

Internet Radio

User Manual

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Copyright Statements

- MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson.
- Supply of this product does not convey a license nor imply any right to distribute content created with this product in revenue-generating broadcast systems (terrestrial, satellite, cable and/or other distribution channels), streaming applications (via Internet, intranets and/or other networks), other content distribution systems (pay-audio or audio-on-demand applications and the like) or on physical media (compact discs, digital versatile discs, semiconductor chips, hard drives, memory cards and the like). An independent license for such use is required. For detail please visit <http://mp3licensing.com>.
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Notice

Recording/Ripping any audio content made with this system is only for your personal use. It should not be sold, distributed, and played for a public audience without copyright holder' permission.

Chapter 1 Overview

1.1 Introduction

Internet Radio is a radio system integrated digital audio playback that functions with network connectivity. The system can play MP3/WMA audio files, iPod, USB devices, SD/MMC card, FM radio, and internet radio services such as World Station and SHOUTCast which provide above 20,000 internet radio stations. Internet Radio also supports audio streaming via UPnP Media Server. To enjoy your personal favorite songs, Internet Radio can play the music from your iPod .

1.2 Audio Sources

- Support MP3/ Windows Media® audio files (known as WMA)(Included ID3V1 ,2)
- Support static lyrics and synced lyrics (.txt /.lrc /.smi)
- Support USB Flash drive, USB HD drive, SD/MMC card
- SHOUTCast Internet Radio (<http://www.shoutcast.com>)
- Support iPod Dock functions
- Support Podcast
- Local FM (On-Line Radio)
- FM (87.5~109.5MHz)
- Support AUX

1.3 Storage

- Support standard USB Mass Storage device (FAT16/32).
- Support SD/MMC card up to 2G. SDHC is not supported.

1.4 Recording

- Be able to record audio data from internet radio stations (World Station / SHOUTCast) and transfer audio data into 128K MP3 format.
- Be able to record audio data from FM and transfer audio data into 128K MP3 format.

1.5 Networking

- Support Ethernet 10/100 Mbps
- Support Wireless LAN IEEE 802.11 b/g n (optional)
- Support Infrastructure / Ad-hoc
- Support WEP64/128 and WPA-TKIP-PSK, WPA2-AES-PSK encryption
- Support Proxy Setting
- The system provides a wireless setting wizard to make wireless network setup easier.

1.6 Others

- Support two alarm clock settings
- Support time sync technology (* network available)
- Support firmware upgrade

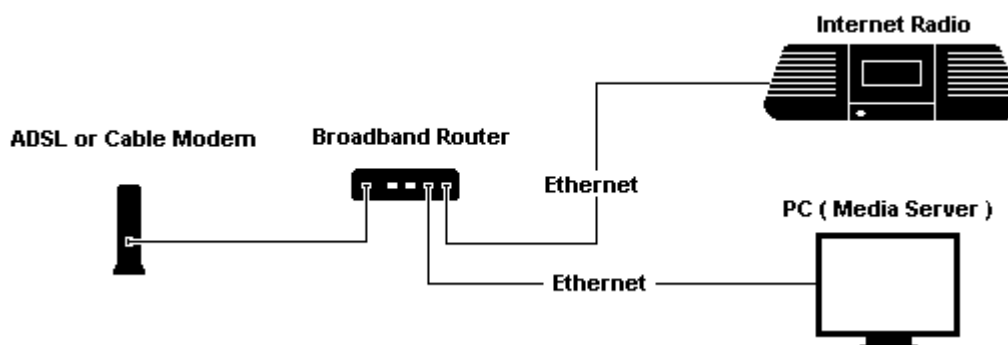
Chapter 2 Installation

2.1 Installation

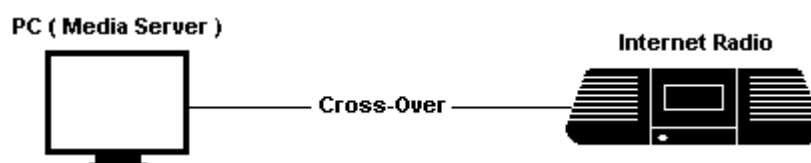
NOTE: The proper voltage for Internet Radio is AC 110V~240V/50-60Hz. Be sure to the voltage in your area before plugging in the unit.

2.1.1 Installing onto network (LAN)

- Make sure the internet environment is ready and the network setting is available (ADSL or Cable Modems is highly recommended).
- The default setting of network in your Internet Radio is DHCP. (more network setting please check 11.6 Network)



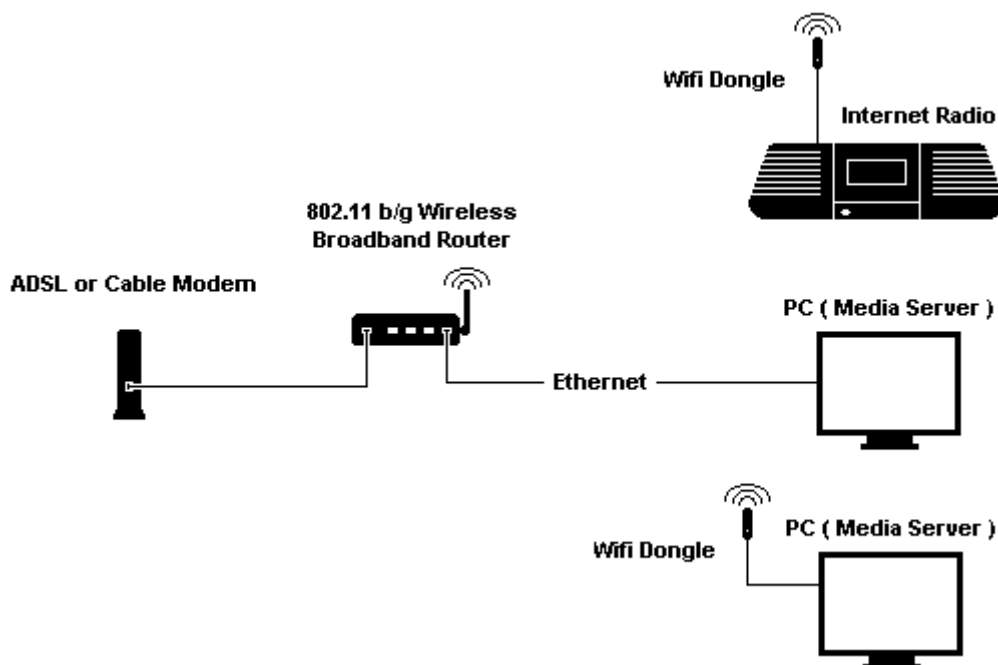
- Connect the device to an Internet connected router according to the picture. Use a standard network cable.



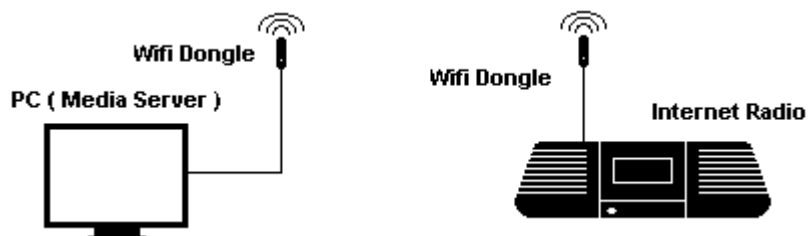
- Connect the device to a PC according to the picture if it is only going to be used for listening to music that is stored in the computer. Use a crossed network cable.
- When the device is connected like this you can only listen to music which is stored in the computer. The computer must have special software installed. See section Media Server.

2.1.2 Installation of a wireless network (WLAN)

- Make sure the internet environment is ready and the network setting is available.
- Plug-in Wifi Dongle into Internet Radio (More setting please see 11.6 [Network](#))



- Connect the wireless network dongle to the socket.



- You can connect the device wireless to a computer with a wireless network card.
- When the device is connected like this you can only listen to music which is stored in the computer. The computer must have special software installed. See section Media Server.

2.2 Starting The Equipment for The First Time

When you turn on the equipment for the first time the stereo will try to automatically search for an IP address. If the network is connected to the Internet, the equipment will also synchronize the time with the time server and then goes to standby mode. Usually it will take 6-30 seconds to finish the whole process.

Chapter 3 Internet Radio

3.1 Introduction

By using internet radio, listeners receive a continuous stream of audio from internet radio stations. Internet Radio supports many audio stream sources such as Microsoft (mms://..) and SHOUTCast (<http://www.shoutcast.com>).

Today most traditional FM radio stations in the world offer on-line radio services or programs. Internet Radio can connect to those on-line radio services or programs. Moreover, Internet Radio categorizes those stations by country, and sort them under World Station file. This makes it easy to search or find a particular radio station. World Station (<http://station.penbex.com.tw>).

3.2 World Station

System requirements: Recommend broadband internet connection (xDSL/Cable Modem). However, Internet Radio does not support PPPoE(ADSL) or ISP Proxy (cable modem). We strongly recommend connecting with a broadband router to have better quality of audio streaming.

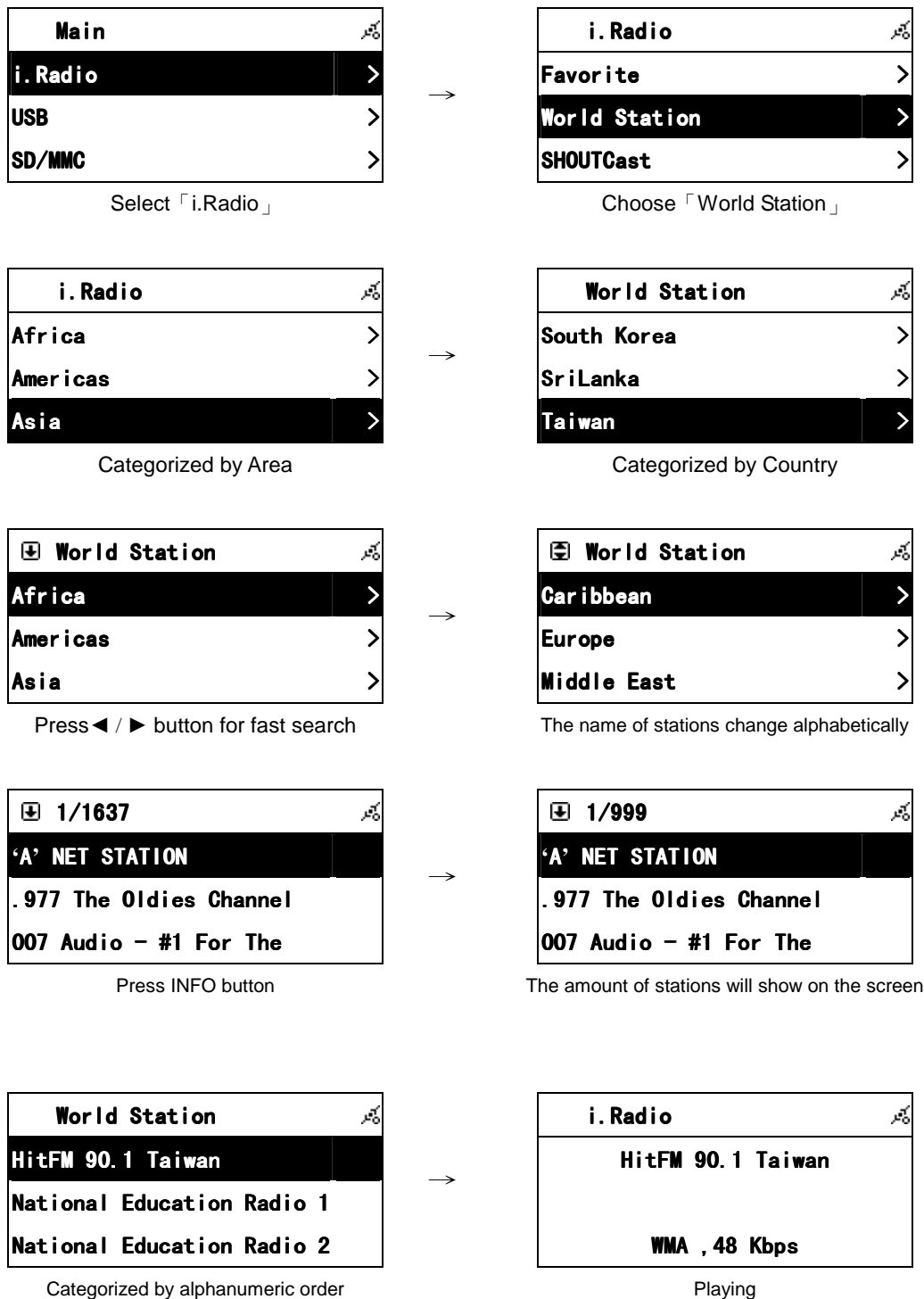
- If there is no internet connection on your Internet Radio, Wizard mode will be automatically activated. Please follow the instructions shown on the screen to establish network connection.

3.2.1 Listen to World Station

- Go to [Main] menu, choose [i.Radio] and press 「SELECT/OK」 button.
- Choose [World Station] and then press 「SELECT/OK」 button.
- Scroll up/down to a station and then press 「SELECT/OK」 button to play.
- You will hear music after buffering reaches to 100%.

Note : For fast search for an internet radio station, press 「Right」 button to jump from radio stations started with alphabet A to alphabet B, alphabet B to alphabet C, and so on. Press 「Left」 button to jump backward.

Table 3.2.1



3.3 SHOUTCast

System requirements: Recommend broadband internet connection (xDSL/Cable Modem). However, Internet Radio does not support PPPoE(ADSL) or ISP Proxy (cable modem). We strongly recommend connecting with a broadband router to have better quality of audio streaming.

- Go to [Main] menu, choose [i.Radio] and press 「SELECT/OK」 button.
- Choose [SHOUTCast] and then press 「SELECT/OK」 button.
- Scroll up/down to a station and then press 「SELECT/OK」 button to play.
- You will hear music after buffering reaches to 100%.

Note : Press 「INFO」 to show the total amount of internet radio stations in a specific category and which one you are browsing.

3.4 Add/Delete a Radio Station from My Favorite List

3.4.1 How to add a radio station into My Favorite List

There are several ways to add radio stations you desired into Favorite list. First of all, scroll to a radio station you would like to insert to Favorite list. Then:

1. Hold 「SELECT/OK」 button for 2 seconds, or
2. Press 「Memory」 button, or
3. Press number button on your remote control. For example, you would like to set [CNN New] as a preset channel 3 for your Internet Radio. Please [3] button on your remote control and hold for 2 seconds.

Note : You are able to add at most 10 radio stations into your FAVORITE list. If you already have 10 radio stations memorized in your favorite list, the next radio station you want to put into the list will replace the first radio station of your favorite list.

3.4.2 How to delete a radio station into My Favorite List

- Go to [Main] menu, choose [i.Radio] and press 「SELECT/OK」 button.
- Choose [Favorite] and then press 「SELECT/OK」 button.
- Scroll to the radio station you want to delete and press 「SELECT/OK」 button (hold the button for 2 seconds).
- Select [YES] to confirm or Select [No] to abort.

3.4.3 Play the music from the Favorite list

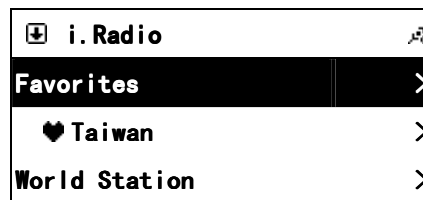
- Go to [Main] menu, choose [i.Radio] and press 「SELECT/OK」 button.
- Choose [Favorite] and then press 「SELECT/OK」 button.
- Scroll to the radio station you want to listen and press 「SELECT/OK」 button to play.
- Or you can play the preset channels by press number button on your remote control.

3.5 Add a Quick Menu

Not only establish your favorite list, you can also setup quick menus to access the radio station group you desire more easilier. Internet Radio support five Quick Menus for you and these Quick Menus will be stored under Favorite category.

- Scroll to the radio station group you desire.
- Press 「**Memory**」 button or 「**SELECT/OK**」 button and hold for 3 seconds. The scrolling bar will blink twice and the radio station group is stored.
- The saved Quick Menu will be marked with ♥ and can be found under Favorite category.

Table 3.5.1



Quick Menu with ♥ mark

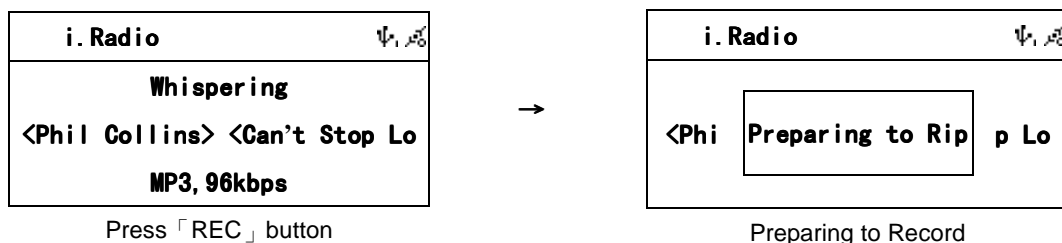
3.6 Record A Song From An Internet Radio Station

NOTE: The recording quality depends on the broadcast quality of the internet radio station.

3.6.1 Recording

- Press 「**REC**」 button while you are listening.
- Internet Radio will ckeck if the storage has enough space for recording.
- ● will shown on your screen while it is recording.
- If you want to stop recording, press 「**STOP/ESC**」 button.

Table 3.6.1



i. Radio		ψ, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
<P	Message Free Space:24.33 MB Starting Record	Lo

Check memory...

● i. Radio		ψ, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
Whispering <Phil Collins> <Can't Stop Lo MP3, 96kbps		

Recording

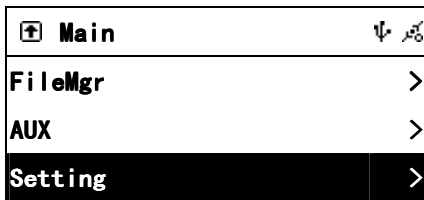


Chapter 4 PodCast

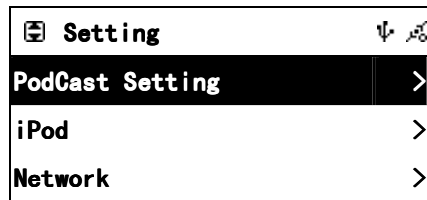
A Podcast is a series of digital-media files that are distributed over the Internet using syndication feeds for playback on your device. You can browse, play, subscribe and/or download any Podcasts from the Podcast directories. Moreover, you can download any specific podcast you desire and store into your mass storage, for example, your USB.

The device also supports auto-update, which means the device will download the subscribed podcasts when the device is in standby mode.

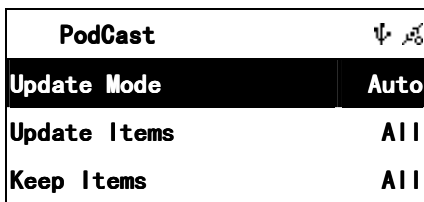
4.1 PodCast Setting



In Main Menu, scroll down to [Setting] and press [Select/OK] button

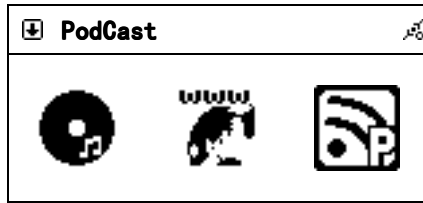


Scroll down to [Podcast Setting] and press [Select/OK] button



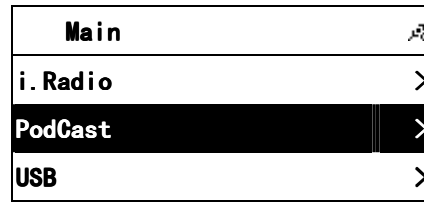
Item	Option
Update Mode (To decide the auto-update mode when the device is in Standby Mode)	Auto : Auto-update the content Manual : update the content by manually.
Update Items	All : All contents Newly : Only update those new contents Last 3 : Only update the latest three contents
Keep Items	All : Save all contents Newly : Save only new contents Last 3 : Save only the latest three contents

4.2 Browse/Subscribe/Play Podcasts

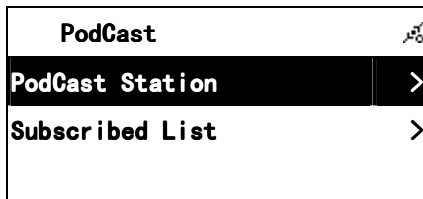


Podcast icon in Smart Boombox

OR

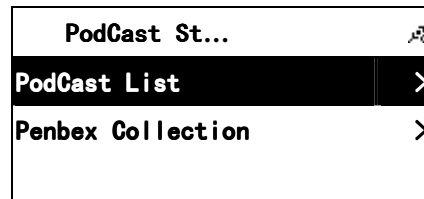


Podcast in Internet Radio

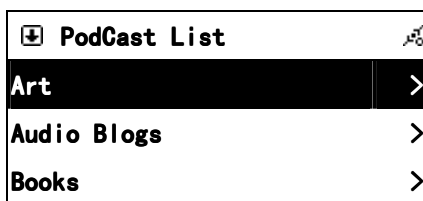


To browse Podcast station, scroll to [Podcast station] and Press [Select/OK] button

→

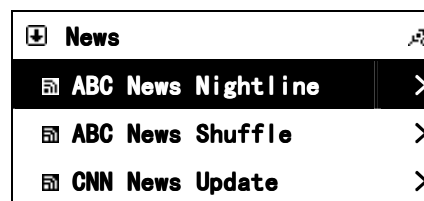



Select [Podcast List] and Press [Select/OK] button

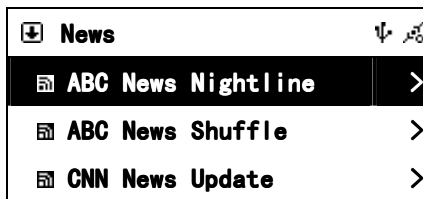


Choose from different categories and Press [Select/OK] button

→

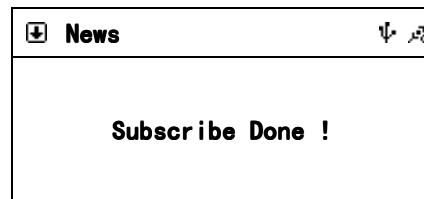


The list of podcast stations will appear. For the available podcast stations for your subscription.  icon can be observed in the beginning of the podcast stations.

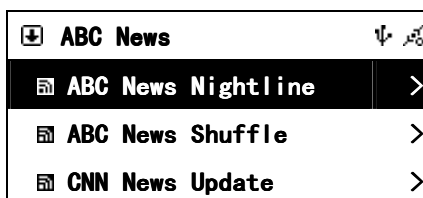


To subscribe the Podcast, insert your USB into the device and press [Memory] or [REC] button

→

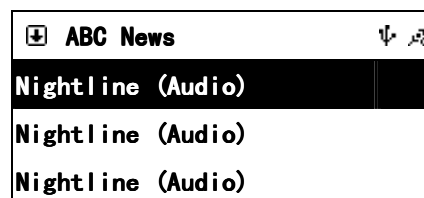


You have subscribed the Podcast station

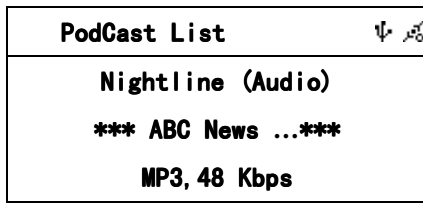


Press [Select/OK] button to browse the lists of Podcast stations

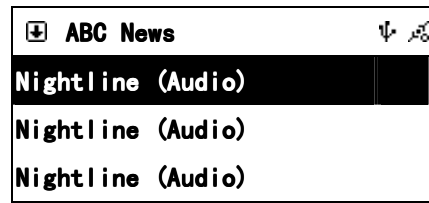
→



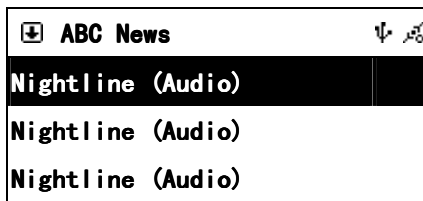
Scroll to the content and Press [Select/OK] button to listen



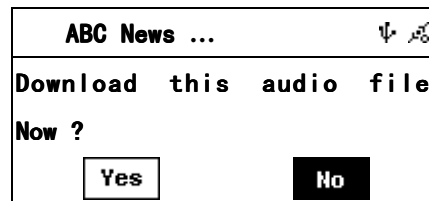
Playing. . .



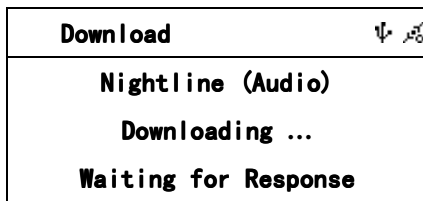
If you want to download a specific content, scroll to the content you want



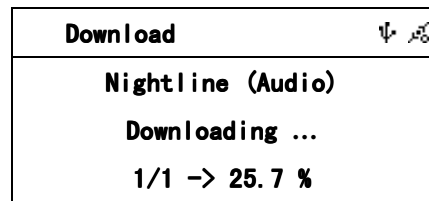
Press [REC] button to download



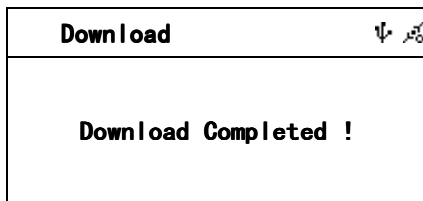
Choose [YES] to download



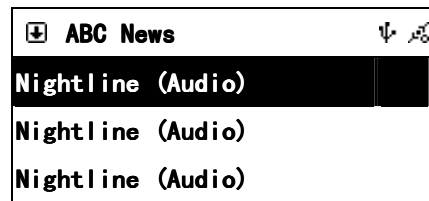
Connecting. . .



Download. . .

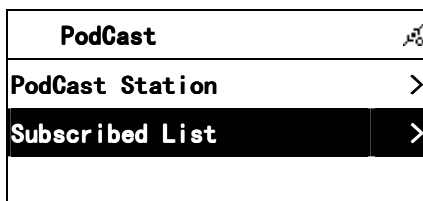


Download completed



Go back to the content list after download finished

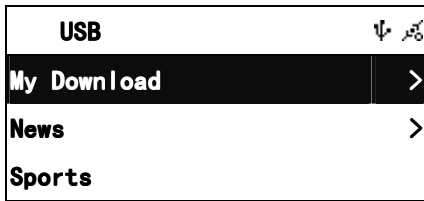
4.3 Play/Download the Podcasts from USB or SD/MMC



Insert your USB or SD/MMC to the device. Choose [Subscribed List] and press [Select/OK] button



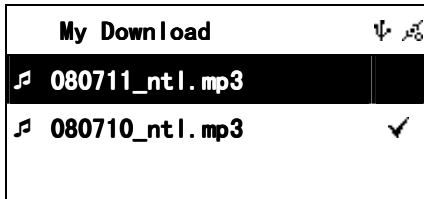
Press [Select/OK] button



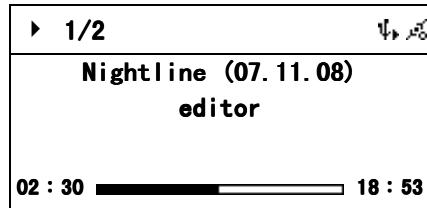
To download a specific content, scroll to [My Download] and press [Select/OK] button



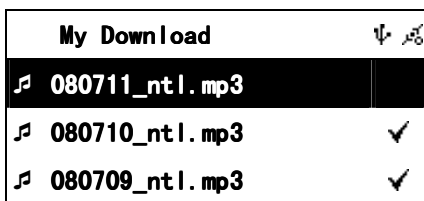
The subscribed podcast list



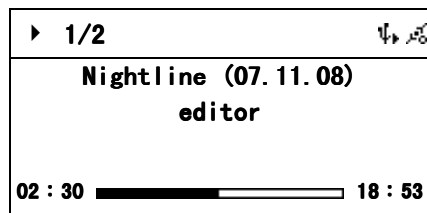
Scroll to the content and then press [Select/OK] button



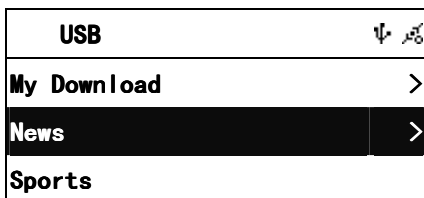
Playing...



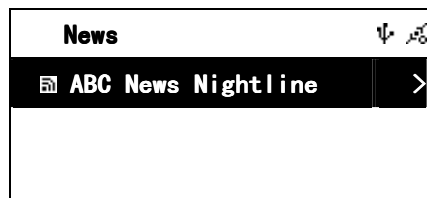
Or make your Playlist by Press [Memory] button



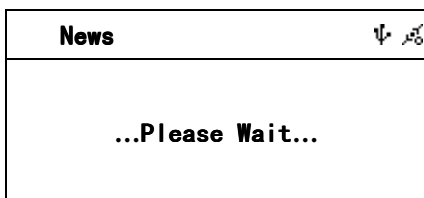
Press [Select/OK] button to listen from your playlist



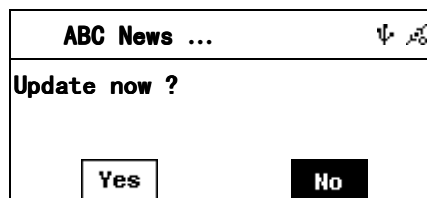
To browse your subscribed podcast, scroll to the categories (e.g. News) and press [Select/OK]



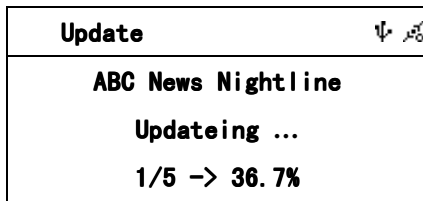
Choose the Podcast station and Press [Select/OK] button



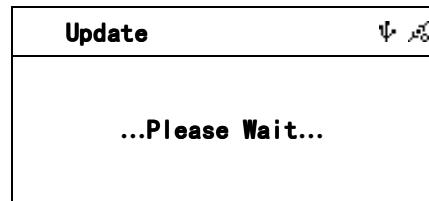
Checking Database



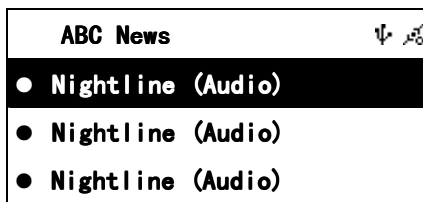
Updated contents are available and choose [YES] to download.



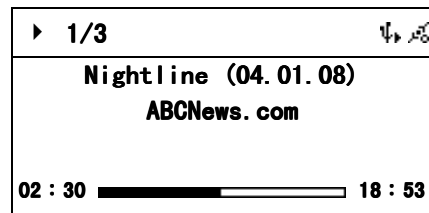
You can stop downloading anytime by press [ESC/STOP] button



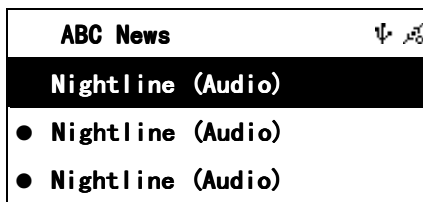
Processing



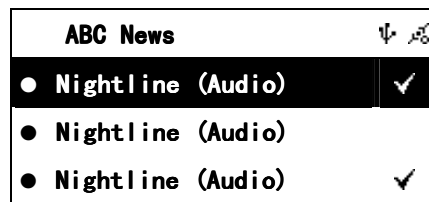
The contents you have downloaded.



Press [Select/OK] button to play

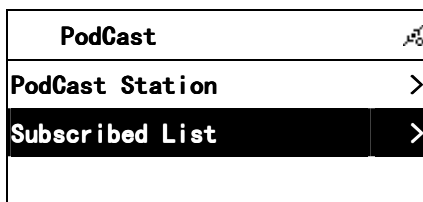


After contents are played, ● icon will disappear.



Or you can make your playlist by press [Memory] button

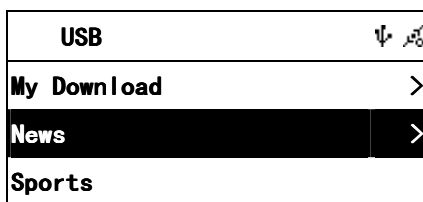
4.4 Unsubscribe Podcast from USB or SD/MMC



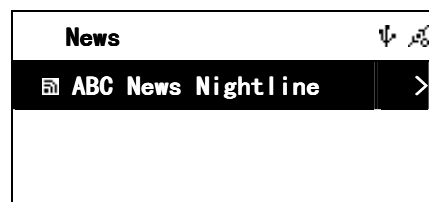
Insert your USB, scroll to [Subscribed List] and then press [Select/OK] button



Choose [USB] and press [Select/OK] button



Choose the category and press [Select/OK] button

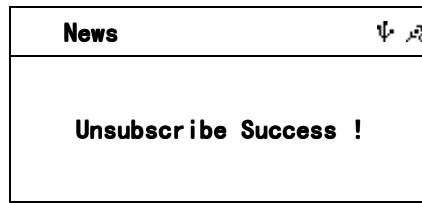


Choose a podcast station you want to unsubscribe and

press [Memory] button



→

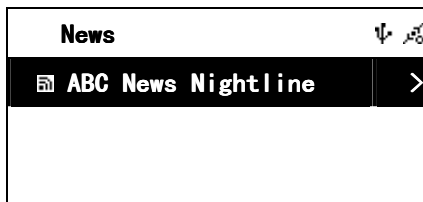


Choose [YES] to confirm and press [Select/OK] button

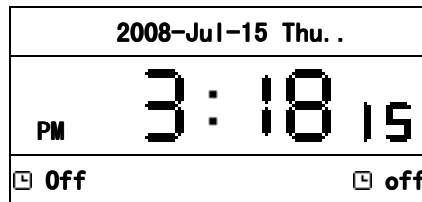
Unsubscribe Success

4.5 Download Podcasts in Standby Mode

When the device is in Standby Mode, it will download your subscribed podcasts automatically. So you insert your USB or SD/MMC card before you go to sleep at night. The device will check if there is any updated content available and download it for you.

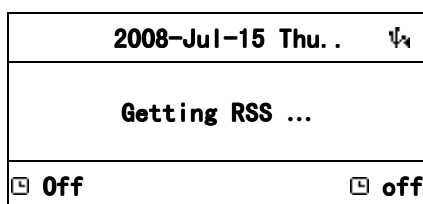


→

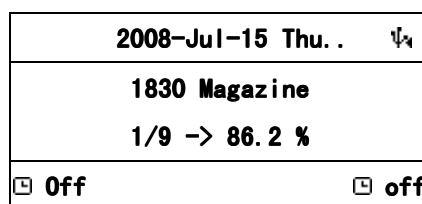



Press [Power] to make the device goes into Standby Mode

The device is in Standby mode.

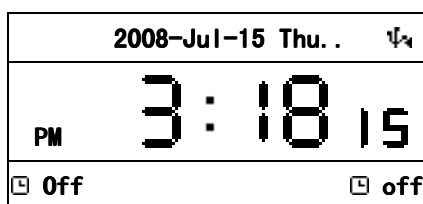


→

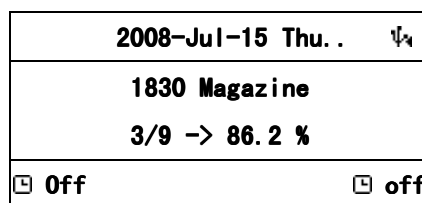


On the top right of screen,  icon will appear and blink. It means that the device is trying to get RSS at that moment.

If there is any updated content



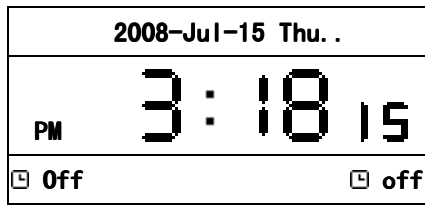
→



The screen of the device will get back to clock mode. But the device is still downloading the

Downloading. . .

updated content. (🔌 icon)



After download finished, the device will go back to
Standby Mode.

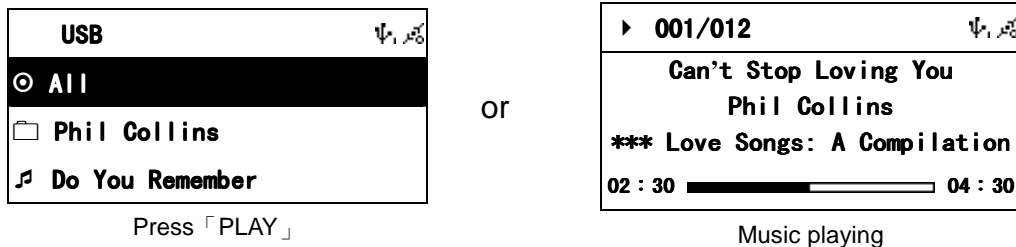
Chapter 5 USB

- NOTE:** 1. Please make sure your USB device is, charged before connecting to the unit. Otherwise, it may not be detected. Backup your data on this device in order for it to work properly.
2. In all play modes, if the filename is not in English, the international character for MP3/WMA tracks is replaced with “disorder character”.
3. Some USB devices may be incompatible.

5.1 Playing Songs on the USB Disk

- Insert an USB device with MP3/WMA audio files into your system.
- USB icon will show on the top side of the screen when USB is detected.
- Select 「USB」, and press 「SELECT/OK」 button
- Scroll up/down to a song, folder or All then press 「PLAY」 button to play.
- Select marked songs or folders: Press 「MEMORY」 button to make a check mark ✓, then press 「PLAY」 button to play these marked songs.

Table 5.1

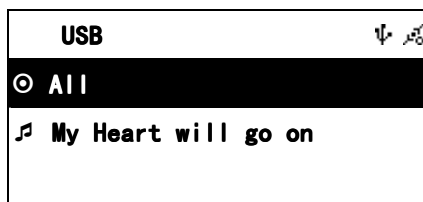


5.2 Lyrics

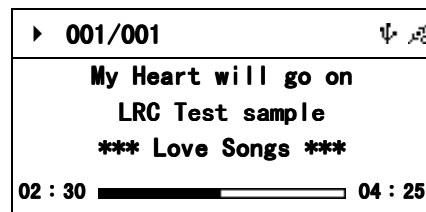
- Support MP3/ Windows Media® audio files (known as WMA)(Included ID3V1 ,2)
- Support static lyrics and synced lyrics (.txt /.lrc /.smi)
- If you want to play MP3/WMA file that has lyrics, please make sure that the file name of MP3/WMA and the file name of lyric must the same.



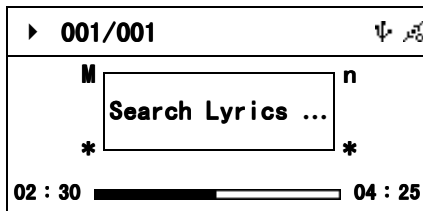
Table 5.2



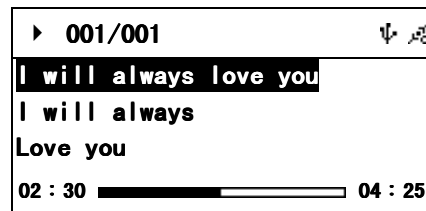
Press Select/OK button to play



Playing



Press [Info] button will start Lyric function

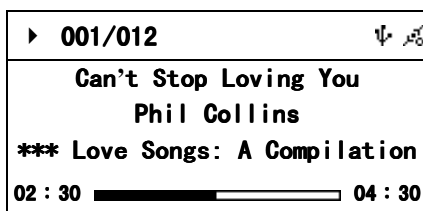


Play a song with lyrics

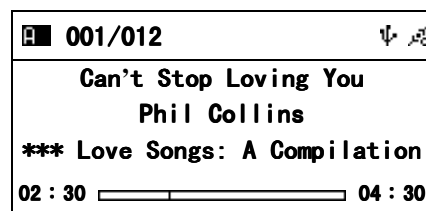
5.3 A-B Loop

- To enable A-B Loop function by press [Select/OK] button or [A-B] button on your remote control.

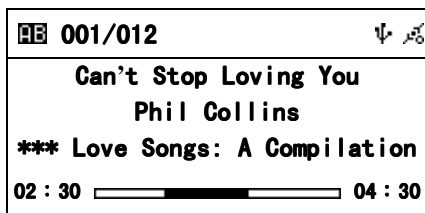
Table 5.3



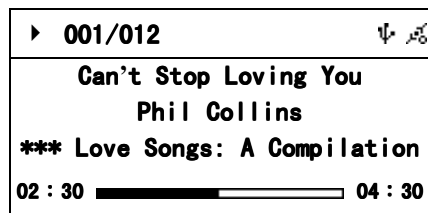
Playing



Press [Select/OK] button to enable A-B loop function



Press [Select/OK] or [A-B] button again then the system will play music from A to B

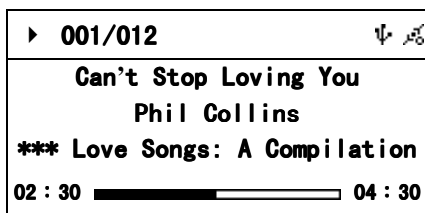


Press [Select/OK] or [A-B] button To stop A-B loop function

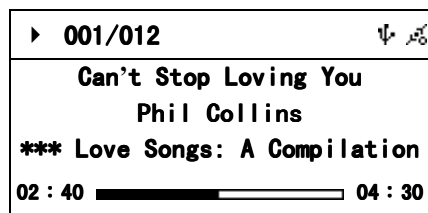
5.4 Fast Forward and Backward

- Fast Forward: Press [▶] button and hold.
- Backward : Press [◀] button and hold.

Table 5.4



Playing



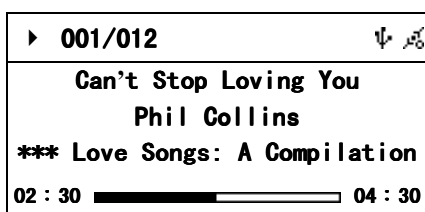
Press [▶] button and hold.

5.5 Next and Back

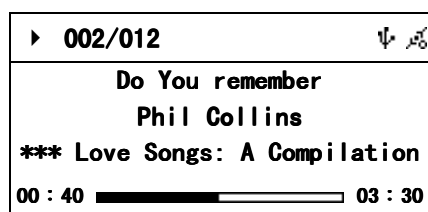
- Next : Press [▶] button
- Back : Press [◀] button

NOTE : If a song has been played more than 2 seconds, Press [◀] button will start playing this song from beginning.

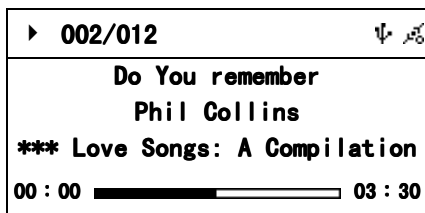
Table 5.5



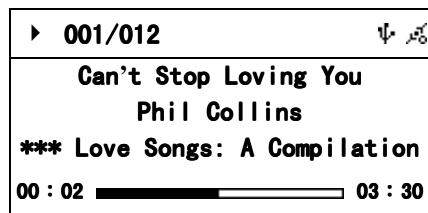
Playing



Press [▶] button and go to next song



If a song has been played more than 2 secs, Press [◀] will start playing this song from beginning

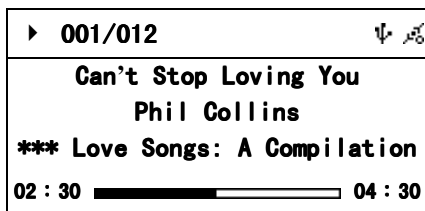


Press [◀] button again will go to last song

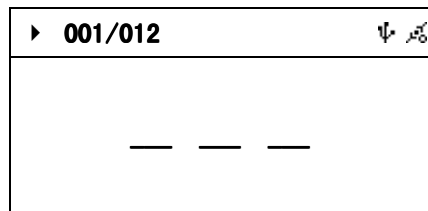
5.6 Quick Jump

- If you want to listen specific song real quick, you can make a quick jump by pressing number button on your remote control

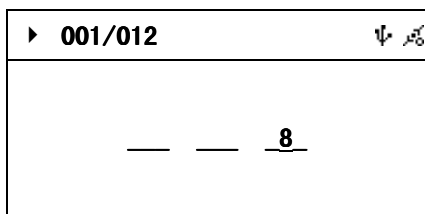
Table 5.6



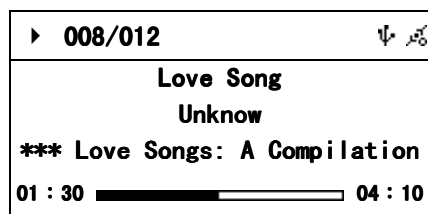
Play first song out of twelve



Press any number button on your remote control to enable input function



If you want to listen 8th song, then press [8] button



Quick jump to 8th song and play

Chapter 6 SD/MMC

NOTE : Some SD/MMC cards may be incompatible.

6.1 Playing Songs on the SD/MMC Card


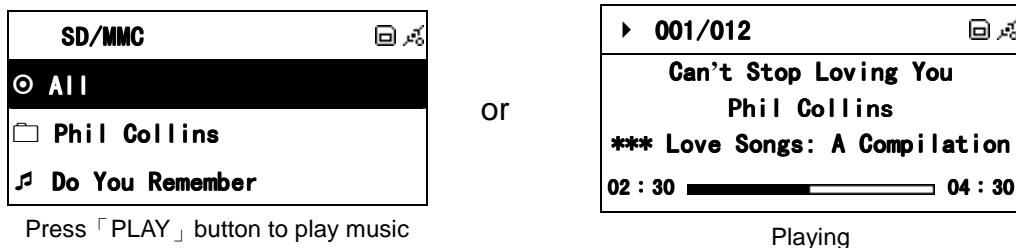
1. Insert a SD/MMC card with MP3/WMA audio files into the SD/MMC slot.
2.  icon will show on the topside of the screen when SD/MMC is detected.
3. Then press 「**SELECT/OK**」 button to enter SD/MMC function.
4. Scroll up/down to a song, folder or, [**⊙ All**] then press「**PLAY**」button to play.
5. Select marked songs or folders: Press 「**MEMORY**」 button to make a check mark **✓**, then press 「**PLAY**」 button to play these marked songs.

Table 6.1

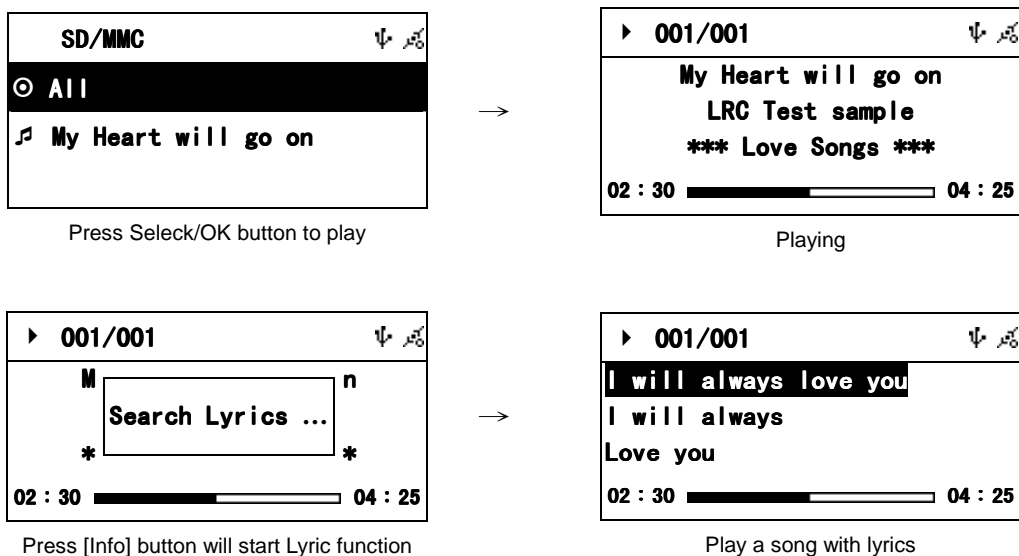


6.2 Lyrics

- Support MP3/ Windows Media® audio files (known as WMA)(Included ID3V1 ,2)
- Support static lyrics and synced lyrics (.txt /.lrc /.smi)
- If you want to play MP3/WMA file that has lyrics, please make sure that the file name of MP3/WMA and the file name of lyric must the same.



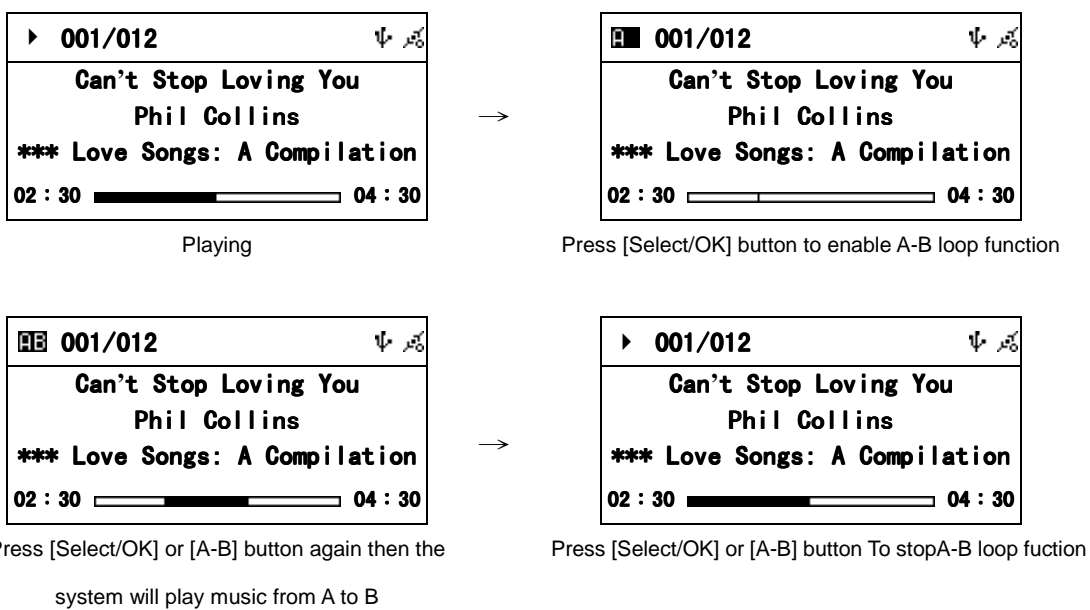
Table 6.2



6.3 A-B Loop

- To enable A-B Loop function by press [Select/OK] button or [A-B] button on your remote control.

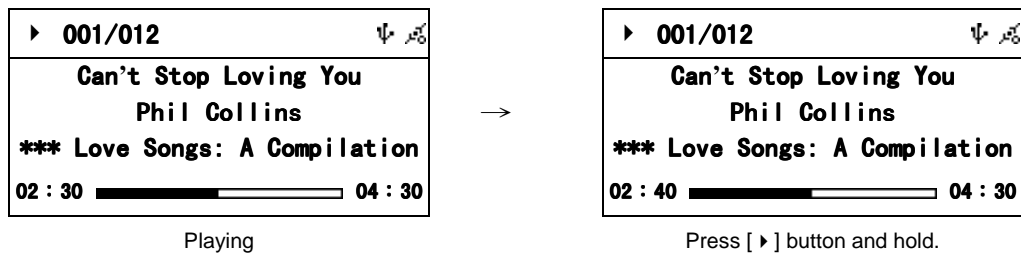
Table 6.3



6.4 Fast Forward and Backward

- Fast Forward: Press [▶] button and hold.
- Backward : Press [◀] button and hold.

Table 6.4

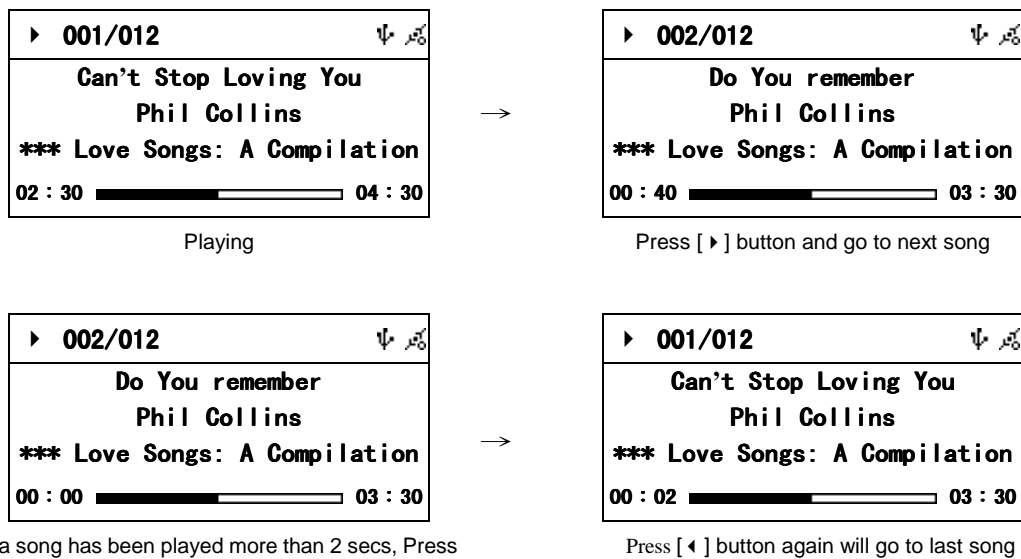


6.5 Next and Back

- Next : Press [▶] button
- Back : Press [◀] button

NOTE : If a song has been played more than 2 seconds, Press [◀] button will start playing this song from beginning.

Table 6.5

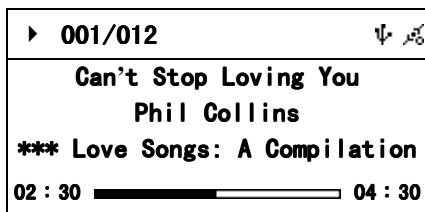


If a song has been played more than 2 secs, Press [◀] will start playing this song from beginning

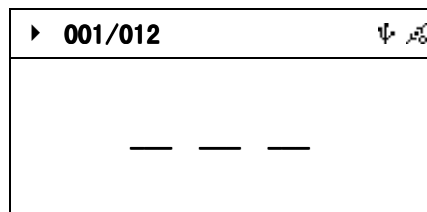
6.6 Quick Jump

- If you want to listen specific song real quick, you can make a quick jump by pressing number button on your remote control

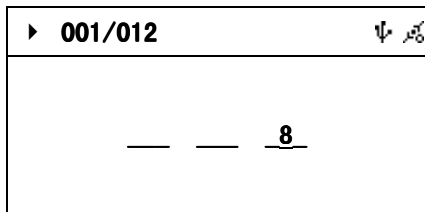
Table 6.6



Play first song out of twelve



Press any number button on your remote control to enable input function



If you want to listen 8th song, then press [8] button



Quick jump to 8th song and play

Chapter 7 FM Radio

7.1 Listening to FM Radio

7.1.1 FM

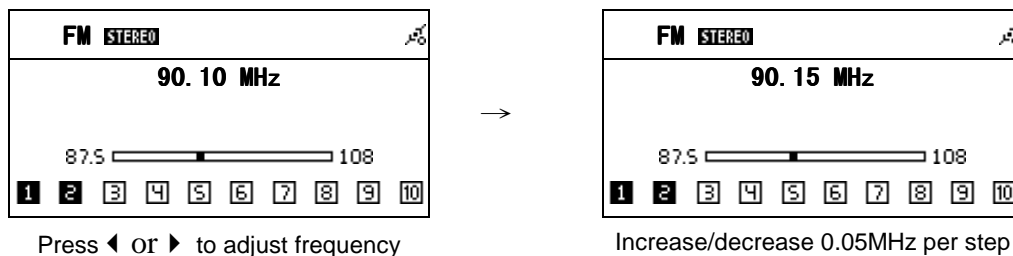
- Select FM from the main menu and then press 「SELECT/OK」 button to enter FM function.
- Press 「◀」 「▶」 button to switch the tuner to FM radio

7.2 Tuning the FM Frequency

- Press 「◀」 button to decrease 0.05MHz (Europe).
- Press 「▶」 button to add 0.05MHz (Europe).

Autoscan mode will be activated when holding 「◀」 button for 3 seconds and release 「◀」 button (from 87.5MHz to 108MHz increasingly). Holding 「▶」 button for 3 seconds and release 「▶」 button will autoscan frequency from 108MHz to 87.5MHz decreasingly)

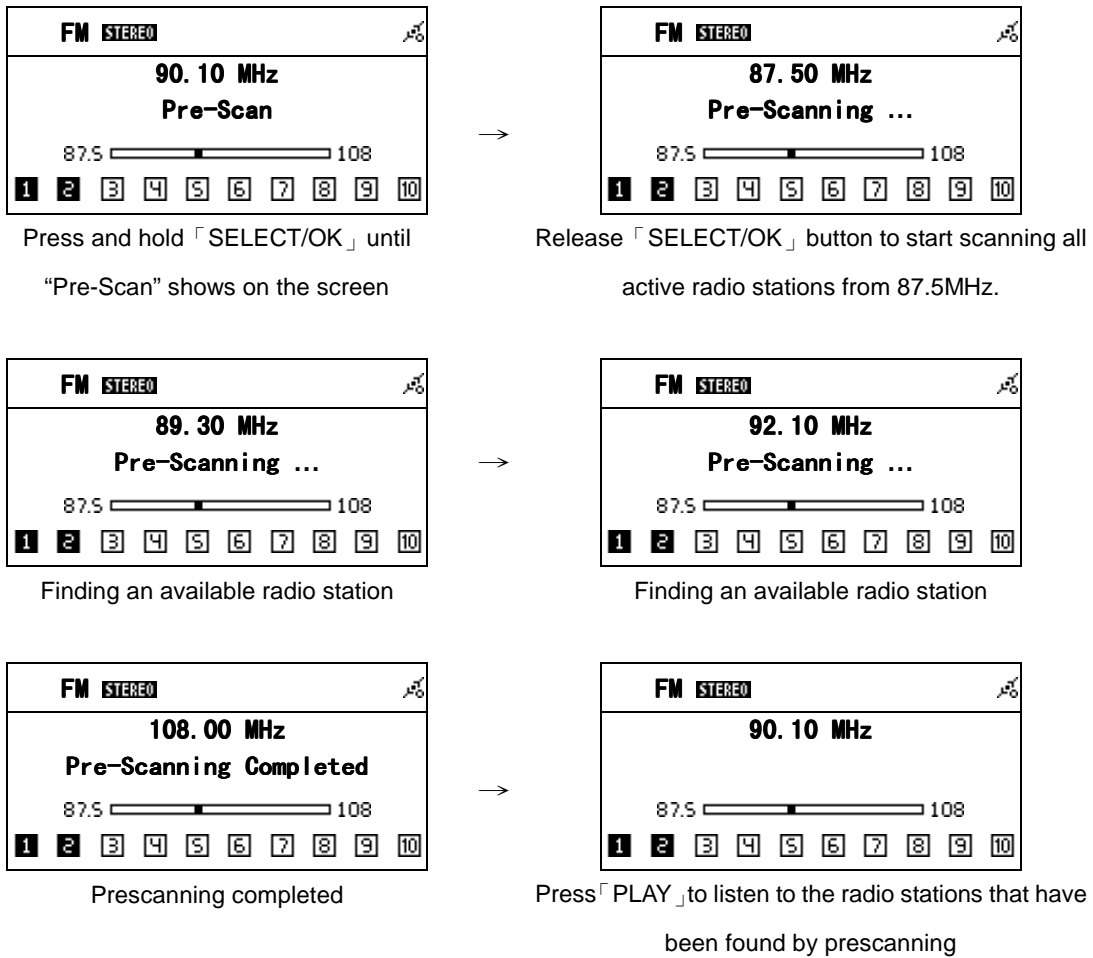
Table 7.2



7.3 Prescanning All Active FM Radio Stations

- Enter FM function and hold 「SELECT/OK」 button until the message [Prescan] shows on the screen.
- Then release 「SELECT/OK」 button to Pre-Scan all active FM radio stations.

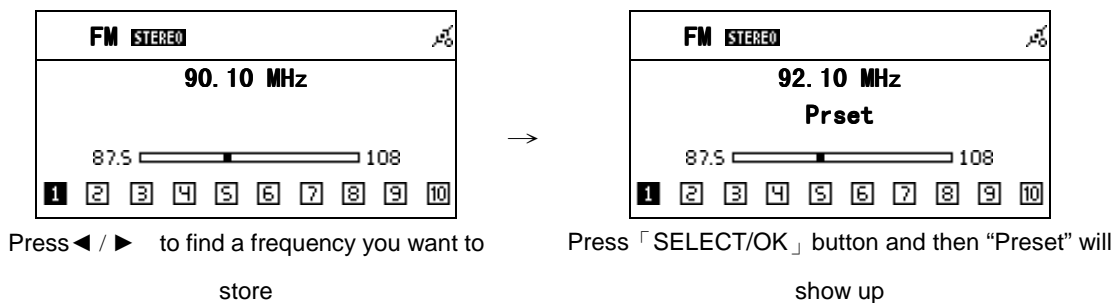
Table 7.3

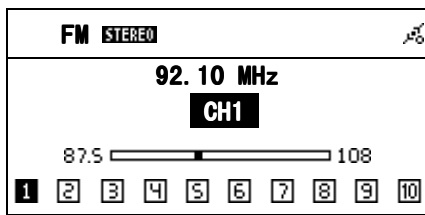


7.4 Presetting a Favorite Station

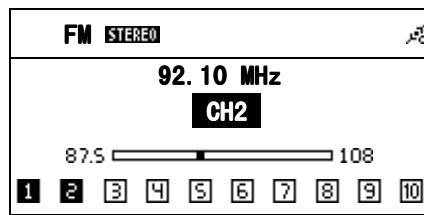
1. Internet Radio supports 10 preset channels. Press 「MEMORY」 button to preset the listening station. **CH1** icon will flash on the screen.
2. Find a radio station and press number [1] button for 3 seconds on your remote control will add a radio station into preset station channel **1** (press number [2] for channel **2**.... and press number [0] for preset channel **10**). or
3. Press 「◀」 「▶」 button to switch the channel number, then press 「SELECT/OK」 to confirm.

Table 7.4

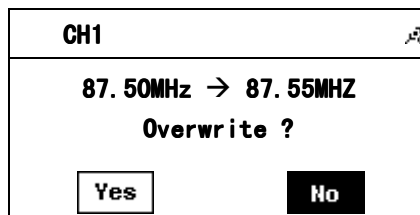




CH1 icon will flash on the screen



Press ◀ / ▶ to find a channel, and press
「SELECT/OK」 button to store

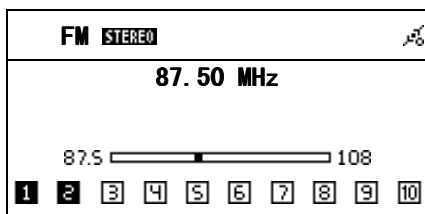


The system will inform you if you want to overwrite the preset station.

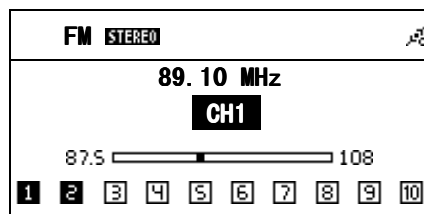
7.5 Listening to a Preset Station

- Under FM mode, press numbered key [1]-[0] on your remote control will play the stations in your preset channel 1-10.
- OR
- Press UP/DOWN to select a channel.

Table 7.5

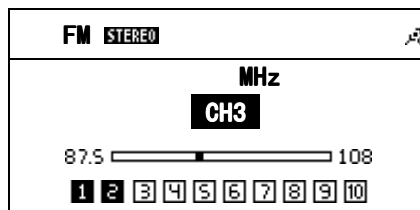


Radio Playing



Press 「Up」 / 「Down」 call

1

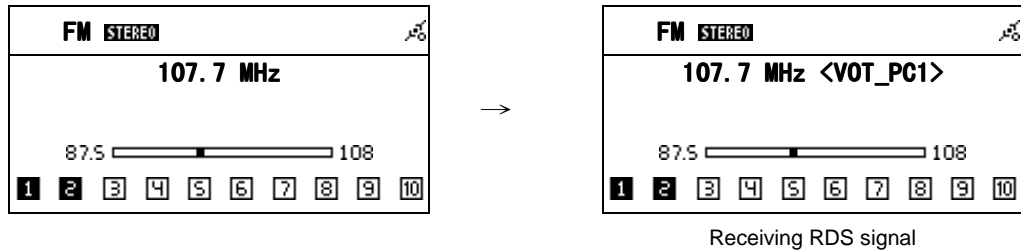


You haven't preset a frequency for this channel yet

7.6 RDS

- Support RDS (PS Name and Digital TEXT)

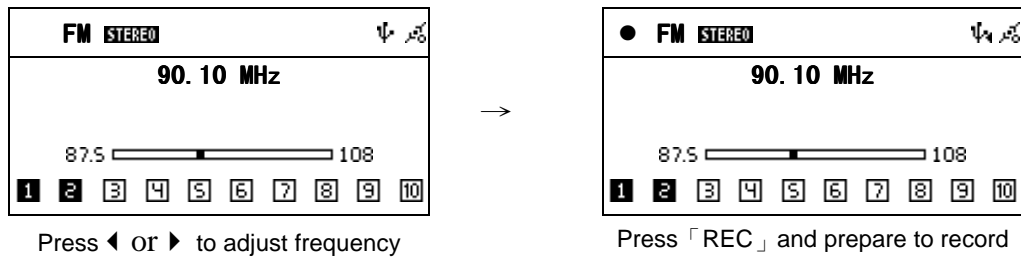
Table 7.6



7.7 Recording From FM

- Press 「REC」 when listening FM.

Table 7.7



Chapter 8 Media Server

8.1 Supported Media Server

- WMP11(Windows Media Player 11) (Windows XP SP2 / Vista Premium 32 Bits)

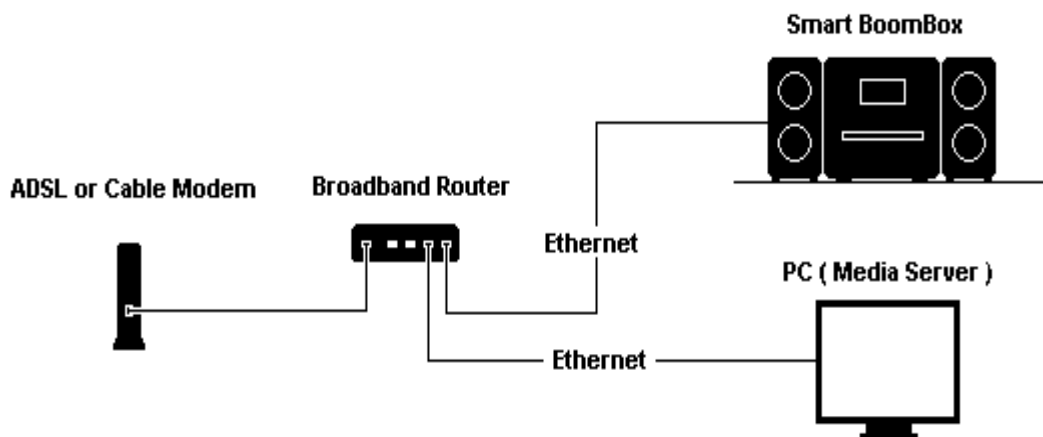
8.2 Setting Upnp Environment

NOTE:

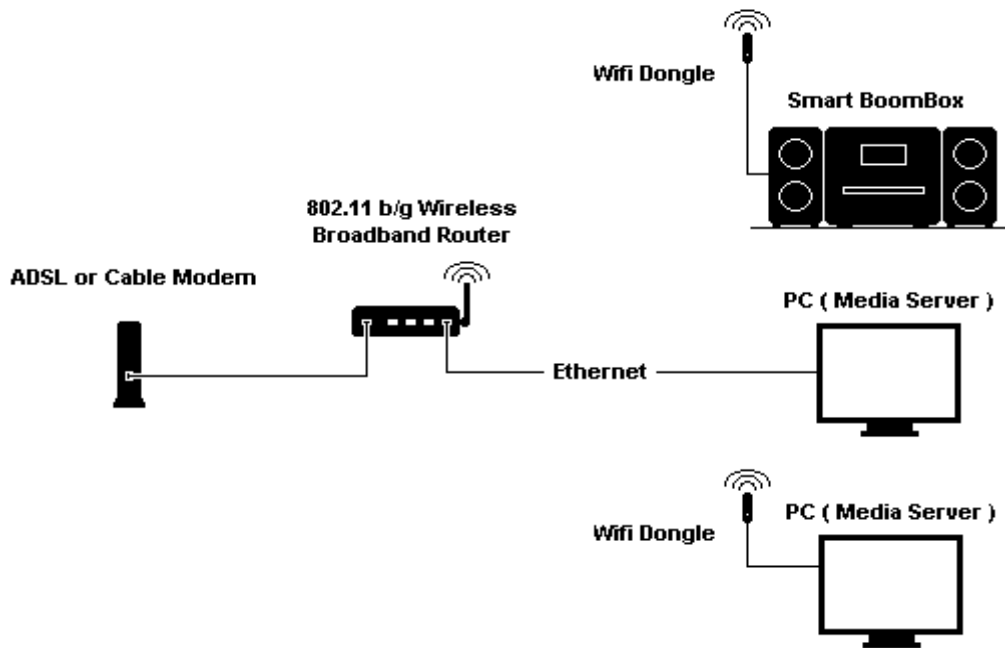
- Before you use your PC as a media server, make sure your PC (or the media server you try to connect) has WMP11 (Windows Media Player 11) installed. Each media server has to have its WMP11 installed.
- Usually, the default of your PC firewall is to block not necessary connection. Make sure Upnp function is enabled on your PC (media server).
- Disable Proxy function in your INTERNET RADIO.

8.2.1 UPnP Networked Environment Diagram

- Please connect this system and UPnP Media Server on the same local LAN., and make sure the network setting is correct.
- The UPnP networked environment diagram is as follows.



or



8.3 Playing Songs on UPnP Media Server

1. Select [**Media Server**] from the main menu and then press 「**SELECT/OK**」 button to enter Media Server function.
2. Select one server from all available media servers.
3. Scroll up/down to [**All songs**], [**Artists**], [**Albums**], [**Genres**] or other items, then press 「**SELECT/OK**」 button to enter.
4. Scroll up/down to a song or folder, then press 「**SELECT/OK**」 button to play.

Table 8.3

⊕ Main	↗
USB	>
SD/MMC	>
Media Server	>

Select [Media Server] and press 「**SELECT/OK**」

OR

Servers	↗
Windows Media Connect (Penbex)	
Intel AV Media Server (Lianban)	
MediaTomb	

Select one server, then press 「**SELECT/OK**」

UPNP	↗
All Image Items	>
All Audio Items	>
All Video Items	>

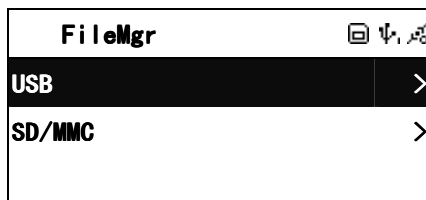
Select a song or folder, then press 「**PLAY**」 to play.

Chapter 9 File Manager

9.1 Copy/Move Files to an USB Disk or SD/MMC Card

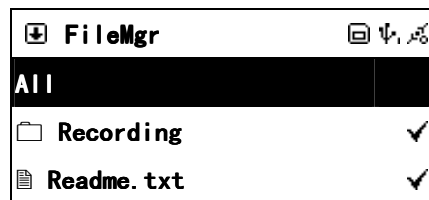
1. Insert an USB disk or a SD/MMC card.
2. Select [FileMgr] from the main menu, then press 「SELECT/OK」 button to enter File Manager function (📁 icon will show on the screen).
3. Scroll up/down to [USB] or [SD/MMC], then press 「SELECT/OK」 button to enter.
4. Scroll up/down to a file or folder, then press 「MEMORY」 button to make a check mark ✓
5. Press 「REC」 button to select [Copy] or [Move], then press 「SELECT/OK」 button.
6. Select a target directory.
7. Press 「REC」 button to select [Paste], then press 「SELECT/OK」 button to paste.

Table 9.1

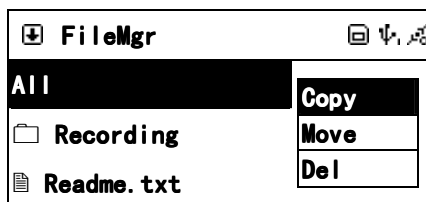


Select [USB], then press 「SELECT/OK」

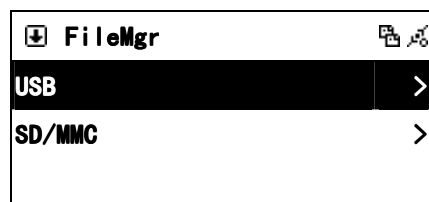
or



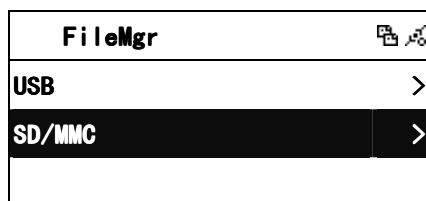
Select a file or folder, then press 「MEMORY」.



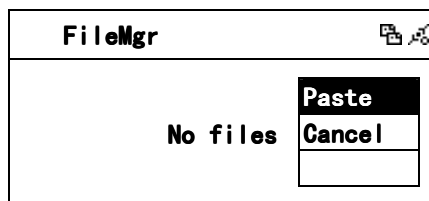
Press 「REC」, then select a function.



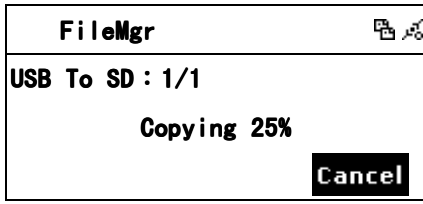
📁 icon will show on the screen.



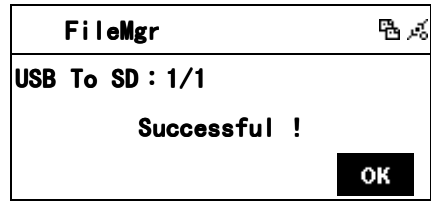
Select a target directory.



Press 「REC」 again to paste.



Copying files



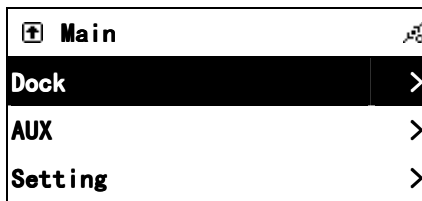
It is successful to finish copying.

Chapter 10 iPod Dock

10.1 Dock – iPod Mode

- Put your iPod on the dock.
- Scroll to [Dock] and then press 「SELECT/OK」 button to enter dock mode.
- You can use your remote control to operate and play the songs by observing the display of iPod.

Table 10.1



Select [Dock] and press 「SELECT/OK」



Enter iPod DOCK mode

Input Table

iPod dock	Remote Control Keys
Scroll Up	Up
Scroll Down	Down
Prior Song/Repeat	Left
Next Song	Right
Select Submenu/Song	OK
Play / Pause	Play
Leave dock mode	ESC
Repeat All / Once	Repeat
Random	Random
Volumn Up	Vol +
Volumn Down	Vol -
EQ	EQ
Back to Prior Menu	Menu

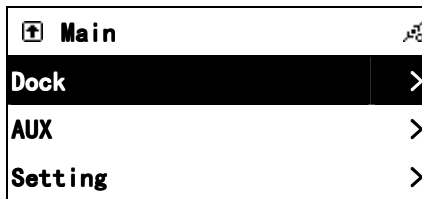
10.2 Dock - Screen Mode

- You are able to read the contents that inside of iPod by observing the display of

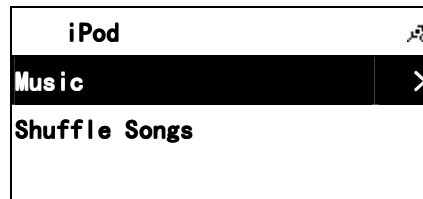
the system and operate your iPod.

- To setup the Extended mode, please check [12.5 Docking mode](#).
- Put your iPod on the dock.
- Scroll to [Dock] and then press 「SELECT/OK」 button to enter dock mode.

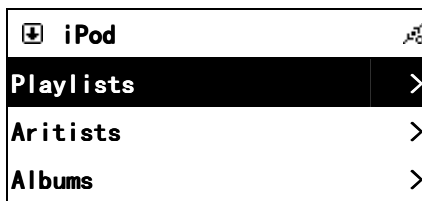
Table 10.2



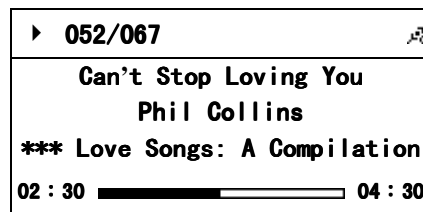
Select [Dock] and press 「SELECT/OK」



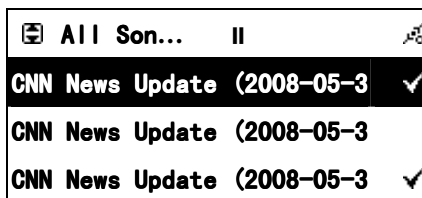
Enter iPod Extended Mode



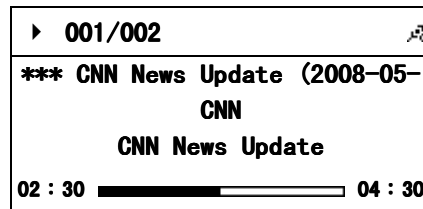
Select the song from playlist by press
「SELECT/OK」



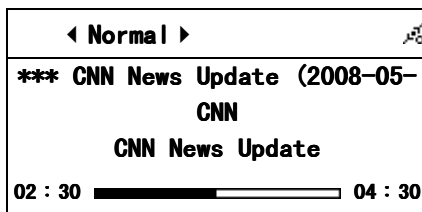
Press 「Play」 button to play songs



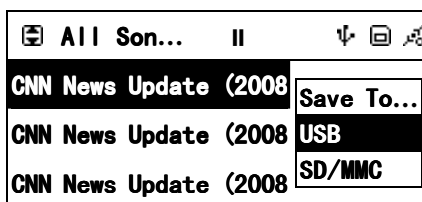
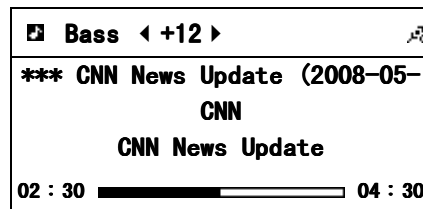
Or to select your favorite songs from playlist by
press 「Memory」 button



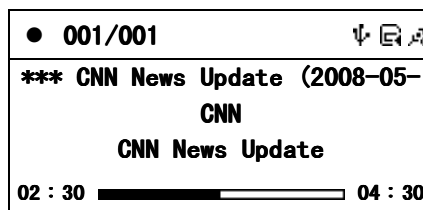
Press 「Play」 button to play your favorite
songs only



Press 「EQ」 button to change EQ mode



Press 「Memory」 to select the songs you want to



Recording..

store at other mass storages. And Press 「REC」

to store

Input Table

IPod dock	Remote Control Keys
Scroll Up	Up
Scroll Down	Down
Prior Song/Repeat	Left
Next Song	Right
Select Submenu/Song	OK
Back to prior menu	ESC
Play / Pause	Play
Repeat All / One	Repeat
Random	Random
Volumn Up	Vol +
Volumn Down	Vol -
EQ	EQ
Select songs from playlist	Memory
Record a song to USB / SD	Rec
Back to main menu	Menu

Chapter 11 Setting

11.1 Date & Time

- Support NTP (network time protocol).
- Auto-sync time via internet at 00:00 and 12:00 or everytime SMBB is on.
- Support manual date & time settings.
- Support DST & Time Zone settings

11.1.1 Setting the Date

- Go to 「**Setting**」, then scroll up/down to [**Date & Time**] and press 「**SELECT/OK**」 button to enter [**Date**] submenu.
- The default [**TimeSync**] is Yes.
- To scrolling Up/Down key to change the year, month, and day. And Press 「**SELECT/OK**」 to shift from year, month, and day.
- After finish setting, then press 「**SELECT/OK**」 button to confirm and save.

Table 11.1.1

Setting		
Date & Time		>
Alarm		>
Play Mode	Normal	

Select [Date & Time], and press 「SELECT/OK」



Date & Time		
TimeSync	Yes	
Date		>
Time		>

The default TimeSync is Yes

Date & Time		
TimeSync	Yes	
Date		>
Time		>

Scroll to [Date] and press 「SELECT/OK」



Date		
▲	▲	
2008	05	10
▼	▼	

Scroll Up / Down to adjust year, month, and day

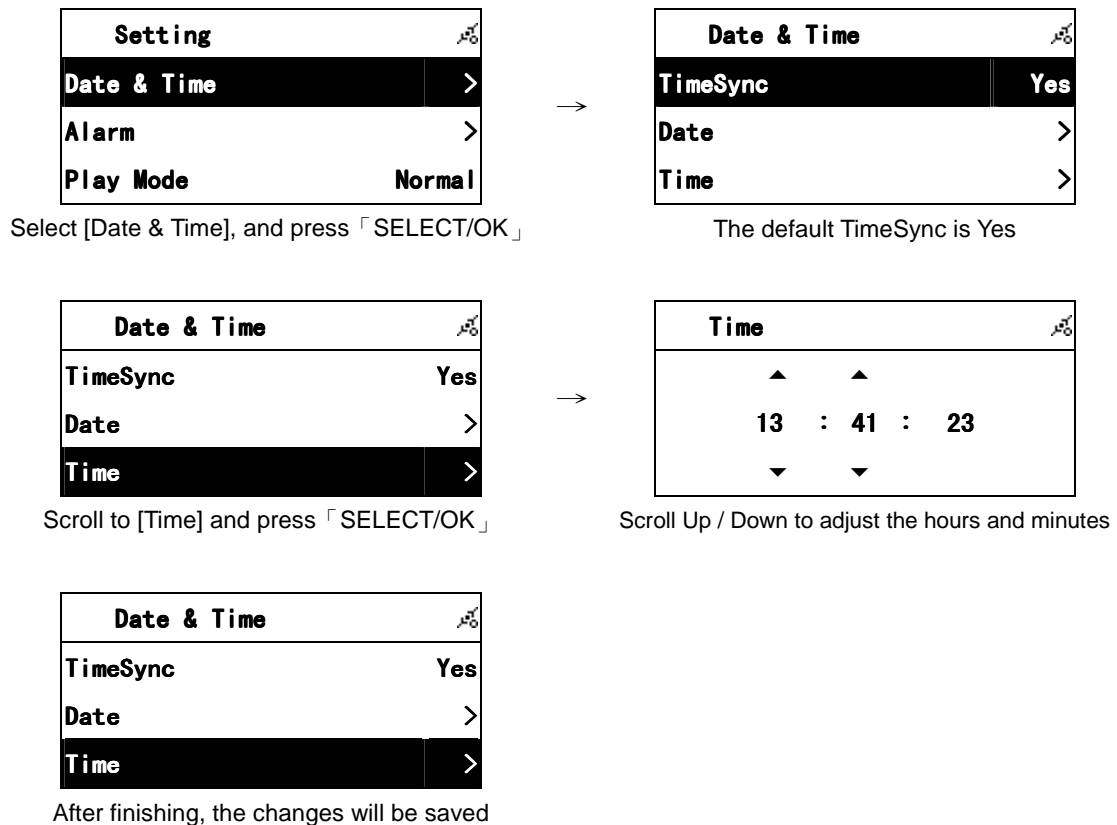
Date & Time		
TimeSync	Yes	
Date		>
Time		>

After finishing, the changes will be saved

11.1.2 Setting the Time

- Go to 「 **Setting** 」 , then scroll up/down to [**Date & Time**] and press 「 **SELECT/OK** 」 button to enter [**Time**] submenu.
- The default [**TimeSync**] is Yes.
- To scrolling Up/Down key to change the hour and minute. And Press 「 **SELECT/OK** 」 to shift from hour and minute.
- After finish setting, then press 「 **SELECT/OK** 」 button to confirm and save.

Table 11.1.2



11.1.3 Setting the Time formation

- Go to 「 **Setting** 」 , then scroll up/down to [**Date & Time**] and press 「 **SELECT/OK** 」 button to enter [**Time Format**] submenu.
- Press 「 **SELECT/OK** 」 button to select to 12-hour or 24-hour.

Table 11.1.3

Setting	↻
Date & Time	>
Alarm	>
Play Mode	Normal

→

Date & Time	↻
Date	>
Time	>
Time Format	24

Select [Date & Time], and press 「SELECT/OK」

Choose [Time Format] to change

11.2 Alarm

- Support two alarm clock settings.
- Support Daily alarm clock.
- Support different alarm-clock sound (Beep / i.Radio / USB / SD/MMC / FM).

11.2.1 Setting the Alarm

1. Press 「**Setting**」 button, then scroll down to [**Alarm**] and press 「**SELECT/OK**」 button.
2. Select [**Use Alarm 1**] submenu and press 「**SELECT/OK**」 button to activate the alarm.
3. Press UP/DOWN button to set alarm time, and press 「**SELECT/OK**」 button shift from hour to minute.
4. After finish setting, press 「**SELECT/OK**」 button to confirm.

Table 11.2.1

Alarm	↻
Use Alarm 1	No
Set Alarm 1	>
Use Alarm 2	No

→

Alarm	↻
Use Alarm 1	Yes
Set Alarm 1	>
Use Alarm 2	No

The default [Use Alarm 1] is No.

Scroll to [Set Alarm 1] to set the alarm clock

Alarm 1	↻
▲	
14 : 54 : 00	
▼	

Scroll Up/Down to set hours and minutes

2008-May-10 Thu. .
PM 3 : 18 15
☑ PM 6:00 ☑ off

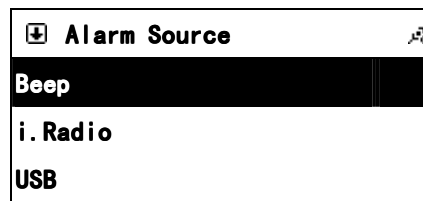
After finishing, the changes will be saved

Note : Some models can activate/disarm alarms by press Alarm 1/Alarm 2 button while INTERNET RADIO is in Standby mode.

11.2.2 Setting the Alarm Sound

1. Press 「 **Setting** 」 and scroll down to [**Alarm**] and press 「 **SELECT/OK** 」 .
2. Select [**Alarm Source**] and then press 「 **SELECT/OK** 」 button to enter.
3. Press UP/DOWN button to determine an alarm sound, and then press 「 **SELECT/OK** 」 button to confirm.
4. In some circumstances the screen of Internet Radio will flash to inform you as the alarm time is up.

Table 11.2.2



Scroll UP/DOWN button to determine an alarm sound, and then press 「 SELECT/OK 」 button to confirm

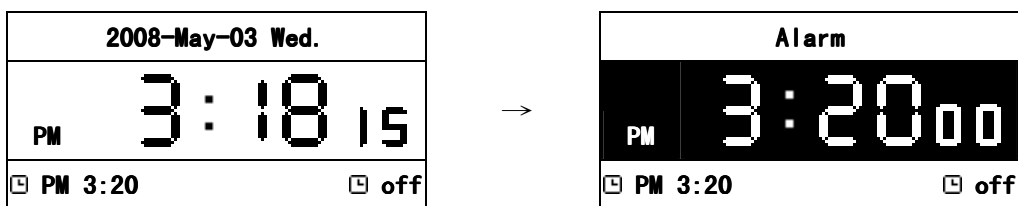
NOTE :

- The default alarm sound is “Beep”.
- The alarm goes off with the sound source in the standby mode when time is up.
- The default alarm source for i.Radio is the first radio station under the FAVORITE list.
- The default alarm source for USB or SD/MMCi.Radio is the first MP3 or WMA file in that USB or SD/MMC storage.
- The default alarm source for iPod is the last stop that the song has played.

11.2.3 Disarming the Alarm

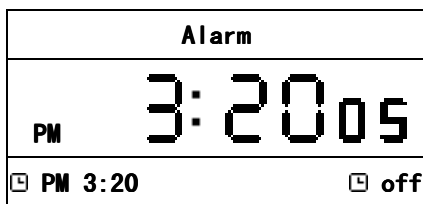
- When alarm time is up in the “Standby Alarm” mode, the screen will flash and the alarm source will be played.
- Press 「 **Standby** 」 , or 「 **STOP/ESC** 」 , or 「 **Alarm** 」 button to disarm the alarm.
- The system will force to stop playing audio sources when the alarm time is up.
- If the system is on a work that is not able to stop, the screen will blink to inform you the alarm time is up.

Table 11.2.3

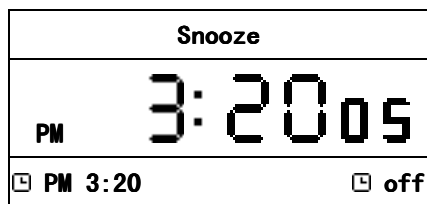


STAND BY Mode

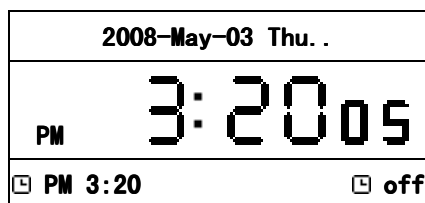
When alarm time is up, the screen will flash.



When alarm time is up, the screen will flash.



Press [Snooze] to enter SNOOZE mode if Snooze function has been activated,

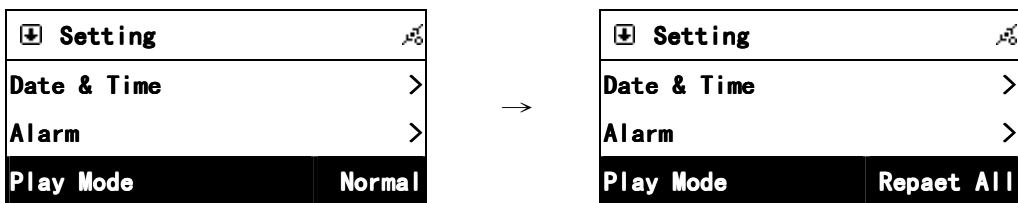


Press [STANDBY], [STOP/ESC], or [ALARM] to disarm the alarm

11.3 Play Mode

- You can select play mode by press 「Repeat」 or 「Random」 button from the remote control. Or you can go to [Setting] and scroll down to [Play Mode]. Then press 「Select/OK」 to change play mode. Normal → Shuffle→Repeat One→Repeat All.

Table 11.3



Select [Play Mode] and press 「SELECT/OK」 button

Changing play mode


11.4 Sleep

- Sleep mode is able to be turned ON/OFF.

11.4.1 How to Turn On/OFF Sleep Mode

- Press 「**SLEEP**」 button on your remote control.
- Press 「**SELECT/OK**」 button to activate sleep mode.
- Z₂ icon will show on the top side of the screen when the sleep timer is on.
- Scroll to Sleep minutes and press 「**SELECT/OK**」 to change the sleep timer. (5, 10, 15, 20, 30, 60, 90, 120 minutes)

Table 11.4.1

Sleep		
Sleep	off	
Sleep Miuntes	5	

Press 「**SLEEP**」 button on your remote



Sleep		Z ₂
Sleep	On	
Sleep Miuntes	5	

Z₂ icon will show on the top side of the screen

11.5 Docking Mode

- To select iPod mode or Screen mode for iPod Dock. Yes means Screen and No means iPod Mode.

11.6 Network

- Support LAN (Ethernet) and WLAN (802.11b/g wifi Dongle is optional)
- Support Wi-Fi Encryption WEP64/128, WPA-TKIP-PSK, and WPA2-AES-PSK.
- Support dynamic IP via DHCP (Dynamic Host Configuration Protocol) and static IP. Default setting is Ethernet and DHCP.
- Support Infrastruct mode and Ad-hoc mode.
- Support Upnp.
- Auto-detect and auto-run LAN or WLAN(wireless LAN) environment.

11.6.1 Understanding the Networking States on The System

- The network connectivity status icon will show on the top side of the screen.

Table 11.6.1.1 - LAN Status







Title 	→	<ul style="list-style-type: none"> • It is failed to detect the Ethernet cable.
Title 	→	<ul style="list-style-type: none"> • It is successful to detect the Ethernet cable. • It is failed to get available DHCP information.
Title 	→	<ul style="list-style-type: none"> • It is successful to detect the Ethernet cable. • It is successful to get available DHCP information













Table 11.6.1.2 - WLAN Status

Title 	→	<ul style="list-style-type: none"> • It is failed to detect the USB Wi-Fi adapter.
Title 	→	<ul style="list-style-type: none"> • It is successful to detect the USB Wi-Fi adapter. • It is failed to get available DHCP information.
Title 	→	<ul style="list-style-type: none"> • It is successful to detect the USB Wi-Fi adapter. • It is successful to get available DHCP information.

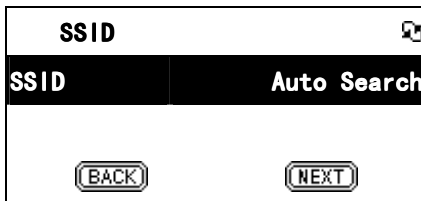
11.6.2 Setting the Wi-Fi Connectivity in infrastruct mode

1. Insert a Wi-Fi USB adapter into the USB connector. (The Wi-Fi USB adapter is optional)
2. Press 「**Setting**」 button, then scroll up/down to [**Network**] and press 「**SELECT/OK**」 button.
3. Select [**Manual Setup**] and press 「**SELECT/OK**」 button
4. Select [**Connect**] and press 「**SELECT/OK**」 button
5. Then please follow the steps below:

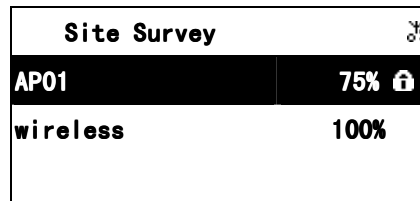
Table 11.6.2

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Network</td> <td style="text-align: right;"></td> </tr> <tr> <td>Connect</td> <td style="text-align: right;">LAN</td> </tr> <tr> <td>Wizard</td> <td style="text-align: right;">></td> </tr> <tr> <td>Manual Setup</td> <td style="text-align: right;">></td> </tr> </table>	Network		Connect	LAN	Wizard	>	Manual Setup	>	→	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Network</td> <td style="text-align: right;"></td> </tr> <tr> <td style="background-color: black; color: white;">Connect</td> <td style="background-color: black; color: white; text-align: right;">WLAN</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>	Network		Connect	WLAN		
Network																
Connect	LAN															
Wizard	>															
Manual Setup	>															
Network																
Connect	WLAN															
																
Select [Manual Setup] and press [select/OK] button		Select [WLAN] mode, for example, then choose														

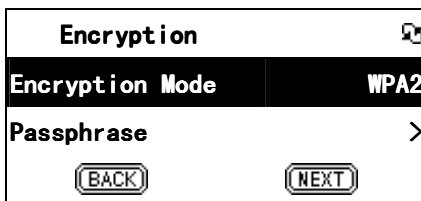
[NEXT]



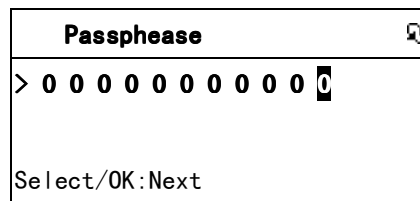
Choose [NEXT] to search any AP available



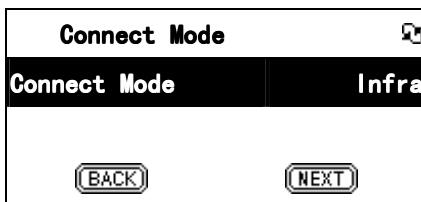
Available APs listed by signal strength. If an AP is required encryption, it will be marked with a symbol of lock.



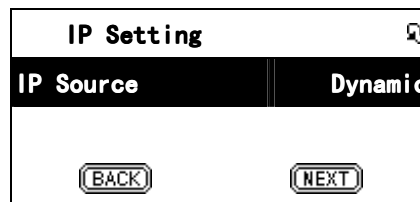
Select [Encryption] mode and then choose [NEXT]



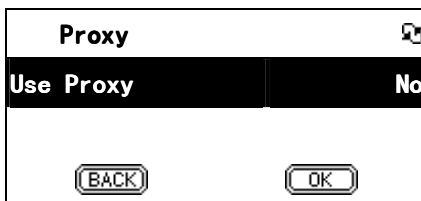
Keyin the encryption code and then press [select/OK]



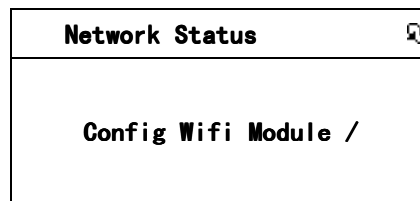
Select [Connect] mode and then choose [NEXT]



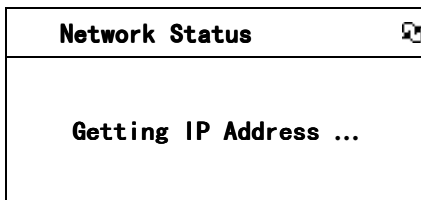
Select [IP Source] and then choose [NEXT]



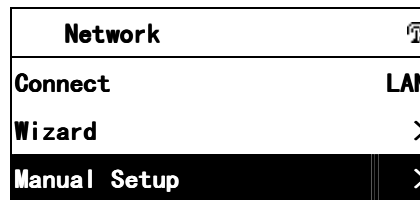
Select [Use Proxy] then choose [OK]



The system will save all configuration



Start connecting to the AP



 will show up if connection is successful

11.6.3 Setting the Wi-Fi Connectivity by Wi-Fi Wizard

1. Insert a Wi-Fi USB adapter into the USB connector. (The Wi-Fi USB adapter is optional).


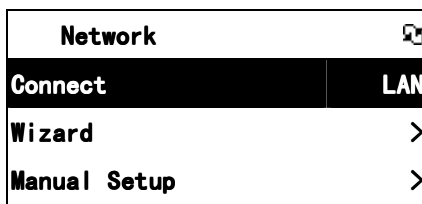
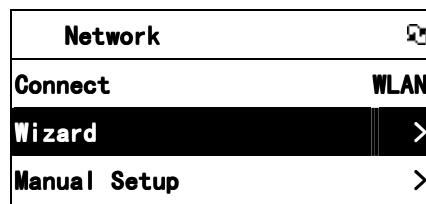
2. Press 「 **Setting** 」 button, then scroll up/down to [**Network**] and press 「 **SELECT/OK** 」 button.
3. Select [**Connect**] and switch [**LAN**] to [**WLAN**].
4. Select [**Wizard**] and then press 「 **SELECT/OK** 」 button.
5. Scroll up/down to an access point you want to connect, and then press 「 **SELECT/OK** 」 button.
6. If the access point that you are selecting is protected, press 「 **SELECT/OK** 」 button to select the protected AP.
7. To input the encryption key, press UP/DOWN (or numbered key) button to change characters and press LEFT/RIGHT button to shift.
8. Press 「 **SELECT/OK** 」 after you finish setting.
9.  icon will show on the topside of the screen if the wireless setting is successful.

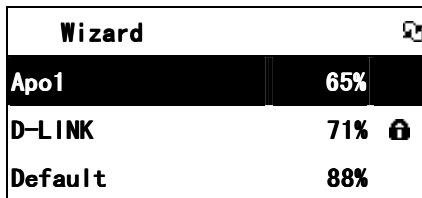
Table 11.6.3



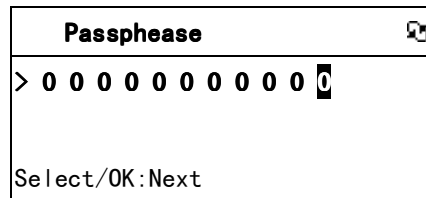
Select [Connect] and switch [LAN] to [WLAN].



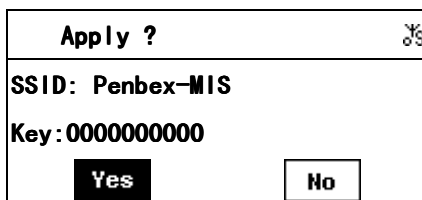
Select [Wizard] and press [SELECT/OK] button



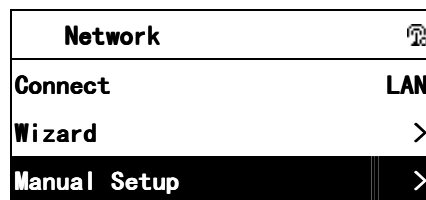
All available AP and its signal strength will be shown on the screen.



Keyin the encryption code and then press [select/OK]



Confirm



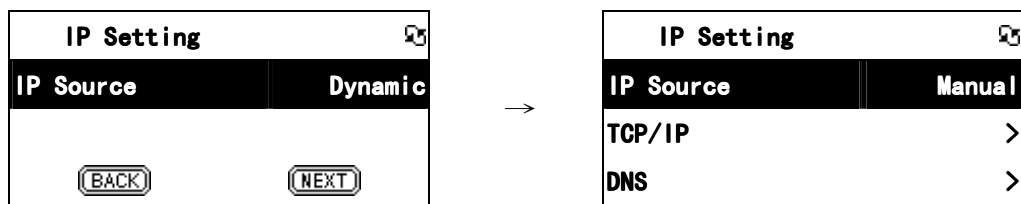
 will show up if connection is successful

11.6.4 Inputting Static IP

1. Press 「 **Setting** 」 button, then scroll up/down to [**Network**] and press 「 **SELECT/OK** 」 button.

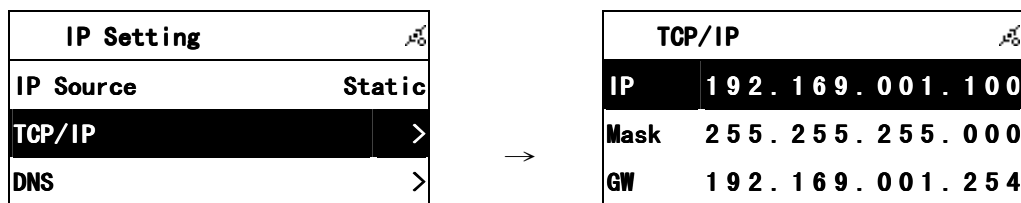
2. Scroll up/down to [IP Setting] and then press 「SELECT/OK」 button to enter.
3. Select [IP Source] and press 「SELECT/OK」 button to switch [Dynamic] to [Static].
4. Scroll up/down to [TCP/IP] and press 「SELECT/OK」 button to start editing.
5. Press UP/DOWN to change characters and press LEFT/RIGHT button to shift.
6. After finishing, press 「REC」 button to confirm.

Table 11.6.4



Select [IP Source] and then press [SELECT/OK]

Switch to [Manual]

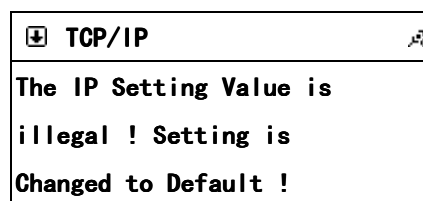


Select [TCP/IP] and press [SELECT/OK] button

Press [Select/OK] button to start keyin. Use

UP/DOWN (or numbered key) then LEFT/RIGHT to input IP.

NOTE : When IP setting value (including IP, Subnet Mask, or Gateway) is illegal, IP setting will change to default value.

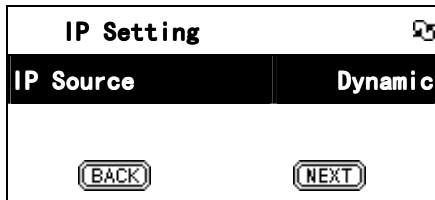


11.6.5 Inputting DNS

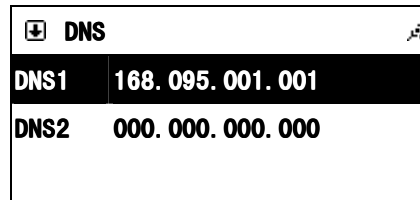
1. Press 「Setting」 button, then scroll up/down to [Network] and press 「SELECT/OK」 button.
2. Scroll up/down to [IP Setting] and then press 「SELECT/OK」 button to enter.
3. Select [DNS] and then press 「SELECT/OK」 button.
4. Press UP/DOWN button to change characters, then press LEFT/RIGHT button to shift.

5. After finishing, press 「**SELECT/OK**」 button to confirm.

Table 11.6.5



Select [TCP/IP] and press [SELECT/OK] button

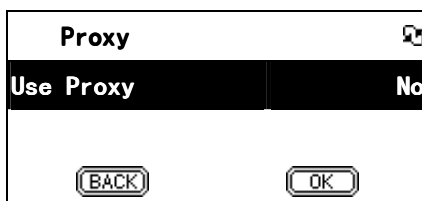


Press UP/DOWN (or numbered key) then LEFT/RIGHT to input IP

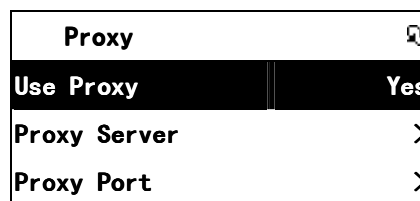
11.6.6 Inputting Proxy

1. Press 「**Setting**」 button, then scroll up/down to [**Network**] and press 「**SELECT/OK**」 button.
2. Scroll up/down to [**Use Proxy**] and then press 「**SELECT/OK**」 button to switch to [**Yes**].
3. Scroll up/down to [**Proxy Server**] and then press 「**SELECT/OK**」 button to input domain name or IP address.
4. Press 「**SELECT/OK**」 button, then press UP/DOWN button to change characters, press LEFT/RIGHT button to shift.
5. After finishing, press 「**SELECT/OK**」 button to confirm.
6. Scroll up/down to [**Proxy Port**] and then press 「**SELECT/OK**」 button to input port number.
7. Repeat the step 4~5.

Table 11.6.6



Select [Use Proxy] and press [SELECT/OK] button

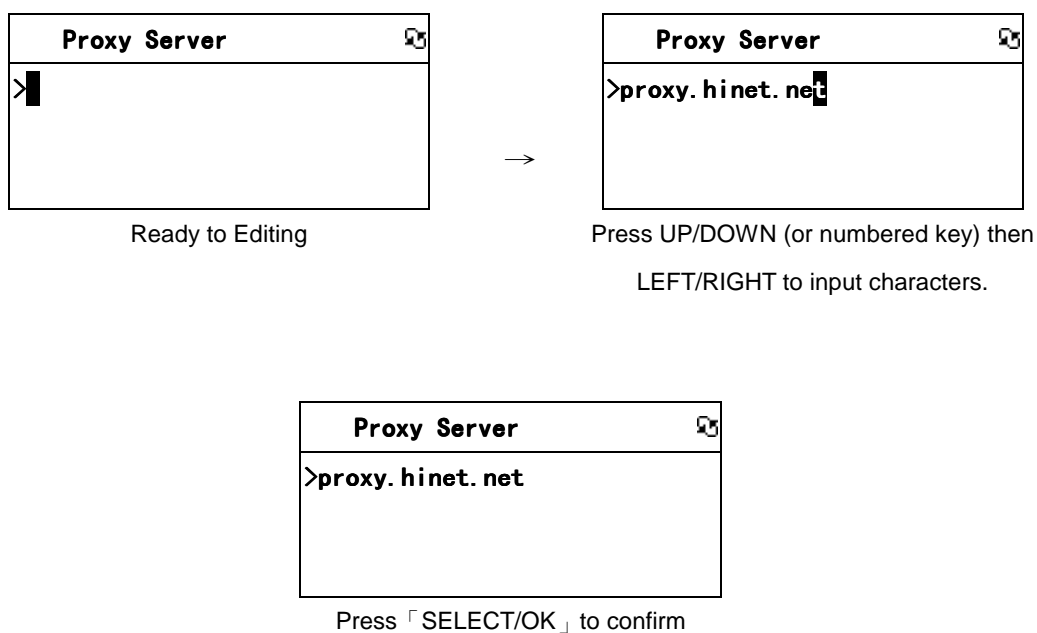


Scroll down to Proxy Server or Proxy Port to input URL or port address.

Table : Input Method

Key	Description
OK / Select	End editing
STOP/ESC	Delete a character
Up	Change character 0-9, a-z ,A-Z, symbol
DOWN	Change character 0-9, a-z ,A-Z, symbol
LEFT	Shift to left
RIGHT	Shift to right
1	1./_!@# \$ % ^ & * : ; ' " / \ () [] { } space
2	2 abc ABC
3	3 def DEF
4	4 ehi EHI
5	5 jkl JKL
6	6 mno MNO
7	7 pqrs PQRS
8	8 tuv TUV
9	9 wxyz WXYZ
0	0

Table 11.6.6.1

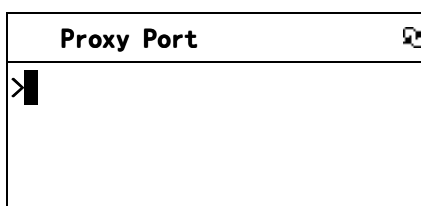


- Select [**Proxy Port**] to input a proxy server port

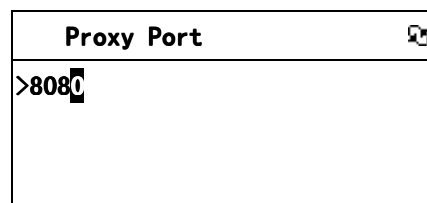
Table : Input Method

Key	Description
OK / Select	End editing
STOP/ESC	Delete a character
Up	Change character 0-9
DOWN	Change character 0-9
LEFT	Shift to left
RIGHT	Shift to right
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	0

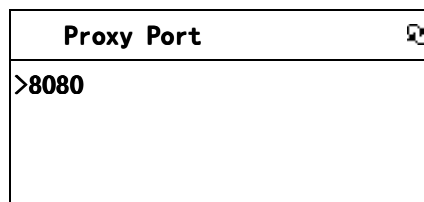
Table 11.6.6.2



Ready to Edit



Press UP/DOWN (or numbered key) then
LEFT/RIGHT to input characters



Press 「SELECT/OK」 to confirm

11.7 Radio Region

- FM radio in this Internet Radio supports five different frequencies.

Area	Region	Frequency	Gap (KHz)
USA	American	87.5 – 107.9	100
USA2	American	87.5 – 108.0	100
EURO	European	87.5 – 108.0	50
JPN	Japan	76.0 – 90.0	100
JPN2	Japan	76.0 – 108.0	50

Note : All FM preset channels that Internet Radio has stored will be erased when you change the radio region.

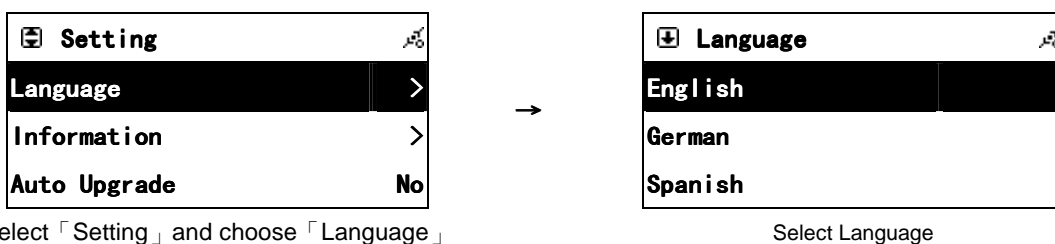
11.8 Back Light

- Back light can be adjusted by hold [Mute/DIM] button for 3 seconds.

11.9 Language

- Support 14 languages –Danish、Dutch、English、Finland、French、German、Italian、Norwegian、Portuguese、Spanish、Swedish、Traditional Chinese、Simplified Chinese、Japanese. The default language of the system is English.

Table 11.9



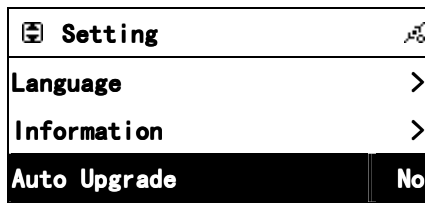
11.10 Information

- Display the firmware version and network information.
- If you want to add new radio station, you can find

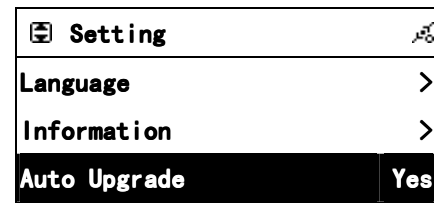
11.11 Auto Upgrade

- The system will check automatically if there is any updated firmware available.

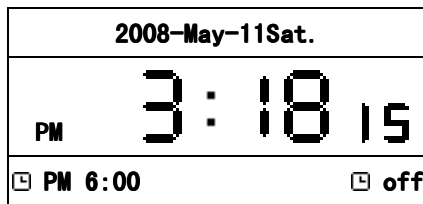
- The default is No.



Select [Auto Upgrade]



Press 「SELECT/OK」 to choose Yes / No



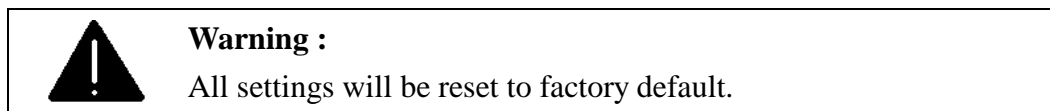
If it is Yes, the system will check if there is any updated firmware available while in Standby mode



Confirm

11.12 Reset All Settings

- Reset all settings to factory default.



11.13 Firmware Upgrade

- Support upgrade by using USB or SD/MMC
- Support online upgrade

11.13.1 Upgrade firmware by using USB / SD/MMC

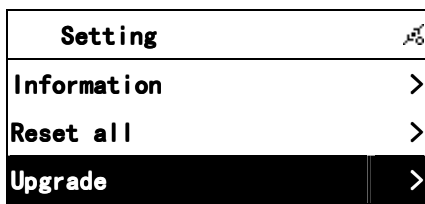
1. Get an accurate firmware version (please check your model number) from manufactures. The firmware version file appears as .UPG file.
2. Copy the file [**image.upg**] to the root directory on an USB disk or SD/MMC card.
3. Insert the USB disk or SD/MMC card into the USB connector or SD/MMC slot.
4. Press 「**Setting**」 button, then scroll up/down to [**Upgrade**] and press

「**SELECT/OK**」 button.

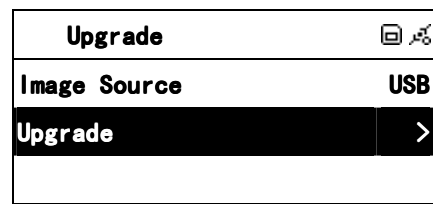
5. Scroll up/down to [**Yes**] and then press 「**SELECT/OK**」 button to upgrade.
6. Smart Boombox will restart automatically after finishing upgrade.
7. SBMM must not be switched off or press any function key during the upgrade procedure.

NOTE: It strongly recommends resetting all setting after the system is upgraded.

Table 11.13.1



Select [Upgrade], then press 「**SELECT/OK**」

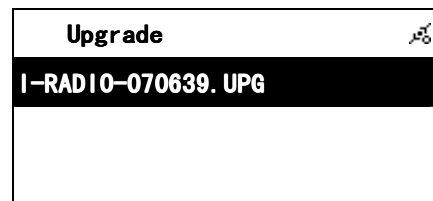


Select [Upgrade], then press 「**SELECT/OK**」

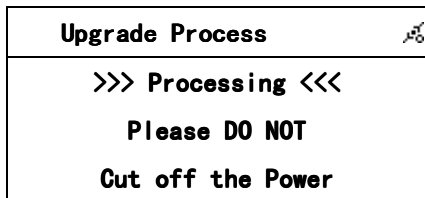
11



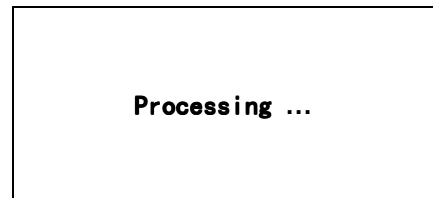
Confirm



Select the firmware and Press 「**SELECT/OK**」



Upgrading the firmware



Processing...



The upgrade is complete.

11.13.2 On-line upgrade

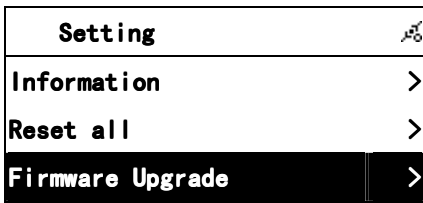
1. Make sure the internet environment is ready
2. Press 「**Setting**」 button, then scroll up/down to [**Upgrade**] and press

「SELECT/OK」 button.

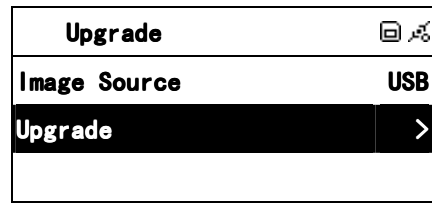
3. Smart Boombox will restart automatically after finishing upgrade.
4. SBMM must not be switched off or press any function key during the upgrade procedure.

NOTE: It strongly recommends resetting all setting after SMBB is upgraded.

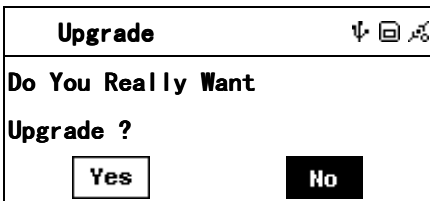
Table 11.13.2



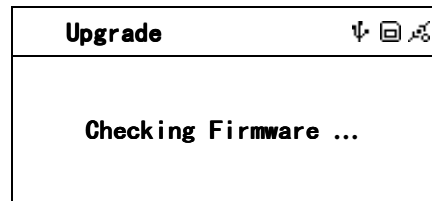
Select [Upgrade], then press 「SELECT/OK」



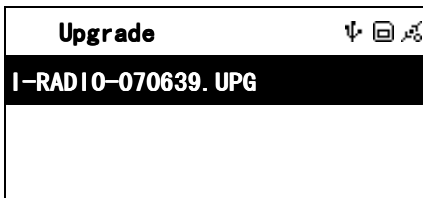
Select [Upgrade], then press 「SELECT/OK」



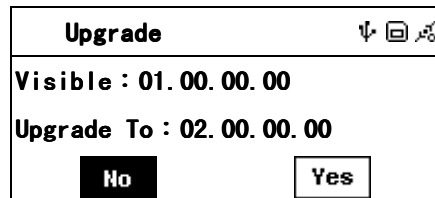
Confirm



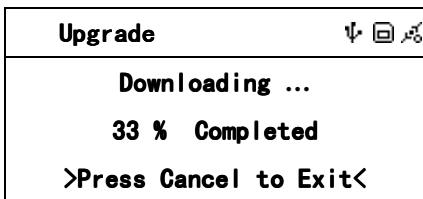
Checking if there is any update firmware



Select the firmware and Press 「SELECT/OK」





Select [Yes] to confirm



Downloading...press 「ESC/STOP」 to cancel download



Processing...

 i. Radio 
i. Radio >
USB >
SD/MMC >

The upgrade is complete.

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init
sash

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[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

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To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the

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Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will

lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Libraries

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>

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Also add information on how to contact you by electronic and paper mail.

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Here is a sample; alter the names:
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in the library `Frob' (a library for tweaking knobs)
written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

Libupnp

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