

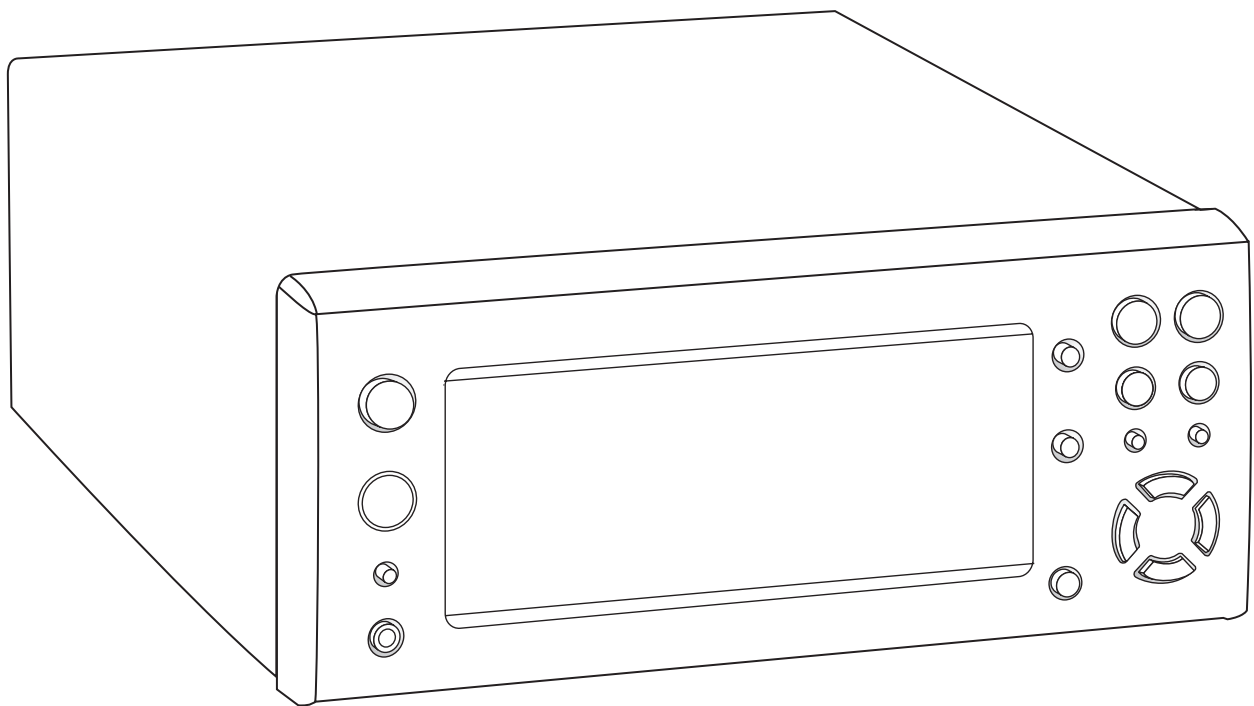
# imerge

## NETWORK PLAYER

# NP2000

### NETWORK AUDIO SYSTEM

## USER GUIDE



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This guide was designed and produced by Imerge Ltd.

## XIVA™ NEW MEDIA BROUGHT TO LIFE

XiVA™ is a highly portable software framework that powers next-generation media appliances. XiVA™ blends hard disk technology, advanced software design, and embedded Internet technology to provide amazing features. Audio, video, text, graphics, and all forms of streaming new media are all brought to life through a wealth of interactive user interface options. The next generation media appliance is powered by XiVA™.

## PRECAUTIONS

### GENERAL PRECAUTIONS

When installing the equipment ensure that:

- the ventilation holes are not covered.
- air is allowed to circulate freely around the equipment.
- it is placed on a vibration free surface.
- it will not be exposed to excessive heat, cold, moisture or dust.
- it will not be exposed to direct sunlight.
- it will not be exposed to electrostatic discharges.

In addition, never place heavy objects on the equipment.

If a foreign object or water does enter the equipment, contact your nearest dealer or service center.

Do not pull out the plug by pulling on the mains lead; grasp the plug.

It is advisable when leaving the house, or during a thunderstorm, to disconnect the equipment from the mains supply.

### WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Do not remove the cover from the equipment. There are no user serviceable parts inside, and opening the case will invalidate your warranty.

Do not insert anything into the equipment through the ventilation holes.

Do not handle the mains lead with wet hands.

To avoid overheating do not position the NP200 near heat sources, and ensure that the ventilation holes are not blocked.

### WARNINGS

- Do not expose the equipment to rain or moisture.
- Do not remove the cover from the equipment.
- Do not insert anything into the equipment through the ventilation holes.
- Do not cover the ventilation holes with any items such as tablecloths, newspapers, curtains, etc.
- Do not place naked flame sources, such as lighted candles, on the equipment.
- Do not handle the mains lead with wet hands.
- Allow adequate ventilation. Leave a gap of 0.2m on all sides of the unit.
- Do not splash or spill water on the unit. Do not place objects filled with liquid (such as vases) on the unit.

### MAINS PRECAUTIONS

Your NP200 complies with the household power and safety requirements in your area.

### WARNING

**BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.**

There is a voltage selector (2-position) on the rear panel of this unit. Be sure to set the voltage selector to the mains voltage of your area before using the unit.

### IMPORTANT: (FOR UK VERSION ONLY)

This apparatus is fitted with an approved moulded 13 Amp plug. To change a fuse in this type of plug proceed as follows:

- 1 Remove fuse cover and fuse.
- 2 Fix new fuse which should be a BS1362 5A, A.S.T.A or BSI approved type.
- 3 Refit the fuse cover.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate plug fitted in its place.

If the mains plug contains a fuse, this should have a value of 5A. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5A.

**NOTE:** The severed plug must be destroyed to avoid a possible shock hazard should it be inserted into a 13A socket elsewhere.

### COPYRIGHT NOTICE

This equipment must not be used for unauthorised duplication of CDs or any other works protected by copyright. No license to infringe copyright is granted by the sale of this equipment.

Recording and playback of some material may require permission. For further information refer to the following:

- Copyright Act 1956
- Dramatic and Musical Performers Act 1958
- Performers Protection Acts 1963, and 1972
- Any subsequent statutory enactments and orders.

### STANDBY BUTTON

When this button is pressed once, the power turns **On** and information will appear on the display. When pressed again, the unit is in **Off** mode and the **Standby** indicator is lit; the apparatus is not disconnected from the AC mains supply in this mode.

## MEMORY PRESERVATION

This unit does not require memory preservation batteries. A built-in memory power backup system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in in order to charge the backup system.

The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On average memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

## IMPORTANT SAFETY NOTICES

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

### U.S. MODEL

**CAUTION:** This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Subpart J, Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications may cause this unit to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.

### CAUTION

- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

## CANADIAN MODEL

**NOTE:** This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

**ATTENTION:** POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

## EUROPEAN MODEL

**NOTE:** This product has been designed and type-tested to comply with the limits set out in EN55013, EN55020, EN60950, EN55022: 1998 CLASS B4, EN55024: 1998, FCC RULES PART 15 SUBPART B CLASS B. NS/N29 3548:1995 CLASS B



### CAUTION:

"CAUTION-USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURE OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE."

# IMPORTANT SAFETY INSTRUCTIONS

**READ INSTRUCTIONS** - All the safety and operating instructions should be read before the product is operated.

**KEEP INSTRUCTIONS** - The safety and operating instructions should be kept for future reference.

**HEED WARNINGS** - All warnings on the product and in the operating instructions should be adhered to.

**FOLLOW INSTRUCTIONS** - All operating and use instructions should be followed.

**CLEANING** - Unplug this product from the wall outlet before cleaning. The product should be cleaned only with a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

**ATTACHMENTS** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

**WATER AND MOISTURE** - Do not use this product near water - for example near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

**ACCESSORIES** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

**CART** - A product and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the product and cart combination to overturn:



**VENTILATION** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. Do not block any ventilation openings. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided. Install in accordance with the manufacturer's instructions.

**POWER SOURCES** - This product should be operated only from the type of power source indicated on the marketing label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

**LOCATION** - The appliance should be installed in a stable location.

**NONUSE PERIODS** - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

**GROUNDING OR POLARIZATION** - If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug does not fit into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only work in a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

**POWER CORD PROTECTION** - Power-supply cords should be protected from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.

**OUTDOOR ANTENNA GROUNDING** - If an outside antenna or cable system is connected to the product be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electric Code. ANSI/NFPA70 provides information with regard 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 A.

**LIGHTNING** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

**POWER LINES** - 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.

**OVERLOADING** - Do not overload wall outlets, extension cords or integral convenience receptacles as this can result in a risk of fire or electric shock.

**OBJECT AND LIQUID ENTRY** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

**SERVICING** - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

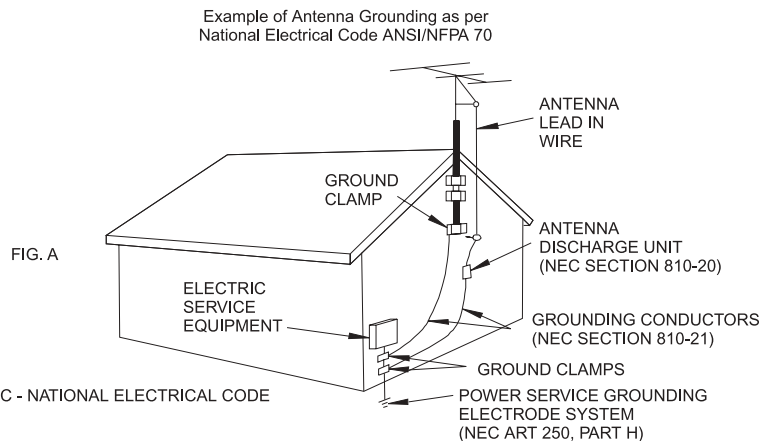
**DAMAGE REQUIRING SERVICE** - Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**REPLACEMENT PARTS** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

**SAFETY CHECK** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

**WALL OR CEILING MOUNTING** - The product should not be mounted to a wall or ceiling.

**HEAT** - Do not install near any heat source such as radiators, heat registers, stores, or other apparatus (including amplifiers) that produce heat.



**WARNING**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN

**AVIS**  
RISQUE DE CHOC ELECTRIQUE  
NE PAS OUVRIR



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.

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.

# INTRODUCTION

Welcome to the NP200 from Imerge. The NP200 is the ideal companion to your SoundServer, enabling you to access your entire music library from any room in your home over a standard Ethernet network.

## Extend your music collection

You can connect up to six NP200 Network Audio Systems to your SoundServer, to provide access to your entire music collection from any room in your home. Its convenient four-line display provides similar information to the SoundServer display, allowing you to select albums and tracks, or search by artist or genre, using either the front panel or the remote control supplied with the NP200.

## Minimum installation

The NP200 connects to the SoundServer via a single Ethernet connection, making it straightforward to extend your system, especially in houses where each room already has Ethernet wiring.

## A complete hi-fi system in a box

The NP200 includes a stereo power amplifier and preamplifier, so all you need is a pair of loudspeakers to create a complete hi-fi system in each room. Alternatively it provides fixed and variable level analogue outputs, and an optical digital output, allowing it to be connected to an existing system such as an AV amplifier. The NP200 also includes an audio input, to allow you to connect a source such as an MD player.

## Built-in Internet, AM, and FM radio

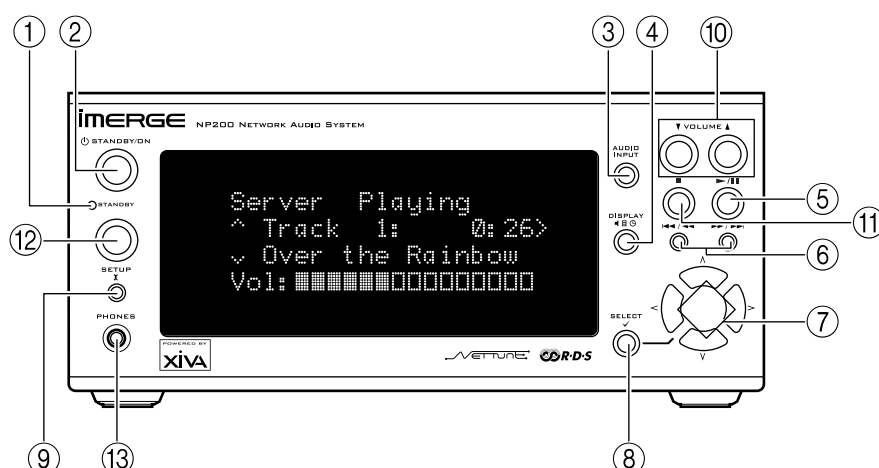
The NP200 includes a built-in Internet radio, using Imerge XiVA-Net to access lists of Internet radio stations classified according to genre, subgenre, location, and language. With the addition of suitable aerials the NP200 can also receive AM and FM stations, using RDS information where available to display radio data such as the FM station name.

## Clock, timer, and alarm

Finally the NP200 includes a built-in clock, and convenient timer and alarm features allow you to use it as an alarm clock. A sleep feature can switch off your music automatically after a delay.

# CONTROLS AND CONNECTIONS

## FRONT VIEW



### 1 STANDBY indicator

Lights when the NP200 is in Standby mode.

### 2 STANDBY/ON key

Switches the power mode between Standby and On.

### 3 AUDIO INPUT key

Changes the playback source.

### 4 DISPLAY key

Changes the displayed information.

### 5 Play/Pause key

Starts or pauses playback.

### 6 ⏮/⏪ and ⏩/⏭ Skip keys

Moves to the previous or next track. Holding down these keys either fast-forwards or fast-rewinds the current track.

### 7 Cursor Up/Down/Right/Left keys

Use these keys to navigate through settings, change a value, or move to another menu.

### 8 SELECT key

Selects the currently displayed option.

### 9 SETUP key

Selects Setup mode which allows you to change the NP200 configuration.

### 10 VOLUME keys

Decrease/increase the volume.

### 11 STOP key

Stops playback.

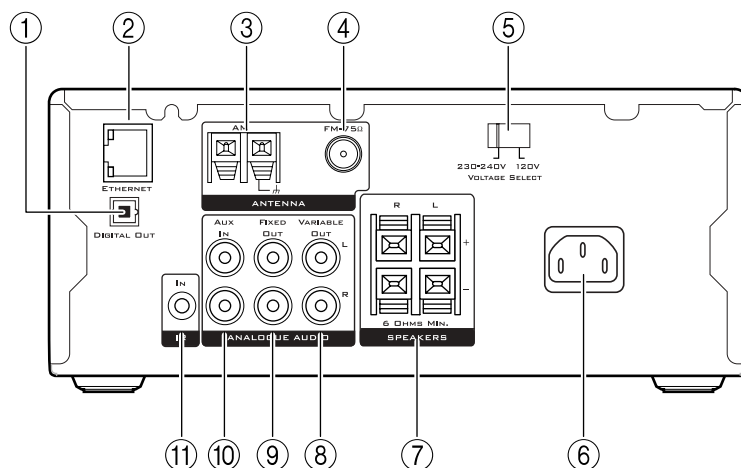
### 12 REMOTE CONTROL SENSOR

Receives signals from the remote control.

### 13 PHONES socket

Socket for connecting headphones.

## REAR VIEW



### **1 DIGITAL OUT**

Digital optical audio output.

### **2 ETHERNET**

Connects to a SoundServer and the Internet via an Ethernet network.

### **3 AM**

Connects to the AM radio antenna.

### **4 FM**

Connects to the FM radio antenna.

### **5 MAINS VOLTAGE SELECTOR**

Selects the mains voltage.

### **6 MAINS CONNECTOR**

Connects to mains power.

### **7 SPEAKERS**

Connect to the speakers.

### **8 VARIABLE OUTPUT**

Line phono output to connect to an amplifier without volume control.

### **9 FIXED OUT**

Fixed-level line phono output.

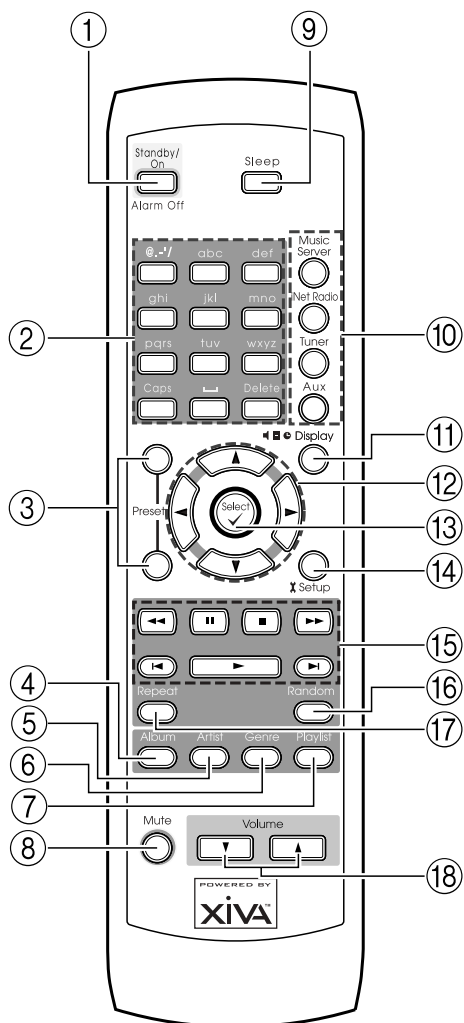
### **10 AUX**

Line phono input.

### **11 IR IN**

Allows you to connect an external infra-red sensor, to relay the remote control signals to the NP200 when mounted in an inaccessible location, such as in a cabinet.

## REMOTE CONTROL



### 1 STANDBY/ON key

Turns on the NP200 or places it in Standby mode. When the NP200 is in Standby mode, you can use this key to turn off the alarm.

### 2 Numeric keys

Selects one of the preset stations or the track you want to play. When entering text, you use these keys to type in letters and special characters.

### 3 PRESET Up/Down keys

Navigates through radio presets.

### 4 ALBUM key

Browses by Album when connected to a SoundServer.

### 5 ARTIST key

Browses by Artist when connected to a SoundServer.

### 6 GENRE key

Browses by Genre when connected to a SoundServer.

### 7 PLAYLIST key

Browses by Playlist when connected to a SoundServer.

### 8 MUTE key

Mutes or unmutes the sound.

### 9 SLEEP key

Sets the sleep function.

### 10 MUSIC SERVER/iNetRADIO/TUNER/AUX keys

Selects an input source. The **MUSIC SERVER** key selects the SoundServer. The **TUNER** key toggles between FM and AM.

### 11 DISPLAY key

Changes the display mode.

### 12 Cursor ▲/▼/◀/▶ keys

Locate a selection.

### 13 SELECT key

Selects the currently displayed option.

### 14 SETUP key

Selects Setup mode, which allows you to change the NP200 configuration.

### 15 Operation keys

- ◀◀, ▶▶ keys Fast-rewinds or fast-forwards the current track.
- ⏸ (Pause) key Pauses the playback.
- ▶ (Play) key Starts playback.
- (Stop) key Stops the playback.
- ◀◀, ▶▶ keys Moves to the previous or next track.

### 16 RANDOM key

Plays the selected track list at random.

### 17 REPEAT key

Repeats the selected single track or track list.

### 18 VOLUME ▲/▼ keys

Adjust the volume.

### To change the remote control code

You can control up to three NP200s in the same location by setting each of their remote controls to a separate code.

- Hold the **STANDBY** key on the remote control and press the **SELECT** key.
- Release these keys simultaneously.
- Within 5 seconds after releasing the keys, enter the appropriate mode (1, 2 or 3) using the numeric keys.

The default code is 1 for both the remote control and NP200.

After changing the remote control code, make sure that the remote control code on the NP200 is set to the same code as the remote control; see *Changing the remote control code to resolve conflicts*, page 18.



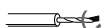
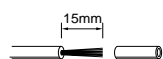
# CONNECTING YOUR NP200

**Note:** You should ensure that the mains connection is removed from the unit before making any of the connections below.

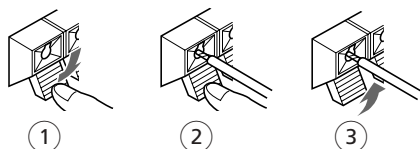
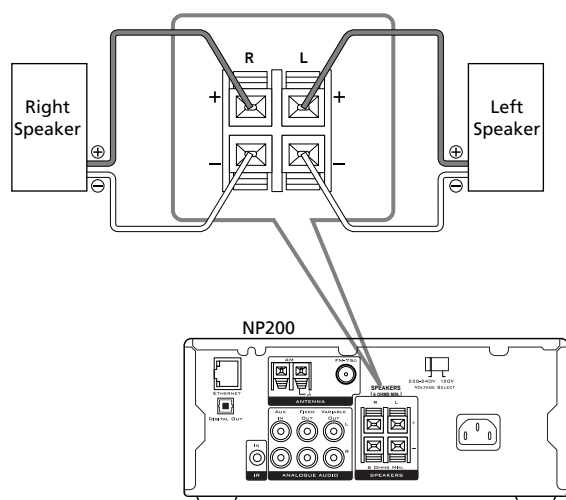
## CONNECTING LOUDSPEAKERS

**Note:** The load impedance of each speaker must be at least 6Ω.

1. Strip 15mm from the end of each cord:
2. Twist the stripped end of the cord:



**Note:** To prevent damage to circuits never short circuit the positive (+) and negative (-) speaker wires.



- Press down the lever ①.
- Insert the wire into the hole ②.
- Release the lever to complete the connection ③.

## CONNECTING TO AN ETHERNET NETWORK

An Ethernet connection is required by your NP200 in order to connect to a SoundServer and to be able to access a high speed internet connection.

The diagram below shows the simplest configuration for providing these connections.

**Broadband Modem** – the modem in this configuration is a device for providing an internet connection via a high speed leased line e.g. Cable modem, xDSL modem or terminal adapter.

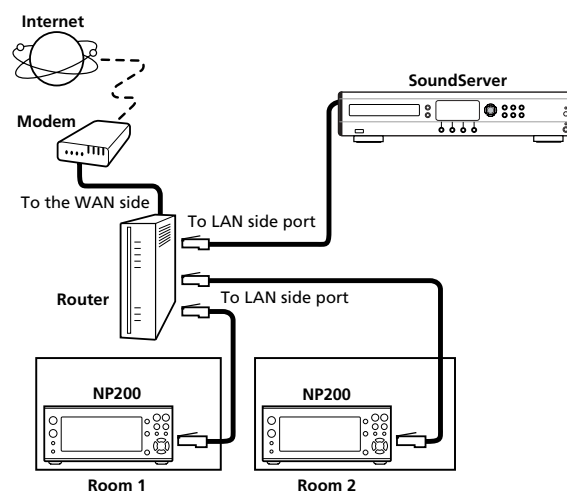
To access the Internet you typically need to make a contract with an Internet Service Provider (ISP). Each ISP has differing modem requirements and you should contact them to determine which modem is required for your internet connection.

**Router** – The router acts as a gateway between the devices on your network and the modem in order to allow several devices to access the internet simultaneously. The router may also provide additional functionality which is recommended for this installation:

**DHCP Server** – A DHCP Server enables devices on a network to request network configuration information automatically. Without a DHCP Server you will need to manually configure each device with network settings - you will need some knowledge of networking in order to do this.

**10/100BaseT switch** – the switch allows the devices on the network to communicate with each other. This function is required in order for the NP200 to communicate with the SoundServer.

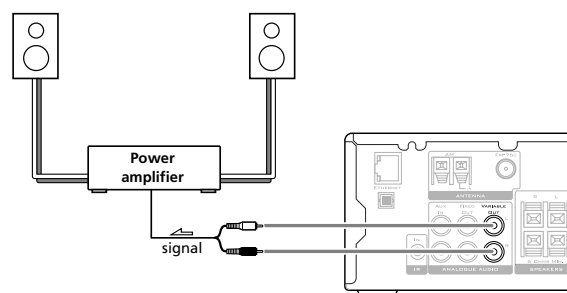
These devices may also be provided separately.



If you do not have a DHCP Server available refer to the *Advanced Settings* chapter on page 17 for more information on configuring your Ethernet Settings manually.

## CONNECTING THE NP200 TO A POWER AMPLIFIER

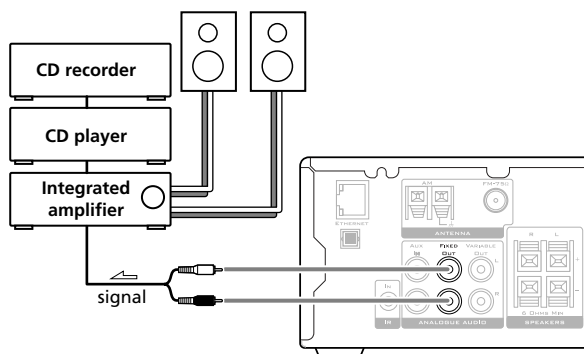
- Connect the VARIABLE OUT socket to the input of the power amplifier, using a phono lead:





## CONNECTING THE NP200 TO AN INTEGRATED AMPLIFIER

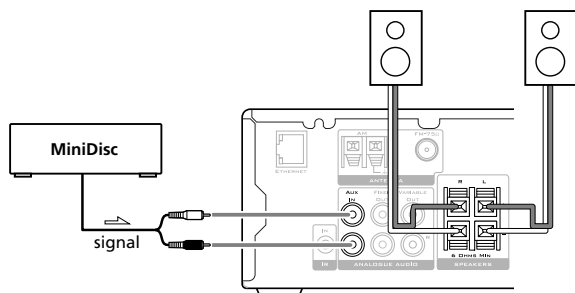
- Connect the FIXED OUT sockets to the line input of the integrated amplifier, using a phono lead:



## CONNECTING A SOURCE TO THE NP200

You can connect an external source, such as a CD player, to the NP200.

- Connect the line output from the source to the AUX IN sockets on the NP200, using a phono lead:



## CONNECTING FM AND AM AERIALS

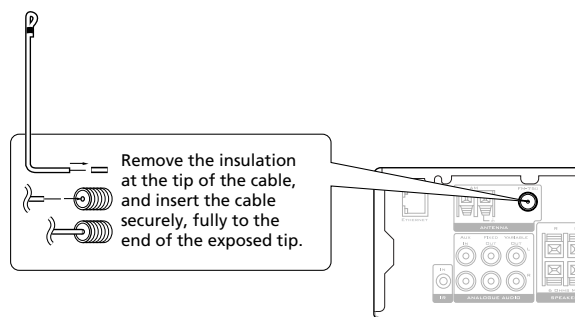
To use the NP200 to receive FM or AM radio you need to connect appropriate aerials.

**Note:** refer to the *Important Safety Instructions* at the start of this guide for information relating to the use of outdoor antennae.

### To connect the FM aerial

The supplied FM antenna is for indoor use only.

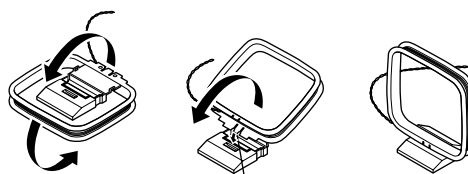
- Move the antenna until the clearest signal is received:



If reception is poor in your location use an outdoor FM antenna to improve signal strength.

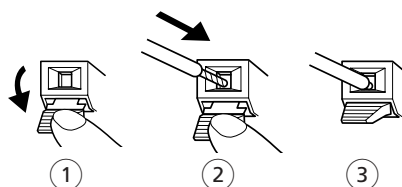
### To connect the AM aerial

- Assemble the loop antenna as shown in the illustration:



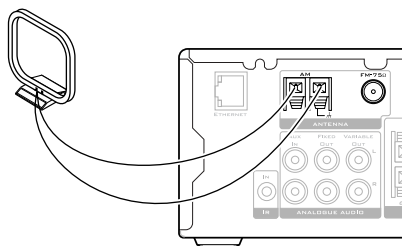
Insert into the hole.

- Connect it to the NP200 as follows:



- Press down the lever (1).
- Insert the wire into the hole (2).
- Release the lever to complete the connection (3).

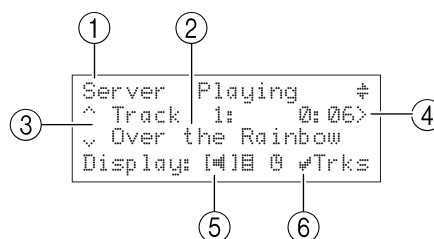
The AM loop antenna is for indoor use only. Set it in the direction and position where you receive the clearest sound. Place the aerial as far away as possible from other electrical devices such as TVs, PCs, power cords, and speaker cables.



For better reception use an outdoor antenna, connected to the left-hand connector.

## FRONT PANEL DISPLAY

The following diagram shows the key features of a typical NP200 display:



- Indicates the title of the current screen.
- Title of the current selection.
- Indicates that you can use the ^ or v keys to browse up and down the current menu list.
- Indicates that you can press the > key to change the time display.
- Current display mode; changes between play, browse, or clock mode.
- Indicates that you can press the #SELECT key to browse by tracks.



# PLAYING MUSIC FROM THE SOUNDSERVER

This chapter explains how to use the NP200 to browse the music library on your SoundServer and play selected tracks.

This chapter assumes you have set up an appropriate Ethernet connection between the NP200 and your SoundServer. For more information see *Connecting to an Ethernet network*, page 7.

## PLAYING MUSIC FROM THE LIBRARY

- Set the NP200 source to server, by pressing the **AUDIO INPUT** key on the front panel or the **MUSIC SERVER** key on the remote control.

The display shows:

```
Server
Network Starting...
* /
Display: [F1]B 0
```

After a short delay the display will show:

```
Server Ready
[S2000]
Press DISPLAY
Display: [F1]B 0
```

- Press the **DISPLAY** key to switch to browse mode:

```
Server      [Library]
^ >Albums
v
Display: [F1]B 0
```

### To browse the library by album

Either:

- Use the  $\wedge$  or  $\vee$  keys if necessary to highlight the **Albums** option in the **Library Menu**.
- Press the **#SELECT** key to confirm your selection.

Or:

- Press the **ALBUM** key on the remote control.

The display shows the albums available in your library:

```
Server      [Albums]
^ >Standard Jazz
v [1 of 5]
Display      #Tracks
```

- Press the  $\wedge$  or  $\vee$  keys to step between albums or press the appropriate letter on your remote control to jump directly to that position in the list.
- Press the **#SELECT** key to display the tracks in the currently selected album.
- Press the **#SELECT** key to start playing from the first track.

### To select a particular track from this album

- Use the  $\wedge$  or  $\vee$  keys to step between tracks, or press a key on the remote control to jump to the track number.
- Press the **#SELECT** key to play the currently selected track.

The display shows **Playing**:

```
Server      Playing
^ Track 1: 0:06>
v Blue Train
Display: [F1]B 0 #Trks
```

- Press the **#SELECT** key to return to browsing the tracks in this album.

### To browse the library by artist or genre

Either:

- Use the  $\wedge$  or  $\vee$  keys if necessary to highlight the **Artists** or **Genres** option in the **Library** menu.
- Press the **#SELECT** key to confirm your selection.

Or:

- Press the **ARTIST** or **GENRE** key on your remote control.

The display shows the artists or genres available in your library:

```
Server      [Genres]
^ >Blues
v
Display >Open #Trks
```

Artists and genres are displayed in alphabetical order.

- Press the  $\wedge$  or  $\vee$  keys to step between artists or genres, or press the appropriate letter on your remote control to jump directly to the item in the list beginning with that letter.
- Press the **#SELECT** key to display the tracks by the selected artist or in the selected genre.

### To select a particular album

- Press the  $\wedge$  or  $\vee$  keys to step between artists or genres, or press the appropriate letter on your remote control to jump directly to the item in the list beginning with that letter.
- Press the **#SELECT** key to display the tracks by the selected artist or in the selected genre.

### To select a particular track from this album

- Use the  $\wedge$  or  $\vee$  keys to step between tracks, or press a key on the remote control to jump to the track number.
- Press the **#SELECT** key to play the currently selected track.

### To browse the library by playlist

Either:

- Use the  $\wedge$  or  $\vee$  keys if necessary to highlight the **Playlists** option in the **Library** menu.
- Press the **#SELECT** key to confirm your selection.

Or:

- Press the **PLAYLIST** key on your remote control.

The display shows the playlists you have defined:

```
Server      [Playlists]
^ >Sarah's List
v [1 of 4]
Display      #Trks
```

**Note:** If you have not yet created any playlists the list will be empty.

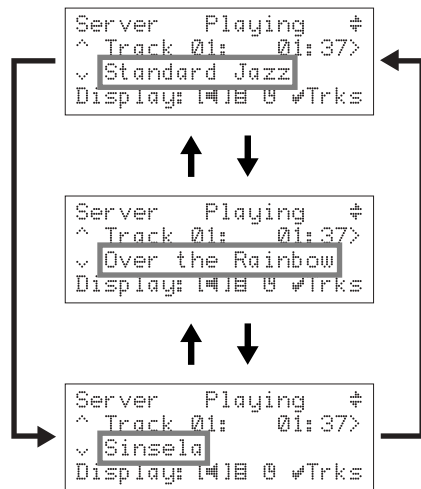
- Press the **Λ** or **∇** keys to step between playlists, or press the appropriate letter on your remote control to jump directly to the item in the list beginning with that letter.
- Press the **#SELECT** key to display the tracks in the currently selected playlist.
- Press the **#SELECT** key to start playing from the first track.

## PLAYBACK INFORMATION

During playback the top line of the display shows **Playing, Stopped, Paused,** or **Seeking** to show the playback status.

### To change the displayed information

- While a track is playing, you can press the **▲/▼** keys to change the display between showing **Title, Album, or Artist**:



- Press the **>** key to toggle the display between showing the elapsed time for the current track, and the remaining time for the current track.

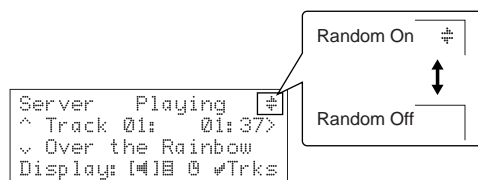
## RANDOM AND REPEAT PLAYBACK

You can play albums, artists, genres or playlists in a random order to add variety to your music. You can also play a selection repeatedly.

### To randomise the current selection

- Press the **RANDOM** key on your remote control.

Press **RANDOM** again to disable random playback.

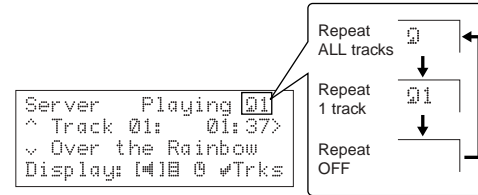


### To repeat the current selection

- Press the **REPEAT** key on the remote control.

Pressing the **REPEAT** key once will repeat all the tracks in the selected album or tracklist. Pressing the **REPEAT** key again will repeat the current track.

To exit from Repeat mode press the **REPEAT** key until **Repeat Off** is displayed:



## LISTENING TO RADIO

The NP200 lets you connect over the Ethernet to a wide range of Internet radio stations, that broadcast music and other programs in a variety of languages by streaming audio over the Internet.

The NP200 uses the XiVA-Net Internet radio catalogue from Imerge to let you search for radio stations by Genre, SubGenre, Location, or Language.

With suitable aerials, the NP200 can also receive FM and AM radio broadcasts. On FM the Radio Data System displays the station name and other information.

### LISTENING TO INTERNET RADIO

- Press the **AUDIO INPUT** key on the front panel until the display shows iNet Radio.

Or:

- Press the **iNet RADIO** key on the remote control.

The display shows:

```
iNet Radio
Network Starting...
* /
Display: [41B 0]
```



```
iNet Radio
^ No Station
v Press DISPLAY
Display: [41B 0]
```

- Press the **DISPLAY** key to browse for a station.

The display shows.

```
iNet Radio [Library]
^ >Genres
v
Display: [41B 0]
```

#### To browse the stations by genre, location or language

- Use the  $\wedge$  or  $\vee$  keys if necessary to highlight the **Genres**, **Location**, or **Language**.
- Press the **#SELECT** key to confirm your selection.
- Use the  $\wedge$  or  $\vee$  keys to step between the items you selected:

```
iNet Radio [Location]
^ >United States
v [1 of 5]
Display: #Stations
```

- Press the **#SELECT** key to select the current item.

In the case of **Genres** there is an additional **Sub Genres** menu:

```
iNet Radio [SubGnrs]
^ >Classical
v [1 of 5]
Display: #Stations
```

- Use the  $\wedge$  or  $\vee$  keys to step between sub genres, and press the **#SELECT** key to select one.

The display then shows a list of Internet radio stations in the sub genre, location, or language you selected:

```
iNet Radio [Station]
^ WCHY FM
v [1 of 5]
Display: #Play
```

- Press the  $\wedge$  or  $\vee$  keys to step between stations.
- Press the **#SELECT** key to play the selected station.

There is a delay while the NP200 connects to the station and buffers the data:

```
iNet Radio
^ WCHY FM
v Buffering 0%
Display: [41B 0]
```

The station will then start to play.

If the Internet radio station service is not available the display will show **Stream Access Error** or **No Stream**.

#### To change the displayed information

With some Internet radio stations you can display information about the station using the  $\wedge$  or  $\vee$  keys.

### LISTENING TO FM/AM RADIO

#### To tune manually to a station

- Press the **AUDIO INPUT** key until the display shows **FM Radio** or **AM Radio**.

When using the remote control press the **TUNER** key until the display shows **FM Radio** or **AM Radio**.

- Press the  $<$  or  $>$  key to select the frequency of the station you want to listen to:

```
FM Radio <>Tune
102.40MHz #Store
Display: [41B 0]
```

#### To scan for a station on FM

- Hold down the  $<$  or  $>$  key until the display shows **Scanning....**

```
FM Radio <>Tune
100.00MHz
Scanning...
Display: [41B 0]
```

The radio will scan up or down in frequency and stop at the next station:

```
FM Radio [ST] <>Tune
98.2MHz Preset 01
BBC Radio 1
Display: [41B 0]
```

### DEFINING PRESET STATIONS

The NP200 allows you to save your favorite stations with names, and select them again at any time. You can store up to 40 FM and AM stations, and 20 Internet radio stations.

**Note:** Preset stations are only retained for 2 weeks if you disconnect the NP200 from the power.

#### To define a preset

- Tune to the station you want to save:

```
iNet Radio
^ WCHY FM
v WCHY FM
Display: [41B 0] #Store
```

- Press the **#SELECT** key.

You are prompted to enter and edit the preset name:

```
Name iNetR Preset
      WCHY FM
v [+ ] A B C D E F G H
Display: Caps XOK # [ ]
```

With Internet radio and FM using RDS the preset name is set to the station name, and you can press the **SETUP** key to use this as the preset name.

With AM radio, the preset name is initially blank and you need to enter a name as described below.

### To edit the preset name

- Press the **DISPLAY** key to select which type of characters to enter.

Each time you press the **DISPLAY** key, the character type cycles as follows:

**Capital letters:** ← ABCDEFGHIJKLMNOPQRSTUVWXYZ

**Lower case:** ← abcdefghijklmnopqrstuvwxyz

**Numbers and symbols:** ← 1234567890 !"#\$%&'()\*+,-./;  
=>?@[ ]^\_`{|}

**Note:** Pressing the **SELECT** key after selecting ← on the display deletes the last character.

- Select the next character using the <, >, ^, and v keys:

```
Name iNetR Preset
      WCHY FM
v + A B C D E F G H
Display: Caps XOK # [ ]
```

- Press the **SELECT** key to enter the selected character:

```
Name iNetR Preset
      WCHY FMD
v + A B C D E F G H
Display: Caps XOK # [ ]
```

### To enter characters using the remote control

You can also use the alphanumeric keys on your remote control to enter characters.

Each time you press a numeric key on the remote control, the key cycles through a number of assigned letters as shown in the following example: A → B → C → A...

You can press the numeric key **1** on the remote control to enter a symbol.

When using the remote control press the **CAPS** key to switch the character type.

### To save the preset

When you have finished entering the preset name:

- Press the **SETUP** key to save the preset.

The next available preset number is displayed, or Preset 1 if all the preset numbers are already in use:

```
Store: WCHY FMD
^ > iNetR Preset 1
v [ ]
#Set XExit
```

- Press the ^ or v key to display your desired preset number.
- Press the **SELECT** key to save the preset.

The preset name will be shown on the third line of the display:

```
iNet Radio
^ WCHY FMD
v WCHY FM
Display: [+ ] B 0wStore
```

Alternatively you can cancel the operation of saving a preset at any time by pressing the **Stop** key.

### To rename a preset

- Press the **SETUP** key to display the Setup menus.
- Use the ^ and v keys to highlight **iNet Radio**, **FM Radio**, or **AM Radio** as appropriate, and press the **SELECT** key.
- Use the ^ and v keys to highlight **Rename Preset** and press the **SELECT** key.
- Use the ^ and v keys to select the preset you want to edit:

```
FM Radio [Rename]
^ >Preset3
v BCCC
#Set XExit
```

For each character you want to edit:

- Use the **Left/Right** and **Double Left/Double Right** keys to select the character to be replaced.
- Use the < and > keys to select the new character.
- Press the **SELECT** key to enter the new character.

After you have finished editing the name:

- Press the **SETUP** key.

### To delete a preset

- Press the **SETUP** key to display the Setup menus.
- Use the ^ and v keys to highlight **iNet Radio**, **FM Radio**, or **AM Radio** as appropriate, and press the **SELECT** key.
- Use the ^ and v keys to highlight **Delete Preset** and press the **SELECT** key.
- Use the ^ and v keys to select the preset you want to delete:

```
FM Radio [Delete]
^ Preset3
v CCC
#Del XExit
```

- Press the **SELECT** key.

The preset will be deleted.

- Press the **SETUP** key to return to the normal display.

## SELECTING PRESET STATIONS

### To select a preset station

- Press the **AUDIO INPUT** key until the display shows **iNet Radio**, **FM Radio**, or **AM Radio** as required.
- Use the **Preset ▲ / ▼** keys on the remote control to step between the available preset stations:

```
iNet Radio  
^ Preset 01  
v WCHY FMD  
Display: 141.8 0
```

### To select a preset station from the front panel (FM or AM only)

- Press the **AUDIO INPUT** key until the display shows **FM Radio** or **AM Radio** as required.
- Press the **DISPLAY** key to switch to browse mode:

```
FM Radio [Presets]  
^ >BBC Radio 5  
v [Preset 3]  
Display: 141.8 0
```

- Use the **▲** or **▼** keys to step between the available preset stations.



# USING THE CLOCK AND TIMER

The NP200 includes a built-in digital clock, that shows the time and date.

You can also set an alarm, that will play a selected SoundServer track or radio preset at a specified time. A snooze feature allows you to postpone the alarm by 5 minutes.

Finally, a sleep timer automatically puts the NP200 to standby after up to 90 minutes.

## SETTING THE CLOCK

- Press the **SETUP** key to display the Setup menus:

```
Setup
^ >Clock
v
                                XExit
```

- Press the **SELECT** key.
- Press the **Λ** or **∇** keys to display **Set Clock** in the display area:

```
Clock      [Setup]
^ >Set Clock
v
                                XExit
```

- Press the **SELECT** key.

The display prompts you to set the hours:

```
Clock      [Set Clock]
12:00 AM Hours>
January 01 2000
^Adjust #Set XExit
```

- Use the **Λ** and **∇** keys to set the hours.
- Press the **>** key to enter a minute setting for the clock:

```
Clock      [Set Clock]
9:00 AM Mins >
January 1 2000
^Adjust #Set XExit
```

- Use the same procedure to set the minutes, AM/PM, month, day, and year.
- Press the **SELECT** key to save the settings.
- Press the **SETUP** key to exit from the setup menus.

## SETTING THE ALARM

- Press the **SETUP** key to display the setup menus:

```
Setup
^ >Clock
v
                                XExit
```

- Press the **SELECT** key:

```
Clock      [Setup]
^ >Alarm On/Off
v [Off]
                                XExit
```

- Use the **Λ** and **∇** keys to display the **Set Alarm** option:

```
Clock      [Setup]
^ >Set Alarm
v
                                XExit
```

- Press the **SELECT** key to select it.

### To set the alarm time

- Use the **Λ** and **∇** keys to display the **Alarm Time** option:

```
Clock      [Set Alarm]
^ >Alarm Time
v
                                XExit
```

- Press the **SELECT** key to select it.

The display prompts you to set the hours:

```
Clock      [Alarm Time]
12:00 AM Hours>
^Adjust #Set XExit
```

- Use the **Λ** and **∇** keys to set the hours.
- Press the **>** key to enter a minute setting for the clock:

```
Clock      [Alarm Time]
08:00 AM Mins >
^Adjust #Set XExit
```

- Use the same procedure to set the minutes and AM/PM.
- Press the **SELECT** key to save the settings.

### To set the alarm source

- Use the **Λ** and **∇** keys to display the **Alarm Source** option:

```
Clock      [Set Alarm]
^ >Alarm Source
v
                                XExit
```

- Press the **SELECT** key to select it.

The display prompts you to select the playback source:

```
Clock      [Alarm Source]
^ >FM Radio
v
                                XExit
```

- Use the **Λ** and **∇** keys to select from the following options:

**Internet radio station** – by selecting this option you will be prompted to select a preset station to use as the alarm.

**AM/FM radio station** – by selecting this option you will be prompted to select a preset station to use as the alarm.

**Server** – you may select a particular track from the SoundServer library to use as the alarm. Once this option has been selected you will be prompted to locate a track to play.

Once you have selected a radio preset or a SoundServer track for an alarm source press the **SELECT** key to save the settings.

**Note:** If your selected source is not available when the alarm is activated the NP200 will use the last used FM or AM radio station as the alarm source.

### To turn on the alarm

- Use the  $\wedge$  and  $\vee$  keys to display the **Alarm On/Off** option:

```
Clock      [Setup]
^ >Alarm On/Off
v [Off]
           [Exit]
```

- Press the  $\#$ **SELECT** key to select it.
- Use the  $\wedge$  and  $\vee$  keys to select **On** or **Off**:

```
Clock [Alarm On/Off]
^ On
v
           [Set] [Exit]
```

- Press the  $\#$ **SELECT** key to save the change.
- Press the  $\#$ **SETUP** key to exit from the main setup menus.
- Press the **STANDBY/ON** key on the NP200 to enter Standby mode.

When the set time is reached the NP200 will be turned on and start playing audio from the specified input source.

If the NP200 is already switched on the alarm will not be activated.

### To select the snooze feature

When the alarm is active a snooze feature is available which silences the alarm and sounds it again after 5 minutes:

```
Clock      [Alarm!!]
           07:00 AM
           February 23 2002
Display    [Snooze]
```

- Press the  $\#$ **SELECT** key to activate the snooze feature.

### To cancel the alarm

- Press the **STANDBY** key or **DISPLAY** key on the NP200 or remote control.

## SLEEP TIMER

The sleep timer puts the NP200 into Standby mode when the set time elapses.

- Press the **SLEEP** key on the remote control to set the time that must elapse before the NP200 is put into Standby mode.

The display shows:

```
Sleep 90 Min
```

- Press the **SLEEP** key to reduce the sleep time in steps of 10 minutes.

You can also use the  $\wedge$  and  $\vee$  keys to change the time setting in minutes.

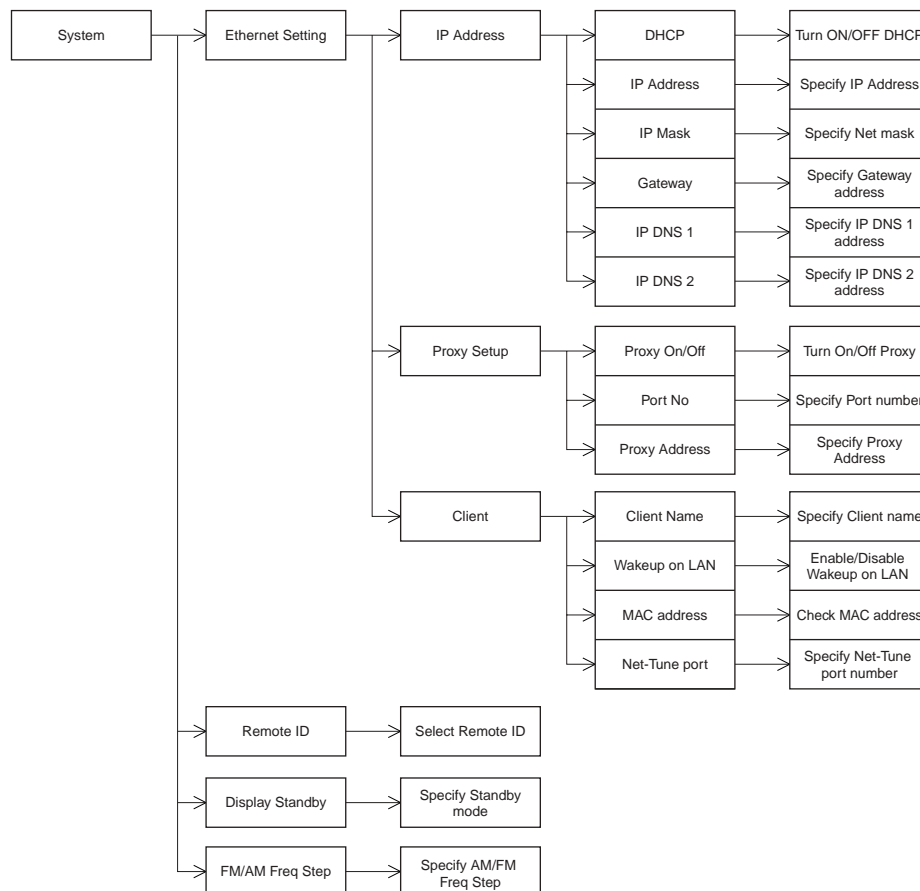
While the sleep timer function is set, **Sleep** appears in the display.

- To disable the sleep timer setting, press the **SLEEP** key repeatedly until the display **SLEEP** disappears.

# ADVANCED SETTINGS

This chapter describes how to configure the NP200 for your network, and how to configure other options affecting its operation.

The following diagram shows a plan of the system menu options used to configure the NP200:



## NETWORK SETTINGS

Before you can use the NP200 to play music contained in the music library on the SoundServer or listen to Internet radio, you must correctly configure the network settings so that it can connect to your network and the Internet.

It is strongly recommended that you use a broadband connection and a router. Before setting up the NP200, make sure that you are already using a router that provides Internet access and that the NP200 is correctly connected with your router or hub via Ethernet. For more information on Internet connectivity, consult your ISP (Internet Service Provider) or refer to the documentation with your router.

After changing any settings it will take about two seconds to write the setting to the NP200.

If you turn off the NP200 before a new setting has been written, the setting will be lost.

### To display the Ethernet Settings menus

- Press the **ⓂSETUP** button to display the Setup menus:

```

Setup
^ >Clock
v
ⓂExit
  
```

- Use the **^** and **v** keys to display the system option:

```

Setup
^ >System
v
ⓂExit
  
```

- Press the **ⓂSELECT** key to select it.
- Use the **^** and **v** keys to display the **Ethernet Settings** option:

```

System      [Setup]
^ >Ethernet Settings
v
ⓂExit
  
```

- Press the **ⓂSELECT** key to select it.

### IP ADDRESS

#### To specify the IP address automatically

If you have a DHCP server, it can assign an IP address automatically to your NP200, avoiding the need for any other configuration.

- Display the **Ethernet Settings** menu as previously described.
- Use the **^** and **v** keys to highlight **IP Address** and press the **ⓂSELECT** key.

- Press the **#SELECT** key to configure the DHCP settings:

```
System      [DHCP]
^ On
v
          #Set  #Exit
```

- Use the **^** and **v** keys to select between **On** and **Off**.
- Press the **#SELECT** key to confirm the setting.

### To specify the IP address settings manually

If you do not have a DHCP server on your network you will need to manually configure the IP address, IP mask, gateway address, and DNS addresses using the appropriate options on the **IP Address** menu.

- Display the **Ethernet Settings** menu as previously described.
- Use the **^** and **v** keys to highlight **IP Address** and press the **#SELECT** key:

```
IP Address  [Setup]
^ >IP Address
v [000.000.000.000]
          #Exit
```

- Enter the IP address using the **<** and **>** keys to select the digit to change and the **^** and **v** keys to change the number:

```
IP Address  [Setup]
000.000.000.000
^~Adjust #Set  #Exit
```

- Press the **#SELECT** key to confirm the new setting.

The same procedure can be used to set the IP Mask, gateway address, DNS1 address, and DNS2 address.

## PROXY SETTINGS

If your network uses a proxy server you should specify the settings in the **Proxy Setup** menu.

- Display the **Ethernet Settings** menu as previously described.
- Use the **^** and **v** keys to highlight **Proxy Setup** and press the **#SELECT** key.
- Use the **^** and **v** keys to highlight **Proxy On/Off** and press the **#SELECT** key.

```
Proxy      [On/Off]
^ On
v
          #Set  #Exit
```

- Use the **^** and **v** keys to select between **On** and **Off**.
- Press the **#SELECT** key to confirm the setting.

### To specify proxy address and port number

- Display the **Ethernet Settings** menu as previously described.
- Use the **^** and **v** keys to highlight **Proxy Setup** and press the **#SELECT** key.
- Use the **^** and **v** keys to highlight **Port No** and press the **#SELECT** key:

- Use the **^**, **v**, **<**, and **>** keys to enter the port number:

```
Proxy      [Port No]
Port No: 08080
^~Adjust #Set  #Exit
```

- Press the **#SELECT** key to confirm the setting.
- Use the **^** and **v** keys to highlight **Proxy Address** and press the **#SELECT** key.

```
Proxy      [Setup]
^ >Proxy Address
v
          #Exit
```

- Enter the address and press the **#SELECT** key to confirm the setting.

## CLIENT SETTINGS

### To change the client name

You can change the default name to identify the NP200 on the network.

- Display the **Ethernet Settings** menu as previously described.
- Use the **^** and **v** keys to highlight **Client** and press the **#SELECT** key.
- Use the **^** and **v** keys to highlight **Client Name** and press the **#SELECT** key:

```
Client      [Setup]
^ >Client Name
v [NP200]
          #Exit
```

- Enter a name, such as **Bedroom**, in same way as for radio presets; see *To edit the preset name*, page 13:

```
System      [ClientName]
NP200
v [+][a b c d e f g h
Display: Caps #OK #[]
```

- Press the **#SELECT** key to confirm the name.

**Note:** Client names must be unique.

## CHANGING THE REMOTE CONTROL CODE TO RESOLVE CONFLICTS

When you use multiple NP200s within the same infra-red range, you can change the remote control code to avoid multiple units operating simultaneously with one remote control.

- Press the **#SETUP** key to display the Setup menus.
- Use the **^** and **v** keys to highlight **System** and press the **#SELECT** key.
- Use the **^** and **v** keys to highlight **Remote ID** and press the **#SELECT** key:

```
System      [Remote ID]
^ 1
v
          #Set  #Exit
```

- Use the **^** and **v** keys to change the ID
- Press the **#SELECT** key to save the change.
- Press the **#SETUP** key to exit from the Setup menus.

**Note:** The ID should match the ID set for the remote control; see *To change the remote control code*, page 6.

## SETTING THE STANDBY DISPLAY BRIGHTNESS

- Press the **SETUP** key to display the Setup menus.
- Use the **^** and **V** keys to highlight **System** and press the **SELECT** key.
- Use the **^** and **V** keys to highlight **Display Standby** and press the **SELECT** key.

```
System      [Display]
^ Dim
v
#Set #Exit
```

- Use the **^** and **V** keys to select between **Bright**, **Dim**, or **Off**.
- Press the **SELECT** key to save the change.
- Press the **SETUP** key to exit from the Setup menus.

## CHANGING THE FM/AM FREQUENCY STEP

The FM/AM frequency step can be toggled between 50k/9k steps and 100k/10k steps depending on the configuration for your country.

**Note:** Changing this option will delete any presets you have saved.

- Press the **SETUP** key to display the Setup menus.
- Use the **^** and **V** keys to highlight **FM/AM Freq Step** and press the **SELECT** key.
- Use the **^** and **V** keys to change the frequency step.
- Press the **SELECT** key to save the change.
- Press the **SETUP** key to exit from the Setup menus.

# TROUBLESHOOTING

## POWER

### The unit will not switch on

- Make sure that power cable is plugged into the AC outlet.
- Unplug the power cable from AC outlet, wait for five seconds or more, then plug the cable in again.

## SPEAKERS

### No sound is heard from the speakers

- Make sure the speakers are connected correctly and the speaker cables' core wires touch the speaker connectors.
- Check to see if the volume level is set to minimum.
- If the MUTING indicator is flashing, the sound is muted. Cancel the muting function.

## FM/AM TUNER

### Noise is heard during broadcast, or too much white noise is heard during an FM stereo broadcast

- Change the location of the antenna.
- Locate the unit further from the TV or computer.
- Driving cars nearby or flying aeroplanes could cause noise.
- The broadcasting radio signal may be weak if a concrete wall obstructs the signal path .
- Try setting FM mode to Mono.
- Noise may be heard when you operate the remote control during AM reception.
- If nothing can improve the reception, install an outdoor antenna.

## REMOTE CONTROL

### The remote control does not function correctly

- Make sure that the batteries have been installed with the correct polarity.
- Replace both batteries with new ones (Do not mix different types of batteries or new and old batteries).
- The distance between the remote control and the remote control sensor may be too far. Or, there may be an object between them.
- The remote control sensor on the unit may be receiving a strong beam of light (inverter fluorescent light or sunlight).
- Make sure to use the same REMOTE ID code both for the remote control and NP200.

## TIMER/ALARM

### Timer playback does not work

- The clock must be set correctly. If the clock is not set, timer playback does not work. Make sure you program the current day and time.
- If you selected **Server** or **iNetRadio** and the media is not available (for example, if the SoundServer is in standby), the NP200 will automatically use FM/AM radio as the alarm source.

## ETHERNET NETWORK

### The unit fails to activate the Internet radio or music server feature

Your network is either not connected properly or not configured properly.

- Check the connection between this unit and the LAN side port of your router (gateway) .
- Make sure that the modem and router (gateway) are correctly connected. Also, make sure that the power is on.

### The unit fails to obtain a station list from the Internet

The radio site is out of service or otherwise inaccessible due to some other reason such as maintenance.

- Try to access the site after a while.

### Selecting the Music Server source fails to play music or fails to connect to the SoundServer

Your SoundServer is not turned on.

- Turn on your SoundServer.

No audio files on the SoundServer.

- Record CDs onto your SoundServer.

# SPECIFICATIONS

## – General

Clock precision monthly error	±30 seconds (25°C/77°F)
Power supply	AC 120V, 60Hz
Power consumption	58 W (120V, 60Hz)
Standby power	8W
Dimensions	205mm(W) x 91mm(H) x 279 mm(D)
Weight	3.9kg

## – Amplifier Section

### • Power output

FTC	15 watts per channel, min RMS, at 8 W, both channels driven 1kHz, with no more than 0.1%
DIN	2 x 17 watts at 6Ω, 1kHz 2 x 15 watts at 8Ω, 1kHz
Dynamic power output	2 x 27 watts at 6Ω 2 x 24 watts at 8Ω
Total harmonic distortion	0.1% at rated power
IM distortion	0.6% at rated power
Damping factor	30 at 8W

### • Input Sensitivity and Impedance

TAPE/MD PLAY	150mV, 50kΩ
LINE IN	150mV, 50kΩ
Frequency and response	10 to 50,000Hz +0 /-3dB
Signal to noise ratio	100dB (IHF-A)
Muting	-60dB

## – Tuner Section

### • Tuning range

U.S. & Canadian models	
FM:	87.50–108.00MHz(100kHz steps)
AM:	530–1710kHz (10kHz steps)
Other area models	
FM:	87.5–108.00 MHz (50kHz steps)
AM:	522–1611kHz (9kHz steps)

### • Usable sensitivity

FM:	
Mono	11.2dBf, 1.0μV (75Ω IHF), 0.9μV (75Ω DIN)
Stereo	17.2dBf, 2.0μV (75 Ω IHF), 23.0μV (75Ω DIN)
AM	30μV

### • 50dB Quieting sensitivity

FM:	
Mono	17.2dBf, 2.0μV (75Ω)
Stereo	37.2dBf, 20.0μV (75Ω)

### • Capture ratio

FM	2.0dB
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### • Image rejection ratio

FM:	
U.S. & Canadian models	40dB
Other area models	85dB
AM	40dB

### • IF rejection ratio

FM	90dB
AM	40dB

### • Signal to noise ratio

FM	Mono 73dB, IHF; Stereo 67dB, IHF
AM	40dB

### • Selectivity

FM	50dB DIN (±300kHz at 40kHz Devi.)
AM Suppression Ratio	50dB

## • Harmonic distortion

FM:	
Mono	0.2%
Stereo	0.3%
AM	0.7 %

## • Frequency response

FM	30–15,000Hz (±1.5dB)
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## • Stereo separation

FM	45dB at 1,000Hz, 30dB at 100 to 10,000Hz
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## • Stereo threshold

FM	17.2dBf, 2.0μV (75Ω)
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## – Accessories

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## Note

The specifications and design of this product is subject to change without notice.



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