



USB Type MP3 PLAYER

MODEL : DMP-310

User Guide manual



Thank you for purchasing PORTABLE DIGITAL AUDIO PLAYER from DIASONIC TECHNOLOGY Co. Please carefully read the Instruction manual for safe use of the product. We recommend that you to keep this instruction manual for future reference.

Preface

Thank you for purchasing Diasonic MP3 Player.

Please read this instruction manual carefully before use.

If you find any defect during the use of this unit, please contact A/S Center [Tel 031-474-0852; Head Office].

Precautions:

Do not repair, disassemble or modify the unit at your own discretion.

The memory content may be changed or lost due to misuse, static electricity or electric shock during the repair or battery change. **Be sure to make a note of important content.**

Diasonic assumes no responsibility for any damage caused by change or loss of memory content.

Do not drop the unit in the water or keep it in any damp environment.

This instruction manual is subject to change without notice for the purpose of product improvement.

Copyright

The MP3 files created for MP3 conversion shall not be used for any commercial or public purposes. Any violation of the prohibition may be a breach of copyright laws.

Any unauthorized reproduction of recorded files for any other purposes than personal use is strictly prohibited by the relevant laws and regulations.

Note

This instruction manual is required for the effective use of Diasonic MP3 Player. Pay special attention not to lose the manual as it is not provided separately from the unit.

Safety Precautions

Warning

Keep the batteries out of reach of the children. If a child swallowed a battery, please consult a doctor immediately.

Do not have the battery shorted, disassembled, heated or put in fire. This may cause leakage, heat, explosion or fire.

If the battery leakage gets in your eyes, wash it off with clean water, and seek immediate medical treatment. If not, you may lose your sight.

If the LCD is damaged, do not touch the liquid. If the liquid contacts your eyes or skin, wash it off with clean water, and seek immediate medical treatment.

If you use the rechargeable batteries, read the user's manuals for batteries and chargers carefully before use.

Read this instruction manual carefully before use.

Using earphones

Road safety

Do not use earphones while driving, cycling or operating any motorized vehicle. It may cause a traffic hazard and is illegal in some areas. It can also be dangerous to play your earphones at high volume while walking, especially at pedestrian crossings.

Preventing hearing damage

Avoid using earphones at high volume.

Hearing experts advise against continuous, loud and extended play.

If you experience a ringing in your ears, reduce the volume or discontinue use.

Contents

Precautions

1. Functions and Features
2. Parts and Components
3. Quick Operation Guide
4. Recharging Battery
5. Setting PC Environment
6. How to use External Memory
7. FM Radio
8. Recording in RECORD Range
9. Managing Folders and Files
10. Downloading Files
11. Deleting Files
12. Formatting Files
13. Mode Menu & Main Menu
14. Connecting to External Devices
15. Firmware Upgrade

Specifications

Warranty

Functions and Features

Diasonic MP3 Player is a high performance portable digital audio player. This multi-functional next-generation portable digital audio player supports playing of MP3 and WMA (64Kbps or more) digital compressed music files and recording of music files via external equipment.

Stylish, luxury and compact design and robust exterior

Stylish and compact design, half-mirror type window and front aluminum case enable a luxury-style, highly portable and light MP3 player.

External Expandable Memory Slot with SD/MMC

Up to 512MB can be used for expanding memory with SD/MMC Card.

Hi-fidelity MP3 Player

Adopting various functions (equalizer / repeat play), the unit gives all the merits of MP3 players. It also provides rich and sensitive sound quality.

Direct encoding recording

Adopting voice recorder functions to the MP3 player, the unit supports voice recording and direct MP3 encoding recording through the external device. The unit can also be used as a portable data storage or portable hard disk.

Bit rate variation

You can select various bit rates for voice recording or line-in recording depending on the circumstances to adjust the recording quality and to use the memory efficiently.

Speed control

Variable play speed control will facilitate language study.

Wide LCD screen supported with 7 colors (Red, Green, Blue, Yellow, Magenta, Cyan and White)

Multi-language graphic LCD screen and back-light

The graphic LCD supports Korean, English, Chinese, Japanese, European and special characters to display the names and playtimes of the tracks. The built-in LED back-light enables you to easily set menus with buttons even at night.

USB interface facilitates connection to the computer.

SRS function supports 3D sound.

BOOK-MARK: You can select tracks you want to play.

FM BAND: You can hear FM radio anywhere in the world.

HOLD: You can lock the buttons against any accidental operation.

Play mode (NORMAL, 1 TRACK, ALL, SHUFFLE)

Repeat Play (A↔B): You can select sections to play repeatedly.

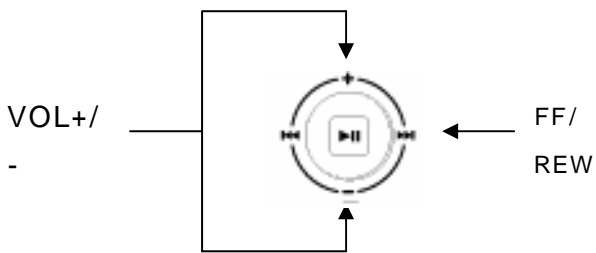
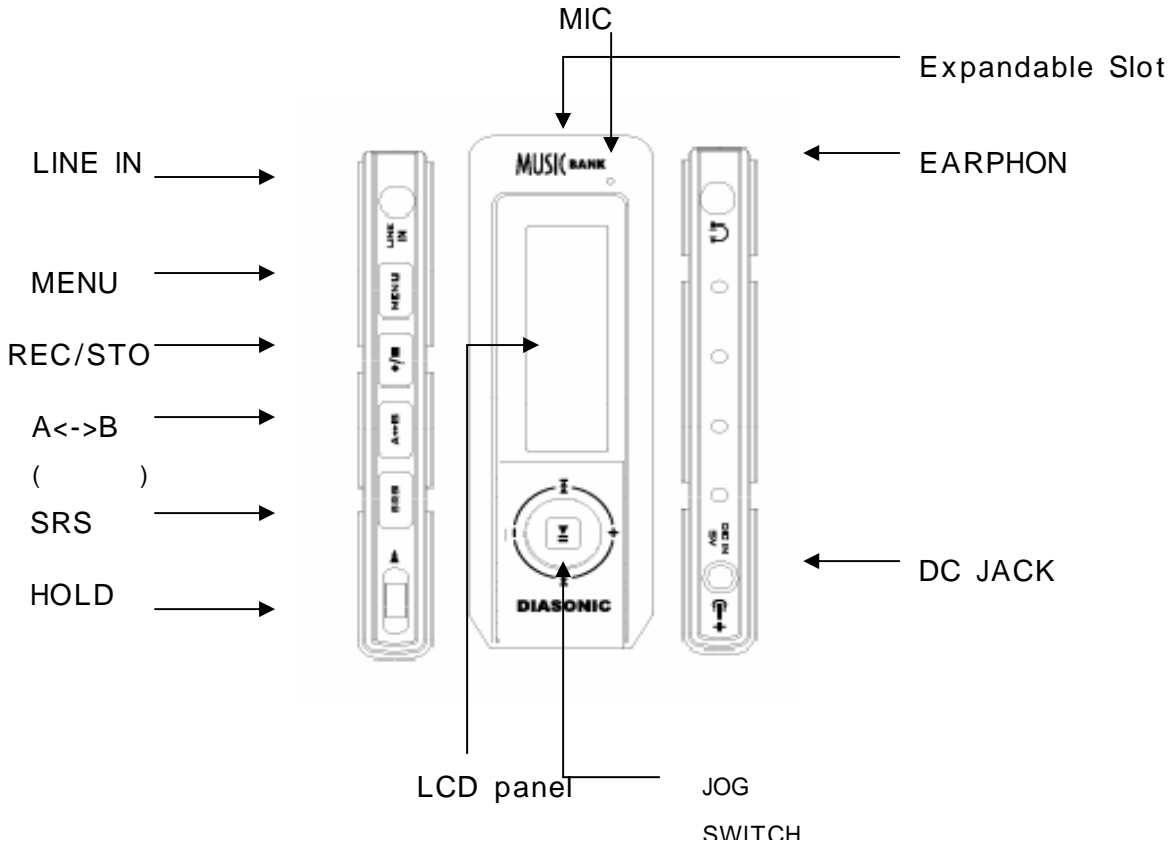
INTRO Play: Playing the first few seconds of each track (5, 10 or 15 seconds).

Next track / Previous track / Fast forward / Rewind

Volume control (Digital volume: 30 steps)


Parts and Components


(1) Mainset





(2) LCD panel



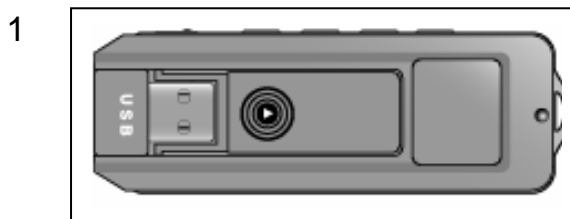
 Indicate the remains of battery.

 **1 SYNC**

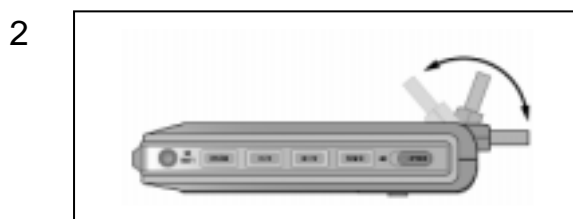
 **INTRO** This icon indicates the function to play first part of each track.

 **A ↔ B** This icon indicates the function to play designated section.

(3) USB CABLE



→ Open the case to direction of arrow.

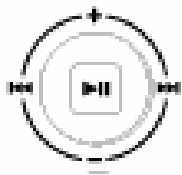


(5) Package (Accessory)



STEREO EARPHONE Line-in Cable Neck Strap CD & Manual

Quick Operation Guide



1. Power On/Off

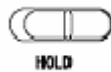
To turn on the power, press and hold the PLAY/PAUSE button for one second. Press the PLAY/PAUSE button again to turn off the MP3 Player.

2. PLAY, PAUSE and STOP

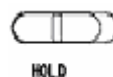
The MP3 Player starts playing if you press PLAY/PAUSE while the unit is on.

3. HOLD Switch

If the HOLD switch is set to the left (ON), all buttons are locked. Check if the HOLD switch is released before turning on the power of the MP3 Player.



HOLD Off



HOLD On

4. Volume Control

Use VOLUME + or VOLUME – to control volume. Press and hold the key to control volume continuously. Volume is adjusted by step (Steps 0 ~ 30).

5. Changing Mode

Mode-changing menu is shown while pressing menu button shortly. You can move up to the mode by using REW/FF button and press play/pause button.

BOOK-MARK FOLDER PLAY MUSIC PLAY VOICE PLAY LINE IN ENC PLAY RADIO ENC PLAY FM

6. Listen to Radio

Mode menu appears if pressing menu button shortly. Go to FM MODE and press play/pause button.

7. Main Menu

Main menu appears when you hold menu button . Choose the menu by tracking REW/Ff button, press play/pause button.

SYSTEM

SOUND

DISPLAY

SRS

DELETE

EXIT

8. INTRO Play

You can play the first few seconds of each track to check the music files and the voice recording files. Press play/pause button over 1 second at play status and 'Intro' icon is shown on LCD panel. Device plays first part of all tracks from current track.

MENU button (LONG KEY) -> SYSTEM -> INTRO TIME (5, 10, 15 seconds)

9. Repeat Play

You can select a section you want to play repeatedly. If you press the SPEED/A B button during the play, the starting point (A) for repeated play is selected, and the icon (A B) blinks on the LCD window. If you press the SPEED/A B button again when the end part of the repeated play is played, the end point (B) for repeated play is selected and the icon (A B) blinks. Then the MP3 Player repeats playing the designated section.

If you want to release Repeat Play, press SPEED/A B again.

10. Speed Control

You can select Normal, Fast or Slow play.

If you press and hold the SPEED/A B button during the play, the current mode is displayed on LCD (Normal Spd, Fast Spd, Slow Spd) and the current speed is maintained.

11. How to set BOOK-MARK

When you stop playing music file, you can book-mark this music file by pressing SRS key shortly. Go to BOOK-MARK MODE and play it.

12. PC Connection

When this device is connected to USB port of PC, this icon



appears. While

downloading files, this icon  **Writing...**  appears. While uploading files, this icon  **Reading...**  appears.

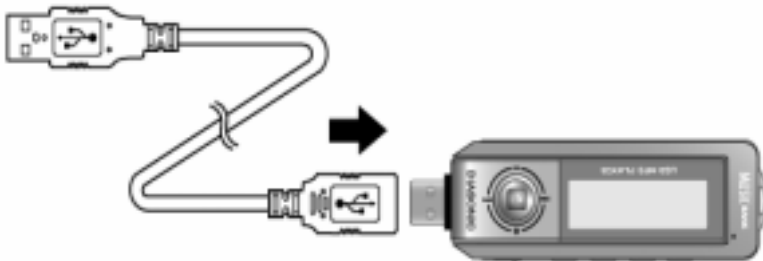
<Reference>

When device is connected to PC, you can not play. To play, you should take off device from PC.

When device is taken off from PC, power is off. Power on device to use it.

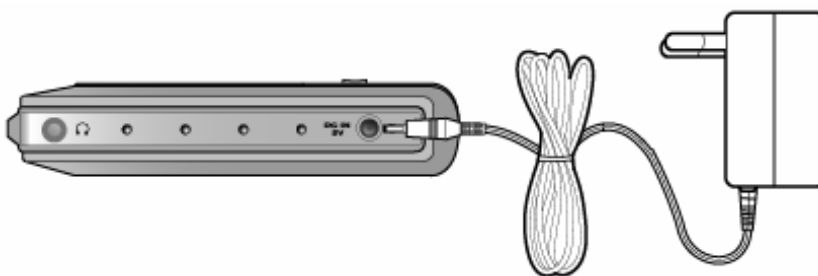
How to Recharge Battery




(1) Recharging battery by USB Cable



- 1 Connect device to USB cable after PC is power-on.
- 2 Recharging begins at same time.

(2) Recharging by ADAPTOR



- 1 Connect ADAPTOR to device.
- 2 This icon  blinks when you recharge in power on status,  **BATTERY CHARGING..** appears when you recharge in power off status. The icon  **CHARGE COMPLETE** appears when recharging is completed.

How to use External Memory

- 1 Insert an external memory to expanding slot and then press A<->B button in stopping. INT/CARD will be displayed and it will be separated to an Internal memory & External Memory section.
- 2 After selecting external memory, all functions work as same as internal memory.
- 3 External Memory must take out after stopping all operations.

<<Caution>>

- Only SD-CARD/MMC-CARD are compatible with DMP-310.
- Do not remove external memory card during recording or playing back to prevent from malfunction and losing recording content.
- If the Index and memory full, it won't work properly.
 - If there is no space in memory, " Memory Full" will appear.
- On recording, recording mode is transferred to VOICE, LINE IN & RADIO by pressing

Setting PC Environment

It supports USB Mass Storage and it can be used as hard drive.

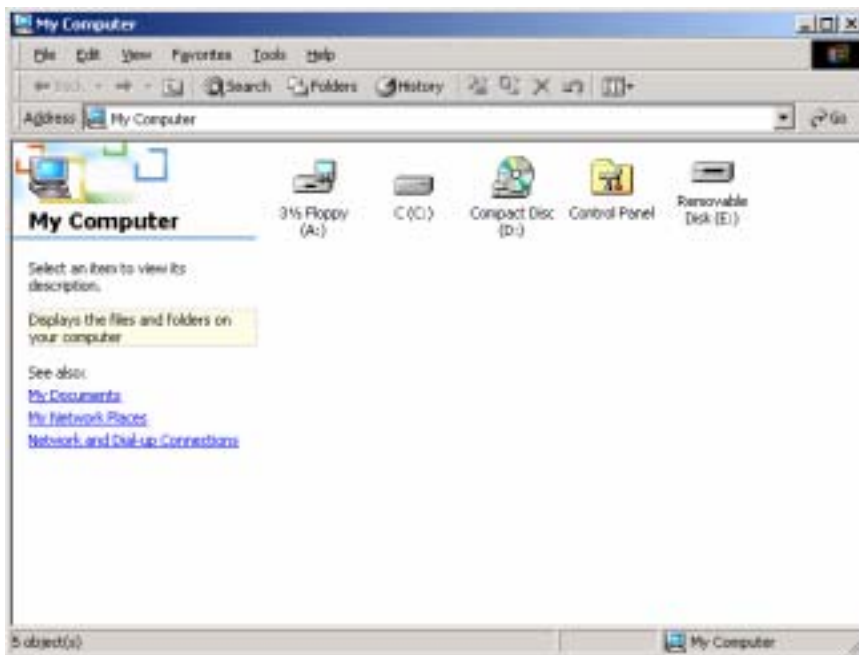
It can be connected to PC directly without any application by Plug & play method on Window Me, 2000, XP except for Windows 98SE.

How to install Drive

(1) In case of WIDOWS ME, 2000, XP

When connecting device to PC by USB port, "new hardware detected" is shown and installation begins automatically.

* If you click [My Computer], the MP3 Player is recognized as a portable disk (F:) on [My Computer] window. (*WINDOWS XP).

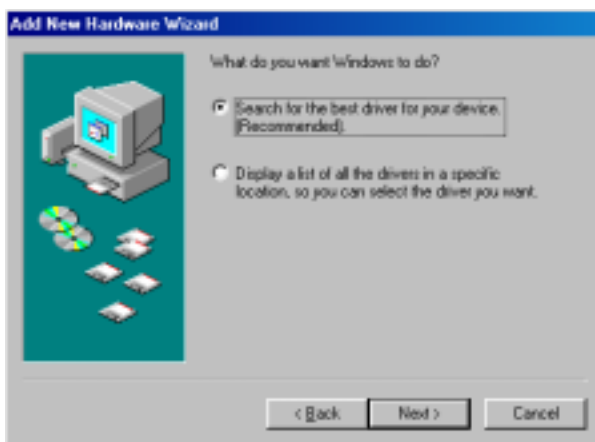


(2) In case of WINDOW 98 SE

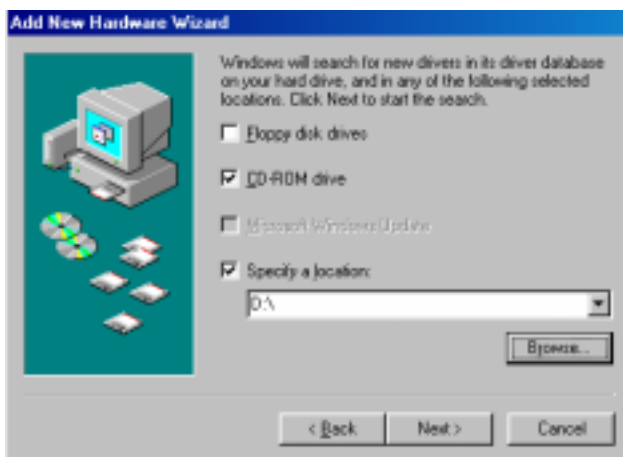
- 1 Connect device to USB port. Click 'next'.



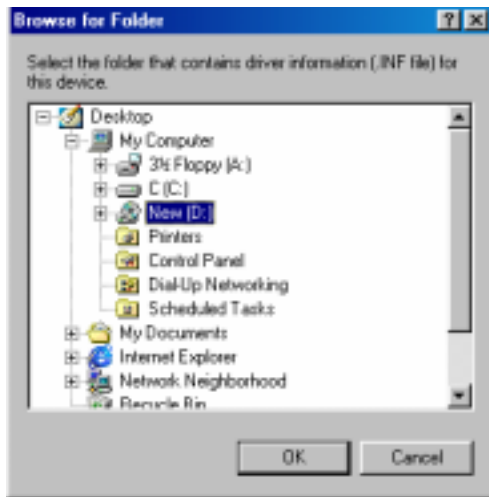
2 Check 'Find appropriate driver ' and click 'next'.



3 Check 'designating location' and click [Retrieval] button.



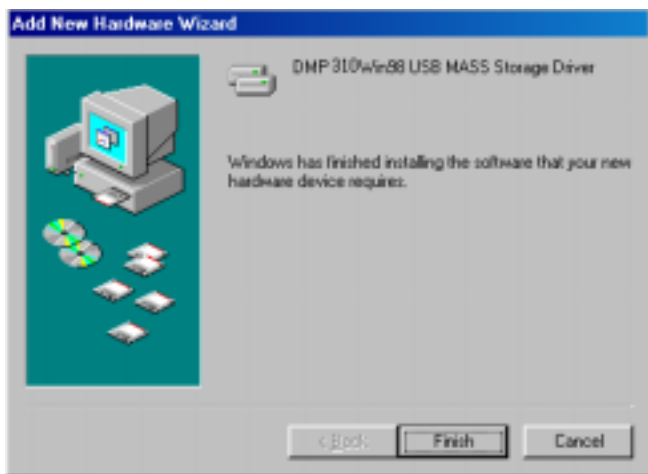
4 Find installation program on [Folder Retrieval] window.



5 Click 'next' on [New hardware wizard] window.



6 Below window is shown when installation is completed.



7 Check finally whether installation has been completed successfully.

[My Computer]-[Control Panel]-[System]-[Device Manager]-[Hard Disk Controller]



- When installation is completed successfully, it is recognized as USB Mass Storage on Device Manager of My computer.


(In case of WINDOWS ME, it is normal even though '?' mark is shown.)

(2) How to remove device out of USB port

It is required to remove device before removing device out of PC,

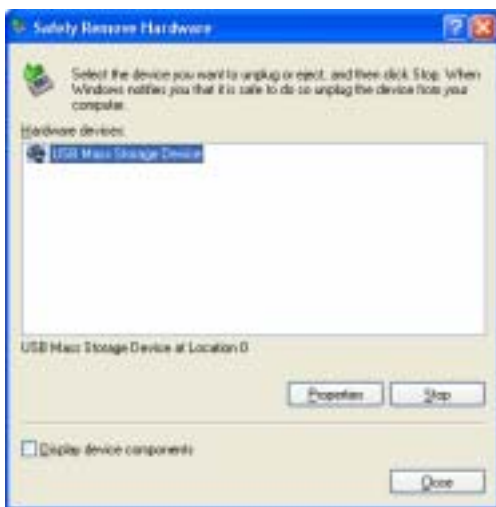
- 1 Close existing files.

When there are existing files or folders, there could be some error in removing device.

- 2 If you click below icon (), following tool bar is created.



- 3 If you click tool bar, following windows appear. Remove them in series.



4 If below tool bar appears, remove device out of PC.



FM Radio

- * The AUTO SEEK function facilitates tuning in to the radio channel.

Select RADIO, and hold down the FF key or REW key for about one second. The unit stops seeking channels at the available channel.

The AUTO SEEK function may not be suitable for accurate tuning in the weak coverage area. In this case, use the REW or FF key for fine tuning.

You can also use the MUTE, MONO or STEREO function for radio listening.

Setting radio channel

Frequency channels are displayed on the LCD screen. Select the desired frequency with the FF or REW key.

Saving channels

Frequency channels are displayed on the LCD screen. Select the desired frequency with the FF or REW key.

While listening to the radio, press the SRS button. The channel you are listening is memorized in PRESET, and CHANNEL 01 blinks. Select the channel number (01-10) with the FF/REW key, and press the SRS button. The channel is saved in CHANNEL 01. You can save up to 10 channels (CH1~10).

Checking the saved channels.

In the FREQUENCY mode, hold down the SRS button. The unit enters into the PRESET mode, and shows the saved channels and frequencies.

You can select a channel with the FF/REW key. If you press the MENU button in the PRESET mode, you can select the frequency in the FREQUENCY mode.

Recording radio

Set the radio channel as explained in ~ above.

Press the REC button to record data. The recorded message is saved at the next index to the last recording file.

You cannot check the recorded data while recording. You can check it in the RECORD range after stopping recording.

- 3 To pause while recording, press the REC button. To resume recording, press the REC button again.

Note

- **Noise may occur when recording radio in weak coverage or inside a building. Move to strong coverage to acquire good sound quality.**
- **The earphone line works as an antenna. Extend the line to get good coverage.**

Recording in RECORD Mode

(1) LINE IN Recording

When LINE IN CABLE is connected, line in is set automatically in recording. (**LINE IN ENC FILE**)

(2) Recording through internal MIC

Unless LINE IN CABL is connected, internal mic is set in recording. (**VOICE**)

(3) Recording RADIO

While listening to radio, you can record radio by pressing Rec button. (**RADIO ENC**)

<Caution>

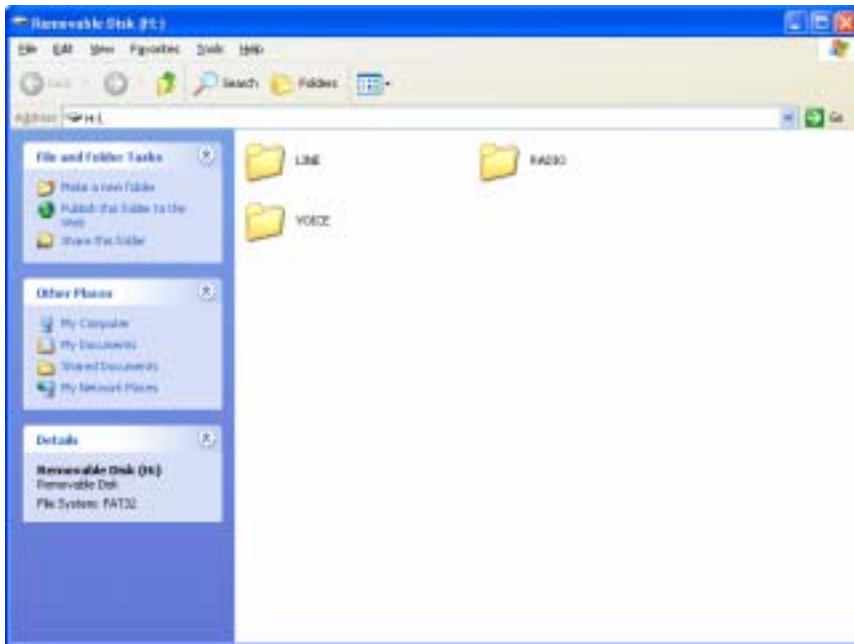
- * When you input line in cable while recording voice, recording stops and record mode is converted to line in mode.
- * Device can not be transferred to FM mode when line in cable is connected. When line in cable is taken off, recording stops.

<Reference>

- While recording, you can monitor recording.
- To check the remaining recording time, press the MENU button during the recording.
- You can separate files during the recording 5 seconds later by pressing FF button.
- LEVEL METER does not operate while recording.

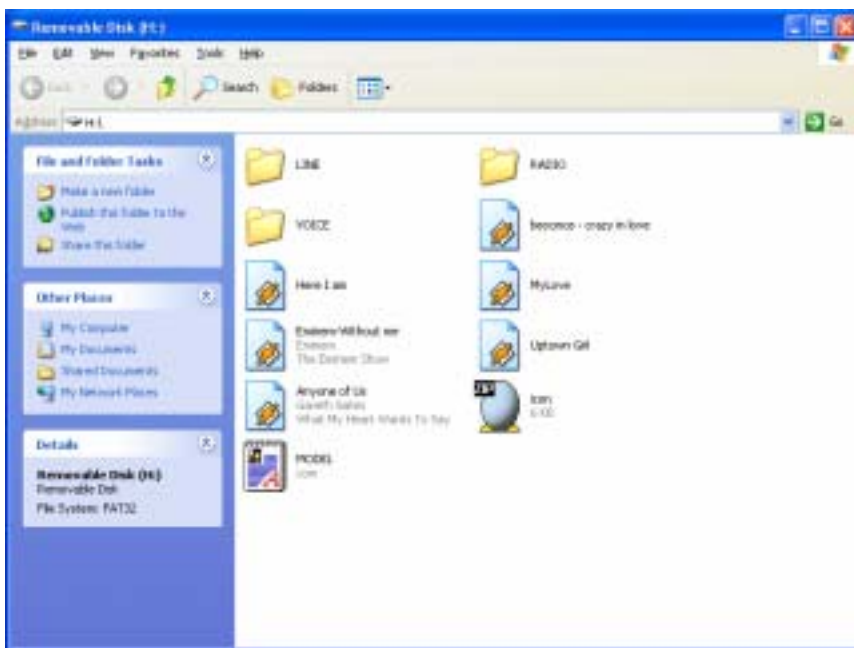
Managing Folders and Files

(1) Default folders



When you connect the unit to PC, you can find that the LINE, RADIO and VOICE folders are created by default.

(2) AUDIO MODE



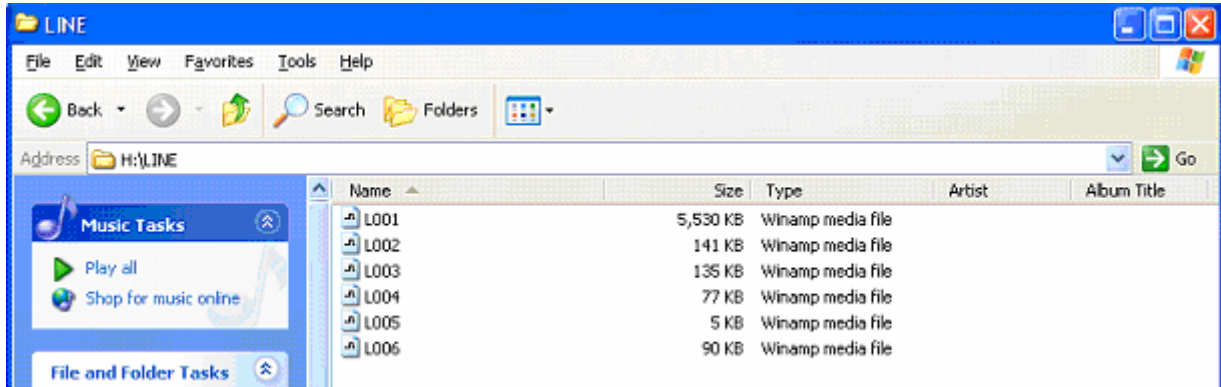
No folder is created by default for AUDIO MODE.

You can create the audio folders on the PC, and check the folders with FOLDER PLAY and MUSIC PLAY on the MP3 Player.

You can create up to 999 music files (MP3 or WMA files) on MUSIC PLAY, and up to 512 folders on FOLDER PLAY.

** FOLDER PLAY in the MODE menu shows the folders you created, and MUSIC PLAY shows the music files within the folder.

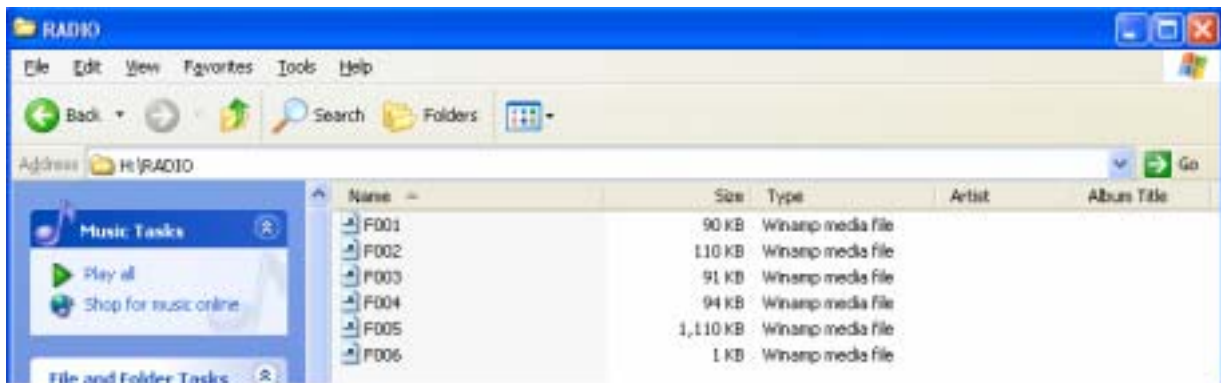
(3) LINE IN MODE



LINE IN MODE contains the files recorded from external devices through the line-in cable.

When recording data, up to 256 files can be created in sequence. If the number of files exceeds 256, the "INDEX FULL" message is displayed.

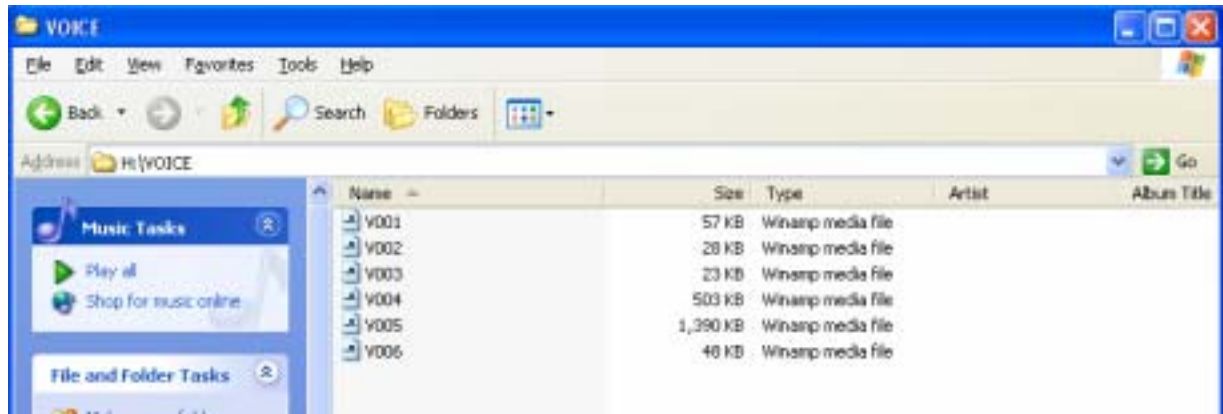
(4) RADIO MODE



RADIO MODE contains the files recorded from the radio.

When recording data, up to 256 files can be created in sequence. If the number of files exceeds 256, the "INDEX FULL" message is displayed.

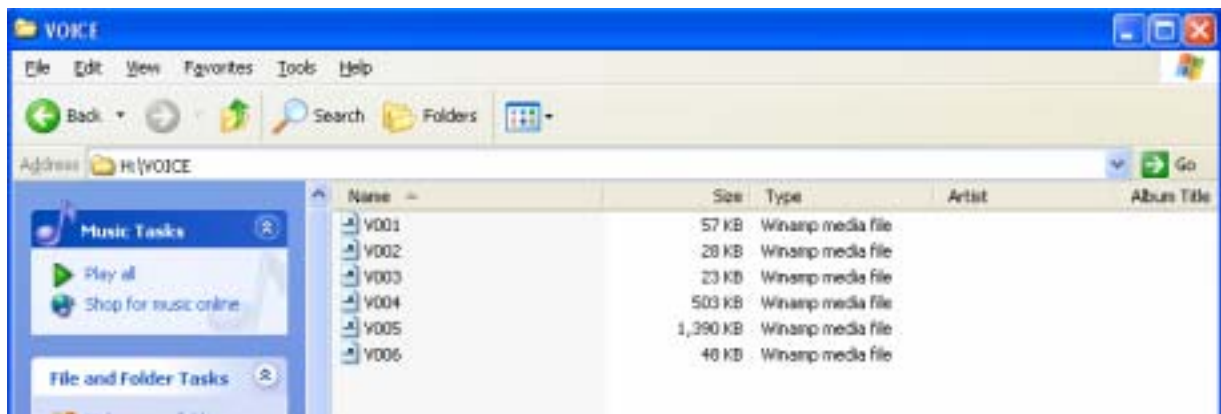
(5) VOICE MODE



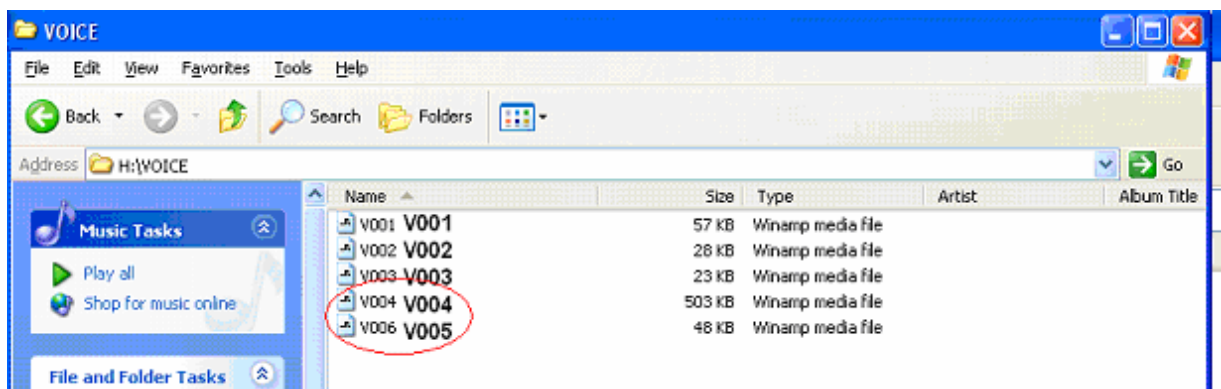
VOICE MODE contains the voice recording files.

When recording data, up to 256 files can be created in sequence. If the number of files exceeds 256, the "INDEX FULL" message is displayed.

Deleting files in the LINE, RADIO and VOICE MODE




Deleting VOICE005.



As V005 is deleted, V006 is renamed to "V005".

Downloading Files

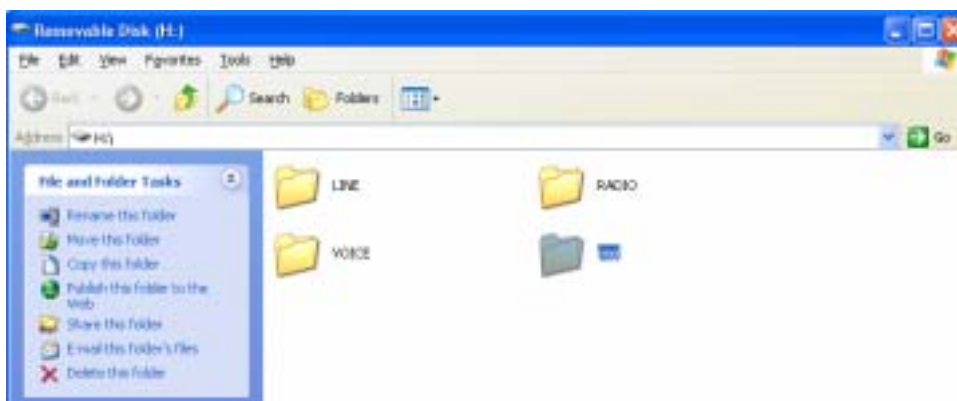
- (1) Wait until 'new hardware detect' and 'it is ready to operate' appears after connecting device to USB port.

- (2) Click  on My Computer.

- (3) Copy music files or data from PC folder and download them to device.



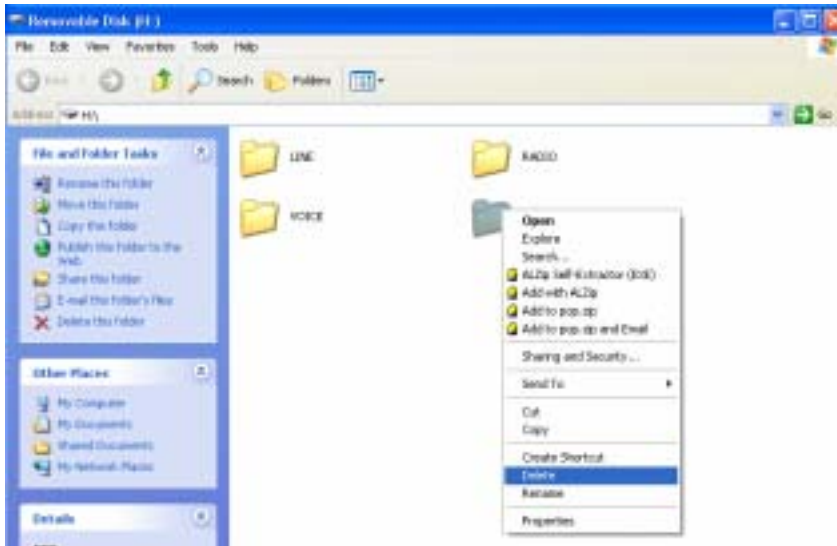
- (2) Following folder is created.



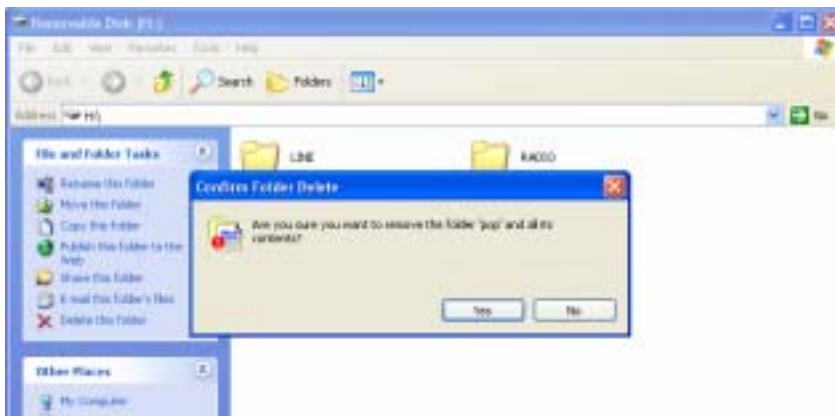
Deleting Files

(1) Deleting on PC

1 Click file which you try to delete and click right button of mouse. Then following toolbar appears.



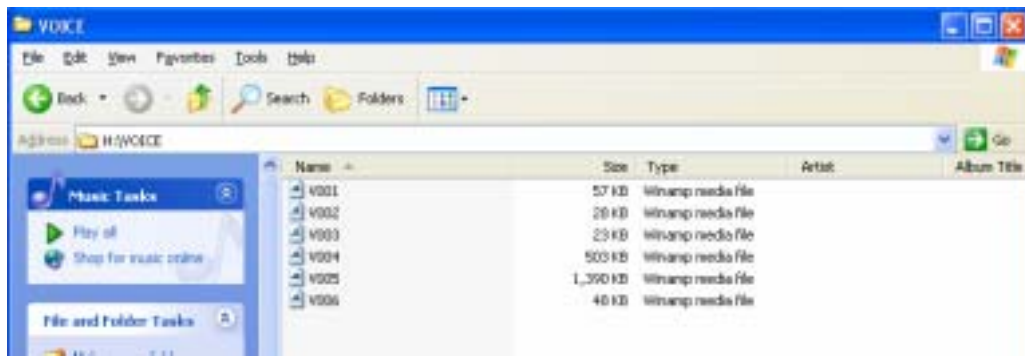
2 Click 'Yes'.



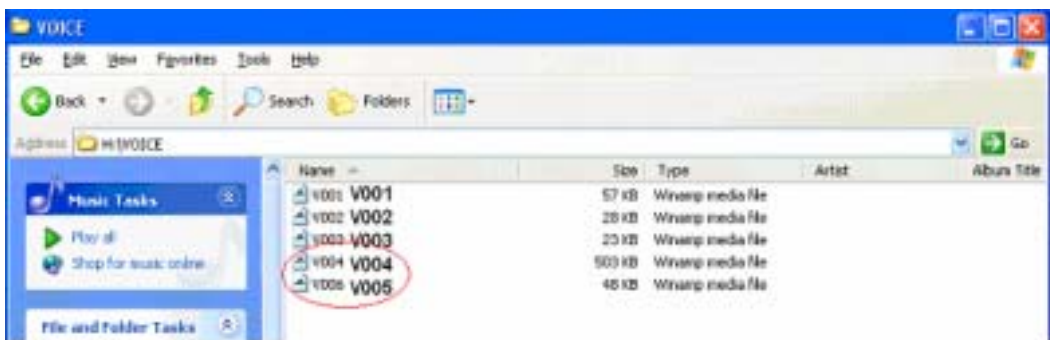
3 It indicates the status of deleting.



Deleting on LINE, RADIO, VOICE MODE



In case of deleting VOICE005



V005 is deleted, V006 is renamed to "V005".

(2)Deleting on Device

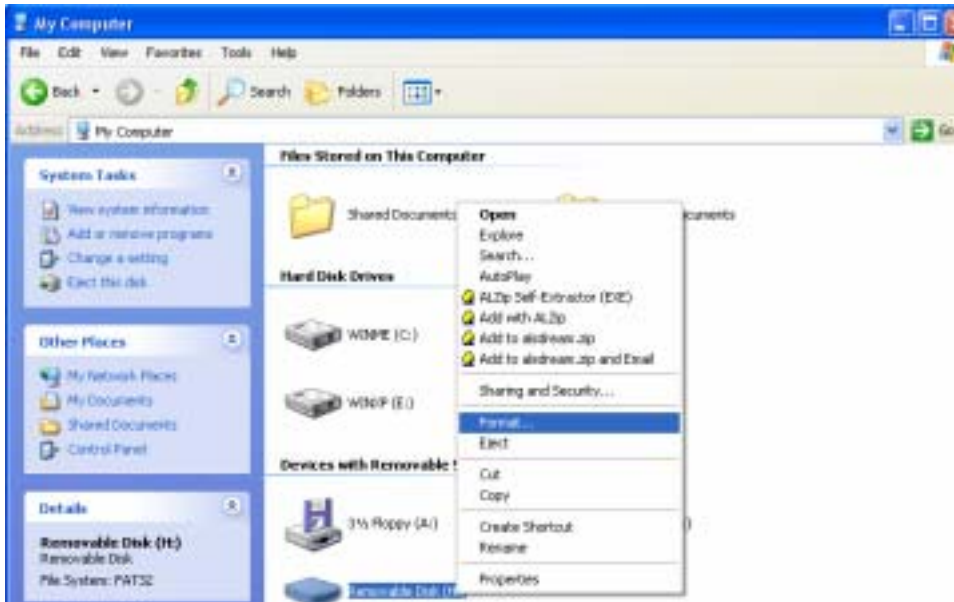
Press MENU button for a long time and press , choose file or folder and delete.

FORMATTING File

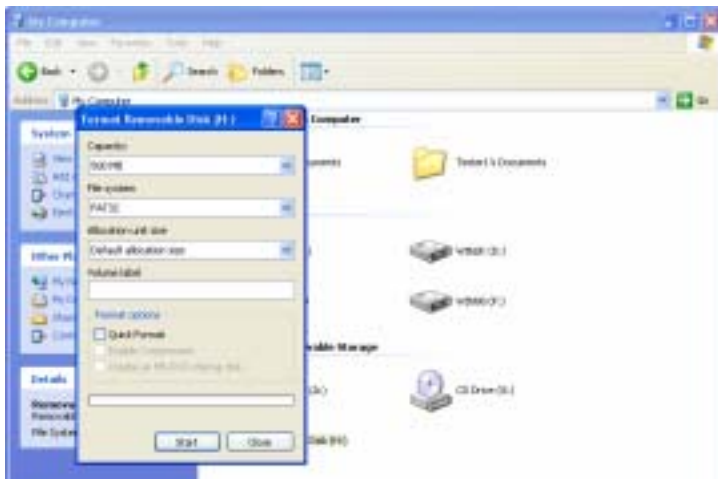
(1) FORMAT on PC

1 Go to [My Computer], choose portable disk(F:) and click right button of mouse. Following toolbar appears.

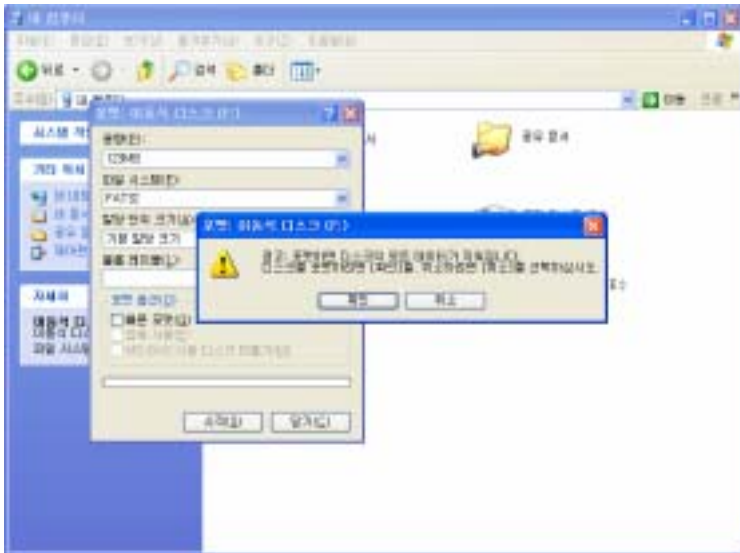
At the time, click format.



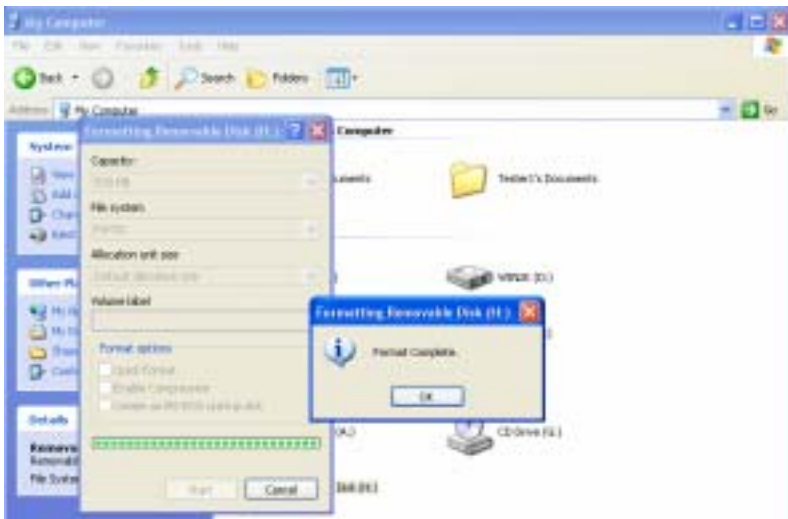
2 Click 'start' when following window appears.



3 Click 'confirm'.



4 Format is completed.

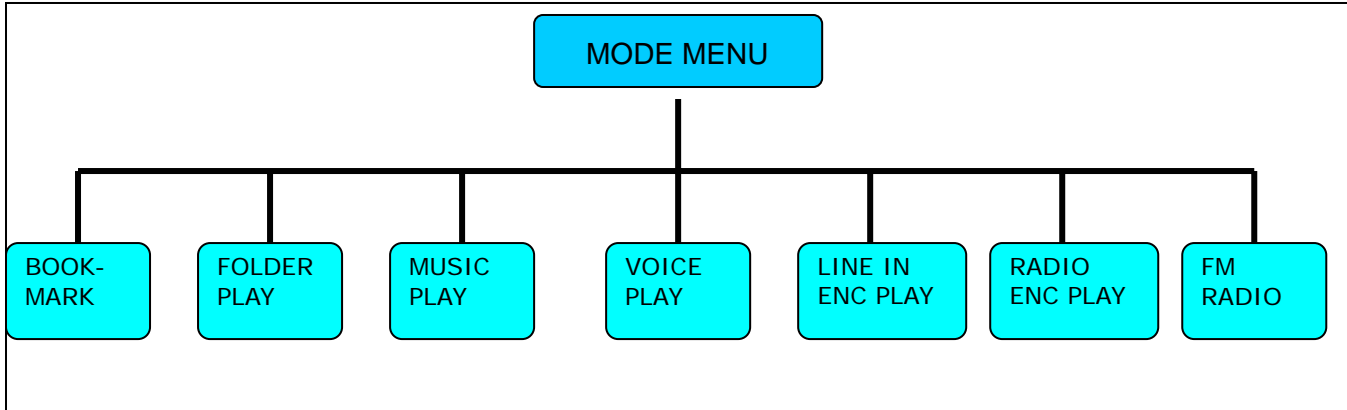


(2) FORMAT on device

Press menu button for a long time and press , choose 'DELETE ALL' and format is completed.

Mode Menu

If you press the MENU button, the Mode Menu is displayed. The Mode Menu consists of the following play related functions.



BOOK-MARK

- You can play the selected music file.
- Hold down the SRS key to book-mark while playing a music file.
(You cannot create or designate folders.)



FOLDER PLAY

- The function shows all the folders in the memory.
(The VOICE, RADIO and LINE folders are not displayed.)
- If you select a folder, the files in the folder are displayed, and only the MP3 / WMA files are played.
(You can create up to 1000 folders.)



MUSIC PLAY

- Plays all the MP3 and WMA files in the memory.
(The files in the VOICE, RADIO and LINE folders are not played.)
- You can use book-mark function while the files are displayed.



VOICE PLAY

- Plays the MP3 and WMA files in the VOICE folder.
(Files are played in sequence from V001.mp3 or V001.wma.)



LINE IN

- Plays the MP3 and WMA files in the LINE folder.
(Files are played in sequence from L001.mp3 or L001.wma.)



RADIO ENC PLAY

- Plays the MP3 and WMA files in the RADIO folder.
(Files are played in sequence from F001.mp3 or F001.wma.)

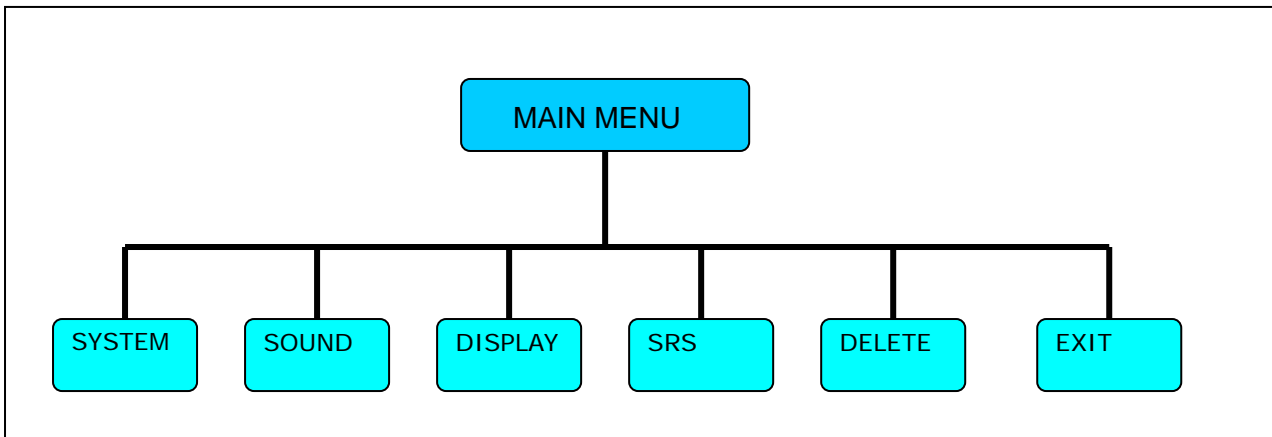


FM RADIO

- You can listen to the radio

Main Menu

1) Main Menu



If you hold down the 'MENU' button, the main menu is displayed. The main menu consists of the above 6 functions. Select EXIT to exit the main menu.


In the Main Menu, select the desired menu with the FF/REW/V+/V- buttons, and press the 'MENU' button.

(1) SYSTEM



This menu consists of PLAYBACK, POWER OFF TIME, SLEEP TIME, INTRO TIME, ENCODE, DEFAULT and EXIT.



-  **PLAYBACK** NORMAL, REPEAT ONE, REPEAT ALL, SHUFFLE

NORMAL: Plays all files once in sequence.

REPEAT ONE: Repeats the current file.

REPEAT ALL: Repeats all files in sequence.

SHUFFLE: Repeats all files without sequence.



2 POWER OFF TIME 1Min, 3Min, 5Min, ALWAYS ON

You can select the time period to make the unit power go off automatically if no operation is made for that time period.



3 SLEEP TIME OFF, 15Min, 30Min, 45Min, 60Min, 75Min, 90Min, 105Min, 120Min

The unit power is turned off automatically at expiry of the selected time.



4 INTRO TIME 5Sec, 10Sec, 15Sec

You can select the time period for INTRO Play to play the first few seconds of each track.



5 ENCODE

You can select whether to use the SYNC function or not for FM RADIO recording or LINE IN recording, and set the recording bitrate and voice recording bitrate.



A. SYNC AUTO SYNC, ONE SYNC, OFF

- ◆ AUTO SYNC: The MP3 Player automatically detects start and end of music, and creates a new file for new music.
- ◆ ONE SYNC: The unit automatically detects start and end of music, but creates the file only once.
- ◆ OFF: The unit does not detect start and end of a music. You can manually adjust start and end.



B. BIT RATE VOICE BITRATE MP3 BITRATE

- ◆ VOICE BITRATE: LP, HQ
- ◆ MP3 BITRATE: 48Kbps, 64Kbps, 96Kbps, 128Kbps, 192Kbps, 256Kbps



6 RESUME ON, OFF

The MP3 remembers the play data of the current file, and resumes playing the file when you switch off and on the unit.

ON: The unit resumes the last file from the stopped counter when you switch off and on the unit.

OFF: The unit plays the last file from the index when you switch off and on the unit.

- 7  FM BAND WORLD, JAPAN, EUROPE

You can select on of the following FM bands.

WORLD: 87.5MHz~108.0MHz (100 KHz STEP)

JAPAN: 76.0MHz~108.0MHz (100 KHz STEP)

EUROPE: 87.50MHz~108.00MHz (50 KHz STEP)

- 8  DEFAULT YES, NO

You can reset the unit to the default status.

- 7  EXIT


You can finish the current menu and move to the upper menu.

(2) SOUND




The SOUND menu consists of EQUALIZER, USER EQ, SRS USER SETTING, BEEP, DEFAULT VOLUME and EXIT.



- 1  EQUALIZER NORMAL, CLASSIC, POP, ROCK, JAZZ, LIVE

You can select one of the six equalizer modes.

- 2  USER EQ: You can adjust frequency by 3dB from -12dB to +12dB.



3 SRS USER SETTING SRS LEVEL, TRUBASS EFFECT, FOCUS LEVEL

You can select the level of SRS effect.



4 BEEP ON, OFF

You can adjust the beep sound for key action.



5 DEFAULT VOLUME: To prevent bursting of sound when you turn on the power, the unit adjusts the volume to the previous one if it is lower than the default volume, or to the default volume if it is higher than the default volume.



6 EXIT

You can finish the current menu and move to the upper menu.

(3) DISPLAY



This menu consists of the display related functions (FONT, LOGO, ID3 Tag, SCROLL TIME, BACKLIGHT TIME, CONTRAST and EXIT).



1 FONT KOREAN, ENGLISH, JAPANESE, CHINESE, EUROPE

You can select a language for ID3 TAG information on setting.



2 BACKLIGHT COLOR: 9 backlight color options are available.

RED
GREEN
BLUE
YELLOW
MEGENTA
CYAN
WHITE

RANDOM – Backlight is changed in random sequence.

RANDOM Sequence: RED->GREEN->BLUE->YELLOW->MAGENTA->CYAN->RED...

INTRO – Each backlight color is displayed for one second in the sequence in accordance with the BACKLIGHT TIME setting.

INTRO Sequence: RED->GREEN->BLUE->YELLOW->MAGENTA->CYAN->RED...

(If you select INTRO after setting the BACKLIGHT TIME to 3 Sec, the backlight is displayed as RED 1 Sec ON-OFF -> GREEN 1 Sec ON-OFF ->BLUE 1 Sec ON-OFF.

If you change the BACKLIGHT TIME, each color is displayed for one second in INTRO sequence.)



3 ID3 Tag: The menu is used to display file information.

1. ON: Title, Artist, Bit Rate and Frequency are displayed when the file is played.
2. OFF: Only the file name is displayed.



4 SCROLL TIME

You can select the file information scrolling speed on LCD from 0 to 10.

(If it is set to 0 Sec, the unit is in the file information stop state.)



5 BACKLIGHT TIME

You can select the backlight time from 0 to 10 Sec.

(Backlight is off at 0 Sec.)



6 LCD CONTRAST

You can adjust LCD contrast from Step 1 to 10.



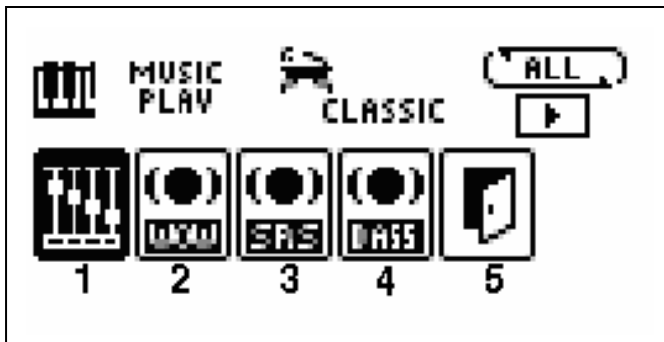
7 EXIT

You can finish the current menu and move to the upper menu.

(4) SRS



This menu is used to select the SRS effect. SRS implements the 3D sound.

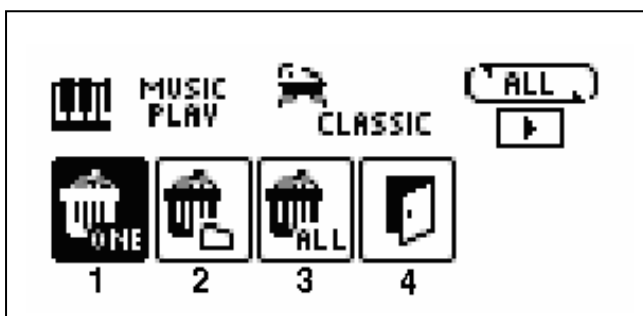


- 1 NORMAL 2 WOW SELECT 3 SRS SELECT 4 TRUBASS SELECT 5 EXIT
- USER SETTING range consists of WOW VOLUME, TRUBASS and BRIGHTNESS.
(WOW reinforces stereo, and TRUBASS reinforces bass.)

(5) DELETE



You can delete files or folders.



- 1 DELETE ONE: You can delete a file.
- 2 DELETE FOLDER: All folders in the memory are displayed. If you select a folder, the selected folder and the files are deleted together. If the folder has sub-folders, the sub-folders and their files are also deleted.

- 3 FORMAT: All folders and files in the memory are deleted.
- 4 EXIT: You can finish the current menu and move to the upper menu.

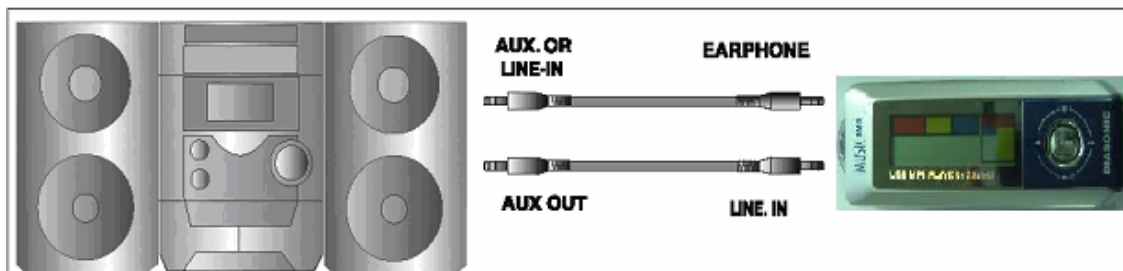
Connecting to external device

(1) In case of recording from external device to the device.

Plug in the audio cable to line in input terminal of the device.

(2) In case of recording from the device to external device

Plug in the audio cable to line in input terminal of the device and mic or input terminal of external device.



How to connect with audio.

Caution

In case of connecting to external device, please turn off power before hand.

Please read through this manual carefully before connecting to external device.

This product does not have the installed power that can operate external mic inside main set.

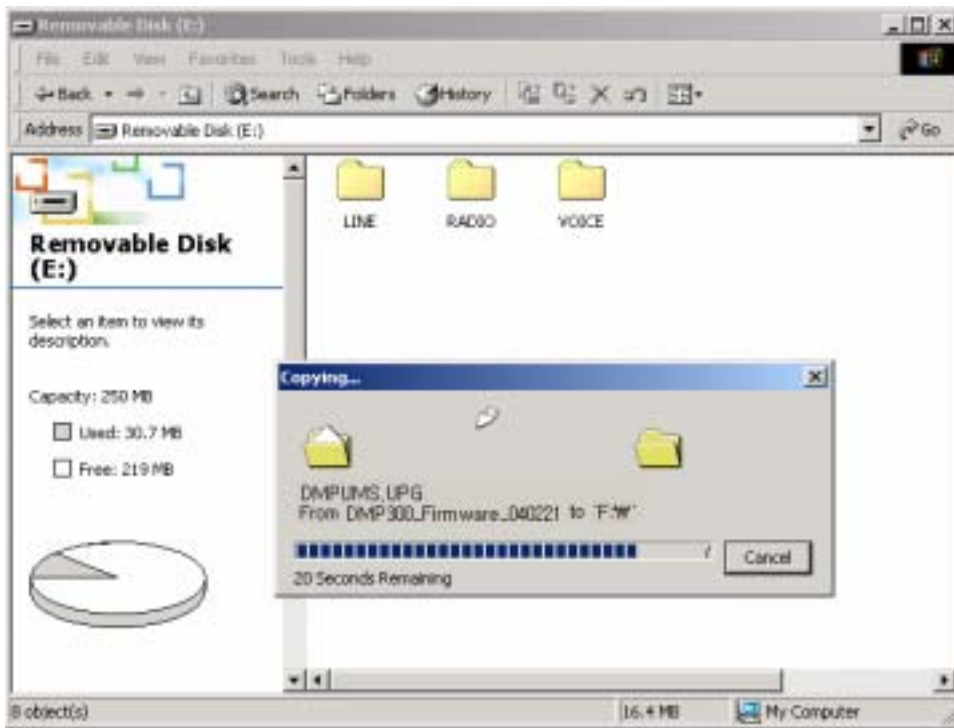
So, you can not record through external microphone by line-in.

FIRMWARE UPGRADE

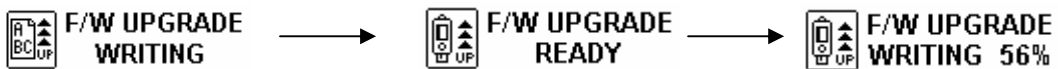
This device has the feature which is to improve function and correct error by upgrading firmware.

You can download upgrade file by connecting to website.

Firmware upgrade can be operated when you copy firmware file to root of device which is connected to PC.



After completing this work, take set away from USB connection and turn off for resetting firmware. Below procedures will display when turn on the set once again.



<Caution>

Power of device is off automatically when upgrade is completed.
Do not operate or take off device from PC. It causes defective.

General Specification

Model		DMP-310	
File format		MPEG 1/2 LAYER 3 , WMA	
Bit rate		32Kbps~320Kbps(MPEG 1/2 LAYER 3)	
Signal Vs Noise		85db (1KHz input 0db at USE LPF 30KHz)	
Distortion		0.3%±0.05 (1KHz input 0db)	
Frequency Response		20Hz~20KHz	
Earphone Output		MAX. 5mW (16)	
Sound Mode		EQ : NORMAL, ROCK, POP, CLASSIC, LIVE, JAZZ,SRS	
Searching Mode		Repeat Each Track 5, 10, 15secs	
Searching		Easy Track Searching	
Repeat Play		One, All, A Block & Option Repeat	
Download speed		Max. 3Mbps(375Kbyte)	
BACK LIGHT LED		RED, GREEN, BLUE, YELLOW, MEGENTA,CYAN,WHITE 7가 COLOR	
Memory		ADVANCED NAND FLASH MEMORY(128,256M,512M)	
AUDIO IN JACK		3.5 STEREO JACK	
FM Radio (Stereo)		Frequency Range	WORLD JAPAN EUROPE
			87.5~108.0MHz 76.0~108.0MHz 87.5~108.0MHz
		Earphone Output	5mW(L) + 5mW(R) : 16 , Max.
		Signal Vs Noise	55dB at 1mV
		Receiving Type	Earphone Code Antenna
		PC interface	Interface
	System	More than CPU 200MHz, RAM 64MB, 20MB	
	O/S	Windows98SE , Windows2000 , Windows ME , Windows XP	
	Sound Card	Sound blaster 16 compatible	
	Display	More than640X480	
	Earphone	3.5 earphone(mini plug/stereo) IMP less than 16	
	USB JACK	USB A TYPE PLUG	
LCD 128x16DOT	Display	132*56DOTS, WITH ICON	
	BACKLIGHT	LED BACK LIGHT	
	Language	Korean, Japanese, English, Chinese & other languages	
Proper Temperature		5 ~35	
Battery Life	MP3 Play	About 13 hrs	
Accessory		Line-in/out Cable(1) / CD(1) / Neck Strap(1) / Stereo Earphone(1) /Manual(1) /	
Recharging Time	USB,ADATOR	About 210Min.	

FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This Device may not cause harmful interface, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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 correct the interference by one or more of the following measures:

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

WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.