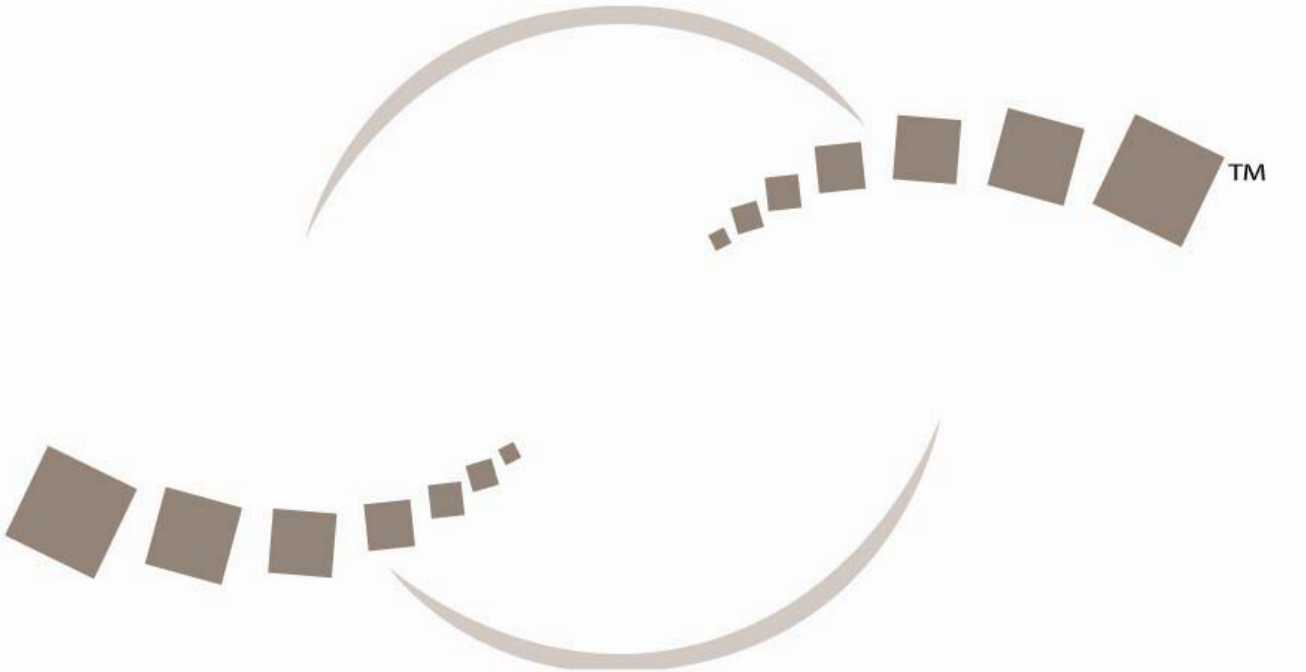
NETSTREAMS®

MUSICA™ MU4602

Audio Distribution System

User's Guide



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MUSICA™ MU4602 Audio Distribution System

Any music, from any source, in any room,

any time you want it.

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IMPORTANT SAFEGUARDS

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER - SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
POWER CORD NOTICE FOR INTERNATIONAL OPERATION - Please call *NetStreams* Technical Services at (512)977-9393.

Important Safety Instructions:

1. Read these instructions
2. Keep these instructions
3. Heed all warnings
4. Follow all instructions
5. Do not use this apparatus near water
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
15. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.
16. Wall or ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
17. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
18. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
19. Servicing-The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Precautions:

1. Power – WARNING, BEFORE TURNING ON THE POWER FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY. All models are designed for use only with the power supply voltage of the region where they are sold.
2. Voltage Label (Rear Panel) – A label located at the rear panel power connection indicates the AC power input for the unit. The label will read 100-240V AC 50-60Hz 210W Auto-switching.
3. Do Not Touch the NS-MU4602 with wet hands. Do not handle the NS-MU4602 or power cord when your hands are wet or damp. If water or any other liquid enters the NS-MU4602 cabinet, take the NS-MU4602 to qualified service personal for inspection.
4. Place the NS-MU4602 in a Well - Ventilated Location. Take special care to provide plenty of ventilation on all sides of the NS-MU4602 especially when it is placed in an audio rack. If ventilation is blocked, the NS-MU4602 may over heat and malfunction. Do not expose the NS-MU4602 to direct sun light or heating units as the NS-MU4602 internal components temperature may rise and shorten the life of the components. Avoid damp and dusty places.
5. Care – From time to time you should wipe off the front and side panels and the cabinet with a soft cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since this may damage the finish or remove the panel lettering.

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INTRODUCTION

Congratulations!

You've just taken the first step in entering the new world of audio technology by purchasing the *NetStreams*' *Musica* Audio Distribution System. We'd like to take this opportunity to thank you for your purchase and provide you with an introduction of *Musica* followed by some important installation notes.

Overview:

A standard *Musica* system is a fully self contained 4 source, 6 room audio distribution system that can be expanded to 18 rooms of audio. *NetStreams* combined an LCD based keypad controller with compact but powerful internal amplifiers designed to wall-mount in a standard two gang footprint. By locating the amplifiers in the room, close to the speakers, *Musica's internal* amplifiers greatly reduces power loss. The LCD display on the *Musica* keypad gives you instant visual feedback every time you press a button. Even when controlling sources located in another room, the display provides a clear indication of the action performed. For example, most of the sources to be controlled don't feedback information. If you can't see the front panel display, you don't know if the CD player received the 'Play' command from the remote control. With *Musica*, if you press the 'Play' button on the keypad, you will see a 'Play' icon right on the LCD confirming the IR message was sent.

The design goals for *NetStream's Musica* system were deceptively simple. Create a system that makes it easy to listen to music anywhere in a home or building, with exceptional musical fidelity. The *Musica* Audio Distribution system is:

- Easy to Install
- Easy to Operate
- Capable of playing up to four different sources independently and distributed to as many as six rooms
- Keypad with the latest Texas Instruments' "Pure-Path" Digitally controlled amplifier
- Burr-Brown® Analog to Digital Converter for audiophile sound quality.
- Handheld IR remote control which emulates the keypad
- Audio Port (EIM) allows local sound sources to be played at local room level
- Expandable to 18 rooms with additional ADC's
- Web enabled with the *R2E (6 zone system only)*
- Remote Digital Amplifiers

Information on RS-232 protocol and advanced integration with products such as; AMX, Crestron, and Vantage can be obtained on the *NetStreams* website at www.netstreams.com.

Once again, thank you!

This manual assumes that the installer has completed training such as CEDIA Boot Camp and knows how to install audio keypads, connect audio components and utilize basic installation tools such as a punch down tool to terminate Cat 5e wire. It also assumes the installer has pulled all necessary wire to the locations where the ADC, keypads and speakers are to be installed. If this is not the case we highly recommend that the installer attend training prior to attempting the installation or that the installation is referred to a qualified installer. Please contact NetStreams Technical Support at (512) 977-9393 for further information or assistance.

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FEATURES

Plug and Play Expansion

Using the optional Audio Port, users can plug in local sound sources such as CD players or MP3 players to expand the system at the local room level. You can also add a powered subwoofer in any room, synchronized with the speakers connected to the keypad/amplifier or use the *Musica* keypad/amplifier to control a large power amp driving large floor standing speakers or many in-ceiling/in-wall speakers installed in a very large space.

4- Sources/ 6 – Rooms

A *Musica* system distributes 4 home-wide sources and up to 6 additional separate local room sources (CD player, Cassette tape player, tuner, etc.) to 6 rooms and is expandable to 18 rooms of audio. The system is programmed to select any available audio sources, and then distribute them to any of the 6 rooms selected. Users can listen to any of the different sources, at the same time, in each separate room. Compensating automatic gain adjustments at the inputs insure that all sources are distributed at equal levels.

Remote Integrated Digital Amps

Digitally controlled stereo digital amplifiers are integrated into the keypads and are located within the rooms. With this design, minimizing the lengths of the amplifier-to-speaker cables creates better sound quality. This reduces the distortions and sound deterioration, which are attributed to the length of the cable run. This design also keeps heat away from delicate source components in the main equipment rack or location.

Simplified Programming – No Laptops Required

When the settings for each source have been learned into any keypad in any room, they are stored on the Audio Distribution Center (ADC). The ADC then "teaches" all the other keypads connected to it. This prevents having to program all the keypads in the system individually, significantly reducing the programming time required to complete the installation. You can also upload all learned IR codes into a laptop to easily download them for your next installation. To achieve this you must use the *Musica* Tools software offered by *NetStreams*. To download this software, please visit the Dealer Resources area on our website at www.netstreams.com.

Intelligent Power Control

When all the rooms are switched off, the main system enters into a power-saving mode. In the power-saving mode, 20 minutes after the last keypad/amplifier in the system has been shut off, the sources connected to the outlet are also switched off. The 2-color LED of the front panel indicates the status of the system (Red: Standby Mode, Green: Operating Mode). The Audio Distribution Center controls the power of the sources by means of relay, which offers a dry contact output. A power strip with a dry contact trigger or a home control system with inputs will be needed in order to use this feature effectively.

Automatic Muting

External signals such as doorbell, door phone, telephone, etc. can be detected. When these signals are detected, the main system will enter into the mute mode for 20 seconds so that the doorbell or telephone can be heard when an optional doorbell/phone ring detector is used. (We recommend the use of an ELK 930 doorbell and ring detector from ELK Industries. For more information see www.elkproducts.com or call 828-397-4200).

Musica Network

The data communication between the ADC and the room is performed via *Musica's* network, which is a proprietary modified RS-485 protocol. This RS-232 protocol offers more than 1,200 commands for the *Musica* system.

IP Controllable

With the R2E web interface, a 6 room system can be controlled via a flash-enabled web browser. This will allow the user more features from one device, such as controlling all rooms individually or all rooms simultaneously.

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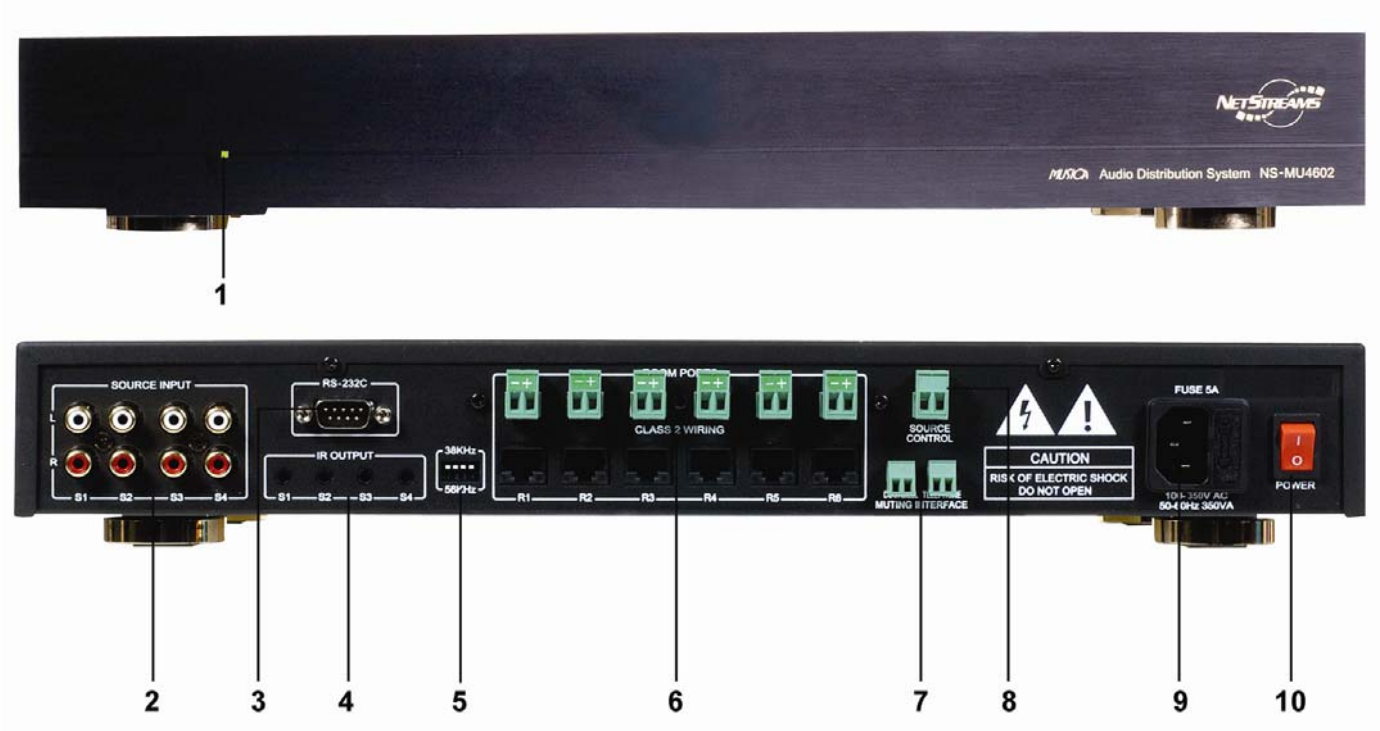

1. **LED Lamp**
   Indicates the state of system mode. Red: Standby mode or Green: Operating mode.
2. **Source Input**
   Provides the inputs from the 4 home-wide sources.
3. **RS-232 Interface**
   Provides an interface between a PC and *NS-MU4602ADC*. This interface is also for use when integrating the *Musica* system with other control products such as Vantage, Crestron and AMX.
4. **IR Output**
   Provides outputs for the IR Emitters. IR signals from source remote control will pass through to the main and on to the source components.
5. **38Khz and 56 KHz Selection Switch**
   You can set IR carrier frequencies either 38 KHz or 56Khz to transmit IR signals to each source (1,2,3,4).
6. **Remote Interface**
   These are the remote amplifier connections (using CAT5e & 14/4 or CAT5e 16/4 Siamese cable).
7. **Doorbell/Telephone Interface**
   - Change Door: When doorbell rings, music mutes for 30 seconds and returns to play mode.
   - Change Phone: When telephone rings, music mutes for 30 seconds and return to play mode.
8. **Source Pwr. Control Output**
   When all room systems are off, the ADC goes into a standby mode 20 minutes after the last keypad/amplifier has been turned off. The standby mode opens up the relay connected to the control output.
9. **AC Power Cord**
10. **ADC Power Switch**
    ADC Power On/Off switch.

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Specifications for the *Musica MU4602ADC* Audio Distribution Center

Component Type:	Line level Audio Multi Room Controller
Source Inputs:	4, stereo paired
Connector:	Gold-plated RCA Jack
Input Level:	150mV
Input Impedance:	47KOhms
Connector 1 (Data):	8-pin RJ45 Data Jack EIA/TIA 568A
Connector 2 (Power):	2-pin 5mm Phoenix type
Output Level:	2.0Vrms
IR Source Control Outputs Type:	Infrared LED Flasher
Muting Interface (telephone/doorbell):	(2) 2-pin 3.5mm Phoenix type
Microprocessor:	Advanced RISC Microprocessor
Memory:	Non-Volatile EEPROM, 256K
Power Voltage:	100-240V AC, 50-60Hz
Power Consumption:	200W
Source Power Control Output:	2-pin 5mm Phoenix type
Dimensions:	16.95"(W) x 9.04"(D) x 2.28"(H)

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MUSICA KEYPAD AMPLIFIER OVERVIEW

The interactive wall-mounted keypad/amplifier features a wide-screen graphic LCD that aids in easy operation of the system by providing feedback to the user on the status of the system. It responds visually to any press of any button confirming the action to the user. The menu screen uses a "look-and-follow" window-style menu and adds aesthetic value to the user's living environment. The keypad also features an IR sensor that receives the system's remote control as well as the original remote controls of the audio sources. This IR sensor also allows for the pass-through of other IR.

Please Note: If connecting 4602 keypad with 4601 system please see App. Note note109 at www.netstreams.com.

Wide-screen High Resolution Graphic LCD

The wall-mounted Keypad uses a large (Active View Area: 1.41" x 0.78") graphic LCD that displays the state of all sources and rooms and provides instant visual feedback for all commands.

Remote Digital Amplifier in each Room

The digitally controlled amplifiers are integrated to each keypad and are located within the rooms to ensure superior sound quality. Minimizing the lengths of amplifier-to-speaker cables minimizes the distortions and sound deterioration that can be attributed to the length of the cable in conventional designs. *Musica's* architecture places the amplifier in the room where the audio will be played – close to the speaker, achieving maximum wattage, with minimal noise and distortion. The high quality pre-amplifier in the system provides the controls for fine adjustments of bass, treble, balance, loudness and volume in each individual room.

Simple Source Selection

Using a button labeled SRCE, the sources can be browsed and selected.

Easy Volume Control

Pressing the **UP** and **DOWN** button provides very fine control over the volume with a resolution of 35 steps. When the **UP** or **DOWN** buttons are pressed the LCD automatically switches to the volume level view for 1.5 seconds for confirmation of the button presses and then switches back to the previous view.

Menu-Driven Design

Below is a list of the available pop-up style menus:

- **SOUND** Adjusts the bass, treble, balance and loudness contour of the sound.
- **STORE** Stores the name of the audio source by user's selection (CD, Tape, DVD, Classic, Pop, etc.)
- **SRC (Source Remote Control)** registers the buttons of the source's remote controls to the SRC keypad.
- **B.L (Back Light)** Selects the color (green or amber), adjusts the brightness, timer and the on/off mode of the backlight.
- **R.OFF (Room Off)** Accesses other rooms in the system to turn them off.
- **EXT (External Audio)** Controls direction of the audio signal (input/output) of an external component such as a local room audio source when the room is expanded utilizing the Audio Port (EIM).

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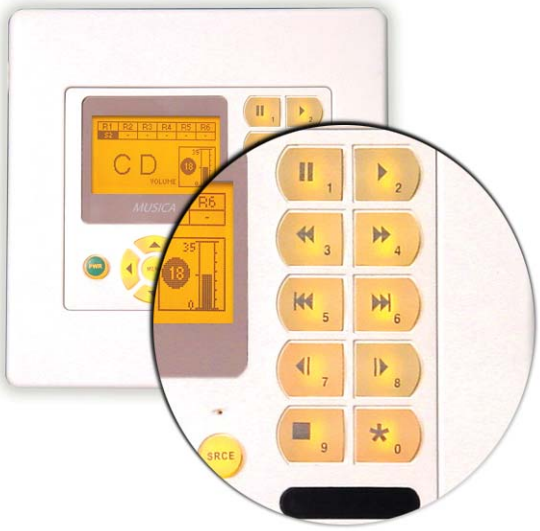
Source Functions

The wall-mounted keypads come with a group of buttons designated as a direct user interface to the audio sources. It functions as a control for the 4 different home-wide audio sources. Once the buttons have been programmed, these buttons control the audio source currently selected from that room. When the settings for each source have been learned at any wall-mounted keypad, they are then stored in non-volatile memory in the ADC. All settings are then available across all rooms *without any additional programming*.



Room Control and System Status

One room can monitor the state of all other rooms and cut off the power of other rooms remotely. The at-a-glance display allows easy operation of all rooms from any location in the home. The menu functions of any keypad can be locked out by pressing the sequence 1, 9, 2, 3 at any keypad to prevent unwanted changes being made to the settings for that keypad. To reactivate the menu function, from the remote control press the **∧**, **►►**, **<**, **∨**.

Plug & Play Expansion

Using the optional *Audio Port*, users can easily add external sound sources and output devices to expand the system at the local room level. When the *Audio Port* is connected, the keypad detects it automatically and displays it in the menu view. The user can now select it using the **source** button. The sources can now be browsed and selected in the following sequence as an example: **TAPE, CD, AUX, TUNER, EXT.**

When an external audio system is connected to the *audio output*, for maximum flexibility the user can select the integrated digitally controlled amplifier, an external amplifier, or both via the amp selection menu of the keypad.

Audio Port (EIM)
Trim-plate not included

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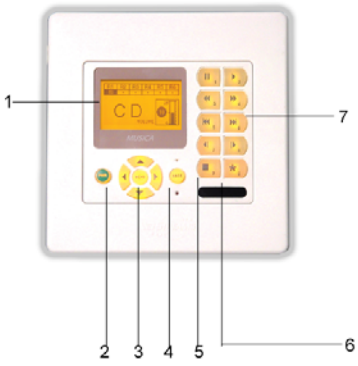
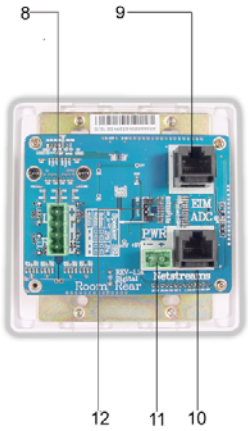
MU4602KP Keypad with Digital Amplifier

1. **LCD**
   Wide-screen graphic LCD user interface.
2. **PWR**
   Room system power ON/OFF button; whole system ON/OFF.
3. **Menu**
   Menu offers total freedom in selecting sound, naming source, adjusting backlight brightness, and allows you to program audio sources from remotes. Automatically returns to basic screen if there is no in put for 30 seconds. See menu list on page 13.
4. **SRCE**
   Browse the audio sources [S1/S2/S3/S4/EXT*] to listen.
   *if optional *Audio Port* is connected.
5. **IR Confirmation LED**
   This LED will flash to confirm the reception of an IR signal from a remote control through the remote sensor.

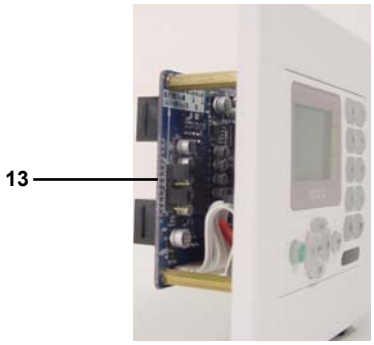


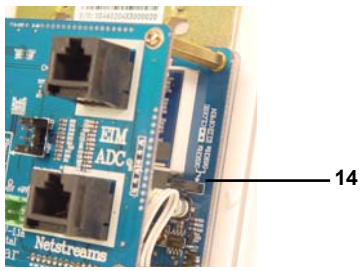


6. **Remote Sensor**
   The REMOTE SENSOR is used to receive commands from an IR remote control. The IR receiver also handles routing IR commands back to head end sources, and to the *Audio Port* if connected.
7. **Source Control / 10-Key Direct Tuner Access**
   These buttons provide you with a convenience of controlling 4 audio sources connected to the ADC. They consist of 10 buttons and allow you to register up to 20 commands per audio source.

KEYPAD CONNECTIONS

8. **Speaker Output**
   4 pin 5mm Phoenix type connection.
9. **Audio Port (EIM) Input**
   8-pin RJ45 Data Jack EIA/TIA 568A.
10. **ADC Input**
    8-pin RJ45 Data Jack EIA/TIA 568A.
11. **Power In**
    (+28W DC) 2 pin 5mm Phoenix type connection.
12. **Speaker Impedance**
    Jumper for selecting Left (JP1), Right (JP2) speaker impedance loads.
    Default OPEN = 8 ohm load CLOSED = 4 ohm load.
13. **Fixed or Variable**
    Jumpers used to set the output of the Audio Port to fixed or variable
    See diagram on keypad for settings.





14. **IR Settings** for all audio signals received by the IR receiver on the keypad, including the Audio Port IR emitter.

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Keypad Menu List

Sound:

Provide control over the sound such as:
Bass, Treble, Balance, and Loudness
Bass: -14dB - 14dB at intervals of 2db 14 steps
Treble: -14db - 14db at intervals of 2db 14 steps
Balance: 14 steps from left to right
Loudness: on or off

SRC (Source Remote Control):

Can register up to 20 commands per audio source. Source [S1/S2/S3/S4] with Remote or keypad. Registered buttons are stored In Main system, and they can be used by other rooms.

R.OFF (Room Off):

Control the power of all room systems. [R1-R6]
OFF: Indicates that a room's system power is off.
ON/OFF: Indicates that a room's system power is on and can be turned off.

B.L. (Back Light):

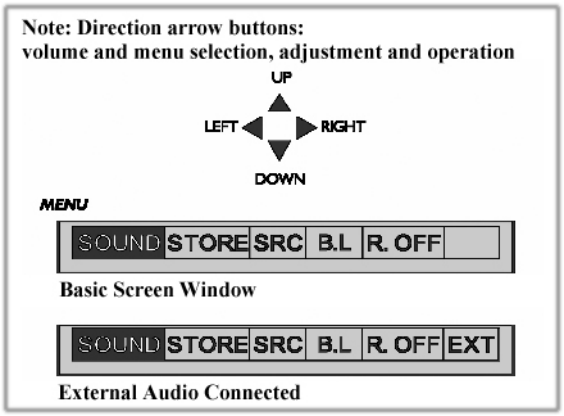
One can adjust the brightness and select color.
Bright: Adjust Brightness level from 13% - 100% 8 steps.
Color: Choose Green or Amber.
On/Off: On/Off Back Light.
Timer: On/Off Back Light turns off 3,5,10 or 15 minutes after last button press.

Store:

If you wish to name the sources, STORE menu provides you with a choice of 30 names:
CD/ AUX/T ape/ Tuner/ Tuner2/ AM/ FM/ MP3/ Blues/ Children/ Classic/ Country/ DAD/ Dance/ DVD/ Lights/ Internet/ Jazz/ ReQuest/ MOM/ XM Radio/ POP/ R&B/ Rap/ HD Radio/ Rock/ SAT/ SAT2/ Soul/ Western.

EXT (External Audio):

Defines the output direction of audio signal when the Audio Port (EIM) is connected. This menu is activated only when the Audio Port (EIM) is connected.
ROOM AMP only or both ROOM AMP + External AMP or External AMP only.



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Specifications for *Musica MU4602KP* Keypads

Musica MU4602KP25:

Output Power:	25 Watts RMS/channel @ 4 ohms with both channels driven, 18 watts RMS/channel @ 8 ohms, 20 – 20 kHz +/- 3 dB
Load Impedance:	8, 6 or 4 ohms (user selectable)
Signal to Noise:	>100dB (A-weighted ref: 1 Vrms, 1 KHz)
Distortion:	0.02% (power output: 1W @ 1 KHz)
Channel Separation:	>90dB
Dynamic Range	95 dB
Level Control Volume:	-70 - 0dB
Bass:	-14 to +14dB
Treble:	-14 to +14dB

Musica MU4602KP50:

Output Power:	50 Watts RMS/channel @ 6 ohms with both channels driven, 36 watts RMS/channel @ 8 ohms, 20 – 20 kHz +/- 3 dB
Load Impedance:	8, 6 or 4 ohms (user selectable)
Signal to Noise:	>100dB (A-weighted ref: 1 Vrms, 1 KHz)
Distortion:	0.02% (power output: 1W @ 1 KHz)
Channel Separation:	>90dB
Dynamic Range	95 dB
Level Control Volume:	-70 - 0dB
Bass:	-14 to +14dB
Treble:	-14 to +14dB

Musica MU4602KP50-FM:

Output Power:	50 Watts RMS/channel @ 6 ohms with both channels driven, 36 watts RMS/channel @ 8 ohms, 20 – 20 kHz +/- 3 dB
FM Tuner:	Built-In with Antenna connection
Load Impedance:	8, 6 or 4 ohms (user selectable)
Signal to Noise:	>100dB (A-weighted ref: 1 Vrms, 1 KHz)
Distortion:	0.02% (power output: 1W @ 1 KHz)
Channel Separation:	>90dB
Dynamic Range	95 dB
Level Control Volume:	-70 - 0dB
Bass:	-14 to +14dB
Treble:	-14 to +14dB

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The *Musica MU4602KP* Display Screens

1. The Initial Screen

This is the screen that appears after the power is turned on by the POWER key or button. (Refer to Fig. 1)

Fig. 1 Initial Screen

2. The Basic Screen

The Initial state of the Basic Screen shows the following information: (Refer to Fig. 2.1)

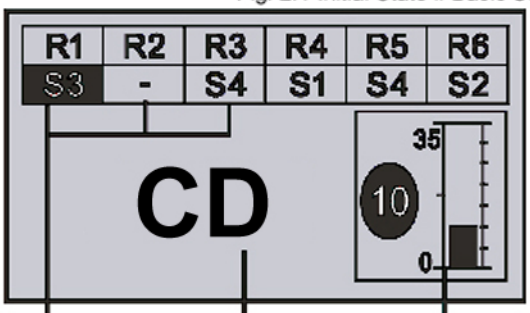
- Name and number of the selected audio source.
- Status of other rooms: ON/OFF, selected audio Source.
- Status of Volume and mute.

The Volume Up / Down state in the basic screen: (Refer to Fig. 2.2 page 21).

The Mute state in the basic screen: (Refer to Fig. 2.3 page 21).

The External AMP mode state in the basic screen: (Refer to Fig. 2.4 page 21).

Fig. 2.1 Initial State if Basic Screen



Shows the graphical view of audio volume.

Displays the selected source name.

This row displays the status and selected audio source for each room as shown below:

S3 : Identifies the current room with shading of color and displays the selected audio source [Source 3] for that room.

- : Indicates the status of Room 2 as Power [Off].

S4 : Shows Source 4 is selected and active in Rooms 3 and 5

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The *Musica MU4602KP* Display Screens

Fig. 2.2 Volume Up/Down in Basic Screen

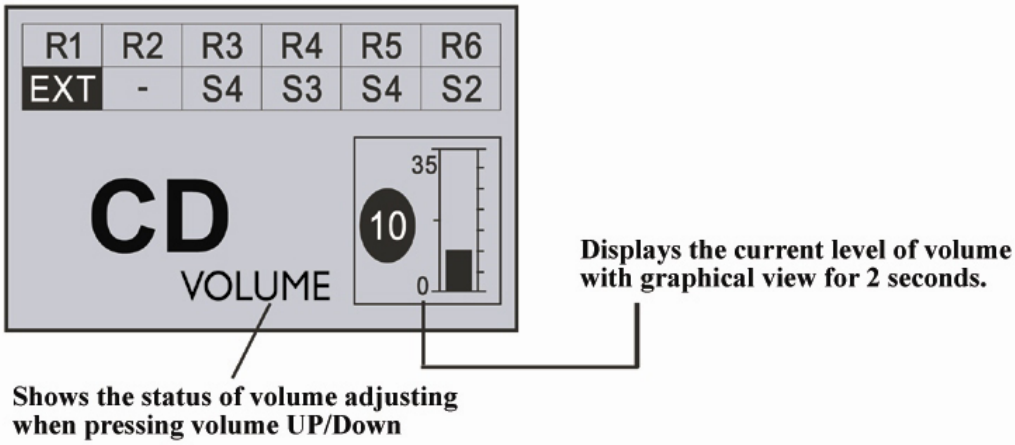


Fig. 2.3 Mute Function in Basic Screen

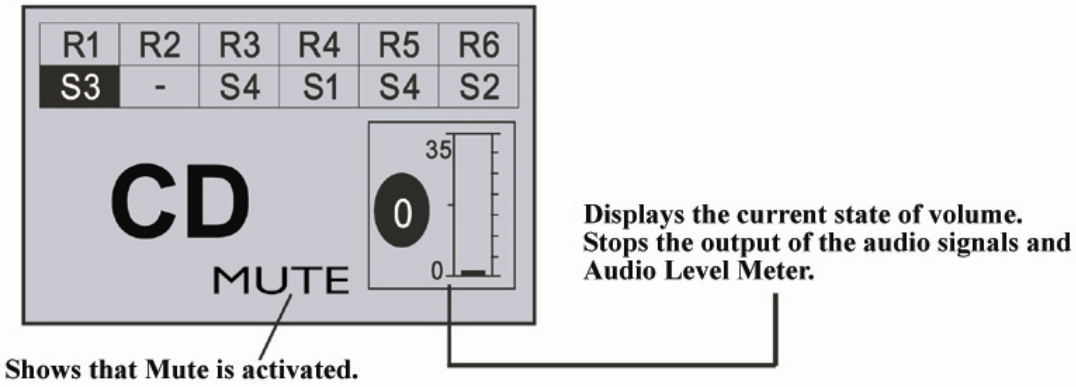
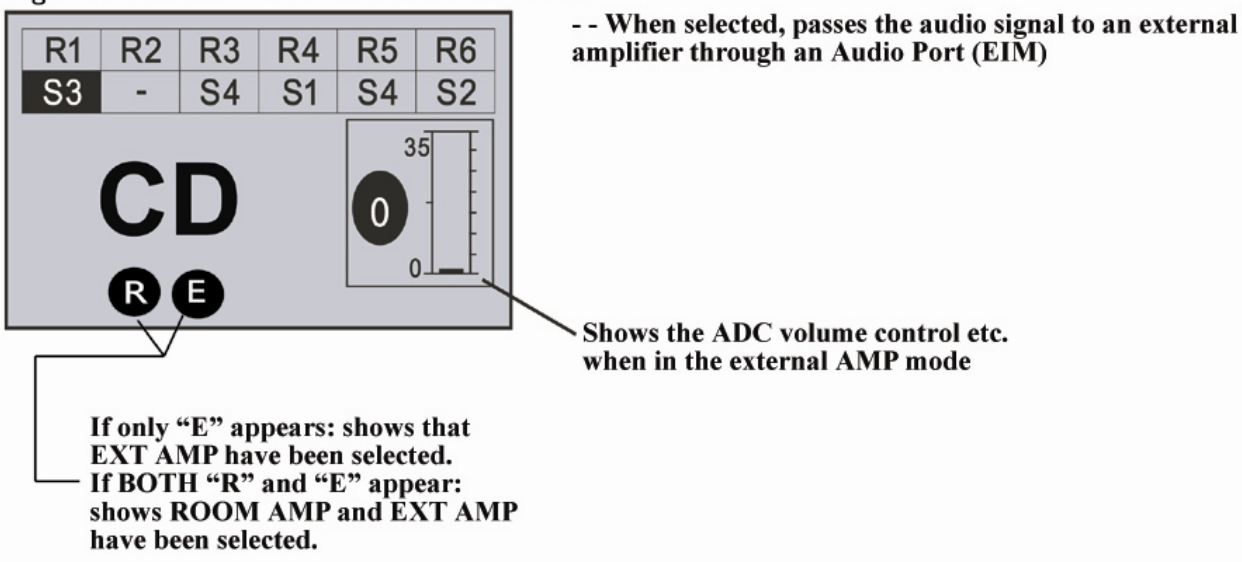


Fig. 2.4 External AMP Mode View in Basic Screen



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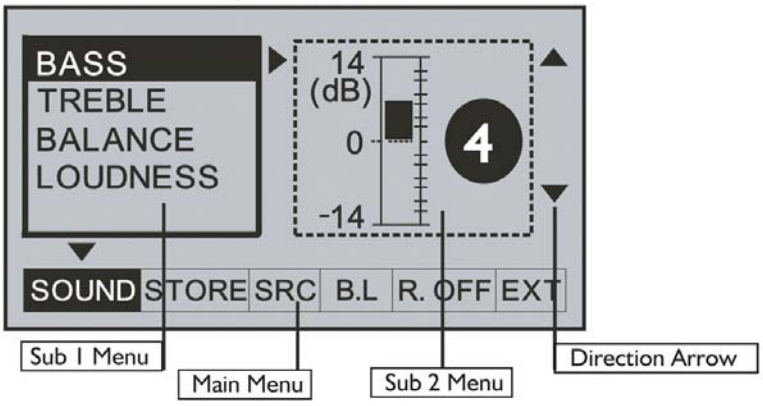
The *Musica MU4602KP* Display Screens

3. Menu Screen

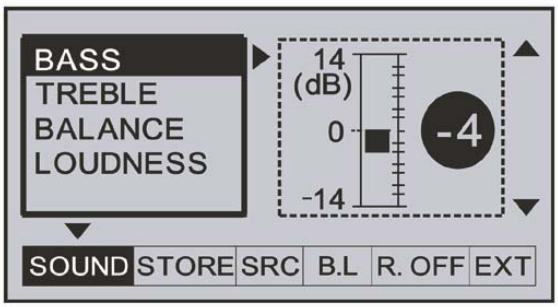
- This screen shows the system settings for the local room.
  - Enter and Exit by MENU key.
  - The Menu screen consists of four sections (Refer to Fig. 3)
    - Main Menu: You can select six menu items for the adjustment or setup.
      SOUND, STORE, SRC, B.L. (backlight), R.OFF (Room Off), EXT (Audio Port-EIM)
    - Sub 1 Menu: Select the sub-items for adjustment or setup available for each main menu item.

Fig. 3 Menu Screen

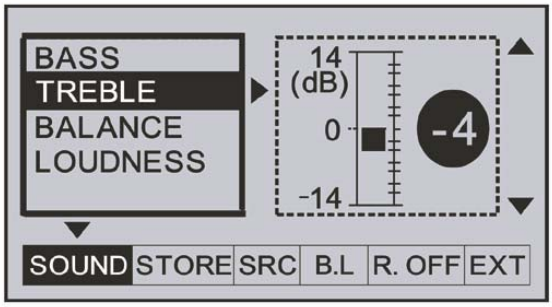


    - Sub 2 Menu: Adjust or set the value of the selected sub-item.
    - Directional Arrows: Shows the pathway for adjustments or setup.
      Direction Type ◄ (left), ► (Right), ▲ (Up), ▼ (Down).
      The arrows blink to indicate possible directional path of menu or adjustments and settings available.
  - Shadowing, dotted lines and solid lines show selected items.
- The basic screen returns automatically after 30 seconds pass without any keypad input.

3.1 Sound Menus: - - The following four figures show current values of Bass, Treble, Balance, and Loudness in the local room.



[Bass Menu]



[Balance Menu]

[Loudness Menu]

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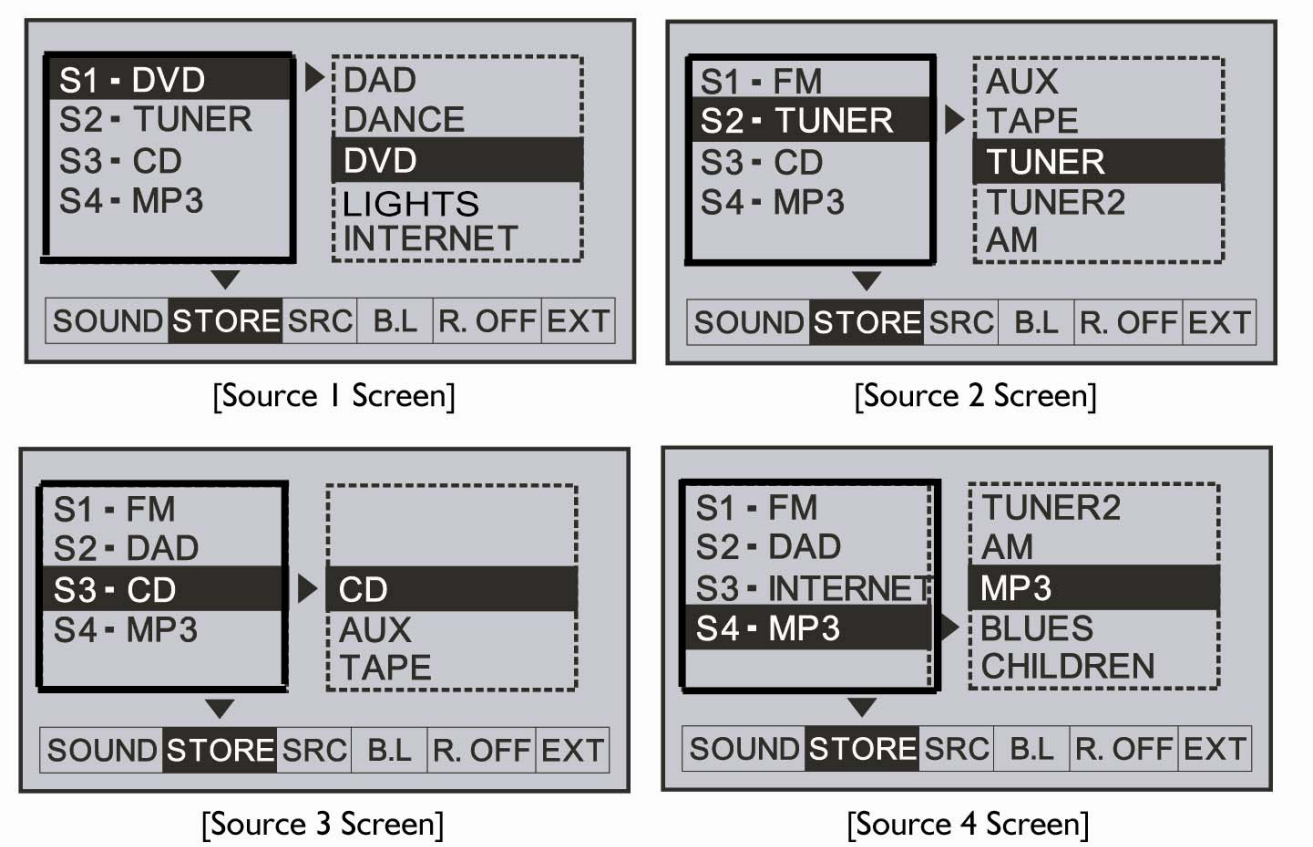
The *Musica MU4602KP* Display Screens

3.2 Store Menu:

- You can select the name of the audio source from the predefined name set.
  - 30 Default names are in the memory of the NS-MU4601 System: CD / AUX / Tape / Tuner /Tuner2 / AM / FM / MP3 / Blues / Children / Classic / Country / DAD / Dance / DVD / Lights / Internet / Jazz / ReQuest / MOM / XM Radio / POP / R&B / Rap / HD Radio / Rock / SAT / SAT2 / Soul / Western
- You can check the current name of each audio source in the Sub 1 Menu.
- Select the new name of an audio source in Sub 2 Menu if desired.
- Note: Each audio source must have its own name.
- Audio Source 5 is EXT.



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The *Musica MU4602KP* Display Screens

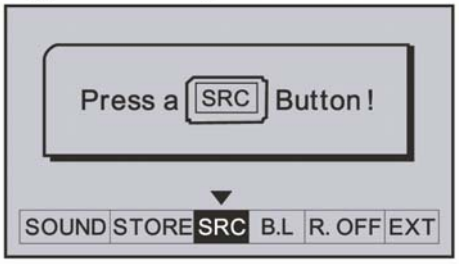
3.3 SRC (Source Remote Control Button Registration Menu):

- Displays the screen for SRC Registration.
- Can Register 20 commands for each audio source. (Source 1, 2, 3, 4).
- SRC functions cannot be registered for external audio systems (EXT).

Fig. 3.3.1 Initial Screen of SRC Menu:

Press ▲key to begin SRC process.

Fig. 3.3.2 SRC Registration Screen:



Select the keypad button for SRC Function.

Fig. 3.3.3 Input Screen: Remote Button:

Press the button of the original remote control you want to register.
The results of the button registration are then displayed.
--Normal Mode: Indicates the completion of registration.
[Refer to Fig 3.3.4]
--Error Mode: Indicates error during registration.
[Refer to Fig 3.3.5]
The Previous screen returns automatically after 3 seconds.
Repeat the procedures until all SRC buttons are registered.
Exit the SRC registration Screen by MENU key or arrow key▼.

Fig. 3.3.4 Output Screen: Normal Mode

Fig. 3.3.5 Output Screen: Error Mode

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Fig. 3.4 Back Light Menu:

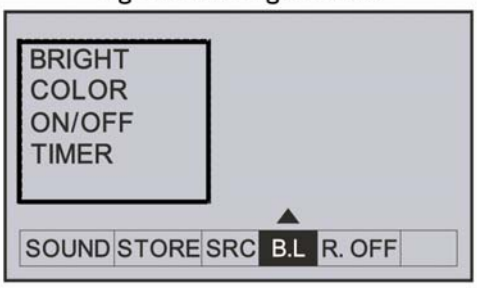
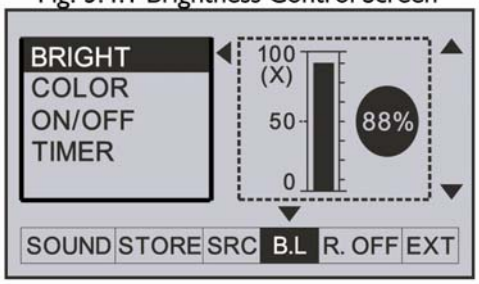


Fig. 3.4.1 Brightness Control Screen



- Displays the brightness, color and On/Off status of back lighting.
- Displays the current value of each sub-item in Sub 1 Menu. [Refer to Fig. 3.4.1]
- Shows the new value of selected sub-item in Sub 2 Menu if necessary.

Fig. 3.4.2 Color Control Screen

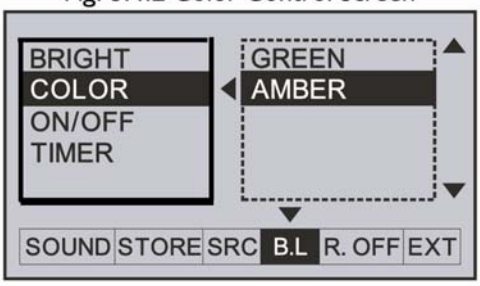


Fig. 3.4.3 On/Off Control Screen

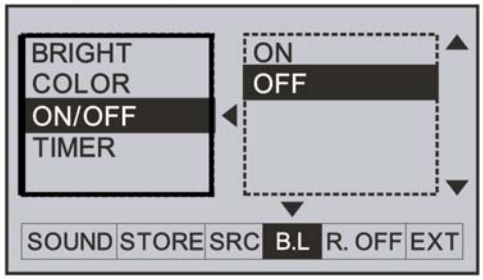


Fig. 3.4.4 Timer Screen

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3.5 Room Off Menu:

- Displays the brightness, color and On/Off status of back lighting.
- Displays the current value of each sub-item in Sub 1 Menu. [Refer to Fig. 3.4.1]
- Shows the new value of selected sub-item in Sub 2 Menu if necessary.

Fig. 3.5.1 Power Off Screen of Room 2

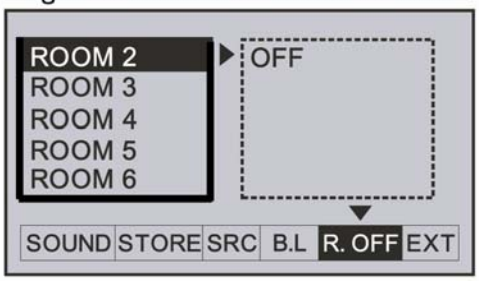
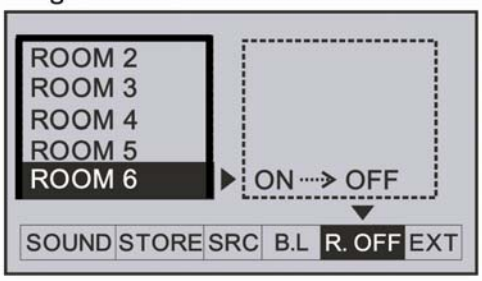


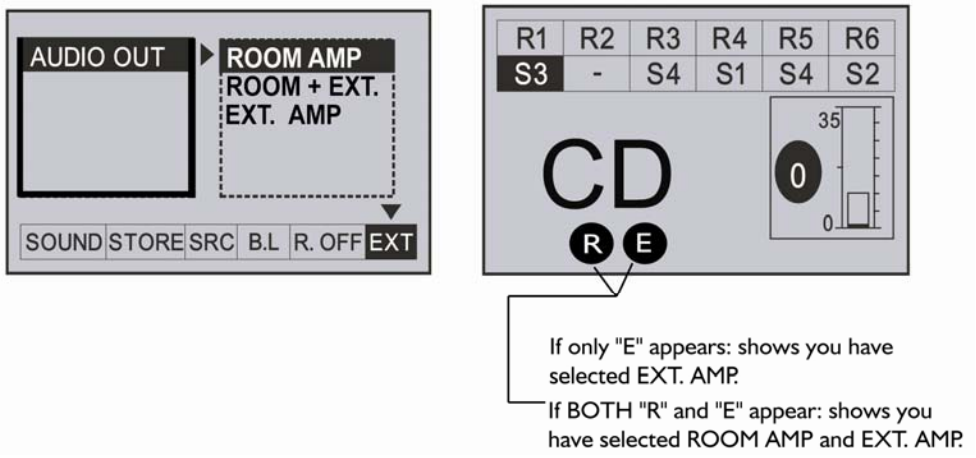
Fig. 3.5.2 Power On Screen of Room



3.6 Audio port menu:

- Defines the direction of the audio signal when the Audio Port (EIM) is in use.
- ROOM + EXT: Uses both the keypad amp and external amp.
- EXT AMP: Passes the audio signal into the external amplifier or audio system at line level.
- This menu is only available if the Audio Port is connected
- All ADC controls are available for use with the Audio Port, SRC control is not supported in this mode.

Fig. 3.6



3.7 Locking the menu:

- Press the Menu button and 1,2,3,4 to lock the menu.
- Press the Menu button and 5,6,7,8 **on the remote control** to unlock the menu.

  Please note: 5, 6, 7,8 will not unlock using the keypad

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MiniJack:
Stereo input to allow audio sources such as MP3, CD player, walkman etc..., to be added to the system in a local room

or

IR Output
IROutput for the local source

Audio In:
In addition to the 4 main sources, the Audio Port allows you to add a local source. Now have your own source in your room.
When an external audio source is connected to AUDIO IN the keypad automatically detects it and displays the information in the MENU window.

Audio Out:
Select AMPLIFIER CONFIGURATION by the EXT menu.
1. ROOM AMP only
2. Both ROOM AMP and EXTERNAL AMP
3. EXTERNAL AMP only

Note: The ADC is variable and is controlled with the volume commands.

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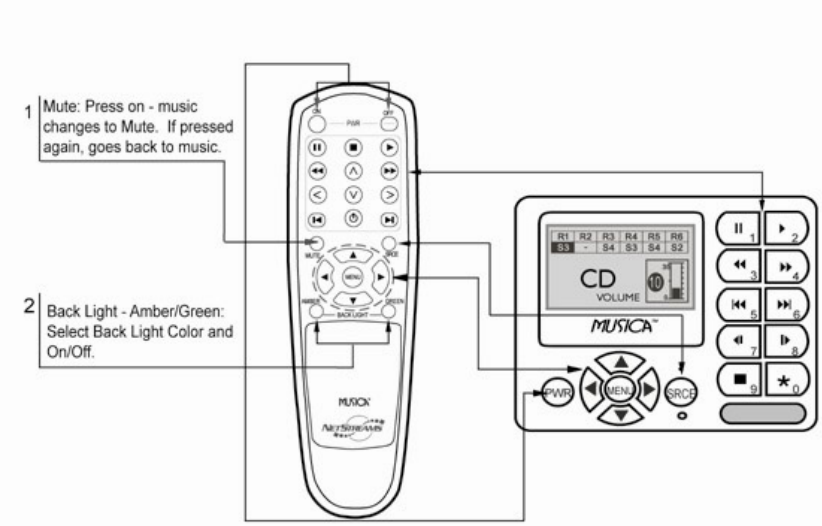
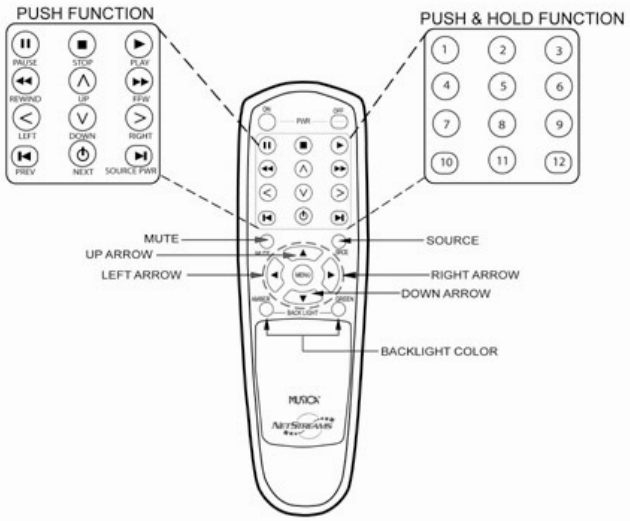
Remote Control

The ergonomically designed, simple to use *Musica* remote control duplicates all functions of the wall-mounted keypad. The remote control also features a mute button, and discrete power on/off buttons. One Musica Remote MU4601RC is included with each Musica MU4602ADC Audio Distribution Center. Additional remotes may also be purchased.

Specifications

Dimension:	5.52"(L) x 1.72"(W) x 1.22"(D)
Buttons:	Room System Buttons and SRC Buttons
Power:	3V DC (Off 2 x 1.5V AAA Batteries)





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IR Emitter

IR emitters are connected to the *Musica* ADC (see Fig. A, next page) and run and installed at the house-wide sources. The IR emitters will deliver the IR codes programmed into a *Musica* keypad, and stored in the ADC. Four (4) IR Emitters MU4601IRE are provided with the Audio Distribution Center. Additional IR Emitters may be purchased.

TIPS:

- Use the supplied IR emitters to transmit the commands from your keypads to your source components.
- An emitter must be connected from the *Musica* ADC to each of your four sources. (see Fig. A, next page)
- Remove the adhesive backing and stick the emitter directly over the source components IR window. Be sure to wipe the window clean of any finger prints before applying the emitter.
- Keep the source components away from fluorescent light sources as this can interfere with emitters.
- Dip-switches for each emitter are located below the emitter inputs on the back of the *Musica* ADC.

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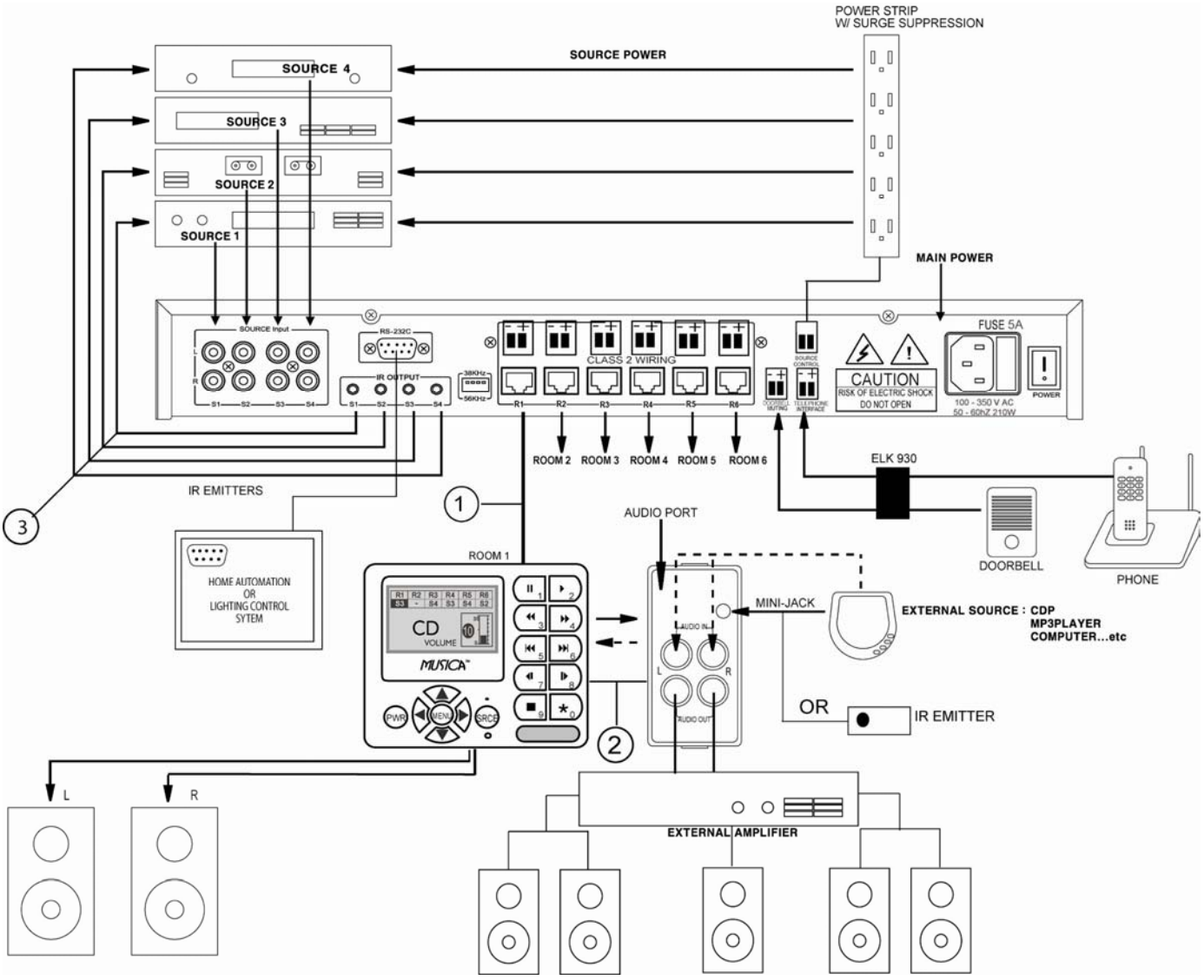

Wiring the System (Fig. A)

1. Run CAT5e & 14/4 or CAT5e 16/4 Siamese cable between each *Musica* keypad and the *Musica* ADC.
2. Run a CAT5e cable between each *Musica* keypad/amplifier and *Musica* Audio Port (EIM) installed.
3. IR Emitters run from the Audio Distribution Center to the house-wide sources.

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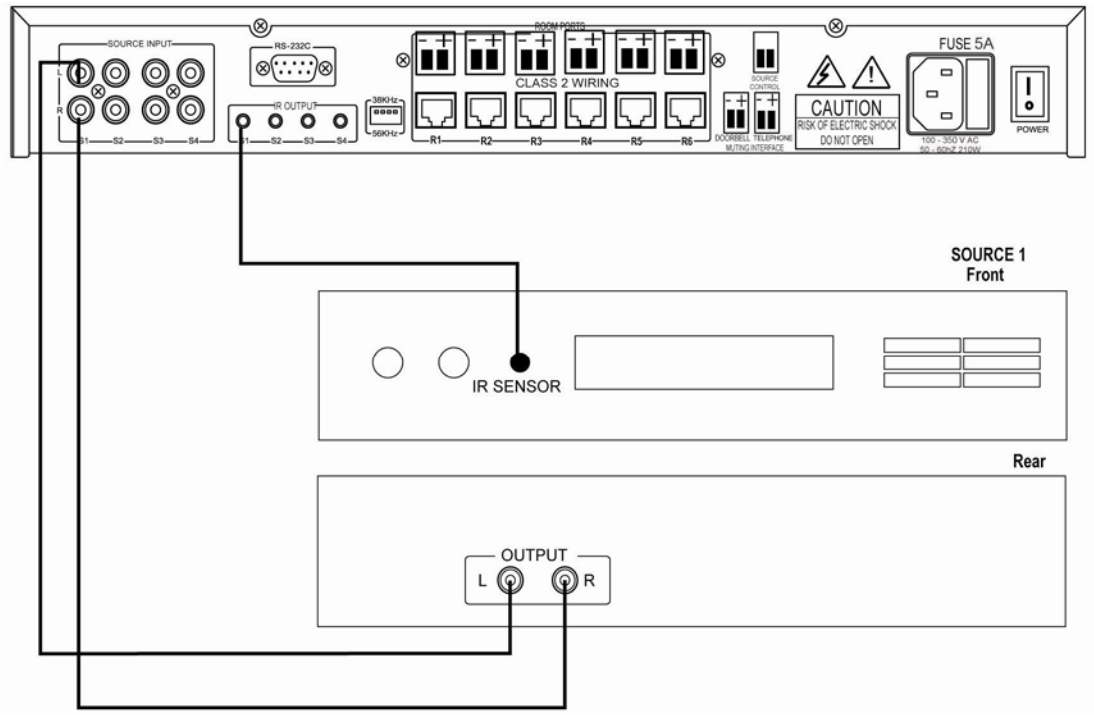
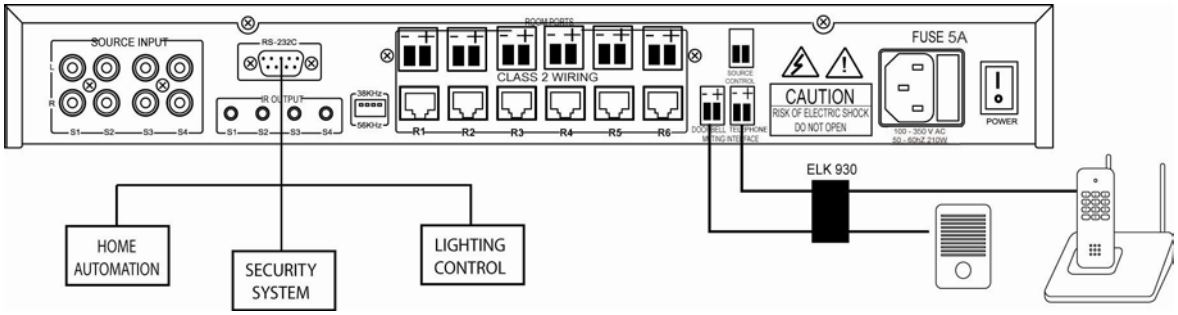
Wiring for Source Components [Fig. B]



Wiring for RS-232 and Doorbell/Telephone Sensors [Fig. C]



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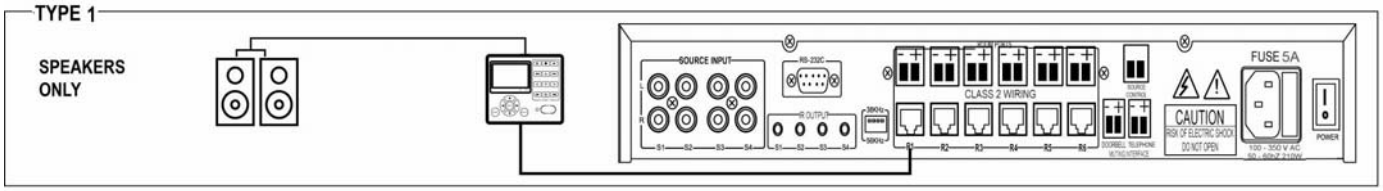
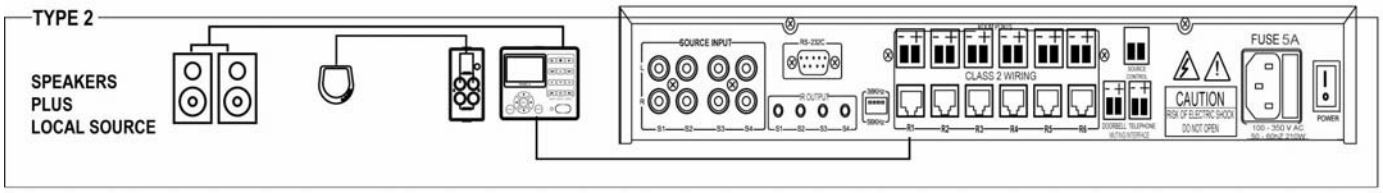
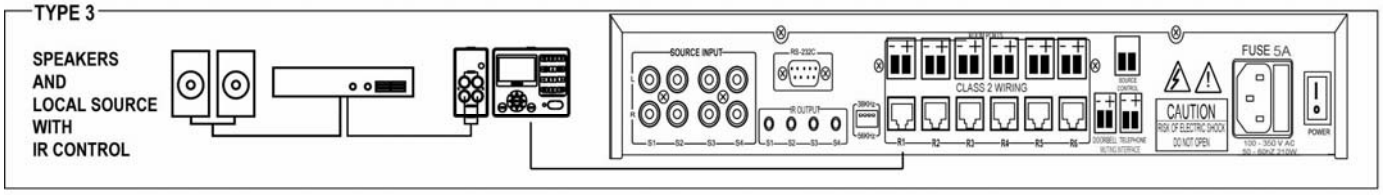
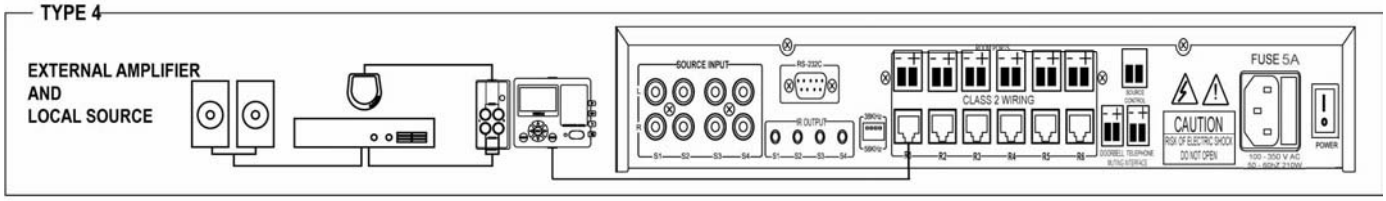
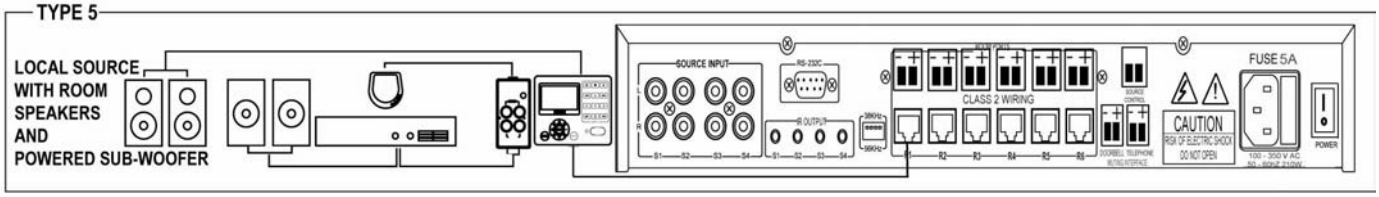
MUSICA POSSIBLE CONFIGURATIONS

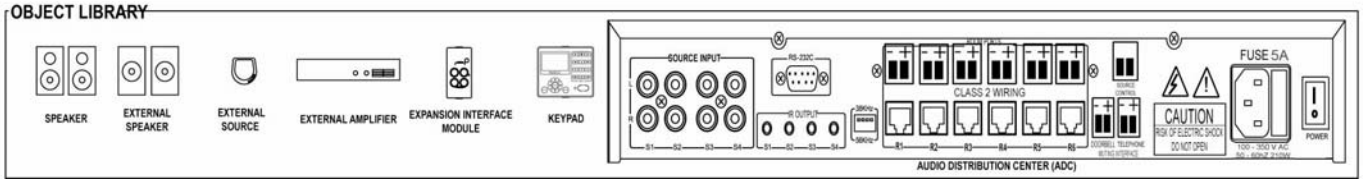












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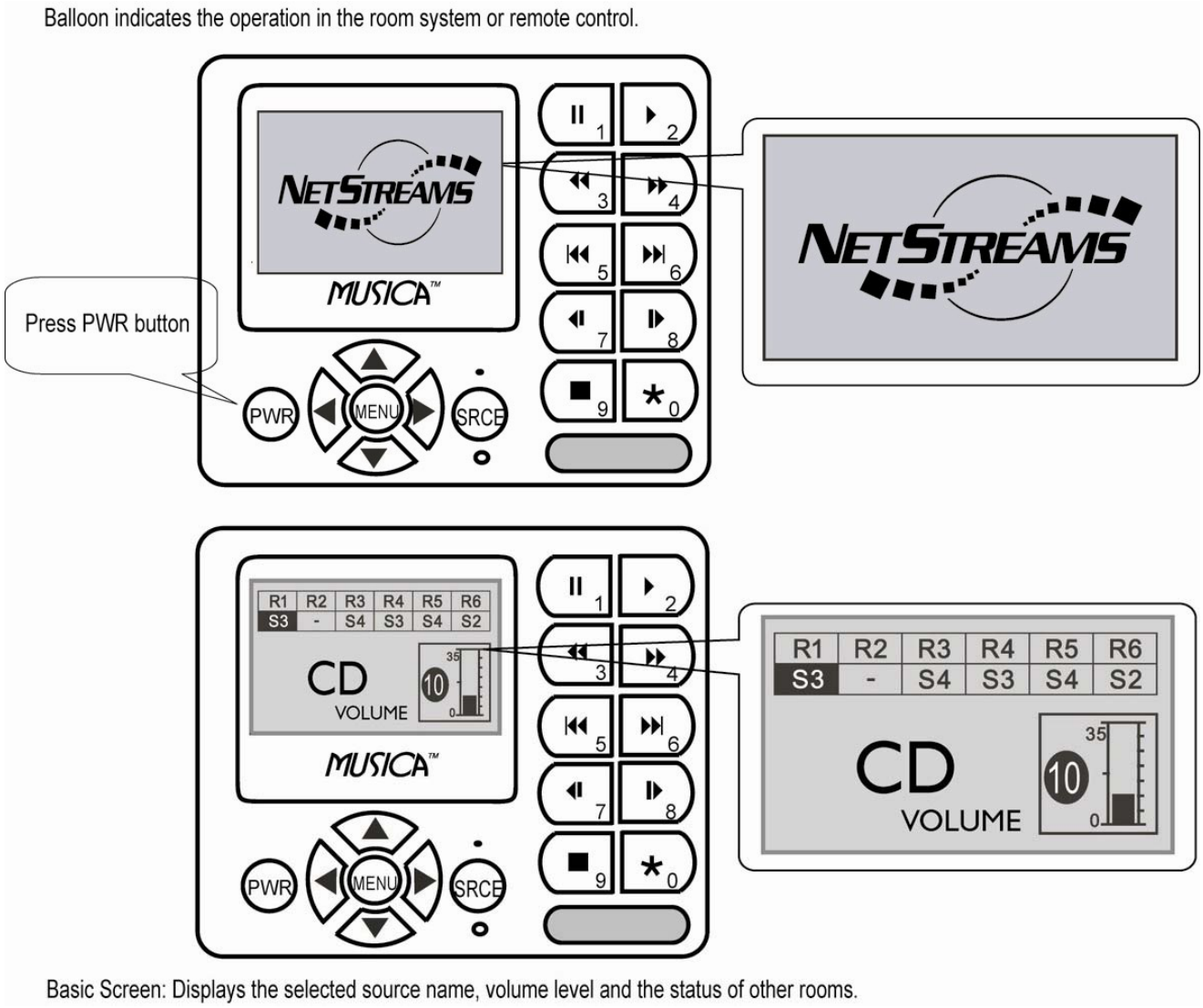
How to Operate the System

Balloon indicates the operation in the room system or remote control.



Basic Screen: Displays the selected source name, volume level and the status of other rooms.

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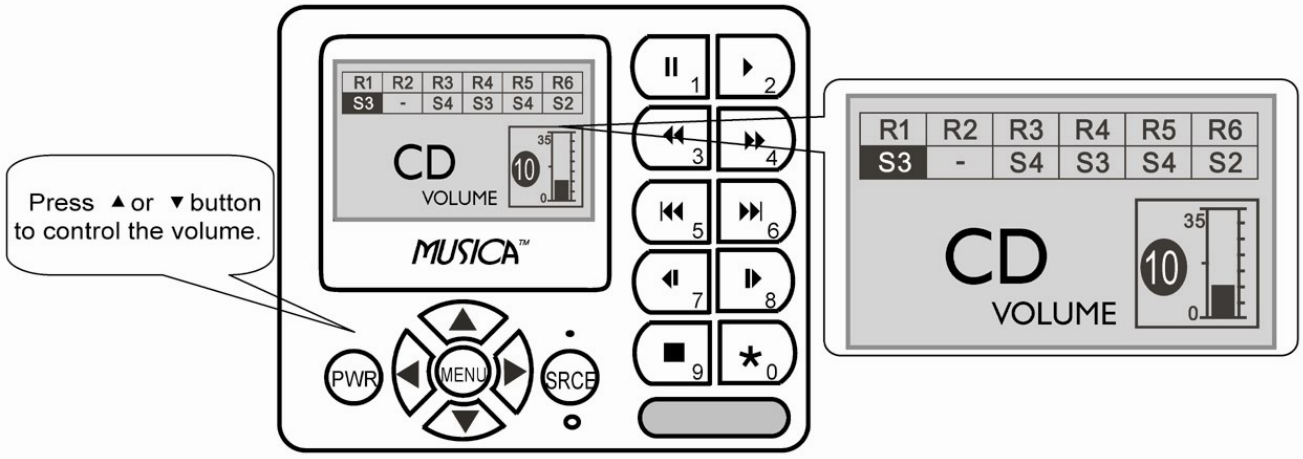
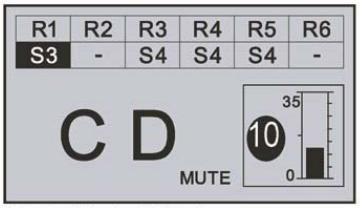
How to Control the Volume

A. Press ▲ button to turn up the volume, or ▼ button to turn down the volume.

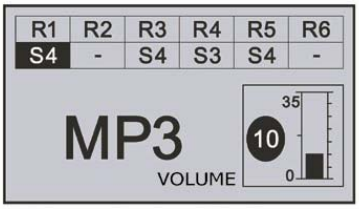
B. Keep pressing the button until you reach the desired volume level.



C. If volume level is "O", it shows system in mute state. It is released by using ▲ button.



Mute State Window

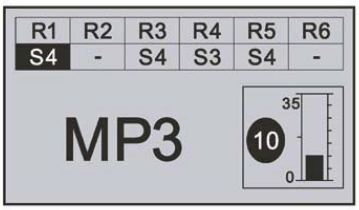


Volume Setting Window

Note:

-- Volume setting window changes back to the Level window in 1 second in the absence of button presses.

-- Then default volume level is set to 10 when power is first applied.



Level Window

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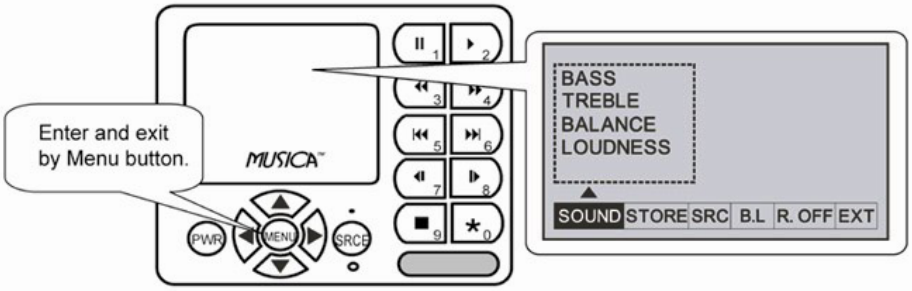
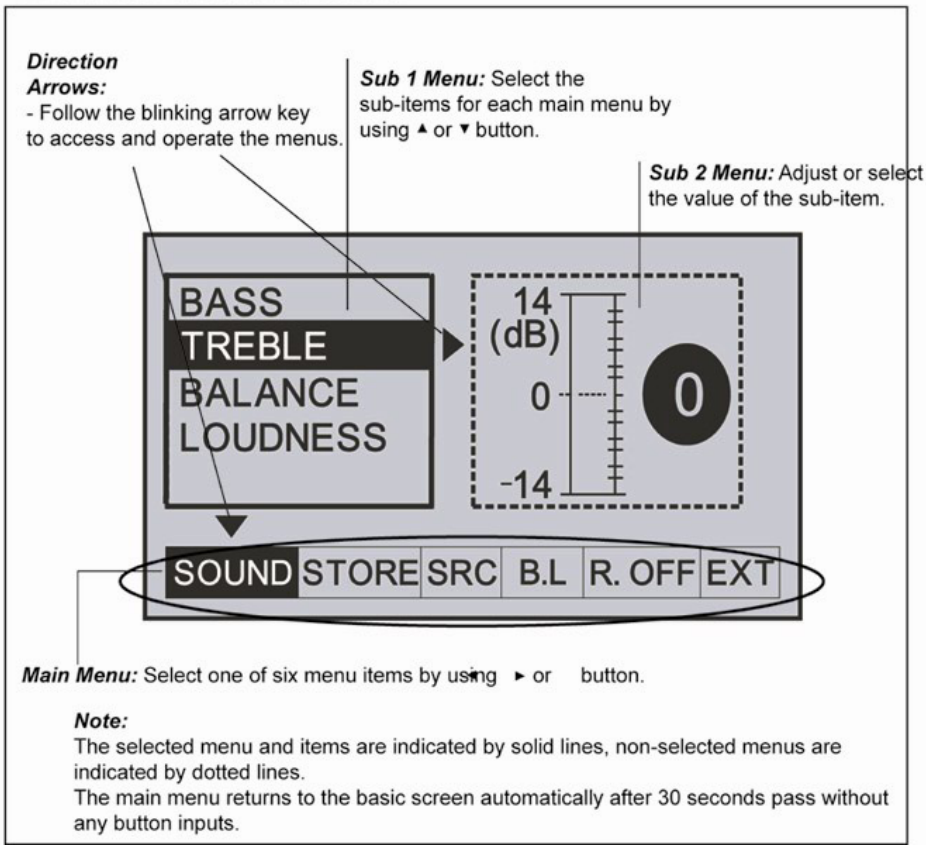
How to Use the Menu

Menus such as SOUND/STORE/B.L/R.OFF/EXT are controlled and selected by MENU button and Arrow buttons.

A. Enter and exit by MENU button.



B. Menu screen consists of four sections.



Note:

The selected menu and items are indicated by solid lines, non-selected menus are indicated by dotted lines.

The main menu returns to the basic screen automatically after 30 seconds pass without any button inputs.

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HOW TO SET STATION PRESETS (MU4602KP50-FM ONLY)

How to Set Station Presets

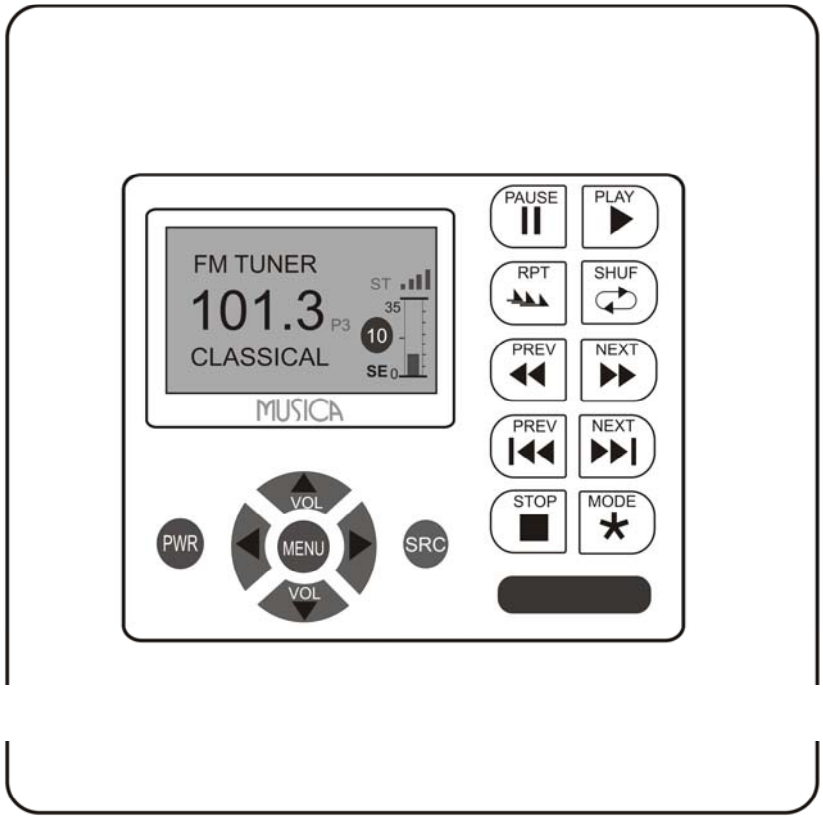
The *Musica* MU4602KP50-FM allows you to program in 8 FM stations for preset playback. To do this, tune to the station you wish to program in, then press and hold the Mode key till the "P" starts flashing. Then press and hold the corresponding hard key numbered for that preset.

e.g. If you would like to have FM 101.3 as your preset station number 1, first tune to 101.3, then press and hold the MODE key till the "P" starts flashing, the press and hold the hard key labeled 1 for 5 seconds until the LCD menu confirms storage of that station as a preset.

Tuning modes

The *Musica* MU4602KP50-FM allows you to tune radio stations using the left and right directional arrows on the keypad.

This keypad has four tuning modes. You are able to toggle through the modes by pressing the mode button on the keypad;



MANUAL TUNING (MT)

In this mode you can move up or down frequencies step by step by using the left and right arrow keys.

SEEK TUNING (SE)

In this mode you can automatically move up and down frequencies until a station is found. Once a station is found the radio will stop and stay on this station.

SCAN TUNING (SC)

In this mode you can automatically move up and down frequencies until a station is found. Once a station is found the radio will stay on this station for 4 seconds, and then continue until the next station is found. Pressing any button will stop the scan and leave on the last know station.

PRESET TUNING (PR)

In this mode you can automatically move up or down stored presets and stay on a preset for four seconds, then move to the next preset. Pressing any button will stop the scan and leave you on the last know preset.

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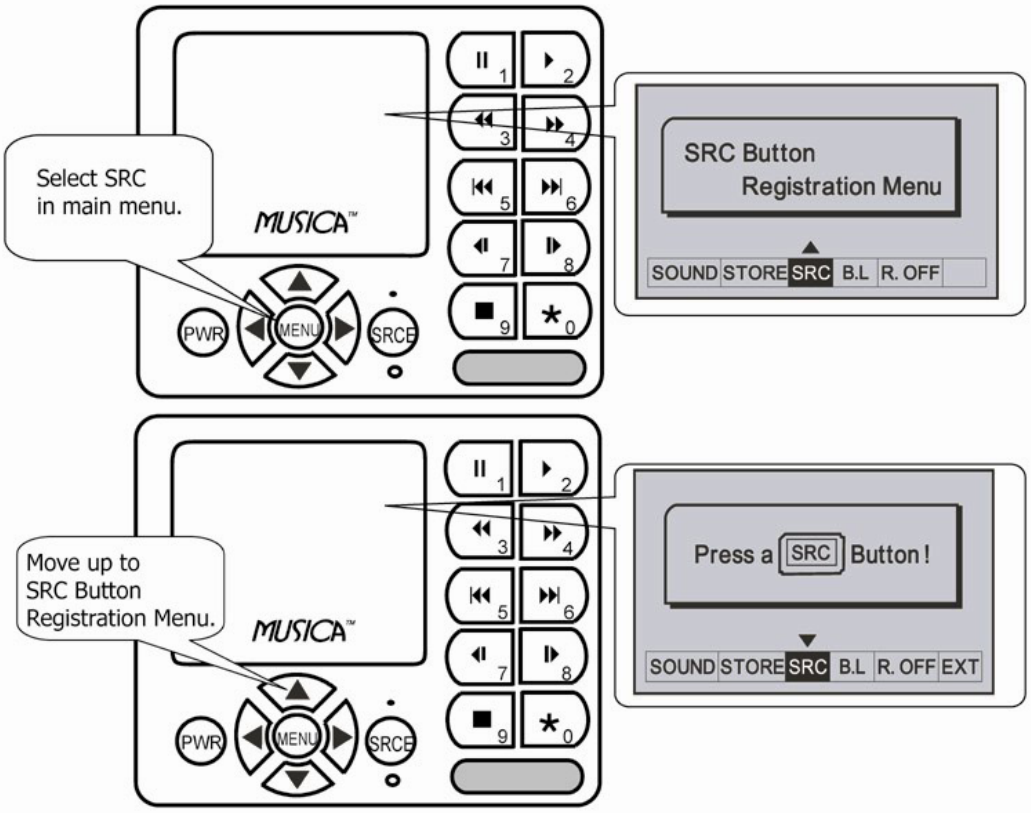
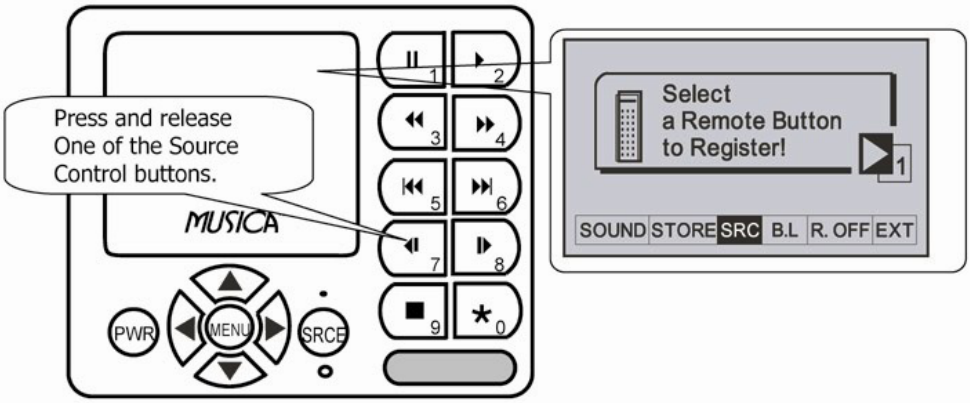
Programming the MU4602-Learning Source commands

A *Musica* system can learn up to 20 commands for each of the four (4) home-wide sources using the 10-source control buttons on the keypads. Two commands per button can be registered. The difference is shown on the display in simple icons. A press and release of the button sends the first command. Press and hold the button for 2 seconds to send the second command. Follow the step-by-step procedure below to program source commands.

1. Select SRC in main menu and move up to SRC Button Registration Menu.



2. Press and release one of the Source control buttons on the keypad.
(For 2nd command, press and hold for 2 seconds.)



3. Select a remote button on the source's remote control to register.

4. Aim the remote from the source at the IR window on the keypad and press the button you want to register. (For 2nd command, Press and hold for 2 seconds.)

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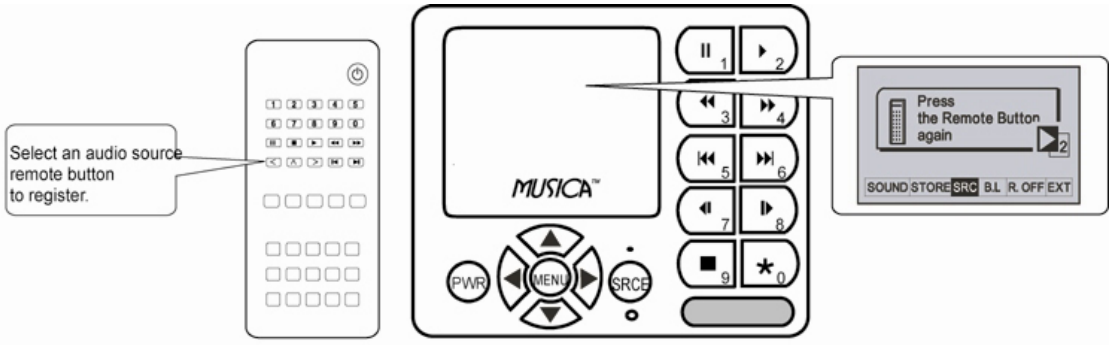
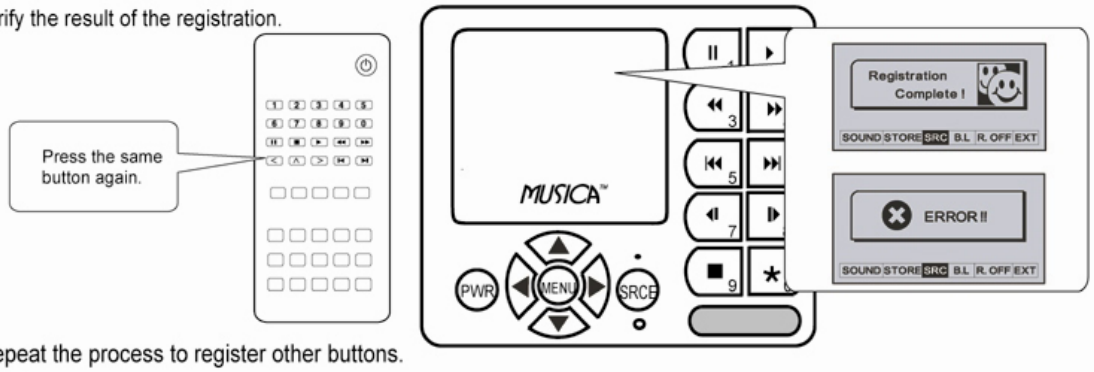
Programming the MU4602



5. While aiming the remote at the infrared window on the keypad, press the same button again to confirm the registration. (For 2nd command, press and release for 2 seconds.)

6. Verify the result of the registration.



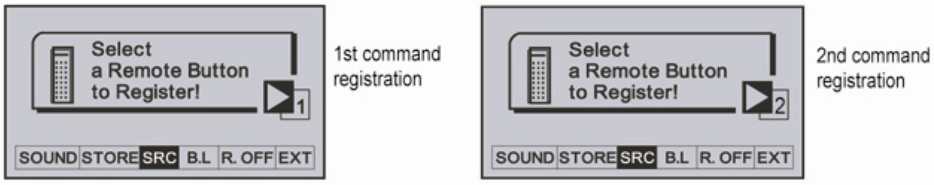
7. Repeat the process to register other buttons.

Note:

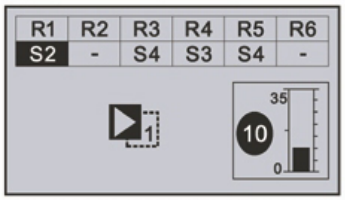
- When Step 7 is complete, display automatically returns to Step 5. in 3 seconds.
- Each Source Control has 12 buttons, two command registrations available per button.
- You want Musica to learn the first and third button presses and not the 2nd.
- If you receive an Error at this point, then you must make sure the keypad cannot receive the 2nd button press for that command.

Again, this is ONLY for Philips/Marantz remotes that oscillates between phases. (99% of all Philips/Marantz remotes)

1. 1st command registration or 2nd command as shown in LCD display.



2. For convenience, in the Basic screen, icons are displayed when operating a SRC button. This provides you an easy confirmation of its change.



3. Registered SRC codes are stored in the Main system (ADC) and all rooms can use the codes. Programming each keypad is not required.

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