IW-SYS3

In-Wall Audio System - AM / FM / CD / AUX / USB

Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

» **Read these instructions**. - All the safety and operating instructions should be read before the appliance is operated.

» **Retain Instructions** - The safety and operating instructions should be retained for future reference.

» **Heed all warnings** - All warnings on the appliance and in the operating instructions should be adhered to.

<div style="border:1px solid red">

CAUTION

RISK OF ELECTRIC SHOCK - DO NOT OPEN
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.

</div>

» **Follow all instructions** - All operating and use instructions should be followed.

» **This is a permanently connected Class 1 apparatus** - Installation of this apparatus should be carried out in accordance with all applicable installation rules by qualified service personnel.

» **The rating plate** is located on the back of unit, and the **Caution Marking** is located at the bottom of the enclosure.

» **Water and Moisture** - Do not use this apparatus near water. The appliance should not be used near water, for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool and the like. WARNING: To reduce the risk of fire or electric shock, this apparatus should not be exposed to rain or moisture, and objects filled with liquids, such as vases, should not be placed on this apparatus.

» **Mounting** - The appliance should be mounted to a wall in accordance with the mounting dimensions.

» **Ventilation** - Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should be not be situated on a bed, sofa, rug or similar surface that may block the ventilation openings; or placed in a built-in installation, such as bookcase or cabinet that may impede the flow of air through the ventilation

» **Heat** - Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

» **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.

» **Cleaning** - The appliance should be cleaned with a slightly dampened cloth. Do not use harsh chemicals, cleaning solvents, strong detergents, etc.

» **For Speaker Connections** - 18 AWG (American Wire Gauge), Class 2 Cable, or larger, should be used. The wire of preference is 16 AWG Stranded.

WARNING

The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

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 product.

» **Outdoor Antenna Grounding** - If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code. ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode. **(See Figure 1)**

Notes
a. Use No. 10 AWG copper or No. 8 AWG aluminum or No. 17 AWG copperplate steel or bronze wire, or larger as ground wires for both mast and lead-in.
b. Secure lead-in wire from antenna to antenna discharge unit and mast ground wire to house with stand-off insulators, space from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart
c. Mount antenna discharge unit as close as possible to where lead-in enters house.
An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

» **Object and Liquid Entry** - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

» **Damage Requiring Service** - The appliance should be serviced by qualified service personnel when:
a) The power supply cord or the plug has been damaged; or
b) Objects have fallen, or liquid has been spilled into the appliance; or
c) The appliance has been exposed to rain; or
d) The appliance has been dropped, or the enclosure damaged.

"CAUTION - Use of controls or adjustments or performance of procedures other than specified herein may result in hazardous radiation exposure"

Figure 1
Example of Antenna Grounding According to the NEC

NEC - NATIONAL ELECTRICAL CODE
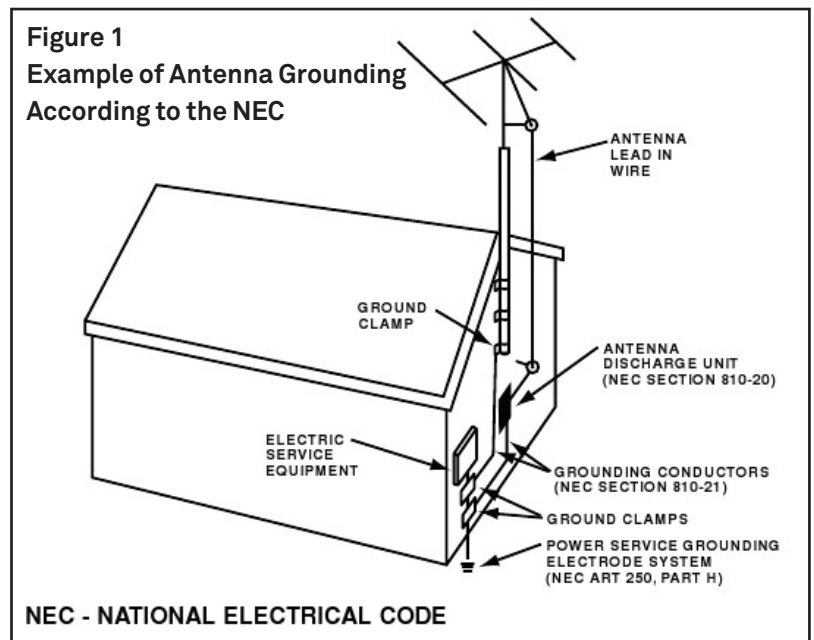
Please record the Serial Number located on the rear of the unit in the space below:

S/N:

IW-SYS3

In-Wall Audio System - AM / FM / CD / AUX / USB

IW-SYS3

CONTENT

Getting Started

This manual covers operating procedures, general setup, and technical specifications for your IW-SYS3. We recommend that you thoroughly read through the material contained in this manual before connecting your in-wall audio system. This will ensure that you have a complete understanding of how to setup and operate your IW-SYS3 properly for optimum performance.

Take some time to familiarize yourself with your IW-SYS3 system. Review the safety precautions. Depending on your expertise and local codes, some parts of the installation may require a qualified person(s) to complete. Plan accordingly!

When you see a red circled number **#** in the manual this refers to a front or rear panel feature, and a blue square **X** refers to an operational instruction.

When the instructions say to press a button this means a momentary press of the button. If it is necessary to press a button for an extended time then the manual will indicate this as "Press and hold" or similar.

Overview / Product Features & Specifications

The IW-SYS3 is a dual zone audio entertainment system with a number of outstanding features including a Digital Clock with Alarm & Snooze functions and a full function Remote Control. The unit plays CD's as well as AM & FM radio stations with 60 presets (30 AM, 30 FM). The auxiliary input provides connection of an MP3 player or other auxiliary audio device. The new front USB port allows playback of audio files from a USB flash drive. The IW-SYS3 is designed to be installed horizontally between 2x4 wall studs with 16" on-center spacing.

The IW-SYS3 is suitable for whole-house audio systems capable of driving up to **8 pair** of 8 ohm loudspeakers.

Features

» Digital AM / FM tuner
» CD Transport
» Remote Control
» Front USB port
» Adjustable LCD Display w/LED backlight
» ETL Listed
» Remote Control (included)
» AM / FM / CD / AUX / USB
» Multi-Function Digital Display Window
» Digital Clock
» Alarm with Snooze Function
» Timer / Sleep Function
» Front Loading CD slot
» Tuner Memory Presets (30 AM & 30 FM)
» AM / FM Auto Seek
» Independent Bass & Treble Controls
» 5 Pre-programmed EQ modes
» Zone B Paging
» Audio Muting
» Intro Function
» Programming to store the track in memory
» ID3 MP3 Metadata Display
» White Finish
» New or Existing Construction
» Unit Mounts in Standard 2" x 4" Stud Walls
» Mounts directly to 16" On-Centers Studs

3 Year Limited Warranty

Connectivity

» USB port for playing MP3 / WMA files from USB flash drives
» AUX input (RCA Jacks)
» AM & FM Antenna inputs
» **Pre-Amp Outputs** for driving external Power Amplifiers (RCA Jacks)
» **Speaker Outputs** capable of driving up to 8 pair of 8 ohm speakers without impedance compensating devices (2 ohms min. per channel)

Specifications

» **Input Power:** 120V 60Hz AC, 45W

» **Main Speakers A:**
   8 ohm speaker, max 4 pair
  16 ohm speaker, max 8 pair

» **Auxiliary Speakers B:**
   8 ohm speaker, max 4 pair
  16 ohm speaker, max 8 pair

» **Audio Output Power:**
  Main Speakers A: 5 W + 5 W (max) @ 4 ohms, 3 W max @ 8 ohms
  Auxiliary Speakers B: 5 W + 5 W (max) @ 4 ohms, 3 W max @ 8 ohms

» **Frequency Range:**
  AM 520 - 1710 KHz
  FM 87.5 - 108 MHz

» **Frequency Response:** 20 Hz - 20 KHz

» **S/N Ratio (A filter):** 90 dB at 1 KHz 0db

Dimensions

» **In-Wall Mounting Dimensions:** 14-1/4" W x 5-1/4" H x 3-3/4" D
» **Face Dimensions:** 17-7/8" W x 6" H
» **Face Relief:** 4-5/8"

What's in the Box:

Please confirm that the following items are in the box:

(1) IW-SYS3 In-Wall Audio System
(1) Remote Control, batteries not included

(1) AM Antenna

(1) FM Antenna w/ balun

(4) Mounting Screws
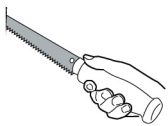
(5) Screw Caps

(1) Black Button Cable Connector

(1) Owner's Manual (this document)

Things you may need:

Drywall Saw

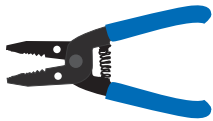*#2 Phillips Head Screw Driver*

Double insulated CL2 or 3 Speaker Wire

Power Drill with 7/64" (2.8mm) drill bit

Stud Finder

Level

Wire Stripper

(2) 1.2V - 1.5V AAA batteries (RO3, 24, UM 4)

Supported / Recommended Accessories:

The below products are available from OEM SYSTEMS COMPANY, INC.

mainstation®

The **MS-D1** is compatible with Apple® 30-pin devices and connects directly to the IW-SYS3 via AUX cable. Also compatible with Apple® Lightning adapters.

The **MS-B1** is a wireless Bluetooth® Receiver with an Apple® 30-pin connector and converts the MS-D1 Docking Station into a wireless Bluetooth® Terminal.

MS-D1

MS-B1

Made for
⊙ iPod 📱 iPhone 📱 iPad

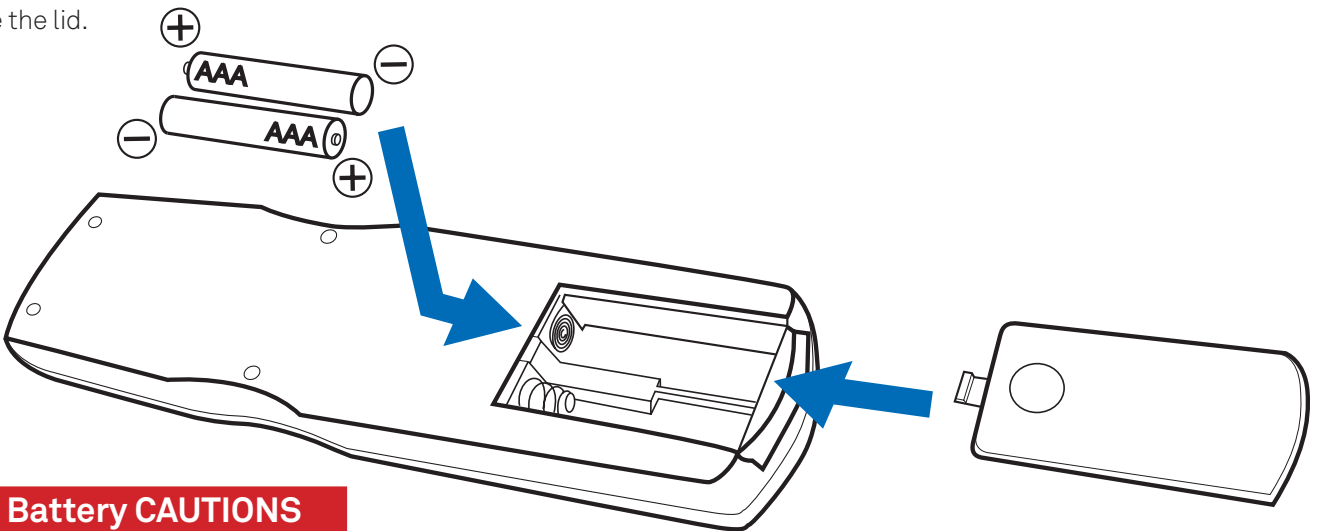*iPod, iPhone & iPad are registered trademarks of Apple Inc.*

IWM-2RGRG
For front access to the AUX inputs connect the In-Wall Jack Plate to the back of the IW-SYS3.

Loading the Batteries in the Remote Control

1. Use only 1.2V to 1.5V AAA batteries. (RO3, 24, UM 4)
2. Open the rear lid and load the batteries as illustrated below.
3. Close the lid.

! Battery CAUTIONS

- When inserting the batteries make sure not to damage the springs on the battery's ⊖ terminals.

- Do not use any batteries other than the ones specified. Also, do not use a new battery together with an old one.

- When loading the batteries into the remote control, set them in the proper direction as indicated by the polarity marks (⊕ and ⊖)

- Do not heat batteries, disassemble them, or throw them into flames or water.

- Batteries may have different voltages, even if they are the same size and shape. Do not use different types of batteries together.

- To prevent leakage of battery fluid, remove the batteries if you do not plan to use the remote control for a long period of time (3 months or more). If the fluid should leak, clean it carefully from the inside of the case, then insert new batteries. If a battery should leak and the fluid should get on your skin, wash your hands thoroughly with water.

- When disposing of used batteries, please comply with governmental regulations or the disposal rules that apply in your country / area.

- **WARNING** - Do not use or store batteries in direct sunlight or other excessively warm place, such as inside your car or near a heater. This can cause damage to the batteries and reduce their life and performance.

Remote Control Range

The remote has a maximum range of approximately 10 meters (33 feet) across an angle of about +/- 30 degrees. The range will diminish at wider angles and in the presence of bright sunlight. The remote must have an unobstructed visual path to the sensor for proper operation.

In rare cases remote controls from other equipment may interfere with each other. Avoid using remotes for other equipment close to the unit if they cause interference.
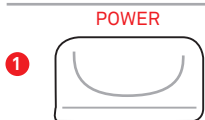
Replace the batteries when you notice a decrease in the operating range of the remote.

- - For more information regarding the Remote control refer to the Remote Control section of this manual - -

Buttons & Basic Features

Feature / Button

POWER

❶ **Power:** Switches power On and Off.
Press to turn on power. Press again to turn off power. Can also be used to stop alarm alert.

USB

❷ **USB Audio Port:** For playing MP3 & WMA files from USB flash drives.
Insert USB drive into USB socket. Select USB input by pressing Disc/USB button ⑬ once
or twice until the USB indicator shows on the display screen. The USB drive requires
approximately 10-15 seconds to initialize. Tracks will begin playing automatically beginning
at the first track or the last track played depending on whether the same drive was previously
used. The USB reader responds to all the standard navigation controls. See the section on
Navigation Functions.

SNOOZE

❸ **Snooze:** Snoozes the sounding alarm for 10 minutes.
Pressing this button when Alarm 1 or 2 is sounding will silence the alert for 10 minutes.

Buttons & Basic Features

Feature / Button

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4 | PAGE

PAGE: Pages Zone B.

To page someone that is within the audible range of the Auxiliary Speakers B, Press and hold the PAGE button **4** and speak into the microphone **26**. Your voice will be heard through the Auxiliary Speakers (Speakers connected to output B). No output will be heard through the A speaker outputs while the PAGE button is pressed.

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5 | MUTE

MUTE: Mutes output to all speakers.

Press the MUTE button to mute the audio output to the speakers. Press the MUTE button again to resume listening to the active input.

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6 | CLOCK-SET

CLOCK-SET: Use to set the Clock and to change the Display settings.
 - *see item* **E** *within this manual*

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7 | ALARM 1

Toggles **Alarm1** mode on and off, silences Alarm1 alert, and is used to program Alarm1
 - *see item* **F** *within this manual*

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8 | ALARM 2

Toggles **Alarm2** mode on and off, silences Alarm2 alert, and is used to program Alarm2
 - *see item* **F** *within this manual*

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9 | MEMORY

MEMORY: Use to manually program radio presets and track playback order.

The Memory button is used to manually store memory presets for the radio. (See AS/PS for Automatic Storage of radio stations.) The Memory button is also used to store the playback order of songs on the CD and USB drives. ***To Program a Radio Preset*** & ***Program Playback Order of Audio Tracks***: *see item* **D** *within this manual*

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10 | AS/PS

AS/PS: (Auto Store / Preview Scan) is used to automatically program radio stations and to preview station presets.

To Automatically Program Radio Stations & ***To Preview Programed Radio Stations:*** *- see item* **D** *within this manual*

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11 | ID3

ID3: Displays metadata information on MP3 and WMA files.

Pressing the **ID3** button will display the Metadata information that is commonly associated with MP3 and WMA tracks. The information may include song, album, and artist. **Note:** Metadata information is not encoded on conventional audio CD's.

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12 | RADIO / BAND

RADIO/BAND: Selects the radio input and switches the radio between FM and AM bands.

Press the RADIO/BAND button to listen to the radio tuner. Pressing this button while listening to the radio will switch the radio receiver between the FM and AM bands.

The radio can be tuned manually or automatically using the ◄◄/< >/►► navigation buttons. The radio presets can be changed using the ◄ I ► preset buttons or using the numeric keypad on the remote.

For more information on selecting radio stations, see Navigation Functions 17 18.

To store radio station presets see MEMORY 9 and AS/PS 10.
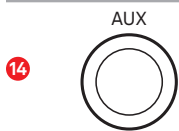

Buttons & Basic Features

Feature / Button

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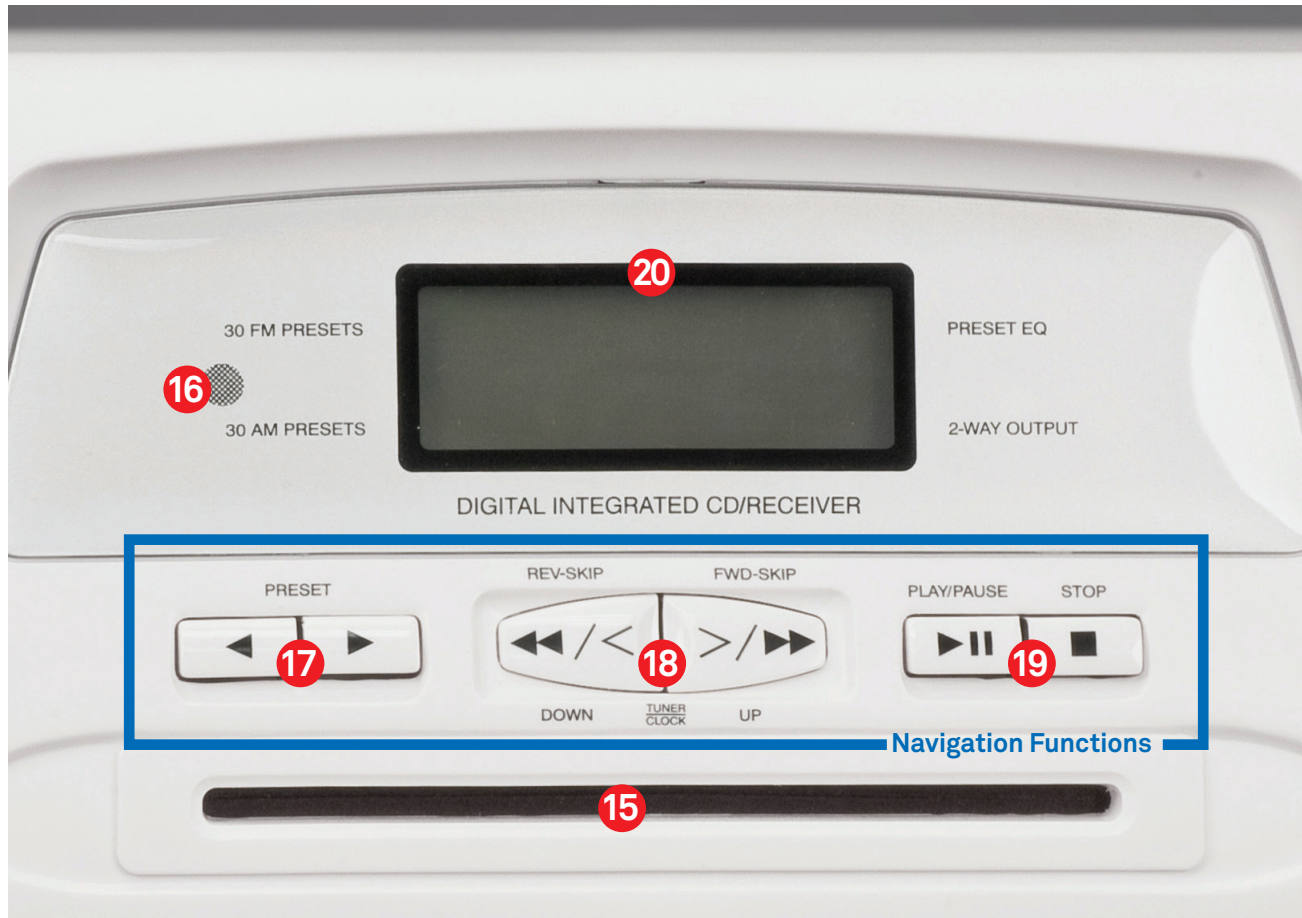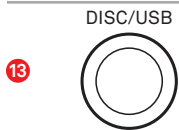
13 — DISC/USB

DISC/USB: Selects the CD or USB input.

Press the DISC/USB button to listen to the Compact Disc. Press again to listen to the USB drive. If either one of these inputs are active, pressing the button will switch to the other input.

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14 — AUX

AUX: Selects the Auxiliary input.

Press the AUX button to listen to the Auxiliary input that is located on the back of the system.

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15 — CD-R

DISC SLOT: CD, CD-R and **CD-RW** drive.

The CD player will accept audio CD's and CD-R & CD-RW discs with MP3, and WMA files. Insert the disc label-side up until the disc stops about half-way into the slot. The disc will be retracted into the drive automatically. The DISC input must be selected for disc playback. The disc will automatically begin playing after initialization (10-20 seconds). See DISC/USB **13** and REV-SKIP FWD-SKIP ◄◄/〈 〉/►► **18** for more information on using the disc player and its functions. The disc can be loaded and unloaded when another input is active.

16

IR Remote Sensor: Infrared Remote Sensor

This is the receiver for the IR remote control. The remote has a maximum range of approximately 10 meters (33 feet) across an angle of about +/- 30 degrees. The range will diminish at wider angles and in the presence of bright sunlight. The remote must have an unobstructed visual path to the sensor for proper operation.

Navigation Functions

This section describes the use of the buttons used for Navigation of the Radio, CD, and USB drive.

❶⓱ **PRESET** ◄ ►

PRESET: Use to change radio station presets and to change folders when playing the CD and USB drives. Preset can also be used to change clock and alarm settings.

Radio Presets:
Press the ◄ ► arrows to decrement or increment the stored radio station presets.
See MEMORY ❾ for information on storing the radio presets.

CD and USB Folders:
Press the ◄ ► arrows to decrement or increment the folders that may be present on the active CD or USB drives. If folders are not present on the drive then pressing either button will cause the drive to play from the beginning.

Clock and Alarm Settings:
See CLOCK-SET ❻ and ALARM1 ❼

⓲ REV-SKIP FWD-SKIP ◄◄/< >/►► DOWN TUNER CLOCK UP
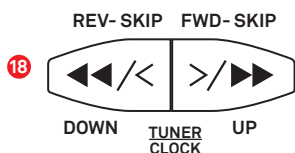
REV-SKIP FWD-SKIP -- (DOWN TUNER | CLOCK UP)
Use to manually tune radio stations and skip and scan tracks on the CD and USB drives. Also use to change clock and alarm settings.

Radio Tuning:
The radio can be tuned manually or automatically using the ◄◄/< >/►► navigation buttons.
1. To manually step to a desired frequency press the left or right arrow to decrement or increment the frequency.
2. To automatically scan to the next available station, press and hold the left or right arrow for 1 second and the tuner will begin to scan for the next available station in the selected direction.

Skip & Scan CD and USB Folders:
Press the REV-SKIP or FWD-SKIP ◄◄/< >/►► arrows to decrement or increment tracks on the active CD or USB drives.
Press and hold the REV-SKIP or FWD-SKIP ◄◄/< >/►► arrows to review or cue the audio tracks.

Clock and Alarm Settings:
See *items* **E** and **F**

⓳ **PLAY/PAUSE** ►‖

PLAY / PAUSE: Use to Play and Pause the audio tracks of the CD and USB drives
Press the ►‖ when the drive is actively playing to pause the drive. Press ►‖ again to resume playback of the selected drive. Playback will resume where it was paused unless the input was changed or the power was cycled.

STOP ■

STOP: Use to stop playback of the CD and USB drives
Press the STOP ■ button to stop the active drive. Press PLAY/PAUSE ►‖ to start from the beginning.

Reading the Display

CLOCK DISPLAY

OPERATION DISPLAY
(Displays Active Operation)
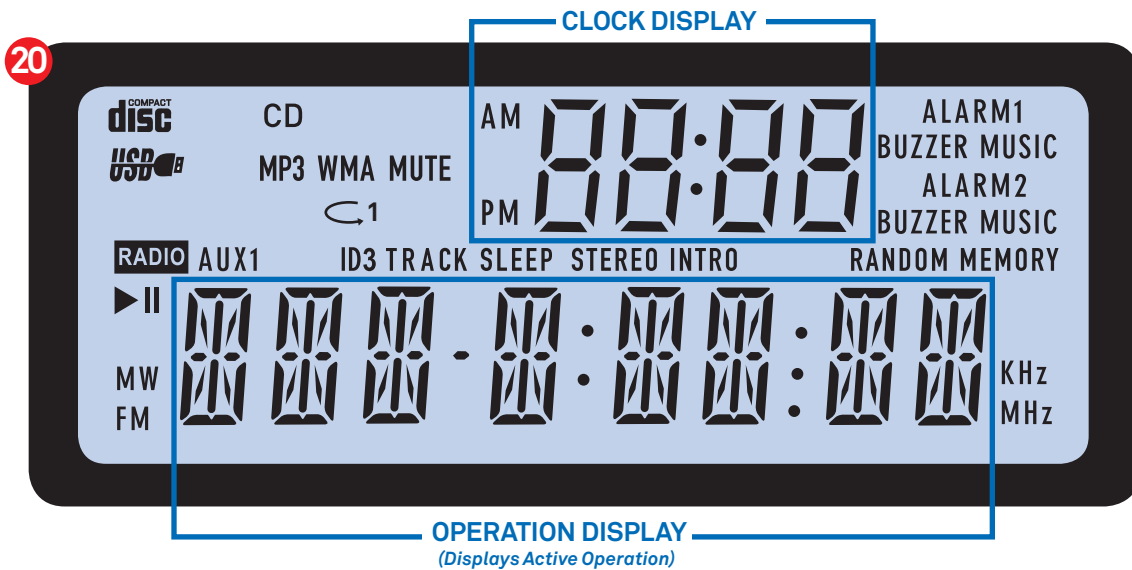
disc CD	**Compact Disc:** Both icons display when CD input is selected.
USB	**USB:** Displays when the USB input is selected.
MP3 WMA	**MP3 & WMA:** Displays the file format playing from either the CD Drive or USB Port.
MUTE	**MUTE:** Displays when the output to all speakers is muted. ⑤
►II	**PLAY PAUSE:** ► Displays when audio track is playing, and II displays when audio track is paused.
STEREO	**STEREO:** Displays when the radio receives a stereo broadcast. (Not displayed if broadcast is monaural).
RADIO MW FM	**RADIO:** Displays when the radio input is selected. **MW** displays when playing the AM band and **FM** displays when playing the FM band. - See Radio Operations ⑫
AM PM 12:00	**CLOCK DISPLAY:** Displays either clock time or alarm time - *see item* **E**
ALARM1 BUZZER MUSIC ALARM2 BUZZER MUSIC	**ALARM:** Displays when either Alarm 1 or 2 is set along with the alarm type, Buzzer or Music. - *see item* **F**
KHz MHz	**Frequency: KHz** displays when playing the FM band. **MHz** displays when playing the AM band.
AUX1	**AUX1:** Displays when auxillary input is selected. There is only one auxillary port on the IW-SYS3. The Operation Display will show **LINE IN**.

ID3	**ID3:** Displays when the ID3 button is pressed and the system is displaying ID3 Metadata information. **⓫**
TRACK	**TRACK:** Displays just above the track number when playing the CD or USB drives.
SLEEP	**SLEEP:** Displays when the Sleep Timer is active. - *see item* **I** *This function can only be activated from the remote.*
INTRO	**INTRO:** Displays when the system is in Intro Mode. - *see item* **A**
RANDOM	**RANDOM:** Displays when the CD or USB drives are in random playback mode.
MEMORY	**MEMORY:** Displays when the Disc or USB input is selected and the programmable playback function is active. - *see item* **D** The memory function becomes active when the memory button in pressed while the Disc or USB input is selected.
⤸1	**REPEAT1:** Displays when the system is set to repeat 1 audio track. - *see item* **C**
⤸	**REPEAT:** Displays when the system is set to repeat the entire volume of audio tracks. - *see item* **C**

Additional Buttons and Basic Features
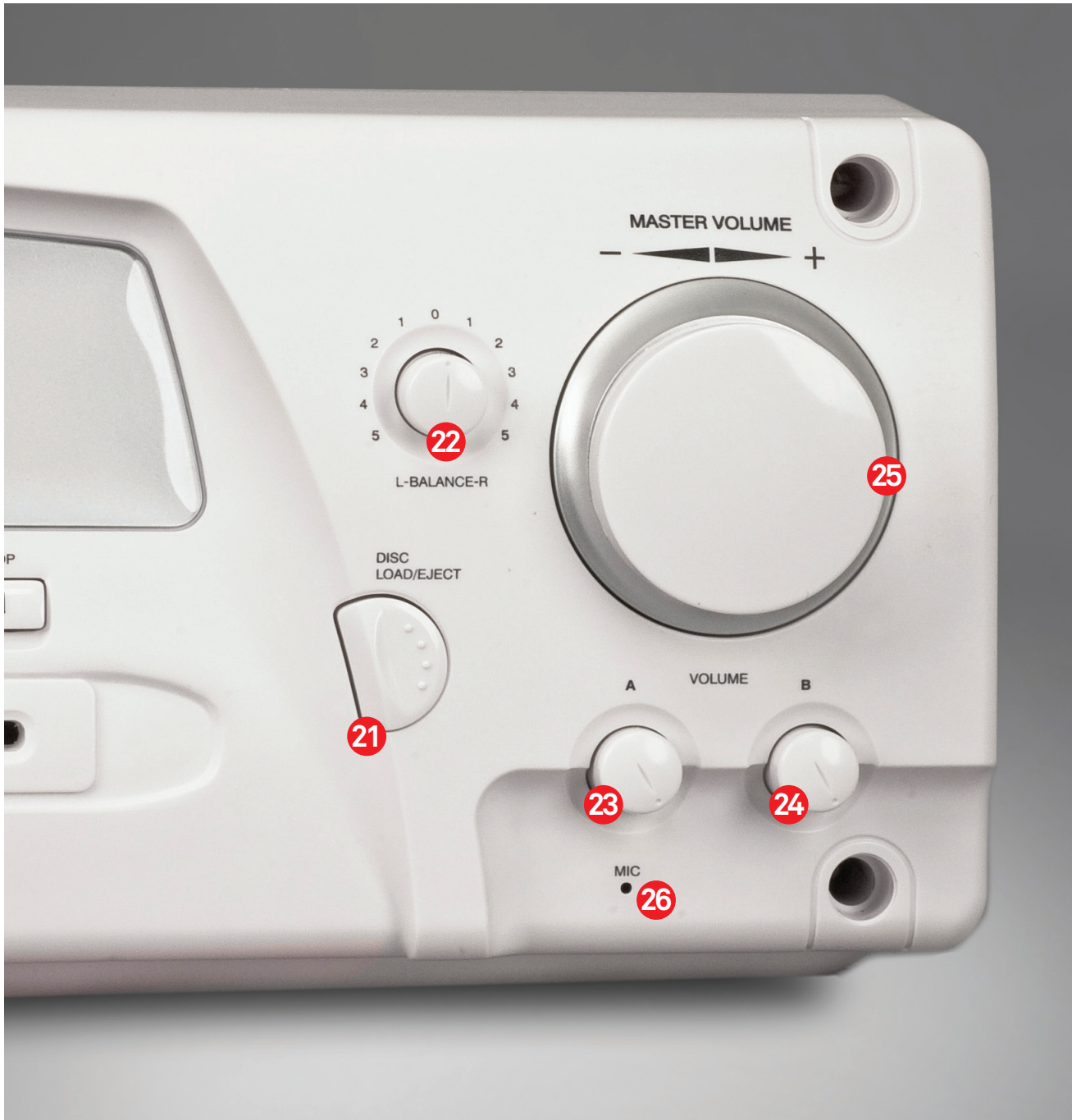
Feature / Button
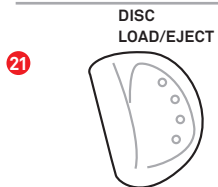
Disc Load/Eject: Ejects and Loads Compact Discs.
Press to eject CD from slot. The disc should be removed from the slot after it is ejected. Press again to reload the CD. If the CD is not removed from the slot after ejection, the CD drive will attempt to reload the disc after 12 seconds.

Additional Buttons and Basic Features

Control
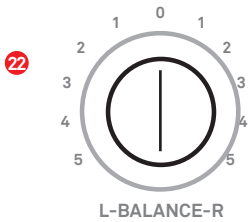
㉒ **L-BALANCE-R:** Left and Right Balance Adjustment
Rotate to adjust the balance between the left and right speakers. It is common for this control to be set to the center position. The center position is identifiable by the detent felt while rotating the control near the center. This control affects the outputs of both the A and B stereo amplifiers.
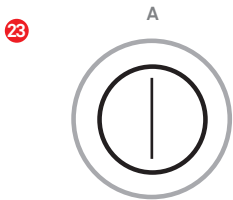
㉓ **Volume Control Knob A:** Amplifier A output level
Rotate to the desired position to set the maximum level of all the speakers connected to the **A** outputs. It is common to set this control at or near its maximum position.
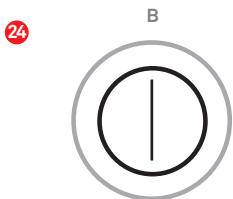
㉔ **Volume Control Knob B:** Amplifier B output level
Rotate to the desired position to set the maximum level of all the speakers connected to the **B** outputs. It is common to set this control at or near its maximum position.
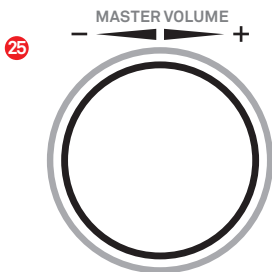
㉕ **−MASTER VOLUME+** Master Volume Control
Rotate clockwise or counter clockwise to increase or decrease the volume of all the speakers connected to the system. The knob continuously rotates with 31 volume positions (0-30).

㉖ **MIC:** Microphone Sensor
Used in conjunction with the Page Button ❹ to broadcast voice to Auxiliary Speakers B ㉟ ㊱.

Remote Control

Remote Control Transmitter 🔟6️⃣

Audio **MUTE** 5️⃣

ID3 Press to display metadata information on MP3 and WMA files. 1️⃣1️⃣

POWER: Toggles power On and Off. 1️⃣

DISC LOAD/EJECT: Ejects and Loads Compact Discs. 2️⃣1️⃣

Auto Store / Preview Scan (**AS/PS**) **D** is used to automatically program radio stations and to preview station presets. 1️⃣0️⃣

H **Numeric Keypad**

Switches Alarm into **Sleep Mode** **I**

SNOOZE: Quiets the sounding alarm for 10 minutes. 3️⃣ **F**

Selects **Auxiliary** Input. 1️⃣4️⃣

Selects the radio input & switches radio band between FM and AM. 1️⃣2️⃣

Use **VOL +** to increase Master Volume of all loudspeakers and use **VOL −** to decrease the volume 2️⃣5️⃣

Selects the CD input. Press the **DISC** button to listen to the Compact Disc. 1️⃣3️⃣ 1️⃣5️⃣

Use **Preset +, −** buttons to step through station presets. - *see Navigation Functions* 1️⃣7️⃣

A **B** **C** **D** 9️⃣

Selects **USB** input 2️⃣ 1️⃣3️⃣

REV-SKIP track button - see 1️⃣8️⃣

PLAY/PAUSE button -see 1️⃣9️⃣

FWD-SKIP track button - see 1️⃣8️⃣

STOP button - see 1️⃣9️⃣

Bass control press the top ➕ button to increase bass; press the bottom ➖ button to decrease bass. The range for this adjustment is ± 6.

Treble control press the top ➕ button to increase treble; press the bottom ➖ button to decrease treble. The range for this adjustment is ± 6.

CLOCK SET / DISPLAY 6️⃣ - see item **E**

PRESET EQ Pressing this button steps through the preset Bass and Treble settings. see item **G** for **PRESET EQ Settings**

ALARMS 7️⃣ 8️⃣ - see item **F**

Operations

A **INTRO OPERATIONS:**

When active, "Intro" plays the first 10 seconds of each audio track of the CD or USB drive.

1. When In CD or USB mode, press the **INTRO** button to start the intro scan mode.
2. Press the **INTRO** button again to release the intro scan mode.

B **RANDOM OPERATIONS**

Random, also known as shuffle play, mixes the playback order of audio tracks. When Random mode is active the CD or USB drive will play continuously until stopped. It will play through all the tracks before repeating any previously played tracks.

1. When In CD or USB mode, press the **RANDOM** button to set the random playing mode.
2. Press the **RANDOM** button again to release the random playing mode.

C **REPEAT**

1. When **REPEAT** is pressed the first time, the display will show ⟲1 and the CD or USB drive will play a single audio track repeatedly until deactivated.
2. When Repeat is pressed a second time, the display will show ⟲ and the CD or USB drive will now play the entire volume of audio tracks repeatedly until stopped.
3. Press the **REPEAT** button again to cancel the repeat operation.

D **PROGRAMMING / MEMORY / AS/PS**

To Program a Radio Preset:

1. Tune the radio to the desired frequency.
2. Press the **MEMORY** button ❾. The display will begin flashing a Preset number (1-30).
3. Select the desired Preset using the PRESET ◀ ▶ buttons. If no action is taken for 3 seconds the system will exit the program mode.
4. Press the **MEMORY** button to store the Preset. The display will stop flashing and show the stored Preset.
5. Repeat for each desired Preset. The Preset value will increment automatically after storing a station.

To Program Playback Order of Audio Tracks:

1. Select the input that you wish to use, CD or USB. The drive will begin playing automatically after it has initialized.
2. Press the STOP ■ button after initialization.
3. Press the MEMORY button. The display will show P-01 001, indicating that the system is in Program mode. The system will remain in Program mode until the PLAY ▶‖ button is pressed or another input is selected. The P-01 is the program number and the 001 is the Track number.
4. Select a desired track using the ◀◀/〈〉/▶▶ navigation buttons. Press the MEMORY button to store the track. The display will increment to P-02 indicating that it is waiting for the next Program number.
5. Continue adding tracks by selecting the track and pressing MEMORY.
6. Press PLAY ▶‖ to begin playback of the programmed tracks.

Note: The system will continue to repeat the programmed tracks until the input is changed or STOP ■ is pressed. The Programming will be lost once either is performed. It is not possible to add songs to the playback list once playback begins.

Operations

## To Automatically Program Radio Stations

1. Press and hold the **AS/PS** button ❿ for 1 second to automatically program radio stations. If the FM band is selected then the FM stations will be programmed. AM stations will be programmed if the AM band is selected. The unit will program a maximum of 30 FM stations and 30 AM stations (60 total).

To Preview Programed Radio Stations:

1. Press **AS/PS** to Preview the 30 radio station presets. The Preset number will begin flashing and each preset will play for 5 seconds. The Preview begins with Preset number 1 and will end at Preset number 1 unless **AS/PS** is pressed again or the input is changed.
2. Press **AS/PS** again to stop Preview and to remain at the current station.

E   CLOCK SET / DISPLAY

1. Press and hold the **CLOCK-SET** button ❻ for 1 second. The Hour display will begin flashing and **SET TIME** will be displayed.
2. Use either set of navigation buttons ◁▷ or ◀◀/‹›/▶▶ to set the Hour.
   (From the remote, the VOL+ and – will also work).
3. Press the CLOCK-SET button and the Minute display will begin flashing. Set the Minute using the same navigation buttons.
4. Press the CLOCK-SET button again and **SET 12H** or **24H** will be displayed. Use the navigation buttons to set the clock to either read in 12 hour or 24 hour mode. If you change the mode you may need to reset the clock to the correct time.
5. Press the CLOCK-SET button again and **LIGHT** will be displayed. Use the navigation buttons to adjust the brightness of the display. There are 4 levels.
6. Press the CLOCK-SET button again and **CONTRAST** will be displayed. Use the navigation buttons to adjust the contrast of the display. There are 2 levels.
7. Press the CLOCK-SET button again and **SET OK** will be momentarily displayed.
8. Note: You may enter the CLOCK-SET mode and skip to any operation by continuing to press CLOCK-SET until you arrive at the operation that you wish to change. Any skipped operation will be unchanged.
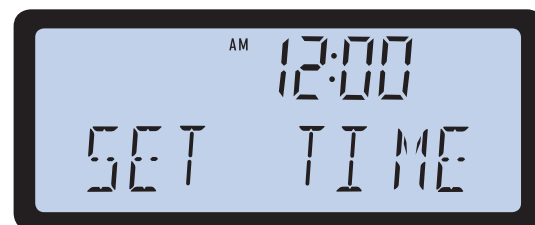
F   USING THE ALARMS

The Alarms can be used in the same way as with any common alarm clock. The programmed alarms will sound daily if the alarms are in their active mode. The programmed alarm times will remain unchanged unless they are reprogrammed or if the power fails. The two alarms are independent and can be used together with each alarm programmed for a different time. The alarms can be programmed to have different alert sources, such as the Radio, Aux, Buzzer, CD, or USB. The default alert is the Radio. The alert Buzzer sound for Alarm1 is different than Alarm2. Alarm2 has a higher frequency (pitch) beeper. People with high frequency hearing loss may have a difficult time hearing the Alarm2 Buzzer. The Buzzer (Beeper) alert sound is emitted from all active speakers.

F
cont. **Programming the alarm:**
1. Press and hold the desired ALARM button (1 or 2) for 1 second. The Hour display will begin flashing and SET TIME will be displayed.
2. Use either set of navigation buttons ◀ ▶ or ◀◀/〈〉/▶▶ to set the Hour value. (From the remote, the VOL+ and – will also work).
3. Press the ALARM button and the Minute display will begin flashing. Set the minute value using the same navigation buttons.
4. Press the ALARM button again and SET RING will be displayed. Use the navigation buttons to set the Ring source (Radio, Aux, Buzzer, CD, or USB). The Radio is the default input. **Note: Ensure that you have an active input, such as a CD in the CD player or no sound will be heard.**
5. Press the ALARM button again and SET VOL will be displayed. Use the navigation buttons to adjust the volume for the Alarm. 20 is the default volume level. Note: If you have other volume controls between the amplifier and the speakers then these volume controls should be set so that the alert can be heard at an appropriate volume.
6. Press the ALARM button again and SET OK will be displayed. The Alarm will be set and the active alarm indicator (ALARM1 and/or ALARM2) will appear in the upper right corner of the display along with the alarm source, either MUSIC or BUZZER.
   Note: Ensure that Alarm1 or Alarm2 is displayed or the Alarm will not sound.

Toggling the Alarm between Active and Inactive mode:
1. Press the ALARM button to toggle the Alarms between their active or inactive states. When an Alarm is set (toggled to its active mode), the active alarm indicator (ALARM1 and/or ALARM2) will appear in the upper right corner of the display along with the alarm source, either MUSIC or BUZZER. The alarm time will also be displayed for 6 seconds.
2. The Alarms can be toggled between their Active and Inactive modes without losing their programming.
3. If the power fails, the alarm and clock programming will be lost and they must be reprogrammed.
4. To review the programmed time and music source, simply toggle the Alarm from its inactive to active mode. The display will show the alarm source and alarm time for 6 seconds.

Silencing the Alert:
Press the POWER button to silence the alert when the Alarm is sounding. Alternatively, pressing the ALARM button of the alerting Alarm will also silence it.

G **PRESET EQ SETTINGS**
Pressing this button steps through the preset Bass and Treble settings. The Bass and Treble controls may also be adjusted manually using the + & – Bass and Treble controls on either side of the EQ button. The following chart shows the pre-programmed EQ settings.

	Bass	Treble
Flat	0	0
Jazz	+1	+1
Rock	+3	+3
Class	0	+2
Pop	+2	+2

H **NUMERIC KEYPAD**

The remote control of the IW-SYS3 has a numeric keypad that allows direct access to radio stations and audio tracks. 1, 2, or 3 digit numbers can be entered depending on the 10+ selection .

Numeric Keypad

Pressing the 10+ button changes the display ❷⓿ to show 1, 2, or 3 dashes. The number of dashes displayed represents the number of digits that must be entered on the Numeric Keypad.

One dash allows you to enter one digit

When 1 dash is displayed then a single digit must be entered. (Radio Station Presets 1 - 9 and Tracks 1 - 9 can be accessed.) When 2 dashes are displayed then two digits must be entered. (Radio Station Presets 01 - 30 and Tracks 01 - 99 can be accessed.) When 3 dashes are displayed then three digits must be entered. (Radio Station Presets 001 - 030 and Tracks 001 - 999 can be accessed.)

Two dashes allows you to enter two digits

Each press of the 10+ button will change the number of displayed dashes. In most cases the 2-digit mode, (pressing the button until two dashes are displayed), is the most useful because it allows for access of single and double digit radio presets and audio tracks.

For example: If the system is in 2-dash mode then entering 05 on the keypad will access either Radio Preset number 5 or Audio Track 5, depending on which input is actively playing. Similarly, pressing 15 on the keypad will access either Radio Preset 15 or Audio Track 15. If the system were in 3-digit mode then 005 or 015 would need to be entered to access the same Preset or Track. If the system were in 1-digit mode then Preset or Track 5 could be accessed but not 15. It would be necessary to first increment the 10+ selection to access Preset or Track 15.

Three dashes allows you to enter three digits

Note: The 10+ function will not need to be used often since the IW-SYS3 will retain the last entry and remain in either 1, 2, or 3-digit mode until the 10+ button is pressed again.

I **SLEEP TIMER**

Use this function to activate (or deactivate) the Sleep Timer function. When the Sleep Timer function is active the IW-SYS3 will turn itself off automatically after the time period that is set. The available countdown times are 90, 80, 70, 60, 50, 40, 30, 20, and 10 minutes. This function is handy when you want to listen to a program when falling asleep.

Activating the Sleep function:

To activate the Sleep Timer, press the Sleep button. When this button is pressed for the first time, the sleep timer will be activated and Sleep 90 will be displayed. **SLEEP** will flash above the operation display indicating that you are
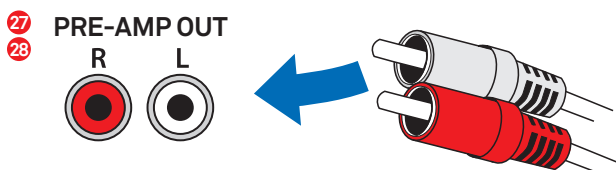
in the Sleep Timer programming mode. Each press of the Sleep button while in the programming mode will decrease the time by 10 minutes. To exit the programming mode and start Sleep timer, just wait 5 seconds until the SLEEP indicator stops flashing. The SLEEP indicator will then be displayed steadily indicating that the IW-SYS3 is in Sleep mode. **Note: The countdown is internal to the system and is not displayed.**

Turning off the Sleep function:
Pressing the button when the system is in Sleep mode will deactivate the Sleep function. The SLEEP indicator will disappear when deactivated. If you've accidentally activated the Sleep timer, wait 5 seconds until the SLEEP indicator stops flashing and press the Sleep button again. This will disable (turn off) the timer.

Troubleshooting	
Issue	**Possible Solutions**
No Power	If the clock readout is visible then the unit is receiving power but may not be turning on. Try pressing the power button on front of the unit. If this does not work then try pressing the power button on the remote. If there is no clock readout visible then check the circuit breaker to ensure the circuit has power. If the unit is connected to a GFCI protected circuit then the GFCI may need to be reset. If neither of these possible solutions worked then contact the manufacturer or the place of purchase.
Distortion at high volume	Try turning down the bass. If the bass level is flat (at 0) then you may need to turn down the volume. Try turning the balance to the one side. If the bass is stronger with only one speaker playing then the speakers are likely wired out of phase. Review the section on "Speaker Connections" within this manual. The IW-SYS3 is not a high power device. It is designed for background level sound. Higher efficiency speakers may be a possible solution.
Remote does not operate	Try installing new batteries in the remote. Direct or bright sunlight may be shining on the sensor and disabling it.
Display is dificult to read	The display is adjustable. Adjust the contrast. Review the "Clock Set/Display" section of the manual. - see item **E**
Display is too/not bright	The display is adjustable. Adjust the brightness. Review the "Clock Set/Display" section of the manual. - see item **E**
Disc will not eject	Turn on the power and press the eject button on the front panel that is located to the right of the CD slot. Try inserting a disc to ensure that a disc is inside the unit. If neither of these work then contact the manufacturer or the place of purchase.
ERROR is displayed	The operation that you are trying to perform is not supported in the present mode.
Constant audible hum	In most cases this condition occurs when the IW-SYS3 is connected to a secondary device, usually through the Auxilliary input or Preamp Output jacks. The problem is usually traceable to a cable TV connection that is not properly grounded and is causing a ground loop. If disconnection of the cable from your other equipment stops the hum then the Cable Television company should be contacted to correct the issue. If they are unable to resolve the issue then it may be necessary to place line isolation transformers between the IW-SYS3 and the other equipment.
Parts are missing	Contact the manufacturer or the place of purchase to order the missing parts.
USB does not charge phone	The USB port is for playback from flash drives only. It is not designed to charge portable devices.
USB won't recognize device	The USB port is for playback from standard flash drives only. It is not designed to work with mass storage devices. The flash drives must be FAT32 formatted. NTFS formatted drives will not be recognized. Incompatibilities may occur.

Rear Connections - PRE-AMP OUT & AUX IN

㉙ ㉚ AUX IN
R   L

The Auxiliary Input RCA jacks are found on the rear of the unit above the FM Antenna input. These inputs can be connected to most audio components that contain line level audio outputs. They can also be connected to the headphone outputs of most personal audio players. Connection from a phonograph is also possible but only with the use of a phono preamp. If it is desirable to have frontal access to these connections then an optional accessory can be purchased and installed. See the Supported / Recommended Accessories section near the front of this manual.

(RCA Auxiliary Cables are not included with the unit)

㉙ AUX RIGHT- CH INPUT:
For External connection from the RIGHT OUTPUT of your own music source.

㉚ AUX LEFT- CH INPUT:
For External connection from the LEFT OUTPUT of your own music source.

㉗ ㉘ PRE-AMP OUT
R   L

The Pre-Amp Audio Out jacks are found on the rear of the unit above the AM Antenna input. The outputs accommodate RCA type plugs. All connections to the PRE-AMP OUT & AUX IN jacks should be made with shielded cables (patch cords).
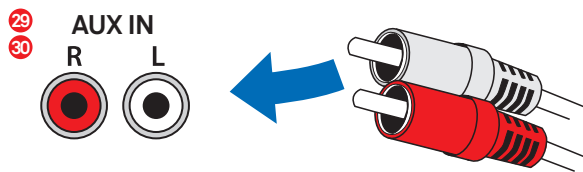
(RCA style cables are not included with the unit)

㉗ Pre-Amplifier RIGHT-CH OUTPUT:
For external connection to the RIGHT INPUT of your own amplifier

㉘ Pre-Amplifier LEFT-CH OUTPUT:
For external connection to the LEFT INPUT of your own amplifier.

Notes:
1. When connecting the PRE-AMP OUTPUT and AUX INPUT jacks, remember to switch off both the IW-SYS3 and your amplifier.
2. Each channel is marked with "R" and "L" and color coded for proper identity. Red is the Right channel.
3. The PRE-AMP OUTPUT level is variable and controlled by the MASTER VOLUME CONTROL ㉕.
4. The Page function is not available on the Pre-Amp outputs.

Rear Connections - Antennas

(31) Connecting AM Antenna

Connect the supplied AM antenna plug into the Motorola-style AM antenna jack as shown below. Extend the wire within the wall if it was not previously installed.

AM ANT
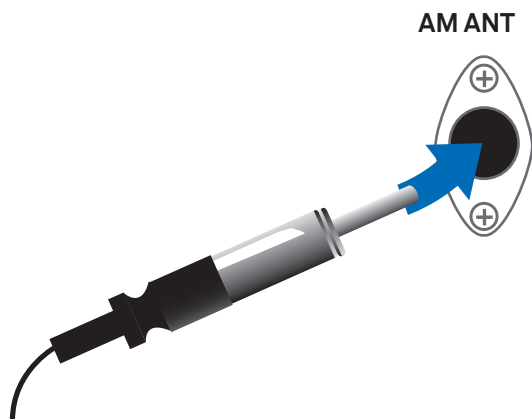
(31) Connecting FM Antenna

Secure the two leads of the 300-ohm FM dipole antenna beneath the two screws of the black balun that was supplied with the system. Connect the supplied FM antenna balun onto the F-style 75-ohm FM antenna jack as shown below. Extend the antenna within the wall if it was not previously installed.

These should be the only antennas required for good AM & FM radio reception. Should you live is a difficult reception area or should the building's structure inhibit good radio reception then an external antenna can be used. This is described in the following section.

FM ANT
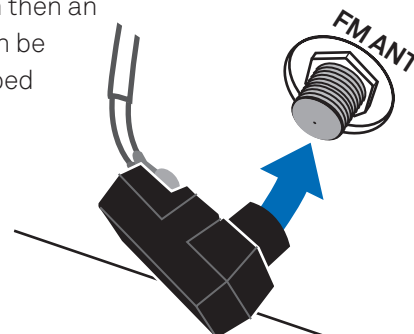
External Antenna Installation

To improve radio reception external antennas can be used. Before committing to the cost and difficulty of external antennas it is advisable to try moving the antennas within the wall to see if a suitable position can be obtained. Moving the antenna wires up the wall with a non-metallic object will generally yield better reception. If this does not yield the desired results, then an attic-mounted antenna will likely work.

If an attic-mounted antenna is to be installed it is recommended that the installation be performed by a qualified person(s). Extending the length of the AM wire with a single conductor can improve reception. For the FM antenna it is recommended that a coaxial cable be run to the attic space and that the dipole antenna be mounted in the attic space (if available) and connected to the coaxial cable using a female-to-female "barrel" F-connector. Alternatively an omnidirectional or directional FM antenna (depending on location) may be necessary. Should an outdoor antenna be necessary then it is important that it be installed properly by a qualified person(s). Outdoor antennas require special safety precautions and proper grounding to prevent electrical shock and damage to the system from static discharge and lightning. More information is available in the first section of this manual entitled, **IMPORTANT SAFETY INSTRUCTIONS**.

Notes:

1. When installing an external antenna, pay attention to the antenna safety instructions in "**IMPORTANT SAFETY INSTRUCTIONS**"

Speaker Connections

The IW-SYS3 has two internal stereo amplifiers and two-pairs of outputs for speakers, **Main Speaker Pair A (BASE)** & **Auxiliary Speaker Pair B**. Speaker Pair A is the primary speaker output and it is best used for speakers installed close to the system. **Auxiliary Speaker Pair B** is an independent speaker output for providing sound to another location(s). **Speaker Pair A & Speaker Pair B** provide identical output but with independent volume adjustments ❷❸ ❷❹, and Speaker Pair B also provides paging output, (PAGE button ❹). We recommend 18 gauge minimum wire size be used for speaker connection. 16 gauge, which is larger, is preferable. The IW-SYS3 will handle up to four 8-ohm speakers per channel.
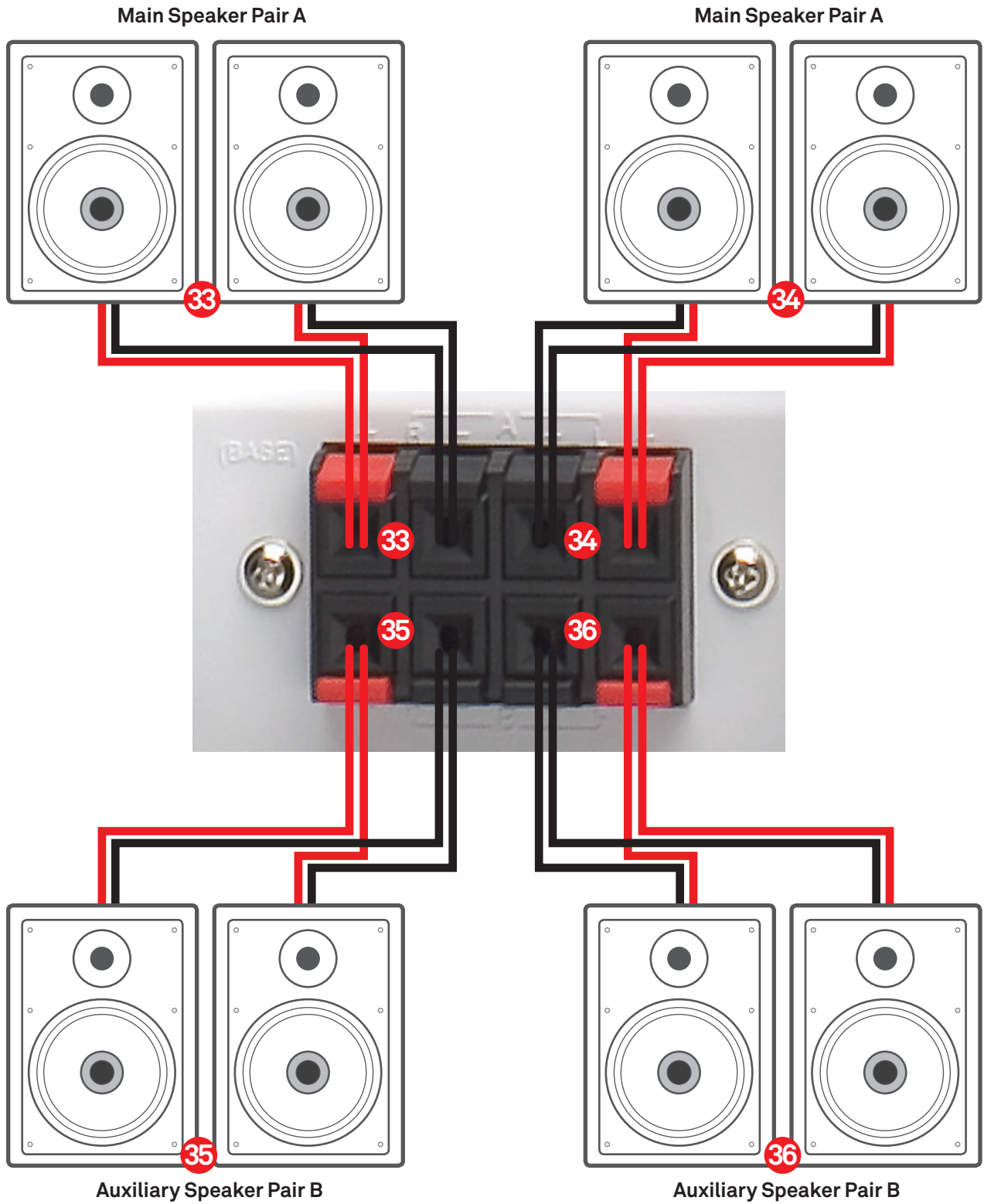
To connect a speaker to the system:
1. Strip back approximately ½" (13mm) of insulation from each of the conductors of the speaker cable.
2. Ensure the terminal latches are open, (flipped away from the hole).
3. Insert the conductors into the appropriate holes ensuring that proper polarity is maintained, "+" wire to the "+" terminal and "-" wire to the "-" terminal. Speaker pairs that are wired out of phase will exhibit reduced or little bass output.
4. Flip the latch toward the wire to secure it.
5. Repeat the above steps for the other speakers in the system.

When multiple pairs of speakers are connected to a single output, the wires should be connected in parallel (not series). The wires that share a connection may often be twisted together and inserted together in the same hole. Should the combined wires be too large then they can be connected together to a pigtail with wire nuts. The pigtail should then be connected to the amplifier outputs.

Note: If you use multiple speakers, the speakers should be connected in parallel to maintain an impedance of not less than 2 ohms. It is common to have Autoformer-type volume controls installed in each room where there is a pair of speakers. The autoformer controls permit the speaker volume to be adjusted independently in each room.   If the volume controls have impedance multiplication capability, it is recommended that they be set to 1X (unity multiplication) except where the combined load impedance on the amplifier is less than 2 ohms. This scenario is unlikely except in rare installations, such as a commercial installation where light background music is desired throughout multiple rooms.

Contact a professional if you lack the expertise and are not comfortable with the installation process.

Speaker Connections

Main Speaker Pair A   **Main Speaker Pair A**

33   34

33   34

35   36

35   36

Auxiliary Speaker Pair B   **Auxiliary Speaker Pair B**

Page Operation is only heard through
Auxiliary Speakers
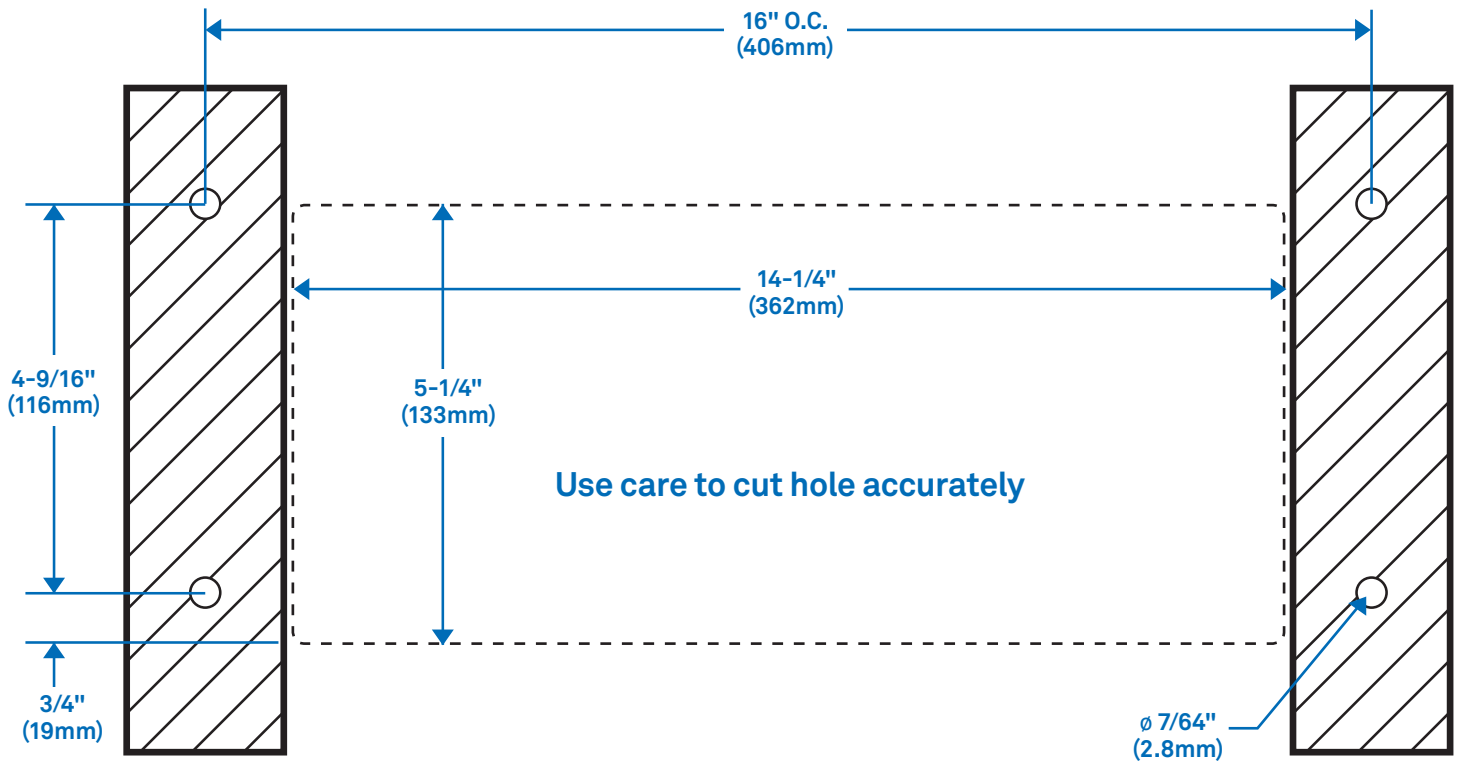
Mounting Instructions

CAUTION

The IW-SYS3 should not be installed in an exterior wall.

1. The IW-SYS3 should only be installed in an interior wall. Use a "stud finder" to locate the positions of the studs.

2. Assess the wall area for possible concealed obstructions such as wiring, plumbing, heating ducts, etc. These might be used in adjacent rooms or on other floors in multi-level homes.

3. Inspect the backside of the wall, the attic, and/or the crawl space if available for clues to possible obstructions. Use inspection holes with inspection tools (camera, mirror, flashlight, etc.) if necessary.

4. Use the Mounting Dimensions provided to mark the location of the cut-out, ensuring that it is level.

5. Using the proper tool, cut the appropriate sized hole in the wall. On drywall, clean cuts can be made with a drywall saw.

6. If the wiring has not yet been run, do so now that you have access to the wall's interior.

7. Mark the 4 attachment holes and pre-drill them. 7/64" (2.8mm) is the suggested drill bit diameter. These holes can be measured and marked per the dimensions but it is also possible to mark them using the IW-SYS3.   To do it this way, position the IW-SYS3 on the wall in the hole that was cut while ensuring that the unit is level and resting near the bottom of the hole. Mark the mounting holes with a scribe or slender screwdriver. The marking tool should be inserted through the 4 holes in the front of the unit.

8. Make the the audio output and antenna connections as shown on the previous pages and the AC electrical connections as shown on the following pages.

9. Screw the IW-SYS3 to the wall using the 4 screws that are provided.

10. Install the 4 screw caps to cover the mounting holes.

Mounting Dimensions

16" O.C.
(406mm)

14-1/4"
(362mm)

4-9/16"
(116mm)

5-1/4"
(133mm)

Use care to cut hole accurately

3/4"
(19mm)

ø 7/64"
(2.8mm)

#2 Phillips pan head screw 3.5mm x 40mm x 4pcs
Opening dimensions in wall is 14-1/4"(Width) x 5-1/4"(Height) x 3-3/4"(Depth)
Note: Four (4) Screw Covers are supplied in packing.

14-3/16"
(360mm)

3-3/4" (95mm)

4-5/8"
(117mm)

6"
(152mm)

17-7/8"
(454mm)
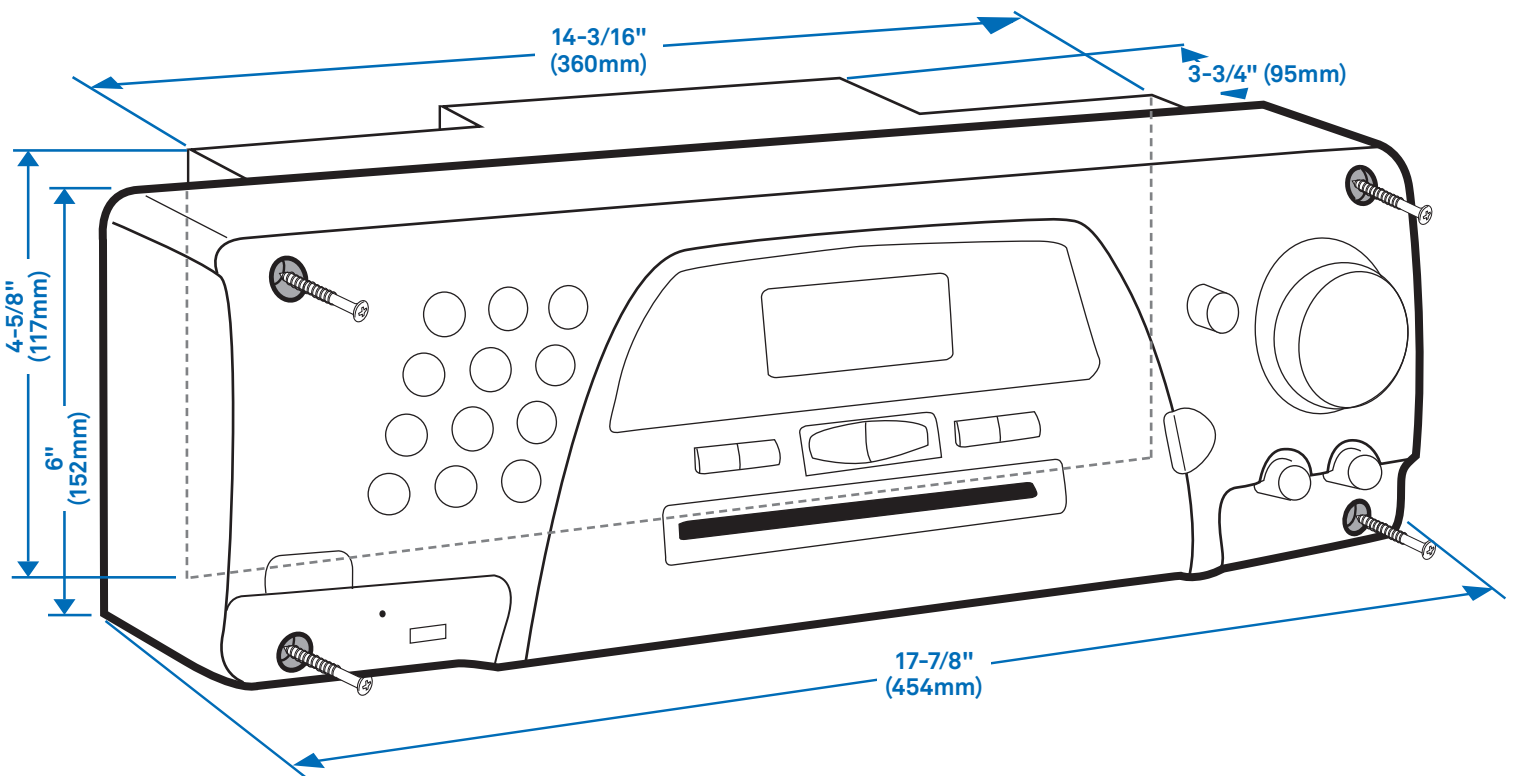
Drawing not to scale

AC Power Connection

1. De-energize the branch electrical circuit and ensure that there is no power present on the electrical wires that will be connected to the system.

2. To access the AC Electrical Wiring Compartment of the IW-SYS3, remove the metal cover by removing the two Phillips head screws. Set these aside for reinstallation later.

3. If you are using flexible Romex®-style "plastic-sheathed electrical wire," you may use the Black Button™ Wire Clamp that is supplied with the system. You may also supply your own electrical cable clamp.

4. Insert the Black Button™ Wire Clamp into the 7/8" hole that is located in the bottom of the wiring compartment of the radio chassis. The Wire Clamp should be snapped into place from the outside of the wiring compartment.

5. Strip about 4" (100mm) of the jacket from the plastic-sheathed electrical cable and then strip 1/2" to 5/8" (13mm to 16mm) of insulation from each of the conductors.

6. Ensure that the transformer primary wiring within the Electrical Wiring Compartment also has 1/2" to 5/8" (13mm to 16mm) of conductor exposed.

7. Push the electrical cable through the wire clamp until the jacket of the cable passes through the clamp.

8. Connect the "GROUND" wire from the AC supply to the **GREEN** pigtail ground lead (labeled as EARTH) using a wire nut suitable for the size and the number of conductors to be secured.

9. Connect the "NEUTRAL" conductor (usually white) from the AC supply to the **BLUE** wire from the transformer primary (labeled as AC) using a wire nut suitable for the size and the number of conductors to be secured.

10. Connect the black "HOT" conductor from the AC supply to the **BROWN** wire from the transformer primary (also labeled as AC) using a wire nut suitable for the size and the number of conductors to be secured.

11. Secure the metal Wiring Compartment Cover back into its original position.

12. Make the other rear panel connections (speaker, antennas, etc.) as shown in the previous sections.
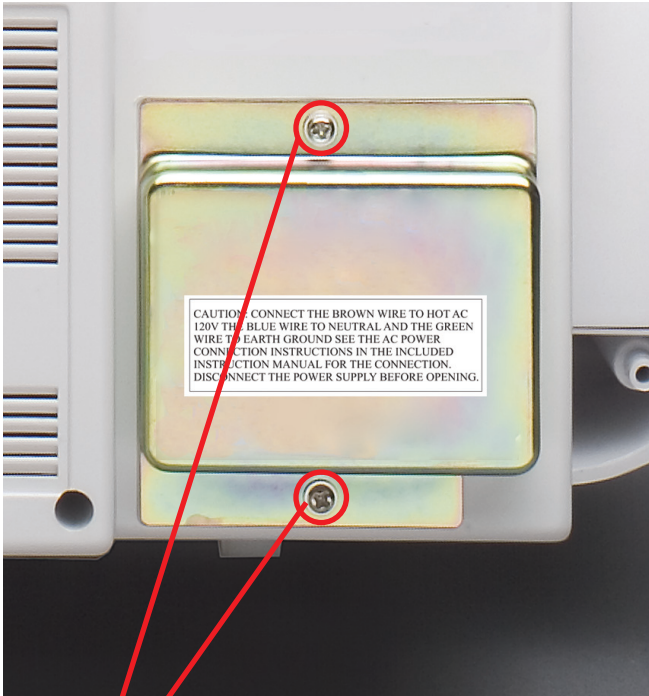
To the installer:
The plastic-sheathed electrical wire must go through a wire clamp when entering the wiring compartment.
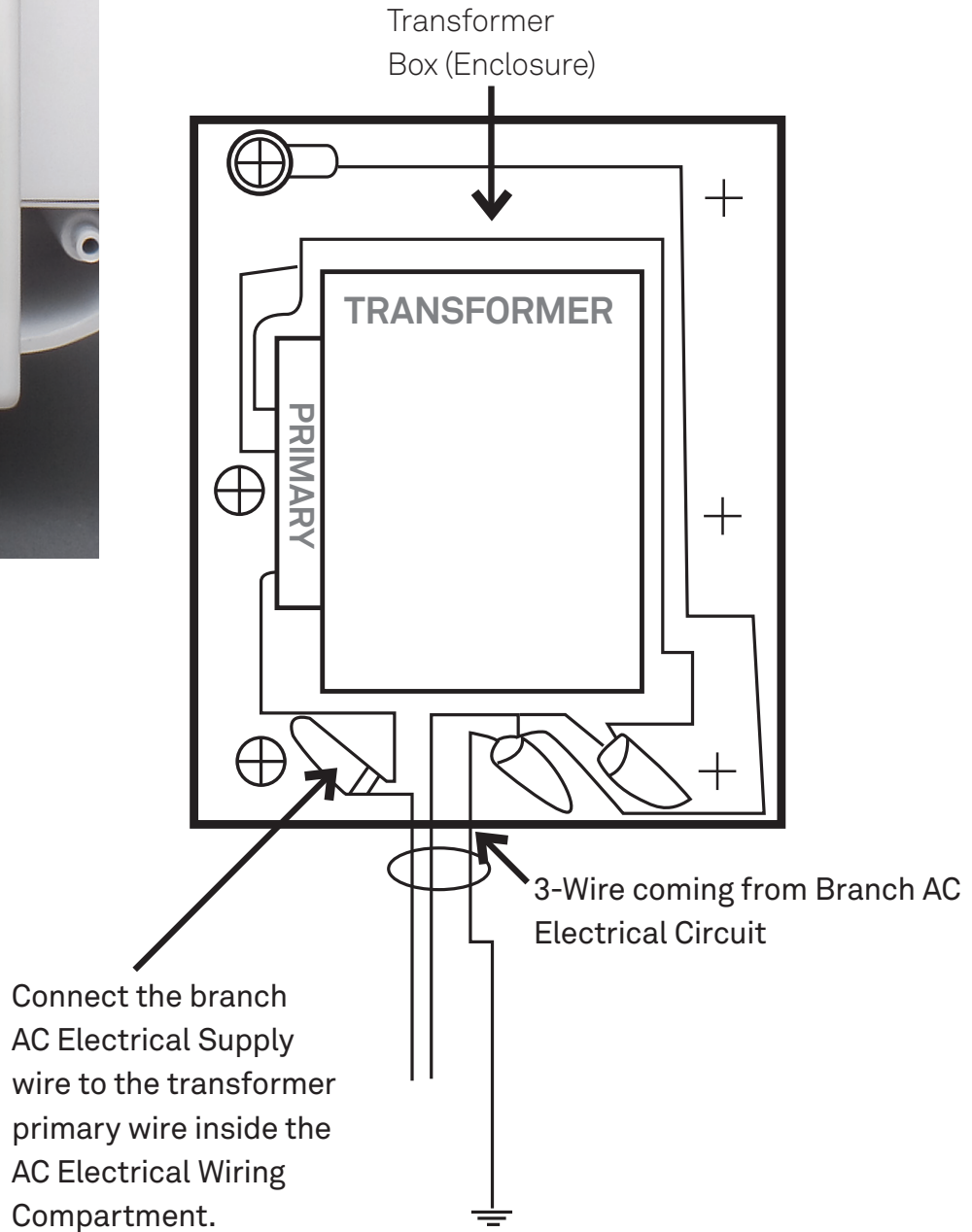
Press the provided Black Button Wire Clamp into the bottom of the chassis as shown.

Black Button Wire Clamp

AC Power Connection

CAUTION: CONNECT THE BROWN WIRE TO HOT AC 120V THE BLUE WIRE TO NEUTRAL AND THE GREEN WIRE TO EARTH GROUND SEE THE AC POWER CONNECTION INSTRUCTIONS IN THE INCLUDED INSTRUCTION MANUAL FOR THE CONNECTION. DISCONNECT THE POWER SUPPLY BEFORE OPENING.

To access the AC Electrical Wiring Compartment of the IW-SYS3, remove the metal cover by removing these two Phillips head screws. Set these aside for reinstallation later.

Transformer Box (Enclosure)

TRANSFORMER

PRIMARY

3-Wire coming from Branch AC Electrical Circuit

Connect the branch AC Electrical Supply wire to the transformer primary wire inside the AC Electrical Wiring Compartment.

AC ELECTRICAL SUPPLY CONNECTION MUST CONFORM TO LOCAL CODES & THE N.E.C. (NATIONAL ELECTRICAL CODE)

NOTE: The main supply conductor must be14AWG minimum.
This installation should be made by a qualified service person and conform to all local electrical codes.

NOTES

NOTES

IW-SYS3

In-Wall Audio System - AM / FM / CD / AUX / USB

Rev. D