CONTROL AND FUNCTION KEYS

1. PANEL RELEASE BUTTON
2. MUTE BUTTON
3. LO/DX BUTTON
4. VOLUME UP/DOWN BUTTON
5. SELECT BUTTON
6. MP3 ENTER BUTTON
7. DISPLAY BUTTON
8. PTY BUTTON
9. MP3 SEARCH BUTTON
10. PRESET STATIONS BUTTONS (M1~M6)
11. TUNING UP/DOWN TRACK UP / DOWN BUTTONS
12. AUTOMATICALLY STORE / PRESET SCAN (AS/PS) BUTTON
13. MP3-ID3-TAG INFORMATION BUTTON
14. AF BUTTON
15. EJECT BUTTON
16. CD788
17. CD788
18. IX-BASS BUTTON
19. LO/DX BUTTON
20. TA BUTTON / EQ5 BUTTON
21. MENU BUTTON
22. BAND BUTTON
23. POWER BUTTON
24. RESET BUTTON
25. MODE BUTTON
1. HANDLING COMPACT DISCS

MOISTURE CONDENSATION

On a rainy day or in a very damp area, moisture may condense on the lenses inside the unit. Should this occur, the unit will not operate properly. In such a case, remove the disc and wait for about an hour until the moisture has evaporated.

NOTES ON CDs

1. A dirty or defective disc may cause sound dropouts while playing. To enjoy optimum sound, handle the disc as follows. Handle the disc by its edge. To keep the disc clean, do not touch the surface (P.1).

2. Do not stick paper or tape on the disc (P.2).

3. Do not expose the discs to direct sunlight or heat sources such as hot air-ducts, or leave them in a car parked in direct sunlight where there can be a considerable rise in temperature inside the car (P.3).

4. Before playing, clean the discs with an optional cleaning cloth. Wipe each disc from the centre out (P.4).

5. Do not use solvents such as benzine, thinner, commercially available cleaners, or antistatic spray intended for analog discs.

NOTES ON DISCS

If you use the discs explained below, the sticky residue can cause the CD to stop spinning and may cause malfunction or ruin your discs.

Do not use second-hand or rental CDs that have a sticky residue on the surface (for example, from peeled-off stickers or from ink, or glue leaking from under the stickers).

There are paste residue. Ink is sticky (P.5).

Do not use rental CDs with old labels that are beginning to peel off.

Stickers that are beginning to peel away, leaving a sticky residue (P.6).

Do not use your CDs with labels or stickers attached.

Labels are attached (P.7).

Do Not Use Special Shape CDs

Be sure to use round shape CDs only for this unit and do not use any special shape CDs. Use of special shape CDs may cause the unit to malfunction (P.8).

Be sure to use CDs with disc mark

Only for this unit.

CD-Rs and CD-RWs which have not undergone finalization processing cannot be played. (For more information on finalization processing, refer to the manual for your CD-R/CD-RW writing software or CD-R/CD-RW recorder.) Additionally, depending on the recording status, it may prove impossible to play certain CDs record on CD-R or CD-RW.
2. INSTALLATION

- Before finally installing the unit, connect the wiring temporarily and make sure it is all connected up properly and the unit and system work properly.
- Use only the parts included with the unit to ensure proper installation. The use of unauthorized parts can cause malfunctions.
- Consult with your nearest dealer if installation requires the drilling of holes or other modifications of the vehicle.
- Install the unit where it does not get in the driver's way and cannot injure the passenger if there is a sudden stop, like an emergency stop.
- If installation angle exceeds 30° from horizontal, the unit might not give its optimum performance.

- Avoid installing the unit where it would be subject to high temperature, such as from direct sunlight, or from hot air, from heater, or where it would be subject to dust dirt or excessive vibration.
- Be sure to remove the front panel before installing the unit.

DIN FRONT/REAR-MOUNT

This unit can be properly installed either from “Front” (conventional DIN Front-mount) or “Rear” (DIN Rear-mount installation, utilizing threaded screw holes at the sides of the unit chassis). For details, refer to the following illustrated installation methods A and B.

DIN FRONT-MOUNT (Method A)

Installation the unit

1. Dashboard
2. Holder
   After inserting the half sleeve into the dashboard, select the appropriate tab according to the thickness of the dashboard material and bend them inwards to secure the holder in place.
3. Screw

DIN FRONT-MOUNT (Method B)

Installation the unit

1. Dashboard
2. Nut (5mm)
3. Spring washer
4. Screw (5x25mm)
5. Screw
6. Support Strap
   Be sure to use the support strap to secure the back of the unit in place. The strap can be bent by hand to the desired angle.
7. Plain washer
DIN REAR-MOUNT (METHOD B)

Installation using the screw holes on the sides of the unit.

1. Select a position where the screw holes of the bracket and the screw holes of the main unit become aligned (are fitted) and tighten the screws at 2 places on each side.
2. Screw
3. Factory radio mounting bracket.
4. Dashboard or Console
5. Hook (Remove this part)

Note: the mounting box, outer trim ring, and half-sleeve are not used for method B installation.

Removing the unit

- Frame
- Insert fingers into the groove in the front of frame and pull out to remove the frame. (When re-attaching the frame, point the side with a groove downwards and attach it.)
- Insert the levers supplied with the unit into the grooves at both sides of the unit as shown in figure until they click. Pulling the levers makes it possible to remove the unit from the dashboard.

Trim Plate Installation:
Push the trim plate against the chassis until it is fitted.
You must do this before you install the front panel, otherwise it can't be attached.
3. DETACHABLE CONTROL PANEL (D.C.P)

Removing The Detachable Control Panel (D.C.P).

1. Turn the power off
2. Press the D.C.P release button
3. Remove the D.C.P.

Attaching the DCP

1. Attach the panel at the right side first, with point B on the main unit touching point A on the D.C.P (As shown on the diagram).
2. Then press the left side of D.C.P onto the main unit until a "click" sound is heard.

CAUTION
- DO NOT insert the D.C.P from the left side. Doing so may damage it.
- The D.C.P can easily be damaged by shocks. After removing it, place it in a protective case and be careful not to drop it or subject it to strong shocks.
- When the release button is pressed and the D.C.P is unlocked, the car's vibrations may cause it to fall. To prevent damage to the D.C.P, always store it in a protective case after detaching it.
- The rear connector that connects the main unit and the D.C.P is an extremely important part. Be careful not to damage it by pressing on it with fingernails, pens, screwdrivers, etc.

Note:
If the D.C.P is dirty, wipe off the dirt with soft, dry cloth only. And use a cotton swab soaked in isopropyl alcohol to clean the socket on the back of the D.C.P.

RESETTING THE UNIT:
- Use a pencil or any non-metallic object to press & hold the reset button for five seconds to reset the unit.
- Long press the eject button for more than 6 seconds to reset / resume the CD Deck mechanism.
4. WIRING DIAGRAM

ISO CONNECTOR SOCKET
(See Figure 1)

ANTENNA EXTENDER CABLE

AMP

AMPLIFIER WIRING
(SEE AMPLIFIER INSTRUCTIONS)

ISO CONNECTOR WIRING CHART

<table>
<thead>
<tr>
<th>PIN</th>
<th>WIRE COLOR</th>
<th>FUNCTION/LABEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4</td>
<td>YELLOW</td>
<td>BATTERY (+)</td>
</tr>
<tr>
<td>A5</td>
<td>BLUE</td>
<td>POWER ANTENNA</td>
</tr>
<tr>
<td>A7</td>
<td>RED</td>
<td>IGNITION/ACC</td>
</tr>
<tr>
<td>A8</td>
<td>BLACK</td>
<td>GROUND</td>
</tr>
<tr>
<td>B1</td>
<td>VIOLET</td>
<td>RIGHT REAR SPEAKER (+)</td>
</tr>
<tr>
<td>B2</td>
<td>VIOLET/BLACK</td>
<td>RIGHT REAR SPEAKER (-)</td>
</tr>
<tr>
<td>B3</td>
<td>GREY</td>
<td>RIGHT FRONT SPEAKER (+)</td>
</tr>
<tr>
<td>B4</td>
<td>GREY/BLACK</td>
<td>RIGHT FRONT SPEAKER (-)</td>
</tr>
<tr>
<td>B5</td>
<td>WHITE</td>
<td>LEFT FRONT SPEAKER (+)</td>
</tr>
<tr>
<td>B6</td>
<td>WHITE/BLACK</td>
<td>LEFT FRONT SPEAKER (-)</td>
</tr>
<tr>
<td>B7</td>
<td>GREEN</td>
<td>LEFT REAR SPEAKER (+)</td>
</tr>
<tr>
<td>B8</td>
<td>GREEN/BLACK</td>
<td>LEFT REAR SPEAKER (-)</td>
</tr>
</tbody>
</table>

WIRING DIAGRAM:

(See Figure 1)

AMP AMP AMP

ANTENNA EXTENDER CABLE

ISO CONNECTOR 4PIN+8PIN FEMALE WITH MALE TERMINAL

ISO CONNECTOR 4PIN+8PIN FEMALE WITH MALE TERMINAL

(See Figure 1)
5. BASIC OPERATIONS

14. PANEL RELEASE BUTTON (REL)
Press this button to remove the control panel.

1. POWER ON/OFF BUTTON ( )
Press POWER button or any other button on the front of the radio (except Open/Eject) to turn the unit on. Press POWER button again to turn the unit off.

2. MODE BUTTON (MODE)
Press MODE button to select a different mode of operation as indicated on the display panel. Available modes include Tuner, CD, MP3, WMA.

3. MUTE BUTTON (MUTE)
Press the mute button momentarily to mute the audio volume, and "Mute" will flash in the display. Press the mute button again to restore volume to the previous setting.

4. VOLUME DOWN / UP BUTTON
To increase the volume, press the volume up button to decrease the volume, press volume down button counter clockwise. When volume is adjusted, the volume level will be shown on the display panel as a number ranging from 0 (lowest) to 46 (highest).

10. AUDIO SELECT BUTTON (AUDIO/ENTER)
Press the AUDIO button, the display will be displayed first option is Volume, followed by Bass (only if EQ5 is currently deactivated), Treble (only if EQ5 is currently deactivated), Balance, Fader and back to Volume. When adjusting audio functions, the unit will automatically exit audio control mode after 5 seconds of inactivity.

Bass
Press the AUDIO SELECT button twice, then press the volume down / up button to adjust Bass from -6 to +6. "0" represents a flat response.

Treble
Press the AUDIO SELECT button three times, then press the volume down / up button to adjust Treble from -6 to +6. "0" represents a flat response.
Balance
Press the AUDIO SELECT button four times, then press the Volume down / up button to adjust the balance between the right and left speakers from R12 (full right) to L12 (full left). “C00” Represents a center balance level between the right and left speakers.

Fader
Press the AUDIO SELECT button five times, then press the Volume down / up button to adjust the fader between the front and rear speakers from R12 (full rear) to F12 (full front). “C00” Represents a center fader level between the front and rear speakers.

7. IX-BASS BUTTON (IX-BASS)
Press & hold the IX-BASS button to activate the IX-BASS feature. When listening to music at low volume levels, this feature will boost the bass and treble ranges to compensate for the characteristics of human hearing. When this feature is activated, “IX-BASS On” will appear in the display momentarily. Press & hold the IX-BASS button again to select “IX-BASS Off”. The IX-BASS icon will appear and remain in the display when the IX-BASS feature is activated.

6. PRESET EQUALIZER BUTTON (EQ5)
The equalizer function applies preset sound effects to the unit’s audio output signal. Press & hold EQ5 button to enter into the EQ5 mode, then press the EQ5 button repeatedly to step through the following equalizer options: Off, Pop, Jazz, Classical, Beat and Rock. The equalizer options will appear in the display as they are accessed. When the equalizer function is activated, the most recently selected bass/treble levels can not be adjusted. When the equalizer function is not active, the unit will return to the most recently Selected bass and treble levels.

8. DISPLAY (DISP)
Press DISPLAY momentarily to navigate through the following animation options: EQ animation, Animation Display, PTM (personal text message) and back to the default display. The selected animation will appear in the display when the unit is turned on.
17. **MENU FUNCTION LIST (MENU)**

Press MENU for more than 3 seconds to access the menu. 'Menu' will appear in the display momentarily. Navigate the menu by pressing MENU momentarily to move forward to the next option. The menu can also be navigated by using the Tuning Up or Tuning Down Button to move to the next or previous option. Once the desired option appears in the display, adjust that option by press the volume down / up button within 5 seconds. The following options are adjusted through this menu feature.

**Contrast**
The contrast level of the display is set at 'CONTRAST 05' by default. Press the volume down/up button to adjust the contrast level from 00 to 10.

**Dimmer**
The dimmer feature of the display is set to 'DIMMER High' by default. Press the volume down/up button to turn the dimmer to the low setting.

**Clock Format**
This option allows selection of a 12 hour or 24 hour clock format. 'CLK FORMAT 12H' is the default setting. Press the volume down/up button to change to the 24 hour clock format.

**Time Set**
The time on the clock will be set to 12:00 as the default. Program the current time by Press the volume up button to adjust the minutes and counterclockwise press the volume down button to adjust the hours.

**AREA (TUNER FREQUENCY SPACING)**
This option allows the selection of the frequency spacing appropriate for your area. 'AREA Europe.' is the default setting. Press the volume down/up button to select the U.S.A. Latin America or Asia options.

**Programmable Turn-on Volume (VOL PGM)**
This option allows selection of the volume level the radio will automatically assume when first turned on. 'VOL PGM 12' is the default setting, which will turn the radio on at the volume level selected when the unit was last turned off.

To program a specific volume level for the radio to turn on at, press the volume down/up button to select 'VOLUME LEVEL'. Within 5 seconds.

**Beep Tone**
The beep tone feature allows the selection of an audible beep tone to be heard each time a button is pressed on the face of the radio. 'BEEP TONE On' is the default display. Press the volume down/up button to select the 'BEEP TONE Off' option.
Illumination Color (COLOR)
This option allows selection between two colors for the backlight illumination of the unit. "COLOR 1" is the default display and will illuminate the unit in blue backlight. Press the volume down/up button to select "COLOR 2", which will illuminate the display in red backlight.

Selectable Clock Display (CLK ON LCD)
When the selectable clock display feature is activated, the clock and default greeting note will appear in the display when the radio is turned off but the ignition switch is still on. "CLK ON LCD On" is the default display for this option. To select that the clock and greeting note be displayed when the unit is powered off, press the volume down/up button to select "CLK ON LCD Off".

Key Illumination On/Off (KEY LIGHT)
The Key Light on/off feature controls how the front panel buttons illuminate when the unit is turned off, but the ignition switch is on. When the Key Light feature is activated with the unit turned off and the ignition turned on, the front panel buttons will illuminate. When the Key Light feature is deactivated with the unit turned off and the ignition switch turned on, the front panel buttons will not illuminate.

Personal Text Message
Press the MENU button will see the "PTM" on the display. This will allow the user to input his favor greeting note on the display. The "INPUT MESSAGE" will be displayed by default. User is allowed to input max. 20 letters or symbols for the "PTM" to be displayed on the LCD.

When "PTM" is displayed on the display, Press "ENTER" button to start up the "PTM" enter procedure. Rotate the encoder volume to input A to Z 0-9, +/- ! etc. Press "ENTER" button to confirm the first letter input. Repeat the procedure enter the rest of the others letter input. If you want to change the inputted letters, you can press Tuning up/down button to move, the cursor backwards to change the inputted letters. If no more button pressing after 7 seconds the inputted letters will be automatically set as PTM. The previous PTM will be erased automatically once a new PTM is inputted.

Press "DISPLAY" button sequential (Frequency -> Spectrum -> Animation 1 -> Animation 2 -> PTM). The inputted Message will scrolling through the LCD continuously until a new operation of the unit has been inputted.
IGNITION OFF CLOCK RECALL
The user can recall to display the clock time by press DISPLAY button, even when ignition is off.

GREETING NOTE
There are three different greeting note displayed on LCD base on different condition.

1. When the unit is powered on, one of three greeting will display based on the time of day:
   Good Morning, Good Afternoon or Good Evening.
2. When the unit is powered off but the ignition remains on, the LCD will scroll through the
   following messages if the selectable clock display feature is activated: “Enjoy Driving! Have
   a Safe Trip!”
3. When the ignition is turned off, the message “See you! Have a nice day!” will be displayed
   Before the unit turns off completely.

GOOD MORNING
GOOD AFTERNOON
ENJOY DRIVING!
HAVE A NICE DAY!
6. TUNER OPERATION

9. BAND BUTTON (BAND/SEARCH)
   Press BAND to change between FM bands and AM(MW) bands. Each band stores up to 6 preset stations.

11. TUNING UP/DOWN BUTTON (<< >>)
   Manual Tuning
   Press the Up Tuning or Down Tuning button for more than 3 seconds to move the radio frequency number up or down one step.

   Auto Seek Tuning
   Press the Up Tuning or Down Tuning button for less than 3 seconds to move to next station automatically.

12. PRESET STATIONS BUTTON
    Six numbered preset buttons store and recall stations for each band.

    Store a Station
    Select a band (if needed), then select a station. Hold a preset button for 3 seconds. The preset number will appear in the display.

    Recall a Station
    Select a band (if needed). Press a preset button to select the corresponding stored station.

13. AUTOMATICALLY STORE / PRESET SCAN (AS/PS)
    Automatically Store
    Automatically select 6 strong stations and store them in the current band. Select a band (if needed). Press AS/PS button for more than three seconds. The new stations replace stations already stored in that band.

    Preset Scan
    Scan stations stored in the current band. Select a band (if needed). Press AS/PS button for less than 3 seconds. The unit will pause for ten seconds at each preset station. Press AS/PS button again to stop scanning when the desired station is reached.

    STEREO
    The unit will automatically pick up a stereo signal, when available. When in stereo mode, the ST icon appears in the display. When no stereo signal is available, the unit will automatically revert to mono operation, and no icon will be displayed.

16. LOCAL/DISTANCE BUTTON (LO/DX)
    This feature is used to designate the strength of the signals at which the radio will stop during automatic tuning. "Distance" is the default, allowing the radio to stop at a broader range of signals. To set the unit to select only strong local stations during automatic tuning, press this button until "Local" appears in the display.
7. CD PLAYER OPERATION

INSERT AND EJECT CD
Insert a CD label-side up with the unit turned on, and the disc will begin to play. Press the Eject button to stop CD play and eject the CD. The unit does not have to be turned on to eject the CD.

PAUSE BUTTON (PAU)
Press the pause button to suspend disc play. Press the pause button again to resume disc play.

TRACK SELECT
Press the Up Tuning or Down Tuning button ( ▼ ▲ ) for less than one second to advance to the next track on the CD. The selected track number will appear on the display. Press and hold the Up Tuning or Down Tuning button ( ▼ ▲ ) for more than one second to fast forward or fast reverse through the disc. CD play starts when the button is released.

REPEAT BUTTON (RPT)
Press REPEAT BUTTON (RPT) during disc play to continuously repeat the track. Press REPEAT BUTTON (RPT) again to stop Repeating.

RANDOM BUTTON (RDM)
Press RANDOM BUTTON (RDM) during disc play to play all tracks on a CD in random, shuffled order. Press RANDOM BUTTON (RDM) again to stop random play.

INTRO SCAN BUTTON (INT)
During disc play, press INTRO SCAN BUTTON (INT) to play the first 10 seconds to each track on the disc. When the desired track is reached, press INTRO SCAN BUTTON (INT) again to end the scan and play the selected track.
8. RDS OPERATION

RDS functions
The unit is equipped with the following RDS function:
- AF Alternative Frequencies
- CT Clock Time
- EON Enhanced other Network
- PI Program identifications
- PS Program service name
- PTY Program Type
- REG Regional Change
- TA Traffic Announcement
- TP Traffic program

1. AF Function
By pressing AF button < 3 seconds to select AF ON/OFF. “AF ON” or “AF OFF” will show & remain on the LCD segment for 5 seconds. Under AF “ON” mode, if the tuned in station signal is getting weak, the unit will automatically switches to a different frequency on the same network with stronger signal.

Note1: Regardless of AF & TA is ON or Off, from MW Tuner mode switches to CDP/CDC/AUX modes, the unit auto switched to FM mode.
Note2: Factory Default setting is “AF ON”

2. TA Function
By pressing TA button < 3 seconds, turn switch on TA standby mode. “TA ON” will show & remain on the LCD segment for 5 seconds & the TA icon will light up on the LCD. In the stand by mode, when a traffic announcement broadcast starts, the traffic announcement broadcast will be received as top priority regardless of the function mode. When a traffic announcement starts, “TRAFFIC INFO” will show on the LCD, press the TA button can cancelled the broadcast reception while a traffic announcement broadcast is being received. The unit will go back to the previous mode and TA goes into stand by mode again. When the TP icon is not light up for 60 seconds. A beep Alarm tone is heard and the LCD will show “Lost TP, TA”. TA seek will automatic activate and searches to another TA station.

Note1: TA auto seek mode will only operate when TA seek is switched “ON” in the RDS menu.
Note2: TA interrupt does not function when in MW mode.
Note3: From MW mode switches to CDP. The unit automatic switches to FM mode. And if user switched mode from CDP back to tuner mode. The unit is remained on FM mode not at AM mode. This function is activated only under TA was switched on. If under TA “Off” mode, switches CDP back to Tuner mode. It is remained on MW mode.
Note4: Regardless AF & TA ON or Off. From MW Tuner mode switches to CDP modes. The unit auto switched to FM mode.

3. PTY Function
Pressing PTY button < 3 seconds to goes into PTY select mode. “PTY” icon will light up on the LCD. The user now has 5 seconds to select the desired PTY item by using volume up/down button. Once selected the PTY item, user have 5 seconds to press “SELECT” or “TUNE UP or TUNE DOWN” buttons < 3 seconds to seek for the selected PTY item. The LCD will display “PTY SEEK”. If no station with the selected PTY broadcast can be received, the LCD will display “No Match PTY” and blinks for 5 seconds then returns to the previous mode.
User can store his favor PTY into the preset memory M1 to M6. After selected a PTY item, long press any one of the preset memory button can store the selected PTY. To recall the stored PTY item by switching on PTY mode then press preset memory < 3 seconds, the unit will automatically search the stored PTY station in the preset memory.

<table>
<thead>
<tr>
<th>Music Group</th>
<th>Speech Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>POP, ROCK</td>
<td>NEWS, AFFAIRS, INFO</td>
</tr>
<tr>
<td>EASY, LIGHT</td>
<td>SPORT, EDUCATE, DRAMA</td>
</tr>
<tr>
<td>CLASSICS, OTHER</td>
<td>CULTURE, SCIENCE, VARIED</td>
</tr>
<tr>
<td>JAZZ, COUNTRY</td>
<td>WEATHER, FINANCE, CHILDREN</td>
</tr>
<tr>
<td>NATION, OLDIES</td>
<td>SOCIAL, RELIGION, PHONE IN</td>
</tr>
<tr>
<td>FOLK</td>
<td>TRAVEL, LEISURE, DOCUMENT</td>
</tr>
</tbody>
</table>

Note: Factory default stored for PTY preset memory.

4. RDS MENU
To access the RDS-MENU press the SELECT button > 3 seconds. The following list of features can be selected:
- Auto Seek All / RDS
- TA Seek On / Off
- TA Volume 0-40 (default 18)
- Regional On / Off

Steps to access Menu items:
1) To access the RDS MENU press the SELECT button > 3 seconds.
2) “RDS-MENU” will be displayed on display for 2 seconds, and then “Auto Seek” appears on display.
3) To navigate through the MENU use the >> | or |<< buttons to navigate down or up through the menu items. Or Press SELECT BUTTON repeatedly to view the menu item sequential.
4) Use the Volume up/down button to adjust the selected menu item.
5) After the selected menu item(s) has been changed and no other operation have been made, a 5 second time-out will resume the head unit to the previous mode.
Features description of RDS-Menu Items:

- **Auto seek RDS/All**
  Auto Seek “RDS” will be displayed by default. The user now has 5 seconds to adjust by using volume up/down from “RDS” to “ALL”. If “ALL” is selected, during the Auto Seek tuning mode, the unit will stop at all radio station including Non RDS station regardless AF and TA is switched on. If “RDS” was selected and the AF is on, during the Auto Seek tuning mode. The unit will stop at only RDS station.

- **TA seek On/Off**
  TA Seek “On” will be displayed by default. The user now has 5 seconds to adjust by using volume up/down from “On” to “Off”. If selected “On” mode, when a received station does not have TP information for 60 seconds, the unit automatic search to next station which does not have the same station (PI), but has the TP information. When a TP information get lost at the current station over the default retune time (60 seconds), the unit start to search to next same PI station. When the same PI station does not catch in 1 cyclic search, the unit retunes to next station with TP information.
  If “Off” is selected, when a received station dose not have TP information for 60 seconds, a Double Beep Sound (Alarm) is output and the LCD will be displayed “Lost TP TA” but the retune mode is not activated.

  **Note:** This function only activate when “TA” switches on mode.

- **TA Volume**
  TA Volume “18” will be displayed by default. The user now has 5 seconds to adjust by using volume up/down button from “0-40”. When TA function is activated, if a TA program is tuned in at the volume level set regardless of the volume of the other source at the time. Note: When the unit tuned into a TA program. The volume level can only be increased but cannot be decreased.

- **Regional On/Off**
  REGIONAL “OFF” will be displayed by default. The user now has 5 seconds to adjust by using volume up/down button from “off” to “On”. If “on” is selected when the AF search or PI seek, it will implement to station which have all the PI codes which are the same as current station. If “off” is selected, when AF search or PI seek the regional code in the format PI code will be ignored. A regional station is possible to be received.

  **Note:** The Regional function On/Off Setting is valid when the “AF” function is “on”
9. MP3/WMA OPERATION

MP3 and WMA (Windows Media Audio) music files are digital audio files that are compressed to allow more files on a single CD. This unit can play MP3/WMA directly from files contained on a CD-R/RW using the buttons on the receiver. Depending on the media type and recording method, some CD-R/RW's may be incompatible with this unit. The unit supports playback of MP3/WMA and CDDA (CDA), Mixed-Mode CDs and CD-Extra (including multisession discs), but discs on which the session has not been closed will not play.

**Notes on MP3/WMA Play**

This unit can play MP3 (MPEG1, 2, 2.5 Audio Layer 3). However, the MP3 recording media and accepted formats are limited. When writing MP3/WMA, pay attention to the following restrictions.

**Acceptable Media**

The MP3/WMA recording media acceptable to this unit are CD-ROM, CD-R and CD-RW. When using CD-RW, use full format rather than quick format to prevent malfunction.

**Acceptable Medium Formats**

The following formats are available for the media used in this unit. The maximum number of characters used for file name including the delimiter (".") and three-character extension are indicated in parentheses.

- ISO 9660 Level 1 (11 characters)
- ISO 9660 Level 2 (31 characters)
- Joliet (31 characters)
- Romeo (31 characters)

Up to 200 characters can be displayed in the long file name format. For a list of available characters, see the instruction manual of the writing software and the section "Entering File and Folder Names" below. The media reproducible on this unit has the following limitations:

- Maximum number of nested folders: 8
- Maximum number of files per disc: 999
- Maximum number of folders per disc: 255

MP3/WMA written in the formats other than the above may not be successfully played and their file names or folder names may not be properly displayed.

**MP3/WMA Encoder and CD Writer Settings**

Use the following settings when compressing audio data in MP3 data with the MP3 encoder.

- Transfer bit rate: 32 - 320 kbps
- Sampling frequency: 32, 44.1, 48 kHz (WMA) 16, 22.05, 24, 32, 44.1, 48kHz (MP3)

When using a CD writer to record MP3/WMA up to the maximum disc capacity, disable additional writing. For recording on an empty disc up to the maximum capacity at once, check disc at once.

**Entering ID3 Tag**

This unit supports ID3 tag versions 1.0 and 1.1. The unit also supports CD-TEXT encoded discs for Album, Track and Artist Title information.

**Entering File and Folder Names**

Names using the code list characters are the only file names and folder names that can be entered and displayed. Using any other character will cause the file and folder names to be displayed incorrectly. The unit recognizes and plays only files with the MP3/WMA extension.

*Note: A file name entered with characters not on the code list may not play correctly.*
Writing Files into a Medium

When a medium containing MP3/WMA data is loaded, the unit checks all data. If the medium contains many folders or non-MP3/WMA files, MP3/WMA play will be delayed, it may take time for the unit to move to the next file, and searches may not be performed smoothly. Loading such a medium may produce loud noise and cause damage to the speakers. **Do not attempt to play a medium containing a non-MP3/WMA file with the MP3/WMA extension or a medium containing non MP3/WMA files.**

Electronic Shock Protection

- 40 seconds for CDDA (CDA)
- 120 seconds for MP3 recorded at 44.1kHz, 128kbps
- 200 seconds for WMA recorded at 44.1kHz, 128kbps

Bit Rates

The unit supports bit rates from 32 - 320 kbps.

MP3 Playing Order

When selected for play, Folder Search, File Search or Folder Select, files and folders are accessed in the order in which they were written by the CD writer. Because of this, the order in which they are expected to be played may not match the order in which they are actually played. You may be able to set the order in which MP3/WMA are to be played by writing them onto a medium such as a CD-R with their file names beginning with play sequence numbers such as '01' to '99'. For example, a medium with the following folder/file hierarchy is subject to Folder Search, File Search or Folder Select as shown below.

- An outline of a CD-ROM with MP3/WMA is shown below. Subfolders are shown as folders in the folder currently selected.

```
ROOT
   1 LEVEL
     01
     02
     03
     04
     05
     06
     07
     08
     09
   2 LEVEL
     001.MP3
     002.MP3
     003.MP3
     004.MP3
     NOT DISPLAY
     005.MP3
     006.MP3
     007.MP3
     008.MP3
     009.MP3
     010.MP3
     011.MP3
     012.WMA
     013.WMA
     014.WMA
     015.MP3
     016.MP3
     017.MP3
     018.MP3
     019.MP3
     020.MP3
     021.WMA
     022.WMA
     023.WMA
     NOT DISPLAY
     NOT DISPLAY
     NOT DISPLAY
     NOT DISPLAY
   3 LEVEL
     NOT DISPLAY
   4 LEVEL
     NOT DISPLAY
```

- The equipment assigns folder numbers. The user can not assign folder numbers.
- It is not possible to check folders that do not include MP3/WMA files. (These folders will be skipped without displaying the folder number and name)
FILE/FOLDER PLAY

There are three different play methods as following:

File/Folder Intro play:
- Press M2 button more than 3 seconds during playing MP3/WMA disc for “intro play” all files of the current folder. Intro play should restart from the first song of the current folder, after all files in the current files have been intro-played.
  To disable current folder “intro play”, long press M2 button more than 3 seconds
- Press M2 button less than 3 seconds is “intro play” all files on the disc. Intro play should re-start at the very first file of the disc after all files in the disc has been intro played.
  To disable all files “intro play”, press M2 button less than 3 seconds

File/Folder Repeat play:
- Press M3 button more than 3 seconds during playing MP3/WMA disc for “repeat play” all files of the current folder. And keep on repeat playing the current folder until “repeat play” is disabled.
  To disable current folder “repeat play”, long press M3 button more than 3 seconds
- Press M3 button less than 3 seconds to “repeat play” the current file. And keep on repeat Playing the current file until the “repeat play” is disabled.
  To disable current file “repeat play”, press M3 button less than 3 seconds

File/Folder Random play:
- Press M4 button more than 3 seconds during playing MP3/WMA disc to “random play” all files of the current folder.
  To disable current folder “random play”, long press M4 button more than 3 seconds
- Press M4 button less than 3 seconds is “random play” all files on the disc.
  To disable all file “ random play”, press M4 button less than 3 seconds.
MP3/WMA FILE OR FOLDER SEARCHING (volume down/up button)
The unit allows end user have three different method for the file / folder searching.

1) Direct file number searching. "014 MP3 file"
Press MP3 search button (Band button) **once**
LCD will display “number search”, Press “Audio Select” key or press volume down/up button
to enter the “Number search”.
Press volume down up button until “014”
Long Press MP3 enter button (Audio Select button) to confirm & play file “014”

2) Folder /files Navigate searching. Folder “06” & File “016 MP3”
During MP3 or WMA files playback, press MP3 search button (Band Button) **twice**
LCD will display “Navigate search”, Press “Audio Select” key or press volume down/up button
to enter the “Navigate search”.
Press volume down/up button until LCD displayed “06”,
Short Press MP3 enter key (Audio Select Button) to go into folder “06”
(Note: If MP3 enter key is press more than 3 seconds. The first file “015.MP3” will start
playing) The “015.MP3” file will be displayed on the LCD,
Press volume down/up button until LCD displayed “016 MP3”
(Note: Press the “AS/PS” button will allow a quick return back to folder “06” or press volume up
button backward to “06”
Long press MP3 enter key (Audio select Button) to confirm play “016 MP3” file

The Folder Navigate sequence on Display is like following;

3) Direct alphabetical input searching . Folder “06” & File “016 MP3”
During MP3 or WMA files playback, press MP3 search button (band button) **three times**
LCD will display “alphabet search” ,Press “Audio Select” key or press “volume down/up button”
to enter the Alphabetical search.
Press volume down / up to input “06”
Press volume button to “0” and short press “Audio Select” to input next “6” by press volume
button.
(Note: Track up/down button use as the cursor to move to the next or the previous alphabet
input.)
Long press “Audio select” key to confirm the input of “06” and “06” will be display on the LCD.
Short press MP3 enter key (Audio select button) to go into folder “06”.
Press volume down/up button will able to navigate through “015 MP3” -> “016 MP3”
Long Press “Audio Select” key to confirm to play “016 MP3”.

E - 20
ID3 INFORMATION DISPLAY
If any MP3/WMA file recording with ID3 Tag information. The ID3 information such like Album title, Track title, Artist Title will be displayed and automatic scrolling through the LCD while the file is playing. User also allows pressing the AS/PS button repeatedly to view the ID3 tag information manually.

NOTE OF ID3 ICONS ON DISPLAY

<table>
<thead>
<tr>
<th>ICON</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>📄</td>
<td>FOLDER ICON</td>
</tr>
<tr>
<td>📄</td>
<td>FILE ICON</td>
</tr>
<tr>
<td>🎵</td>
<td>TRACK ICON</td>
</tr>
<tr>
<td>🎵</td>
<td>ARTIST ICON</td>
</tr>
<tr>
<td>🎵</td>
<td>ALBUM ICON</td>
</tr>
</tbody>
</table>
### 10. SPECIFICATIONS

#### CD PLAYER

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Compact disc audio system</td>
</tr>
<tr>
<td>Usable disc</td>
<td>Compact disc</td>
</tr>
<tr>
<td>Sampling frequency</td>
<td>44.1KHz</td>
</tr>
<tr>
<td>No of quantization bits</td>
<td>1bit</td>
</tr>
<tr>
<td>Frequency</td>
<td>5-20,000Hz</td>
</tr>
<tr>
<td>Number of channels</td>
<td>2 stereo</td>
</tr>
<tr>
<td>S/N Ratio</td>
<td>70dB</td>
</tr>
</tbody>
</table>

#### RADIO SECTION

**FM**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>87.5-108 Mhz</td>
</tr>
<tr>
<td>Intermediate Frequency</td>
<td>10.7 MHz</td>
</tr>
<tr>
<td>Usable Sensitivity</td>
<td>Better than 15dB at S/N 30 dB</td>
</tr>
<tr>
<td>Stereo Separation</td>
<td>25 dB at 1KHz</td>
</tr>
<tr>
<td>S/N Ratio</td>
<td>50 dB</td>
</tr>
</tbody>
</table>

**AM/MW**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>522-1620 KHz</td>
</tr>
<tr>
<td>Intermediate Frequency</td>
<td>450KHz</td>
</tr>
<tr>
<td>Usable Sensitivity</td>
<td>Better than 45dB</td>
</tr>
<tr>
<td>S/N Ratio</td>
<td>40 dB</td>
</tr>
</tbody>
</table>

#### GENERAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>DC 11 -14V</td>
</tr>
<tr>
<td>Polarity</td>
<td>Negative Ground</td>
</tr>
<tr>
<td>Speaker impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Power Output</td>
<td>4 x 40W</td>
</tr>
</tbody>
</table>

**REMARK:**

Specifications subject to change without notice.
11. TROUBLE SHOOTING

Before going through the check list, check wiring connection. If any of the problems persist after check list has been made, consult your nearest service dealer.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No power</td>
<td>The car ignition is not on.</td>
<td>If the power supply is properly connected to the car accessory terminal, switch the ignition key to “ACC”</td>
</tr>
<tr>
<td></td>
<td>The fuse is blown.</td>
<td>Replace the fuse.</td>
</tr>
<tr>
<td>Disc cannot be loaded or ejected</td>
<td>Presence of CD disc inside the player.</td>
<td>Remove the disc in the player, then put a new one.</td>
</tr>
<tr>
<td></td>
<td>Inserting the disc in reverse direction.</td>
<td>Insert the compact disc with the label facing upward.</td>
</tr>
<tr>
<td></td>
<td>Compact disc is extremely dirty or defective disc.</td>
<td>Clean the disc or try to play a new one.</td>
</tr>
<tr>
<td></td>
<td>Temperature inside the car is too high.</td>
<td>Cool off or until the ambient temperature returns to normal.</td>
</tr>
<tr>
<td></td>
<td>Condensation</td>
<td>Leave the player to off for an hour or so, then try again.</td>
</tr>
<tr>
<td>No sound</td>
<td>Volume is in minimum.</td>
<td>Adjust volume to a desired level.</td>
</tr>
<tr>
<td></td>
<td>Wiring is not properly connected.</td>
<td>Check wiring connection.</td>
</tr>
<tr>
<td>The operation keys do not work</td>
<td>The built-in microcomputer is not operating properly due to noise.</td>
<td>Press the RESET button.</td>
</tr>
<tr>
<td></td>
<td>Front panel is not properly fixed into its place</td>
<td></td>
</tr>
<tr>
<td>Sound skips.</td>
<td>The installation angle is more than 30 degrees.</td>
<td>Adjust the installation angle to less than 30 degrees.</td>
</tr>
<tr>
<td></td>
<td>The disc is extremely dirty or defective disc.</td>
<td>Clean the compact disc. Then try to play a new one.</td>
</tr>
<tr>
<td>The radio does not work.</td>
<td>The antenna cable is not connected.</td>
<td>Insert the antenna cable firmly.</td>
</tr>
<tr>
<td></td>
<td>The signals are too weak.</td>
<td>Select a station manually.</td>
</tr>
<tr>
<td>ERROR 1</td>
<td>Mechanism Error</td>
<td>Press the reset button to correct the problem. If the error code does not disappear, consult your nearest service dealer.</td>
</tr>
<tr>
<td>ERROR 2</td>
<td>Servo Focus Error</td>
<td>Press the reset button to correct the problem. If the error code does not disappear, consult your nearest service dealer.</td>
</tr>
<tr>
<td>ERROR 3</td>
<td>Servo Tracking Error</td>
<td>Press the reset button to correct the problem. If the error code does not disappear, consult your nearest service dealer.</td>
</tr>
<tr>
<td>No File</td>
<td>No file Format supports for Playback on the disc</td>
<td>Replace the disc.</td>
</tr>
<tr>
<td>Disc Error</td>
<td>Maybe disc dirty / disc scratched / disc upside down.</td>
<td>Replace the disc.</td>
</tr>
</tbody>
</table>