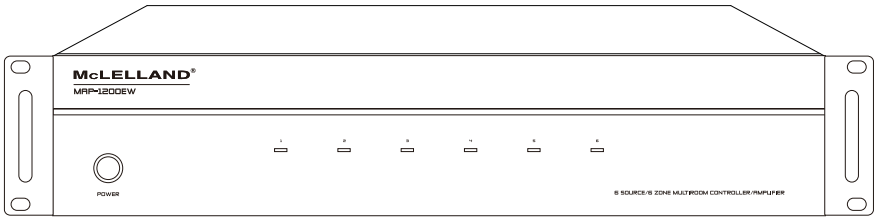
McLELLAND®

MAP-1200EW

6 SOURCE/6 ZONE
MULTIROOM CONTROLLER/
AMPLIFIER



OWNERS MANUAL

DEAR CUSTOMER

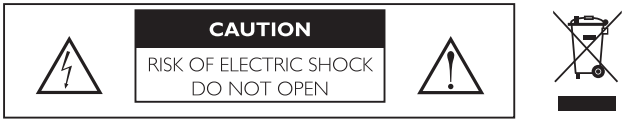
Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

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.

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.



FEATURES

The MAP-1200EW is a functional, easy-to-install, highly compatible, expandable, and user-friendly audio distribution system. It provides up to 25W @ 8 Ohm Power by Class D amplifier to up to 18 zones which at can be controlled by packaged keypads (included with MAP-1200EW unit), RS232,IR or network. Overall the distribution systems easy-to- install, so every audiophile can enjoy the powerful audio wherever they are.

6x6 AUDIO DISTRIBUTION AMPLIFIER
Part # MAP-1200EW(includes 6 keypads)

- 6 x 6 Audio Matrix with 6 Bridgeable zones to accommodate 1 or 2 speakers per zone
- Provides a Whole House Audio Control System - expandable up to 3 units for 18 Zones of distributed audio
- Integrated network allows for effortless control via PC or Macbook
- High efficiency Class D amplification
- Stereo/Bridge mono output
- Stereo/Bridge mode adjustable
- IR remote controller for source select/volume/treble/bass
- Power 230V and 115V adjustable
- RS-232 port allows 2-way communication with the Home Automation
- Ext. Mute & System on 3.5mm Mono Mini Phone Jacks
- 1 PA Input Jack to set all Zone to Source 1
- 6 IR Emitter 3.5 mm Mono Mini Phone Jacks + 1 IR Emitter 3.5mm Mono for All Output
- 3 Zone Pre-AMP Outputs to connect external Power amplify

SPECIFICATIONS

Watts @8ohms .....25W x 2 per zone

Watts @4ohms .....50W x 2 per zone

Watts Bridge 8 Ohms.....100W per zone

S/N.....>85dB A WTD

THD.....<0.1%

Frequency Response.....20Hz-20KHz

Input Impedance.....>47 K Ohm

Input Sensitivity.....250 mv

Protection Function.....Overload Protection, Short Circuit Protection, Over Temperature Protection

System on Voltage .....DC +12V

External Mute Voltage.....DC +12V

Power Supply AC115V/60Hz, 230V/50Hz

Output Connection .....Terminal Block

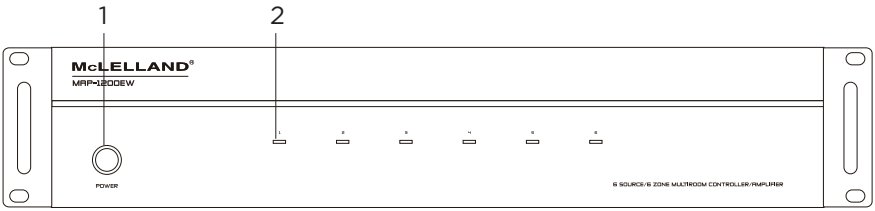
Dimension.....16.9”W x 3.5”H x 16.4”D

Weight .....25 lbs

PACKAGE CONTENTS

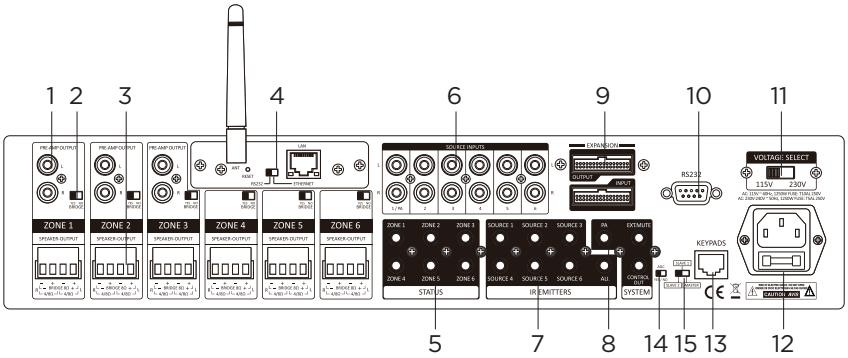
- 6x6 Amplifier
- Remote Control
- Expansion Ribbon Cable
- Rack Mounting Ears – 2 (Installed on Amp)
- Speaker Terminal Blocks – 6 (Installed on Amp)
- Keypad Connection Hub and Decora Wall-plate
- POE Keypads with built-in IR RX and Decora Wall-plates – 6
- AC Power Cable
- Product Manual

PANEL DESCRIPTIONS



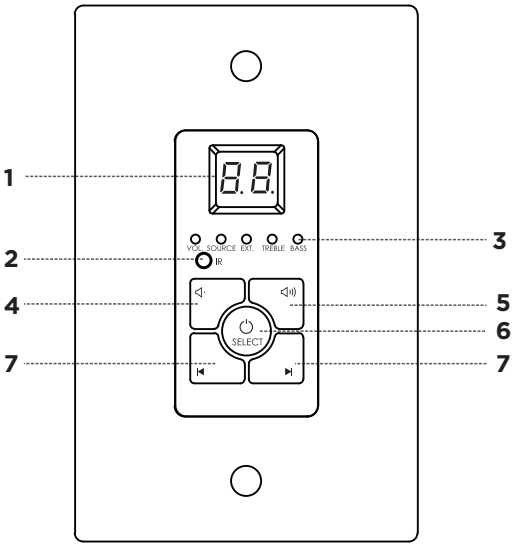
1. Power ON/OFF Switch

2. Status LED White: Zone ON Blue: Standby mode Blue/White: Mute



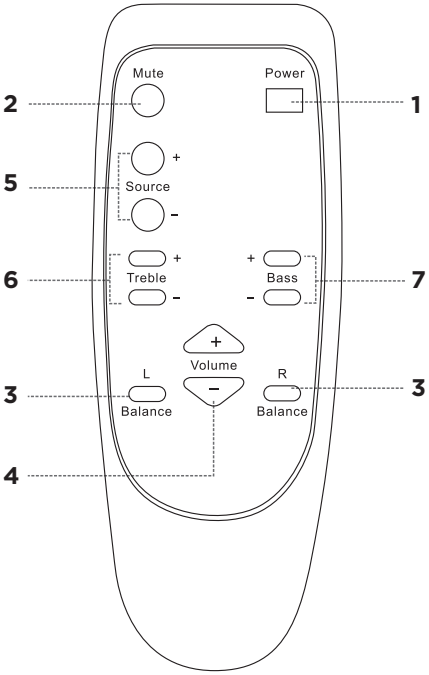
1. Stereo line-level Pre-Amp outputs (Zones 1-3)
2. Mode Switch: Mono/Bridge
3. Speaker Outputs: 50w @ 4 Ohms-Stereo, 25w @ 8 Ohms-Stereo, 100w @ 8 Ohms-Bridge
4. Integrated network
5. Zone Status: Used to control external Zone Devices
6. Source Inputs (Input 1/PA)
7. IR Outputs to control Sources
8. A) PA Trigger IN (Source 1)
   B) MUTE In/Control Out: This input can temporarily mute the system by connecting this unit to a relay closure switch on home automation system or phone system etc. When switch is on, it will short-circuit the input and mute the unit.
9. Expansion IN/OUT Port: Connects up to 3 units' total
10. RS232 Port
11. Voltage Selector (115v in US)
12. AC Input
13. Keypad Hub Input
14. AGC (Automatic Gain Control): brings low input levels up to a preset-level
15. Unit ID Switch

KEYPAD



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

REMOTE CONTROL



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

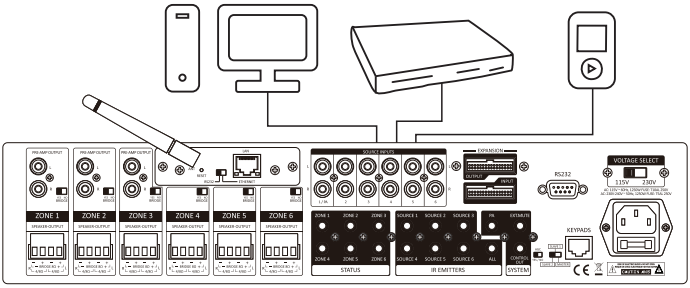
CONNECT AND OPERATE

Before you begin to install the MAP-1200EW , it is important to implement good installation practices:

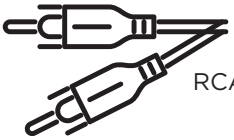
1. Make sure that AC power is disconnected before making ANY connections to the main unit and attached devices.
2. Install in a well-ventilated environment
3. Ensure any vents are not blocked to allow for proper circulation
4. Do not install above or below sources of heat
5. Use good quality cabling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

CONNECTING THE SOURCES

Up to 6 sources can be connected to a single MAP-1200EW. Using RCA cables connect each source into one of the available Source Inputs.



Some sources such as MP3 players and Cell Phones may require a 3.5mm Stereo to RCA Cables in order to connect to the AMP



RCA

3.5mm Stereo

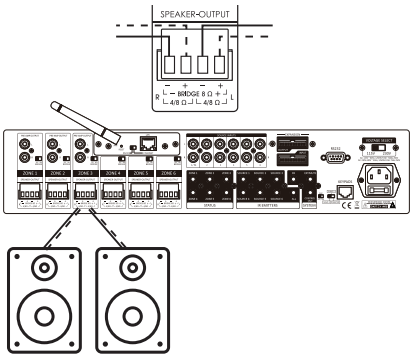
NOTE: Input 1 can be used as a global input for all zones when a source is connected to Input 1 and the 12VDC is applied to the PA-IN jack (tip is positive) then source 1 will broadcast to all zones. If no 12VDC is applied, then the first input will be operating under normal conditions.

CONNECTING THE SPEAKERS

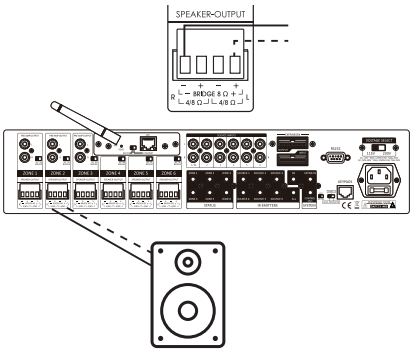
The MAP-1200EW can work with speakers that are 4-8 Ohm. There are 9 two modes that can be set for different setups: Stereo or Bridge. An 8 Ohm speaker can only be used when in Bridge mode. To choose between modes, use the mode switch to determine modes for each zone (Number 2 Panel Descriptions, page 5)

Once you have properly identified the desired mode, strip about ¼" of insulation and twist the copper strands. Connect the speaker wire to there screw down terminal as indicated on the amp. To loosen the terminal turn counterclockwise and to tighten the terminal turn clockwise. For better quality, we recommend used 12-14 AWG stranded copper speaker wire.

STEREO MODE

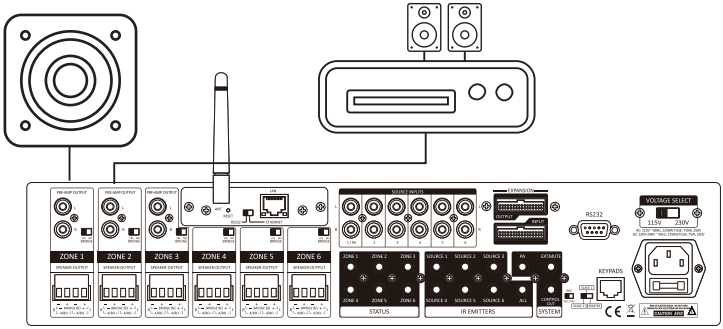


STEREO MODE



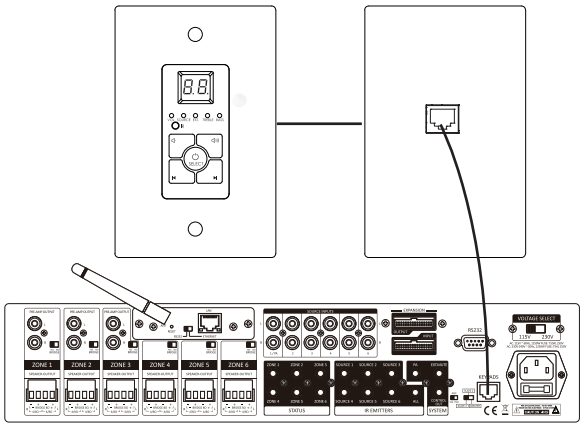
USING THE PRE-AMP OUTPUTS

There are 3 unbalanced, line level Pre-Amp outputs that correspond to the first 3 Outputs. These can be used to connect an additional amplifier, expand zones, or to connect a powered subwoofer. The Pre-amp output levels are not fixed and are able to be controlled via IR, RS232, keypads and network.



CONNECTING THE KEYPADS

The MAP-1200EW comes with 6 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 MAP-1200EW also comes with a hub that allows for all 6-keypads to be connected to the amp via Cat5e/6.



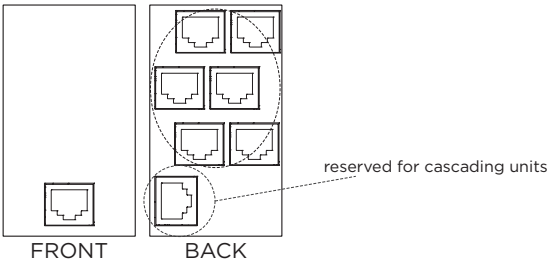
Without power being connected, connect a Cat5e/6 cable to the RJ45 port labeled KEYPADS on the back of the AMP We recommend terminating the Cat5e/6 using the 568B standard.

At this point it is also important to address your keypads. Refer to the chart below which is also found on the PCB board of the back of the keypad to set the dip switches according to the zone you would like it 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

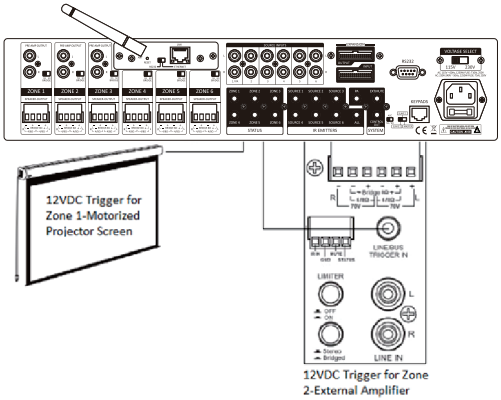
ZONE-4			ZONE-5			ZONE-6		
OFF	ON	ON	OFF	ON	OFF	OFF	OFF	ON
1	2	3	1	2	3	1	2	3

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.



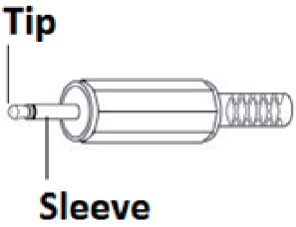
Connect the other end of the terminated Cat5e/6 to the RJ 45 port on the back of the assigned keypad and installation is complete. Complete zone and source control as well as IR and power are provided through the single Cat5e/6.

CONNECTING AND USING THE ZONE STATUS PORTS



There are six 12Vdc trigger outputs which correspond to the six output zones. When a zone is powered ON by the MAP-1200EW keypad, the corresponding zone sends 12Vdc to the trigger output jack. The triggers can be used to automatically switch peripheral equipment ON or OFF.

WIRING: 3.5mm Mono



Plug: Tip is Positive (+)

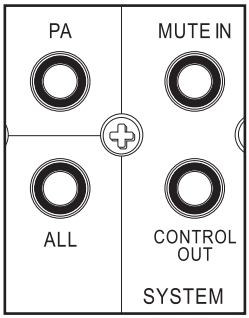
Trigger Outputs for Zones 1 ~ 6: Zone ON; 12Vdc applied to the TRIGGER OUTPUT, Zone OFF; 12Vdc removed from the TRIGGER OUTPUT.

CONTROL: When any zone is on, 12Vdc applied to the CONTROL OUT. When All zones are OFF, 12Vdc removed from the CONTROL OUT

Trigger Inputs:

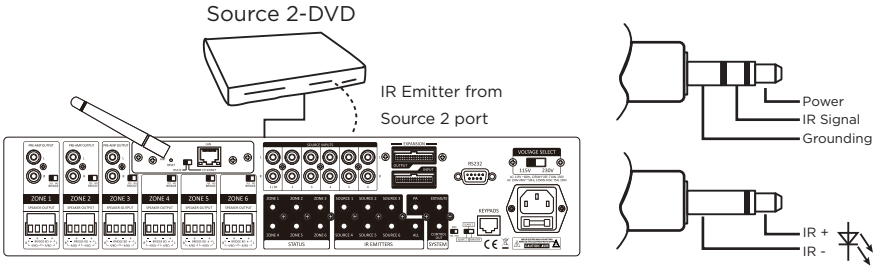
PA- IN: Apply 12Vdc for input #1 override on all six zones.

MUTE – IN: Apply 12Vdc to mute all zones.



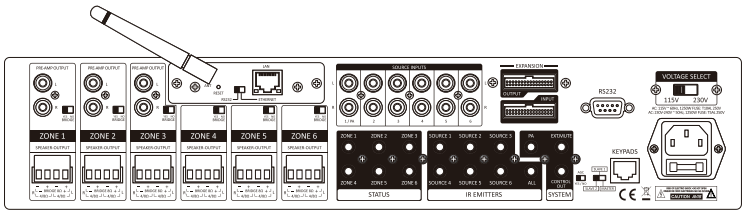
IR EMITTERS

When being used with keypads, the MAP-1200EW can receive IR signals from each zone, and routed back through the Cat5e/6 and Keypad up to the Amplifier to control the selected source. For example, if Source 2-DVD is selected in Zone 1, the user will be able to control the DVD player to power the device on/off, change settings ect. Since the amplifer has discreet routing, ONLY the Source that is selected on each zone can be controlled. This prevents other sources from accidently be controlled when selected on other zones.

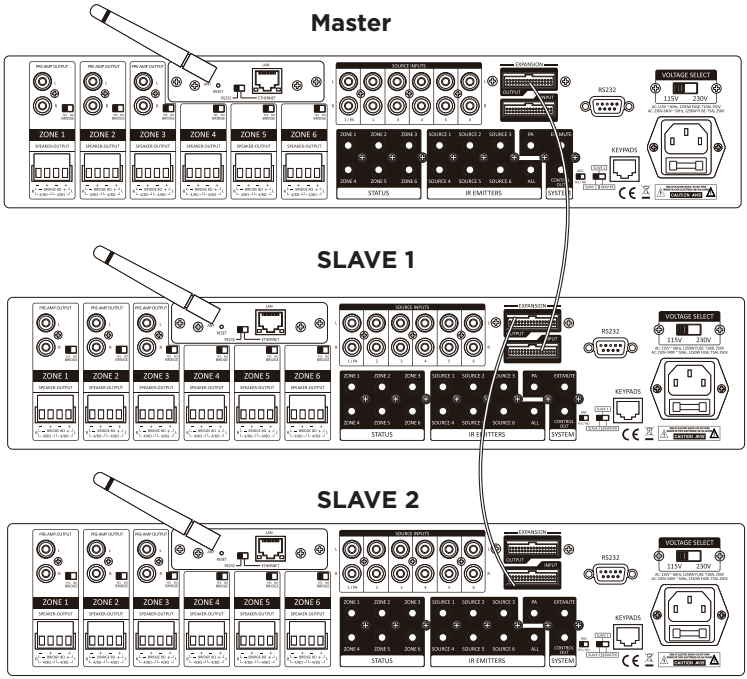


CASCADING SOURCES INTO ADDITONAL ZONES

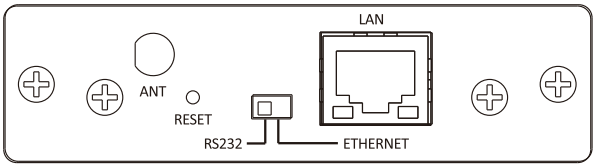
The MAP-1200EW can allow 6 sources to be distributed to up to 18 zones on 3 different units using the provided ribbon cable to connect between units. To do this first each unit needs to be addressed according using the MASTER/SLAVE switch. There are 3 positions for this, Master, Slave 1, and Slave 2 which help identify each unit.



Once each unit is correctly addressed, use the provided ribbon cables to connect the OUTPUT of the original MASTER unit into the INPUT of Slave 1. To cascade the sources into a third unit, using the provided expansion ribbon cable, go out of the OUTPUT port from the device addressed as SLAVE 1 into the INPUT port of the device addressed as SLAVE 2.



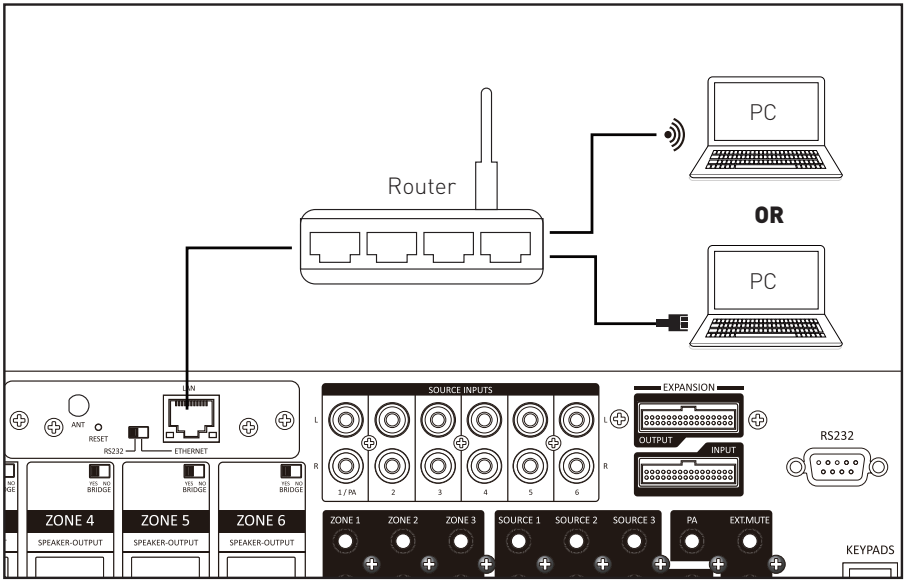
INTEGRATED NETWORK



Set the switch to Ethernet.
Connect the Cat5 cable to Ethernet port and LAN port of the Router.

ETHERNET CONNECTION

There is a RJ-45 jack on the rear panel of this amplifier for the connection to Ethernet. Please use a good quality Cat5e/5 cable, and follow the connecting diagram below.



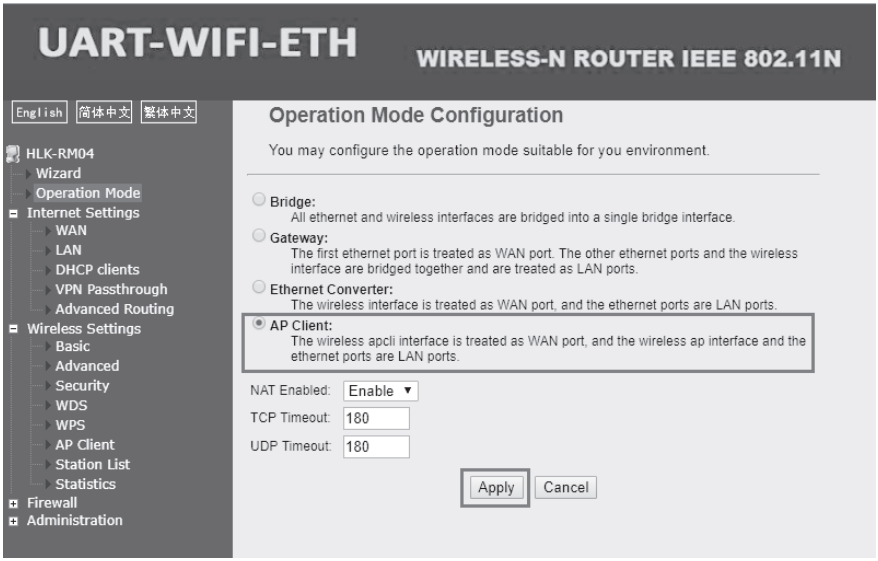
1. Connect the LAN port on the rear panel of controller to the local Wi-Fi Router.
The Ethernet connection mainly for Wi-Fi control via APP or other control devices.

Note: When controlling via ETHERNET, please make sure the ETHERNET/RS232 switch is set at ETHERNET position.

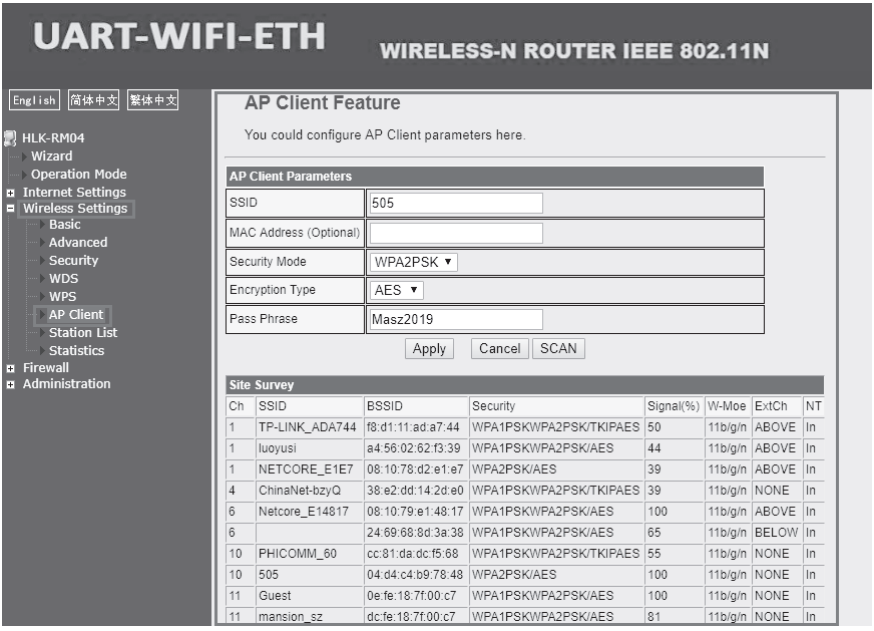
WI-FI CONNECTION

Because high stability and easy to setup, connecting to Ethernet via Cat5e/5 cable is always recommended. In case wireless connection is needed to use for the installation, please follow the below steps to setup the Wi-Fi connection:

1.Power on MAP-1200EW and make sure the amplifier is not out of Wi-Fi range of router.
2.Using PC, Smart phone or Tablet (PC is recommended), searching the Wi-Fi connection and find out the Wi-Fi signal from this amplifier.
3.Connect to the Wi-Fi of this amplifier.
SSID: LINK Password: 12345678
4.Please visit http://192.168.16.254 configuration webpage,
Default name: admin Password: admin
5.Click “AP Client”, then “Apply”.
The router will restart.



6.After the restart, “AP Client” will show on the webpage.
Click “AP Client” and select the local network which you want to connect. Then click “Apply”, the router will restart.



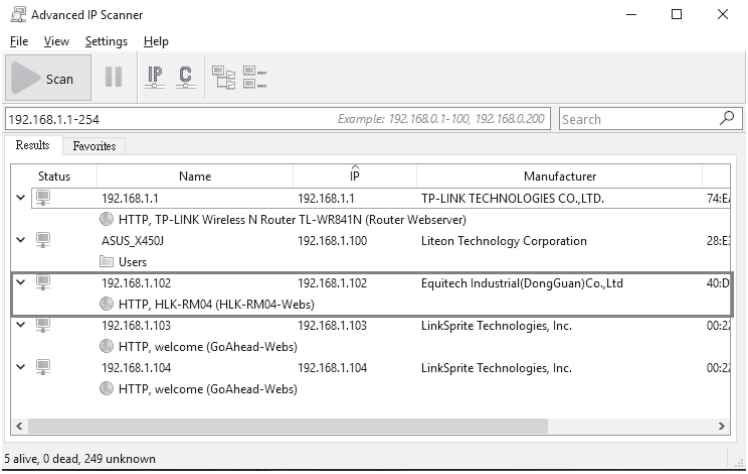
7.Visit the configuration webpage of the local network of router.
The local network of router will assign a new IP for the amplifier automatically.

Set the switch to Ethernet. Connect the Cat5 cable to Ethernet port and LAN port of the Router. Two ways to find the IP address of MAP-1200EW

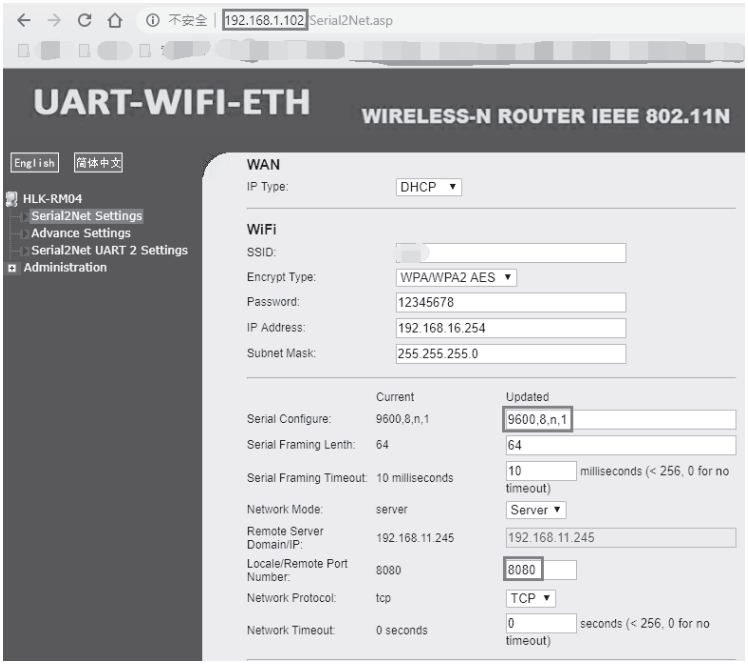
1.Open the IE web browser of PC, log in to the WEB configuration page of local Router to find the IP address of MAP-1200EW (shown as below)

2. Using “Advanced_IP_Scanner” software to find the IP address.

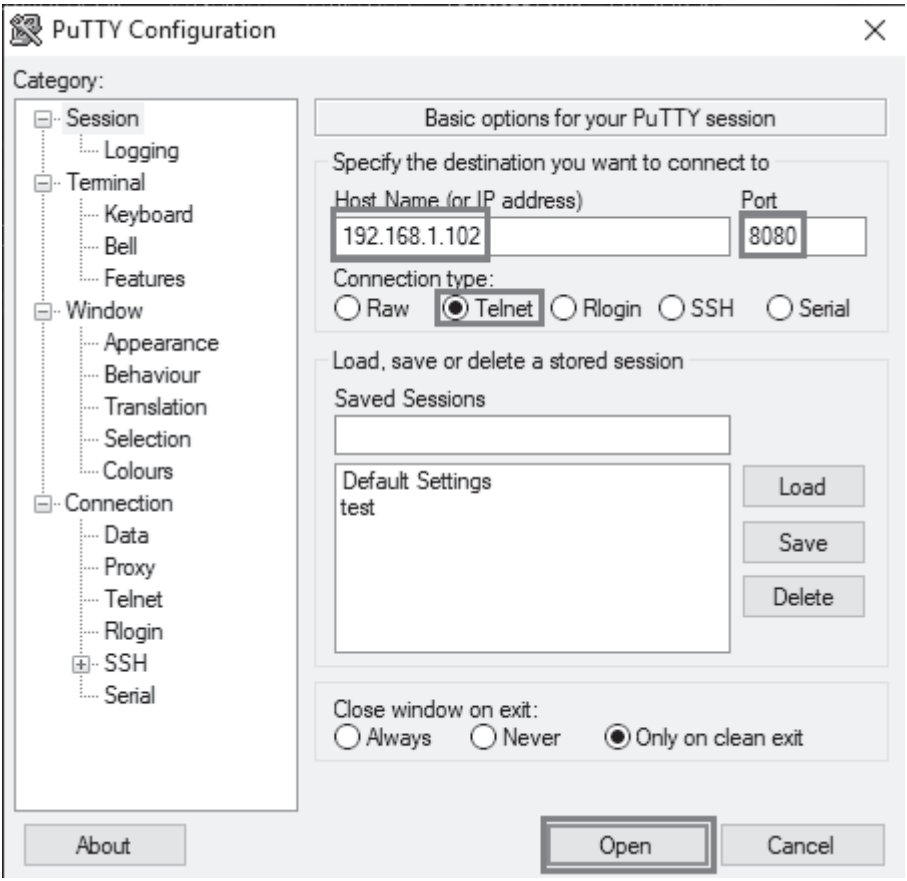
Please visit www.advanced-ip-scanner.com for free download.



Then enter the IP address of MAP-1200EW to the IE browser (shown as below), ensure the Serial Configure is 9600,n,8,1. After finishing this step, MAP-1200EW could be controlled through the local Network.



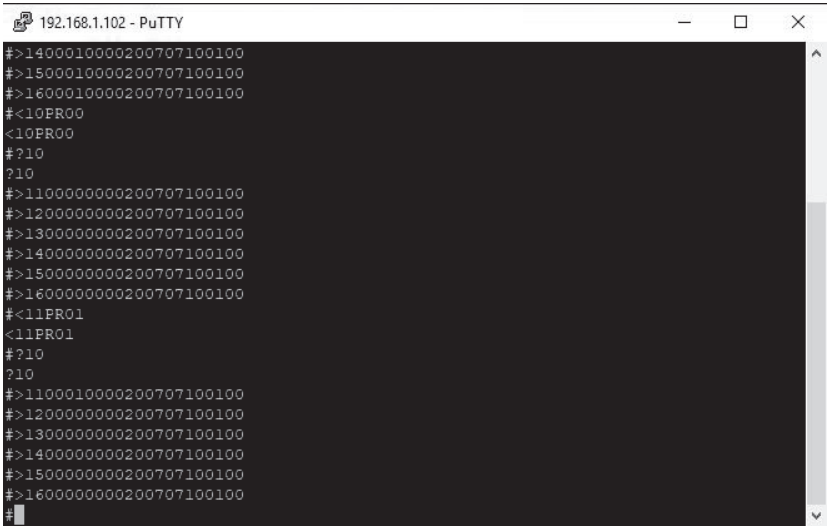
Download free software “PuTTY” Tool from the internet to control the device. Operation diagram as below:



Click Telnet, enter the IP address of MAP-1200EW and port: 8080.

Click Open.

When the IP address connected, the operation diagram shows as below:



Key in the command code to control MAP-1200EW.

For the detail of command codes, please find the RS-232 command codes in this instruction manual.

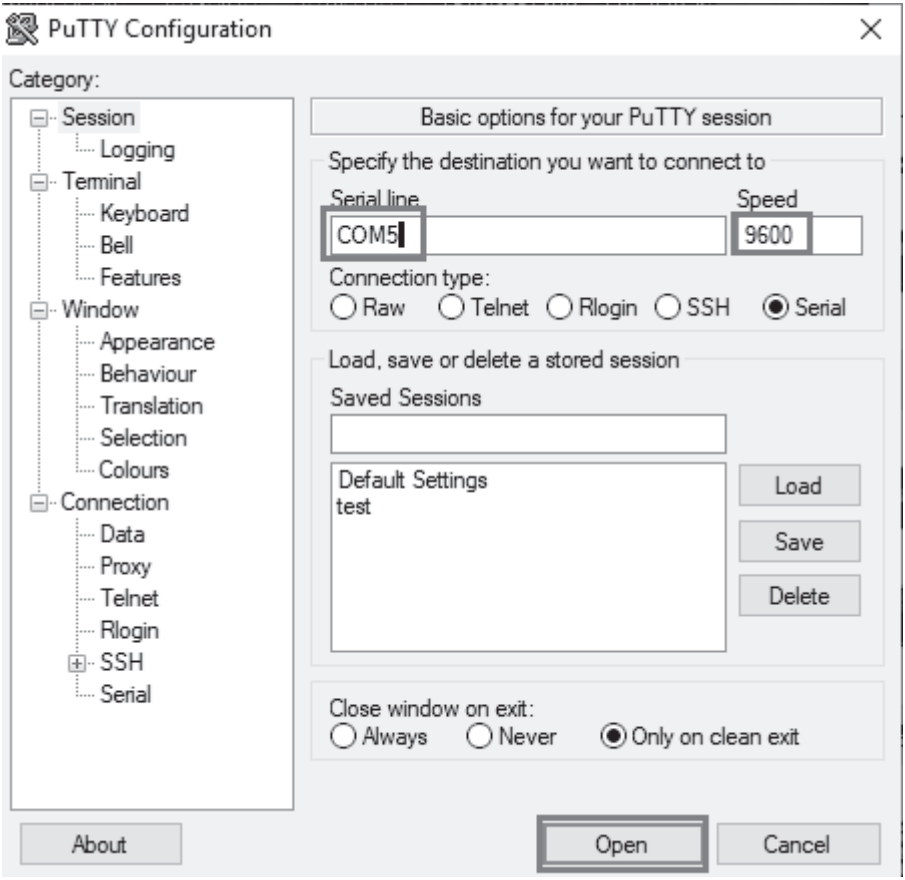
RS232 CONTROL

The MAP-1200EW provides an RS-232 serial port connection located on the back panel and uses a USB-to- Serial Comm cable connection. The MAP-1200EW supports bi-directional RS-232 communication with third party automation systems. All keypad and remote control operations can be controlled via RS-232 in addition to system expansion up to 18 zones or 3 MAP-1200EW units linked together using the included 18 pin expansion cable.

Note: Set the switch to RS232 position.

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

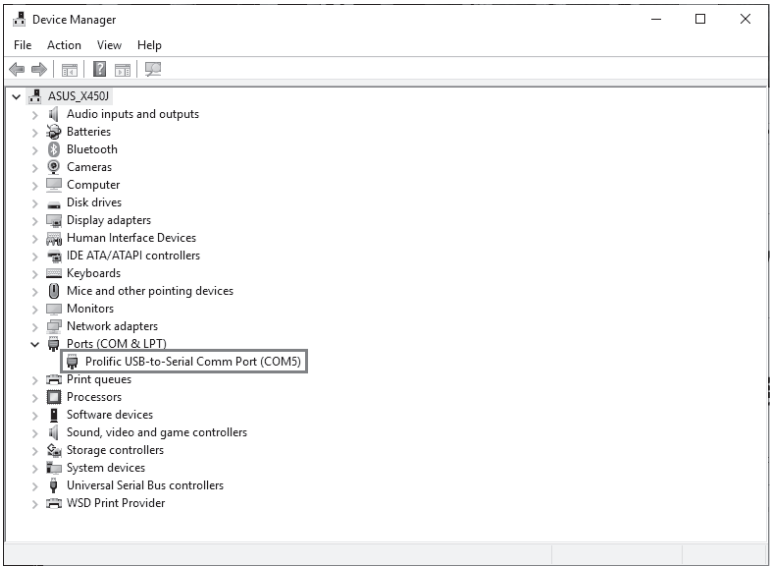
Using free software “PuTTY” Tool to control the device. Operation diagram as below:



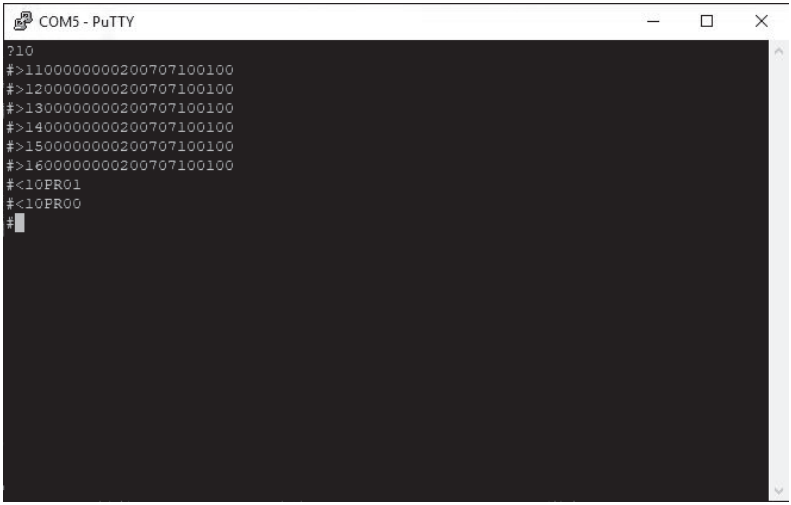
Click Serial, check the COM port and enter the Baud rate 9600.

Click Open.

Note: To find the information for the COM port, please open the device manager of the computer, shown as below:



When the IP address connected, the operation diagram shows as below:



Key in the command code to control MAP-1200EW.

MAP-1200EW 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: >xxaabbccddeeffgghhiijj'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	<21PR00
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

>xxaabbccddeeffgghhiijj	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)

APP QUICK START

Download the control APP:

1. The control APP is available for Apple iPhone/iPad and Android smart phone/Pad,

GET IT ON Google Play

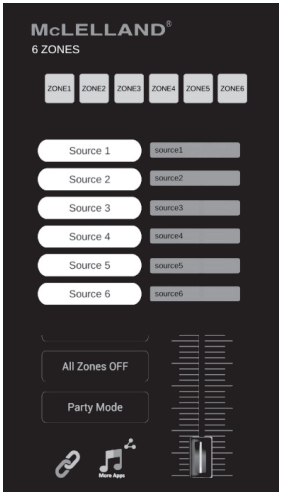
Download on the App Store

2. Please search “MAP-800/1200” on Google Play / App Store to download.

3. Download and install the APP

Note. This APP is applied to McLLELLAND controller and Multi-Room amplifiers

APP QUICK START – FUNCTION INSTRUCTION



1. Output Zone Selection

   (Press and hold the button to change the zone name)

2. Input Source Selection

   Press and select the input source. The name of input source could be changed.

3. Treble/Bass/Balance

4. Volume for individual zone

5. Mute for individual zone

6. Power ON/OFF for individual zone

7. All Zones ON

8. All Zones OFF

9. Party mode

   All zones will be synchronize and controlled from the specific zone.

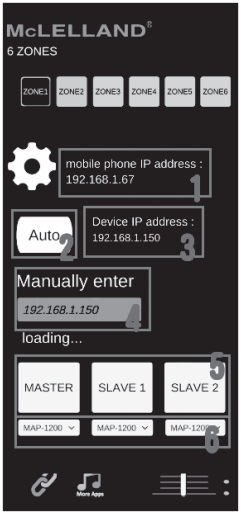
10. Settings and Connection

    Please read the instruction in next page for properly connection.

11. Streamer icon

    Press this icon to open the streamer APP.

APP QUICK START – SETTINGS AND CONNECTION



1. Mobile phone IP address

When the smart phone or Pad is connected to local network, the IP will automatically show on this area.

2. AUTO

Press AUTO to search the device IP.

3. Device IP address

When the IP is found, the APP will connect to the device automatically.

4. Manually Enter

Manually enter the device IP to connect to the device.

5. MASTER/SLAVE Selection

When the MASTER amplifier connecting with additional SLAVE1/SLAVE2 amplifiers, press one of these buttons to determine which amplifier will be controlled.

6. 6 Zones/4 Zones Selection

Select 6 Zones or 4 Zones for corresponding MASTER/SLAVE1/SLAVE2 amplifier.

Note: MAP-1200PRE is 6 zone controller.