1. Make sure that AC power is disconnected before making ANY connections to the main unit and attached devices.
2. Install in a well-ventilated environment
3. Do not install above or below sources of heat
4. Use good quality cabling
5. The unit can be installed within a rack using the provided mounting rack

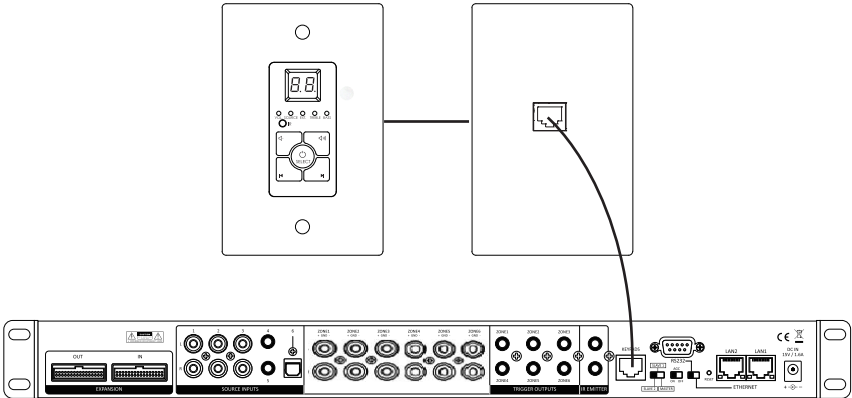
CONNECTIONS

Connect audio sources to the stereo RCA (1-3), stereo 3.5mm (4-5) or optical (6) inputs. Connect the zone outputs (1-6) to the external amplifier or powered speakers.



CONNECTING THE KEYPADS

The RMC-66P has optional POE enabled keypads. This allows for source control from each specific zone as well as IR routing to the appropriate source devices once selected. The RMC-66K (Optional Accessory Kit) also comes with a hub that allows for all 6-keypads to be connected to the RMC-66P via Cat5e/6.



Without the power being connected, make the keypad hub connection from the from the RJ45 port on the back of the RMC-66P and the front RJ45 port of the hub. 568B termination standard is recommended.

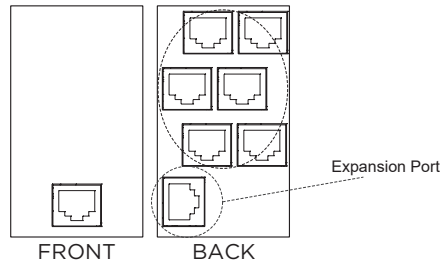


Next you will need to ensure that each keypad has the proper zone ID assigned. Please refer to the chart below or the rear panel of the keypad for the dip switch settings for each zone ID. Set the keypad ID for the zone you want to control.

ZONE-1	ZONE-2	ZONE-3
ON ON OFF	ON OFF ON	ON OFF OFF
1 2 3	1 2 3	1 2 3
ZONE-4	ZONE-5	ZONE-6
OFF ON ON	OFF ON OFF	OFF OFF ON
1 2 3	1 2 3	1 2 3

CONNECTING THE KEYPAD HUB

Connect the other end of the Cat5e/6 to the lone RJ45 port found on the front side of the Keypad Hub. The front is what fits into the provide decora plate. Note that the Cat5e/6 between the unit and the hub should only be between 7-10ft. The RJ45 ports on the back of the Keypad Hub are not assigned but the single RJ45 port isolated on the bottom of the hub is reserved for cascading units.

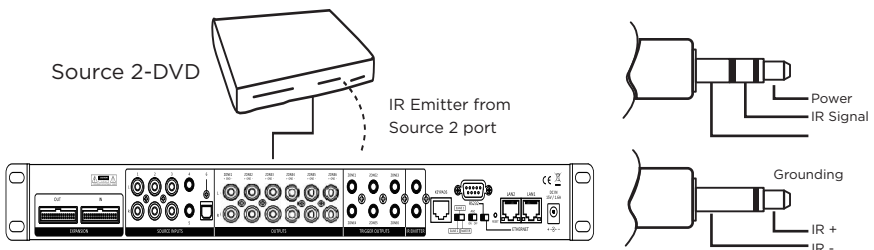


Connect the other end of the terminated Cat5e/6 to the RJ 45 port on the back of the assigned keypad and installation is complete. Complete zone and source control as well as IR and power are provided through the single Cat5e/6.

IR EMITTERS

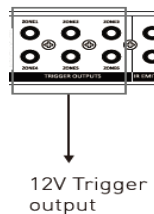
There are 2 Infrared (IR) emitter outputs on the RMC-66P. These outputs are used to control the connected source components remotely through the RMC-66P keypad IR receiver.

For example, connect the flasher to the IR output and receiver window of the connected source. Now you can use your IR remote to control your source through all zones with keypads.



TRIGGER OUTPUTS

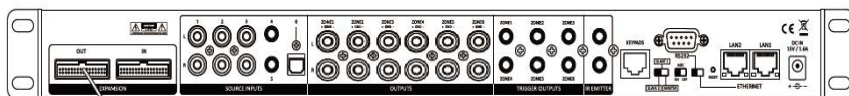
There are 6 trigger outputs corresponding to each zone. When a zone is powered ON the zone sends 12VDC to the trigger output jack. When the zone is powered OFF the signal is disengaged. Triggers can be used to power peripheral equipment ON/OFF with the zones.



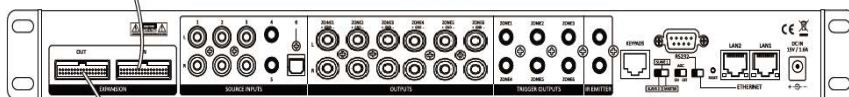
ZONE EXPANSION

1. First each unit needs to be addressed using the MASTER/SLAVE switch. There are 3 positions for this, Master, Slave 1, and Slave 2 to identify each unit.
2. Connect the expansion OUTPUT of the MASTER unit to the INPUT of Slave 1
3. Connect the OUTPUT of SLAVE 1 to the INPUT of SLAVE 2.

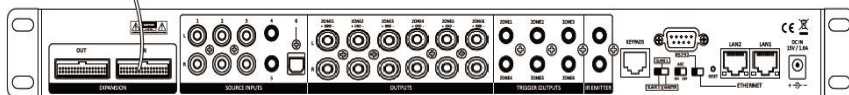
Master



SLAVE 1



SLAVE 2

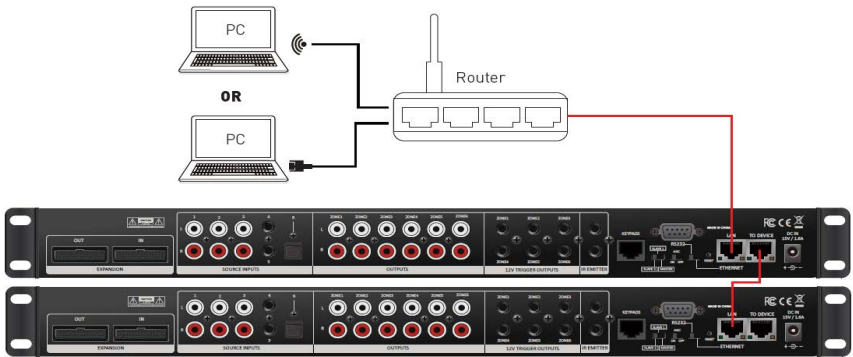


All source audio information - All RS232 control data - All MCU communication from the master and slave units will be shared through the expansion cable. Each RMC-66P unit must be connected to the network for APP control.

NOTE: The MASTER unit IR outputs will function as normal however the IR outputs from SLAVE1 and SLAVE2 will not pass through the MASTER IR outputs. IR flashers from SLAVE1 and SLAVE2 zones will need to be added to source for IR control of source devices connected to the MASTER unit.

LAN NETWORK CONNECTION

There are 2 Ethernet ports on the rear panel of the RMC-66P for the connecting to the network and connecting additional RMC-66P or other network devices. Connect the RMC-66P network LAN port to the LAN port of the Wi-Fi Router. Connect the 2nd port labeled "to device" to a network device. The to device port operates like a network switch when LAN port is connected to a network. Please use a good quality Cat5e/5 cable, and follow the diagram below.



When controlling via Network connection, please make sure the ETHERNET/RS232 switch is set at ETHERNET position. If you are using the RS232 port for control please set the switch to the RS232 position. Connect the RMC-66P network LAN port to the LAN port of the Wi-Fi Router.

NOTE: The network router will automatically set the IP address DHCP default ON. Please check the local router configuration page for the IP information.



RMC-66P RS-232 CONTROL CODES

(Baud Rate: 9600,8,N,1 , DB9 Connector Pin out, Tx, Rx, GND)

'CR':Carriage Return (0x0D)

Not case sensitive

Control Command Structure <xxPPuu'CR'

Reply Control Command Structure >xxPPuu'CR'

xx: Represent control command code

10 :All zones of host computer 1

20 :All zones of host computer 2

30 :All zones of host computer3

11 : Zone1 of host computer 1

12 : Zone2 of host computer 1

13 : Zone3 of host computer 1

.....

PP: Represent Control action code

PR:Power control

PR00:Power off

PR01:Power on

MU:Mute control

MU00:Mute off

MU01:Mute on

DT:Do Not Disturb control

DT00:DT control off

DT01:DT control on

VO:Volume control

VO(00-38):Volume control

TR:Treble control

TR(00-14):Treble control

BS:Bass control

BS(00-14):Bass control

BL:Balance control

BL(00-20):Balance control

CH:Source Channel control

CH(01-06):Source control

Ask command structure(1) ?xx'CR'

xx: Represent control command code

10 :All Zones of host computer 1

20 :All Zones of host computer 2

30 :All Zones of host computer 3

11 :Zone1 of host computer1

12 :Zone2 of host computer1

13 : Zone3 of host computer1

21 : Zone1 of host computer2

22 : Zone2 of host computer2

23 : Zone3 of host computer2

.....

Reply Command: >xxaabbccddeeffgghhijj'CR'

aa:PA Control status

bb:Power Control status ([5]:Backup Zone Power Status (only on zone)

cc:Mute Control status

dd:DT Control status

ee:Volume Control status

ff:Treble Control status

gg:Bass Control status

hh:Balance Control status

ii:Source Control status

jj:The connection status of line control(00:unconnected 01:connected)

Ask command structure (2) ?xxPP'CR'

xx: Control Command Structure

10 :All Zones of host computer 1

20 :All Zones of host computer 2

30 :All Zones of host computer 3

11 : Zone1 of host computer 1

12 : Zone2 of host computer 1

13 : Zone3 of host computer 1

14 : Zone4 of host computer 1

15 : Zone5 of host computer 1

16 : Zone6 of host computer 1

.....

PP: Represent Control action code

PA:PA Control

PR:Power Control

MU:Mute Control

DT:DT Control

VO:Volume Control

TR:Treble Control

BS:Bass Control

BL:Balance Control

CH:Source Control

LS: The connection status of line control

Reply command: >xxPPuu'CR'

Enter1<*****'CR' Change Source 1 display name,*****It must be 8 effective

ASCII code

Enter2<*****'CR' Change Source 2 display name

Enter 3<*****'CR' Change Source 3 display name

Enter 4<*****'CR' Change Source 4 display name

Enter 5<*****'CR' Change Source 5 display name

Enter 6<*****'CR' Change Source 6 display name

Enter M<*****'CR' Change display name of connect control when it starts

Enter <9600'CR' Change RS232 to rate 9600

Enter <19200'CR' Change RS232 to rate 19200

Enter <38400'CR' Change RS232 to rate 38400

Enter <57600'CR' Change RS232 to rate 57600

Enter <115200'CR' Change RS232 to rate 115200

Enter <230400'CR' Change RS232 to rate 230400

When unplugging and re-plugging the AC power cord, the Baud speed rate will return to 9600.

REPRESENT OF CONTROL ACTION CODE

Symbol	Master、 Slave1、 Slave2	Zone	Controlactioncode	ControlRange
<	1、 2、 3	1-6	PR(POWER)	(00-01)
<	1、 2、 3	1-6	MU(MUTE)	(00-01)
<	1、 2、 3	1-6	CH(SOURCE)	(01-06)
<	1、 2、 3	1-6	VO(VOLUME)	(00-38)
<	1、 2、 3	1-6	TR(TREBLE)	(00-14)
<	1、 2、 3	1-6	BS(BASS)	(00-14)
<	1、 2、 3	1-6	BL(BALANCE)	(00-20)

EXAMPLES OF RS-232 COMMAND CODE

AllZoneON	<10PR01	Zone1ON	<11PR01
AllZoneOFF	<10PR00	Salve1/Zone1OFF	<21PROO
AllZoneMuteON	<10MU01	Zone6MuteON	<16MU01
AllZoneMuteOFF	<10MU00	Salve2/Zone5MuteOFF	<35MU00
AllZoneSource01	<10CH01	Zone1Source01	<11CH01
AllZoneSource06	<10CH06	Zone6Source06	<16CH06
AllZoneVolume00	<10VO00	Zone1Volume00	<11VO00
AllZoneVolume38	<10VO38	Zone6Volume38	<16VO38
AllZoneTreble(-7)	<10TR00	Zone1Treble(-7)	<11TR00
AllZoneTreble(0)	<10TR07	Zone1Treble(0)	<11TR07
AllZoneTreble(7)	<10TR14	Zone1Treble(7)	<11TR14
AllZoneBass(-7)	<10BS00	Zone6Bass(-7)	<16BS00
AllZoneBass(0)	<10BS07	Zone6Bass(0)	<16BS07
AllZoneBass(7)	<10BS14	Zone3Bass(7)	<13BS14
AllZoneBalance(atLeftCH)	<10BL00	Zone1Balance(atLeftCH)	<11BL00
AllZoneBalance(atMiddle)	<10BL10	Zone1Balance(atMiddle)	<11BL10
AllZoneBalance(atRightCH)	<10BL20	Zone1Balance(atRightCH)	<11BL20
InquiryMasterAllZoneStatus	?10	InquirySlave1AllZoneStatus	?20

INQUIRY COMMAND STRUCTURE

Symbol	Master、Salve1、Salve2	Zone
?	1、2、3	1-6

InquiryMasterAllZoneStatus	?10
InquirySlave1AllZoneStatus	?20
InquirySlave2AllZoneStatus	?30

REPLY COMMAND

>xxaabbccddeeffgghhijj xx:Unit/Zone

>1100000000200707100100 aa:PAINStatus

 bb:PowerStatus

 cc:MuteStatus

 dd:DTStatus

 ee:VolumeStatus

 ff:TrebleStatus

 gg:BassStatus

 hh:BalanceStatus

 ii:SourceStatus

 jj:KeypadConnectionStatus(00:Unconnected,01:Connected)

SPECS AND WARRANTY

S/N	-110dB
THD	0.05%(1V)
Frequency Response	20Hz - 20KHz (-0.5dB)
Input Impedance: >47 K Ohms	>47 K Ohms
Input Sensitivity	1V
Crosstalk	-75dB (@1kHz)
Output Impedance	100 Ohms
Output Level	3V
Trigger Out Voltage	DC + 12V
Infrared Frequency	38kHz
Inputs	Stereo RCA, 3.5mm, OPTICAL
Outputs	Stereo RCA
Network Connection	RJ-45, Standard 10/100Mb
Power Supply	DC 15V/1.6A
Power consumption	24 W, Max.
Dimensions	W- 19"/482mm w/rack kit W- 17"/430mm wo/rack kit H- 1.7"/44mm D- 7.7"/196mm
Weight	4.42 lbs./2 Kgs
Warranty	5 Years

Contact Information:

Rave Technology
4100 East Baldwin Road
Holly, Michigan, 48442 USA
Tel: 866-303-2629
contact@ravetechnology.com
www.ravetechnology.com

Warranty:

Rave Technology products are warranted to be free from defects in workmanship and materials for a period of Five (5) years from the date of purchase without charge for parts or labor. This warranty does not apply to units that have been subject to misuse, abuse, neglect or improper installation, and does not apply to repairs or alterations made by unauthorized personnel. This warranty specifically excludes responsibility for consequential damage. Retention of your original bill of sale is required to obtain service under the terms of this warranty.

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