MUTANT

MT2108

Operating and Installation Guide

CE

LOCATIONS OF CONTROLS
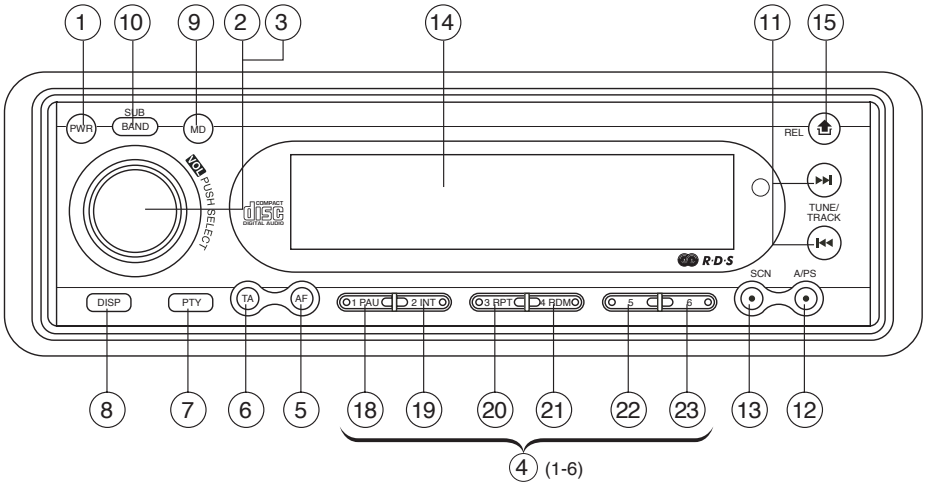
1. POWER ON/OFF (PWR)
2. FUNCTION SELECT BUTTON: BASS/TREBLE/BALANCE/
   FADER / TA SEEK/MASK DPI/RETUNE L/S /AUDIO DSP/
   LOUDNESS/ESP/BEEP/SEEK/STEREO/LOCAL/VOL LAST
3. VOL UP/VOL DOWN FOR BASS/TREBLE/BALANCE/FADER
4. PRESET STATIONS (1,2,3,4,5,6)
5. 'AF' function (ALTERNATIVE FREQUENCIES)
6. 'TA' function (TRAFFIC ANNOUNCEMENT)
7. 'PTY' function (PROGRAM TYPE)
8. DISPLAY BUTTON (DISP)
9. MODE BUTTON (MD)
10. BAND/SUBWOOFER BUTTON (BAND/SUB)
11. AUTOMATIC OR MANUAL TUNING
    (FREQ UP ▶▶ OR FREQ DOWN ◀◀)/
    CD TRACK/SEARCH BUTTON
12. AUTO SEEK SEARCH TUNING (A/PS)
13. 'SCAN' AUTOMATIC TUNING CONTROL (SCN)
14. LCD DISPLAY
15. OPEN PANEL RELEASE BUTTON (▲)
16. CD SLOT
17. CD EJECT BUTTON (▲)
18. PAUSE BUTTON
19. INTRO BUTTON (Preview all Tracks)
20. REPEAT BUTTON
21. RANDOM BUTTON
22, 23. + 10 TRACK SEARCH DOWN/UP
24. RESET BUTTON

E-1
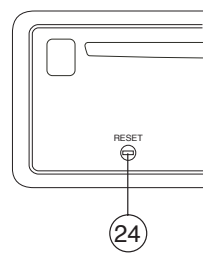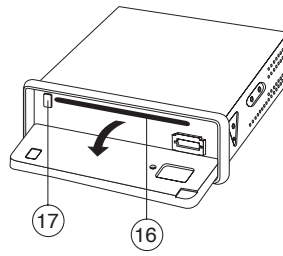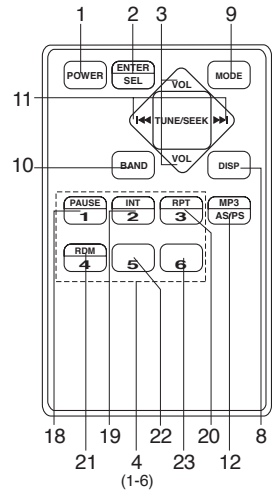
INSTALLATION
PRECAUTIONS
- Choose the mounting location carefully so that the unit will not interfere with the normal driving functions of the driver.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.
- Be sure to remove the front panel before installing the unit.

Mounting angle adjustment
Adjust the mounting angle to less than 20°.

MOUNTING EXAMPLE
Installation in the dashboard
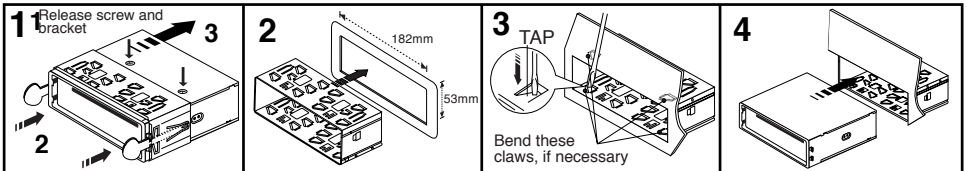
Note: Keep the release key in a safe place as you may need it in the future to remove the unit from the car.

Detaching and attaching the front panel
The front panel of this unit can be detached in order to prevent the unit from being stolen.

FOLDING DOWN AND DETACHING/ATTACHING THE FRONT PANEL
Before detaching the front panel, be sure to press the **PWR** button (1) OFF first.
Then press the ▲ button (15), let the Front Panel arrive in horizontal position and detach the panel by pulling it towards you as illustrated.
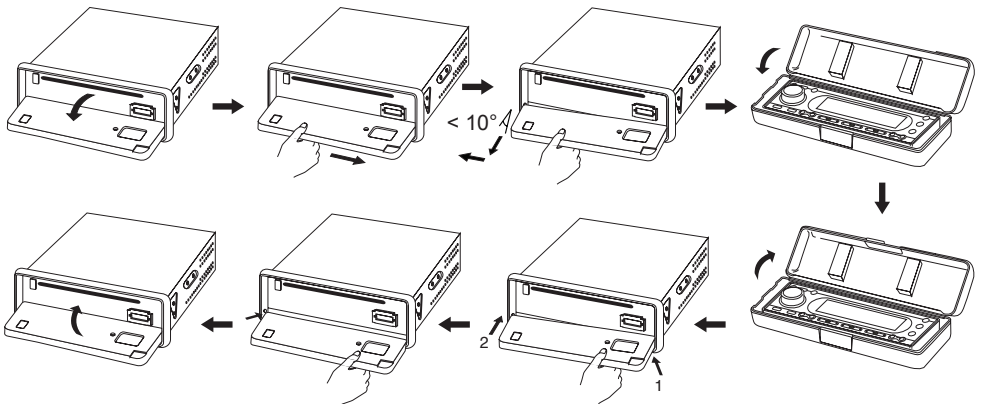
Notes:
- Do not press the front panel hard against the unit when attaching it. It can be easily attached by pressing it lightly against the unit.
- When you carry the front panel with you, put it in the supplied front panel case.
- Do not press hard or give excessive pressure to the display window of the front panel when attaching it to the unit.

TO SUPPORT THE UNIT

Dashboard

1. UNIT
2. RELEASE CASE
3. DASH BOARD
4. HEX NUT
5. LOCK WASHER
6. PLAIN WASHER
7. CAR BODY
8. REAR SUPPORT STRAP
9. TAPPING SCREW
10. M5 X 15 HEX BOLT
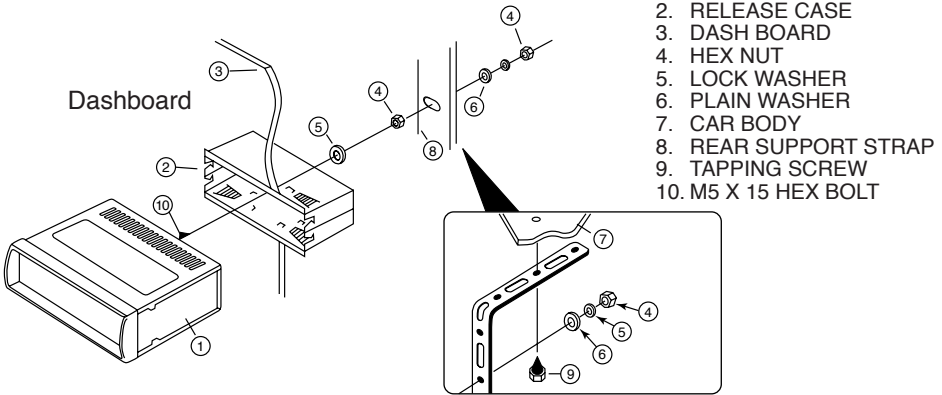
ISO CONNECTOR

RCA Jack Line Out (Front): Red (right)   White (left)
RCA Jack Line Out (Rear): Red (right)   White (left)
RCA Jack Line In: Red (right)   White (left)
Subwoofer: Orange

CONNECTOR A

1.
2.
3.
4. MEMORY +12V
5. AUTO ANTENNA OUTPUT
6.
7. +12V (TO IGNITION KEY)
8. GROUND

Note: (connector A no. 7) must be connected by car ignition key in order to avoid that car battery being drained when the car will be not used for long period.

CONNECTOR B

1. REAR RIGHT SPEAKER (+)
2. REAR RIGHT SPEAKER (-)
3. FRONT RIGHT SPEAKER (+)
4. FRONT RIGHT SPEAKER (-)
5. FRONT LEFT SPEAKER (+)
6. FRONT LEFT SPEAKER (-)
7. REAR LEFT SPEAKER (+)
8. REAR LEFT SPEAKER (-)

Maintenance
FUSE REPLACEMENT
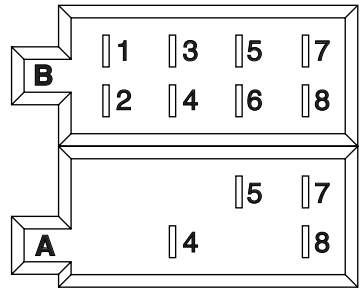If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after the replacement, there may be an internal malfunction. In this case, consult your nearest repair center.

Warning
Use the specified amperage fuse for each lead. Use of a higher amperage fuse may cause serious damage.

OPERATING INSTRUCTIONS

1. POWER ON/OFF
By pressing this key, the unit is switched on or off.
This unit is turned on by pressing any key.

2. SELECT
3. VOLUME UP/DOWN
Turning the VOL knob Right or Left (3), you can adjust VOL/BASS/TREB/BAL/FAD. To select other functions, press the VOL knob shortly until the desired functions is shown on the display. Figure 1 shows how control functions are selected using the VOL knob.
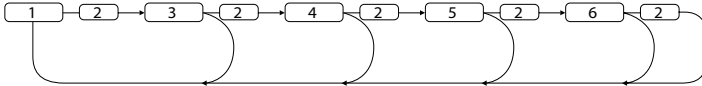

Fig. 1 Selection of sound control functions

1. VOL   2. SEL   3. BAS   4. TRE   5. BAL   6. FAD

Turning the VOL knob Right or Left. Increase or decrease the volume by turning (VOL) or (VOL) . These buttons can be used to adjust the BASS, TREBLE, BALANCE and FADER.

TA SEEK/TA ALARM (2)
When press the SEL button for more than 2 seconds, it is activated as selecting mode of these function.
TA SEEK Mode or TA ALARM mode is selected by (VOL) or (VOL) .

- TA SEEK mode:
When newly turned station does not receive TP information for 5 sec., the radio retunes to next station which has not the same station (PI) as the last station, but has the TP information.
In TA seek mode, the current station can be changed to the completely different station because the unit searches TP station when the field strength of the current station is very weak, or the current station has no TP signal.
- TA ALARM mode:
Any automatic retune mode is not activated, just can hear Beep sound.

MASK DPI (2)
When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

MASK DPI: masked only the AF which has different PI.
MASK ALL: masked the AF which has different PI and NO RDS signal with field strength.

RETUNE L / S CONTROLS (2)
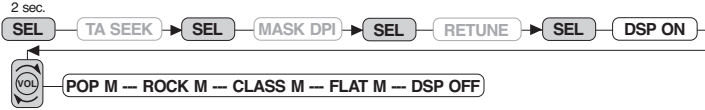When press the VOL knob for more than 2 seconds, it is activated as selecting Retune mode.
RETUNE L: Select 90 seconds as the initial time of automatic TA search.
RETUNE S: Select 30 seconds as initial time.

AUDIO DSP CONTROLS (2)
When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP ON

VOL → POP M --- ROCK M --- CLASS M --- FLAT M --- DSP OFF

LOUDNESS CONTROLS (2)
When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP → SEL → LOUD → VOL → ON/OFF

LOUD ON/OFF mode is selected by VOL or VOL . The bass and treble response will be boosted.

ESP MODE (2)
When press the VOL knob for more than 2 seconds, it is activated as 12 sec. or 45 sec. of ESP mode can be selected.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP → SEL → LOUD → SEL → ESP

VOL → ESP12 / ESP 45

Note: 12 sec./45 sec. for CD, 120 sec. for MP3 automatically works.

BEEP MODE (2)
When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP → SEL → LOUD → SEL → ESP

SEL → BEEP → VOL → ON/OFF

BEEP ON: BEEP sound can be heard from speaker when the buttons are pressed.

SEEK MODE (2)
When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP → SEL → LOUD → SEL → ESP

SEL → BEEP → SEL → SEEK → VOL → SEEK1 / SEEK 2
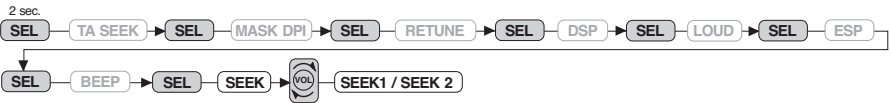
SEEK 1: When SEEK 1 mode is activated, AUTO SEEK SCAN is stopped when station is detected even user still push SEEK button.
SEEK 2: Auto SEEK SCAN is not stopped even station is detected if user push SEEK button. When release this SEEK button, then stop when station is detected.

STEREO/MONO (2)

When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP → SEL → LOUD → SEL → ESP

SEL → BEEP → SEL → SEEK → SEL → STEREO → (VOL) → STEREO/MONO

When FM stations are weak and are disturbed, listening can be improved by selecting MONO.

LOCAL/DX (2)

When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP → SEL → LOUD → SEL → ESP

SEL → BEEP → SEL → SEEK → SEL → STEREO → SEL → LOCAL → (VOL) → LOCAL/DX

"Local" position in areas with strong signals to let radio stop at only strong stations during manual tuning (LOC appears). Select Distant position in areas with weak signals to listen to all stations.

VOL LAST/ADJUST (2)

When press the VOL knob for more than 2 seconds, it is activated as selecting mode of these function.

2 sec.
SEL → TA SEEK → SEL → MASK DPI → SEL → RETUNE → SEL → DSP → SEL → LOUD → SEL → ESP

SEL → BEEP → SEL → SEEK → SEL → STEREO → SEL → LOCAL → SEL → VOL LAST → (VOL) → VOL LAST / VOL ADJ
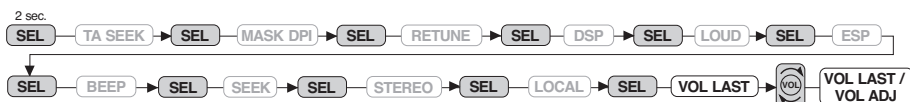
VOL LAST: The volume level which user adjust lately is selected whenever power is ON and OFF.
VOL ADJ: The initial volume level (user can adjust) is selected whenever power is ON and OFF.

4. PRESET STATIONS (1,2,3,4,5,6)
(A) RADIO MODE:
When pressed momentarily, these keys select a preset station directly. When pressed longer than 1 sec., current station is stored in preset memory bank. When PTY mode is selected, the PTY switch is shared as follows:
PTY music group ---- PTY speech group ---- OFF

MUSIC	SPEECH
1. POP M, ROCK M	1. NEWS, AFFAIRS, INFO
2. EASY M, LIGHT M	2. SPORT, EDUCATE, DRAMA
3. CLASSICS, OTHER M	3. CULTURE, SCIENCE, VARIED
4. JAZZ, COUNTRY	4. WEATHER, FINANCE, CHILDREN
5. NATION M, OLDIES	5. SOCIAL, RELIGION, PHONE IN
6. FOLK M	6. TRAVEL, LEISURE, DOCUMENT

(B) CD/MP3/WMA PLAYER MODE:
1. PAUSE   2. INT   3. RPT   4. RDM

USING THE RDS FUNCTION
What is RDS?
The RDS (Radio Data System) is a digital information system developed by the EBU (European Broadcast Union). Piggy-backed on normal FM broadcasts, RDS offers a variety of information services and automatic retuning functions for RDS-compatible car stereos.
In 1988, RDS became available in the United Kingdom, France, West Germany, Ireland and Sweden. Test transmissions are being conducted in many other European countries. It is expected that RDS will be available in most western European countries in the near future.

5. **'AF/REG' function (ALTERNATIVE FREQUENCIES)**
When pressed momentarily, AF/REG switching mode is selected.
When AF/REG switching mode is selected, the radio checks the signal strength of the AF all the time. When pressed long, it is activated as regional mode ON/OFF.
– Regional mode ON:
AF switching or PI SEEK is implemented to the station which have all PI codes same as current station. REG segment is turned on, in LCD display.
– Regional mode OFF
The regional code in the format of PI code is ignored when AF switching or PI SEEK is implemented.

6. **'TA' function (TRAFFIC ANNOUNCEMENT)**
When pressed momentarily, it is activated as TA mode on or off
When TA mode is on and traffic announcement is transmitted
– When the unit is in CD/MP3 mode, it will switch to radio mode temporarily.
– If the volume level was under the threshold point, it will be raised to the threshold point.
– When TP station is received, TP segment is turned on in LCD display.

7. **'PTY' function (PROGRAM TYPE)**
PTY MUSIC ---- PTY SPEECH ---- PTY OFF
While selecting PTY type, its selection is implemented by preset buttons as described in preset key. When PTY is selected, the radio starts to search corresponding PTY information, and stops if the corresponding PTY information is detected.

8. **DISPLAY (DISP)**
When this key is pressed, it is operated as the conversion of each display mode as follow.
1) In case of receiving RDS station.
RADIO MODE
PS ---- CT ---- FREQ ---- PTY
CD/MP3 PLAYER MODE
CDP ---- CT ---- PS ---- FREQ ---- PTY
2) In case of receiving NON RDS station
RADIO MODE
FREQ ---- CLOCK ----NO PTY
CD/MP3 PLAYER MODE
CDP ---- FREQ ---- CLOCK ---- NO PTY
Each display time is several seconds, and come back to 1'st position after several seconds.
Notes: • **CT** = clock time   • **FREQ** = frequency   • **CDP** = CD player

9. **MODE BUTTON (MD)**
By pressing this key, user can select. AUX/TUNER/CD-MP3 mode.

10. **BAND/SUBWOOFER BUTTON (BAND/SUB)**
Each band is toggled cyclically by pressing this key FM1---FM2---FM3---MW1---MW2.
SUBWOOFER: Press and hold button to engage subwoofer output.

11. **AUTOMATIC OR MANUAL TUNING (FREQ UP ▶▶ OR FREQ DOWN ◀◀)**
(A) RADIO MODE
When pressed momentarily, these keys are operated as MANUAL tuning mode.
When pressed longer than 1 sec., they are operated as SEEK tuning mode.
(B) CD/MP3/WMA PLAYER MODE
When pressed momentarily, they are operated as TRACK UP or TRACK DOWN mode.
When pressed longer than 1 sec., they are operated as CUE or REVIEW mode.

12. AUTO SEEK SEARCH TUNING (A/PS)

By pressing shortly, the radio searches for each preset station.
When field strength level is bigger than the threshold level of stop level, the radio is holding at that preset number for 5 sec. with releasing mute, and then searches again.
By pressing longer than 1 sec, and then 6 strongest stations are preset to the corresponding preset number.
When AS operation is finished, the radio executes the preset scan.

13. 'SCAN' AUTOMATIC TUNING CONTROL (SCN)

This key is operated as RADIO SCAN. The operation is similar as normal search but different thing is holding 5 seconds on every station detected in RADIO SCAN mode.

14. LCD DISPLAY

The Liquid Crystal Display will display the current state of the unit.

15. OPEN THE FRONT PANEL

Press ▲ button and the front panel will open.

CD/MP3/WMA CONTROL LOCATION OF PARTS

16. CD SLOT

Carefully insert the CD into the disc slot with the label side uppermost. The CD starts automatically play.

17. CD EJECT BUTTON

Press the ▲ button to remove the CD.

18. PAUSE BUTTON

During "PLAY", press (18) **'PAU'** button to "PAUSE". Press it again to resume play.

TRACK/SEARCH BUTTON (11)
FORWARD AND REVERSE TRACK SEARCH (or changing songs)

Press the SKIP button (◄◄ or ►►|) during play to go to the desired track(song).
◄◄ ....REVERSE   ►►| ....FORWARD
Press and hold the SKIP button (◄◄ or ►►|) during play to scan the disc at high speed. When the desired music section of the disc is found, release the button. Normal play will resume.

19. INTRO BUTTON (Preview all Tracks)

When this button is pressed, 'INT ON' indication is displayed and the first several seconds of each track of the disc are played. Press again to stop intro and listen to track.

20. REPEAT BUTTON

When this button is pressed, 'RPT ON' indication is displayed and play of the selected track will be continually repeated until the Track repeat mode is cancelled by pressing 'RPT' button again.

21. RANDOM BUTTON

When this button is pressed, 'RDM ON' indication is displayed and each track of the disc are played in random instead of normal progression. To cancel RANDOM mode, press 'RDM' button (21) again.

22, 23. 10 TRACK DOWN/UP SELECT: (In case of MP3 files)
M5: 10 Track down / M6: 10 Track up

HOW TO SELECT MP3/WMA FILES
1. Searching Track:
- Press "A/PS", then searching track is activated.
- Press "VOL" knob, then the first digit is blinking.
- Turn VOL to right or left, select first digit you want.
- Press "VOL" knob, then the first digit is fixed and second digit is blinking.
- Turn VOL to right or left, select 2'nd 3'rd respectively.
- Then automatically the song you selected will start.

2. Searching File Name:
- Press "A/PS" twice, then file search is activated.
- Press "VOL" knob, then the first directory is displayed.
- Turn VOL to right or left, you can select the directory you want.
- Press "VOL" knob again, then the directory is fixed and the first file name is displayed.
- Turn VOL to right or left, you can select the file you want.
- Press "VOL" knob, then the song you selected will start.

3. Searching Character:
- Press "A/PS" 3 times, then character search mode is activated.
- Press "VOL" knob, then "A" character is displayed.
- Turn VOL to right or left, you can select the letter you want.
- Press "VOL" knob longer than 2 sec.
- The song which has same character you selected is displayed.
- Turn VOL to right or left, you can select the song you want.
- Press "VOL" knob, then the song you selected will start.

- **RESET**
  Reset button is placed on the housing.
  The reset button is to be activated for the following reason:
- Initial installation of the unit when all wiring is completed.
- All the function button do not operate.
- Error symbol on the display.
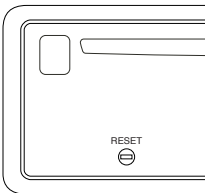
TECHNICAL SPECIFICATIONS

CD/MP3/WMA PLAYER SECTION

Signal to Noise Ratio   > 60 dB
Channel Separation   > 50 dB (1kHz)
Frequency Response   20Hz - 20 kHz

TUNER (FM)

Frequency range   87.5-108 MHz
Intermediate frequency   10.7 MHz
Sensitivity   2.8 µV
Stereo separation   30 dB
Signal to noise ratio   50 dB
Channel step   50 kHz

TUNER (MW)

Frequency range   522-1620 KHz
Intermediate frequency   10.71 MHz
Usable sensitivity   32 dBµV

LINE-OUT

Output   4 V
Impedance   10k Ohm

GENERAL

Power Supply   12V DC (10.8-15.6V allowable)
Speaker impedance   4 or 8 ohm
Output power   60W x 4CH

Note: Specifications and the design are subject to possible modification without notice due to improvement.

Recycling

This product bears the selective sorting symbol for waste electrical and electronic equipment (WEEE).
This means that this product must be handled pursuant to European Directive 2002/96/EC in order to be recycled or dismantled to minimize its impact on the environment.
For further information, please contact your local or regional authorities.

Electronic products not included in the selective sorting process are potentially dangerous for the environment and human heath due to the presence of hazardous substances.