

Integrated radio and media player

# User Instruction Manual

World-band radio receiver, USB / SD card audio media player,  
four-channel audio amplifier

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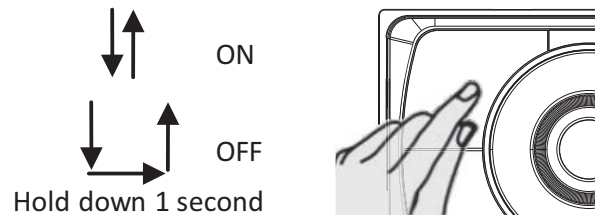
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# Operation

General

## Powering on

To power on the unit, depress power button briefly. To power off the unit, depress and hold this button down for 1 second. In a similar manner, many of the buttons on the front panel have two modes of activation: “Short press” and “long press”.



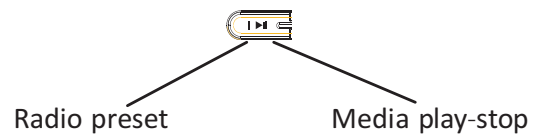
## Multi-mode buttons

Depending on whether the user is listening to radio or playing back media files (USB and SD card), buttons on the front panel can assume different functions.



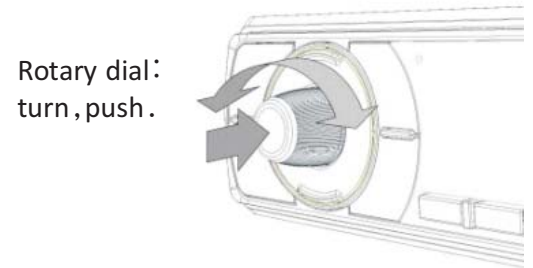
## Function context

The function of some controls depends on context. For example, the “1” button is used to operate the number 1 radio station preset. When playing a media file, depressing this button will play / stop a track



## The ‘volume’ knob

In general, audio volume is adjusted when the rotary knob is turned. In the special case where MENU or AUDIO is operated, volume adjust is temporarily disabled, and the rotation of the knob scrolls through items available on the menu list being displayed. *Short press* (push in and let go) the volume knob to access AUDIO items - balance, fader, bass and treble. Volume has 41 levels, range is 0 to 40.



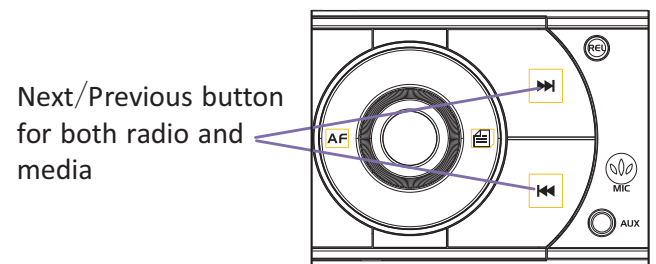
Radio

## Searching radio stations

Use the >>| and |<< buttons to search radio station: *short press* to automatically seek the next available frequency (jump to the next seek stop).

## Manual tuning

*Press and hold* to change to manual-seek mode - in this mode *short pressing* one of these seek buttons changes frequency by step whereas *long pressing* will step speedily until the button is released. The radio will revert to auto-seek mode if either button is not operated for 3 seconds



## Storing radio stations

When listening to a radio station, *long press* one of the radio preset buttons stores it permanently. The current displayed station will be saved. A stored radio station can be recalled by *short pressing* one of these buttons. The stored radio station can be changed by tuning to a different station and performing a *long press*.



*Short press*: Recall the stored station.

## FM radio

Radio Data System RDS is available in many countries. If RDS broadcast is present, RDS functions such as AF and TA can be enabled or disabled in the menu. RDS is only available in FM bands.

- RDS (see also “RDS” section)
- AF: Alternative Frequency
- TP: Traffic Program
- TA: Traffic Announcement

## Playing media files

WMA and/or MP3 files containing music that have been previously stored on a USB Memory stick or an SD card can be played on this unit by inserting into the respective slot for play back. When media is inserted the radio will auto-play from it. Use the SRC button to select one of 'radio', 'media' or 'AUX'. When both slots have media inserted in them, the radio will resume playing from the last slot that had been playing.

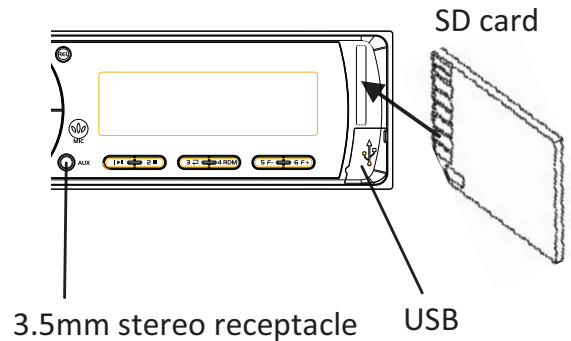
## Selecting audio tracks

Use the |<< and >>| buttons: *short press* for 'previous track' and 'next track'. "Previous track" will first go back to the beginning of the current track. *Press and hold* to operate "fast forward" and "rewind". When the desirable part of the audio track is reached, let go of the button to resume normal playback.

## 3.5mm AUX - input

On the front panel there is a stereo aux-in port. Using a 3.5mm stereo plug, the headphone output of a portable media player, for example, can be played back through the loudspeakers in the vehicle.

Duplicated front and rear 3.5mm AUX-IN port: these audio ports share the same circuit. While the user may freely choose to use either, it is advisable that connection is made to only one of them at a time leaving the other unused port unconnected."



Media in SD/USB, selection will only be available if media file(s) is (are) present.

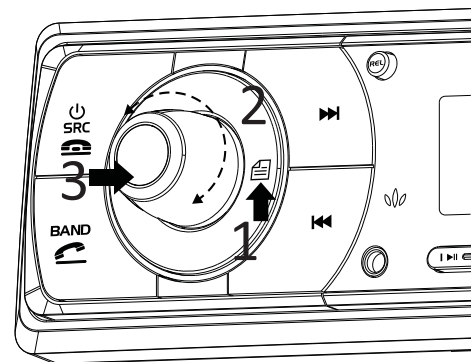
## MENU

On this radio, the 4-level software menu (refer "Software menu tree" diagram on next page) is accessible using the 'MENU' button. When accessed, the LCD displays available menu items. The 'Reset - confirm' entry is to restore default settings.

*Short press* 'MENU' to call up menus. Once in the menu, use the following buttons to navigate:

1. 'MENU' = EXIT, MOVE UP ONE LEVEL (to move right to left in the menu tree)
2. Turn volume knob = PREVIOUS ITEM/NEXT ITEM (to scroll items <up and down> in the menu tree)
3. Centre button = SELECT ITEM, CONFIRM, MOVE DOWN INTO SUB-LEVEL (move left to right in the menu tree)

*Press and hold* 'MENU' to exit all.



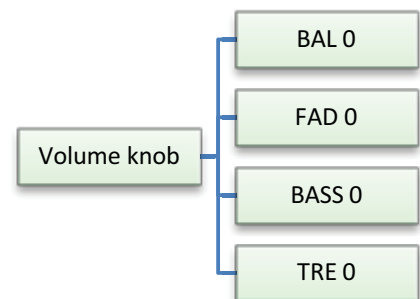
The radio will exit the menu tree if no button is operated for 3 seconds.

## AUDIO

To change the AUDIO settings *short press* the volume knob. This is a shortcut key to the software menu. Using this quick access method, the user can change BALANCE, FADER, BASS, and TREBLE:

- *Short press* volume knob.
- Operate as you would in MENU.

AUDIO menu items can also be accessed by navigating the MENU tree.

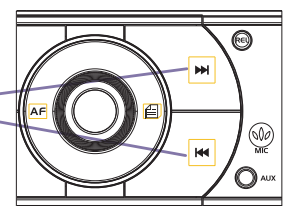


Accessing the MENU and AUDIO software menu is often described as "navigating the software menu tree". The centre button is used to move one level "lower" on the tree, the MENU button does the opposite of moving from a lower level back to a higher level (right to left) on the menu tree. Additional buttons are also made available for convenience:

- |<< go back one level higher (right-to-left)
- >>|select an item, go into a lower level (left-to-right)

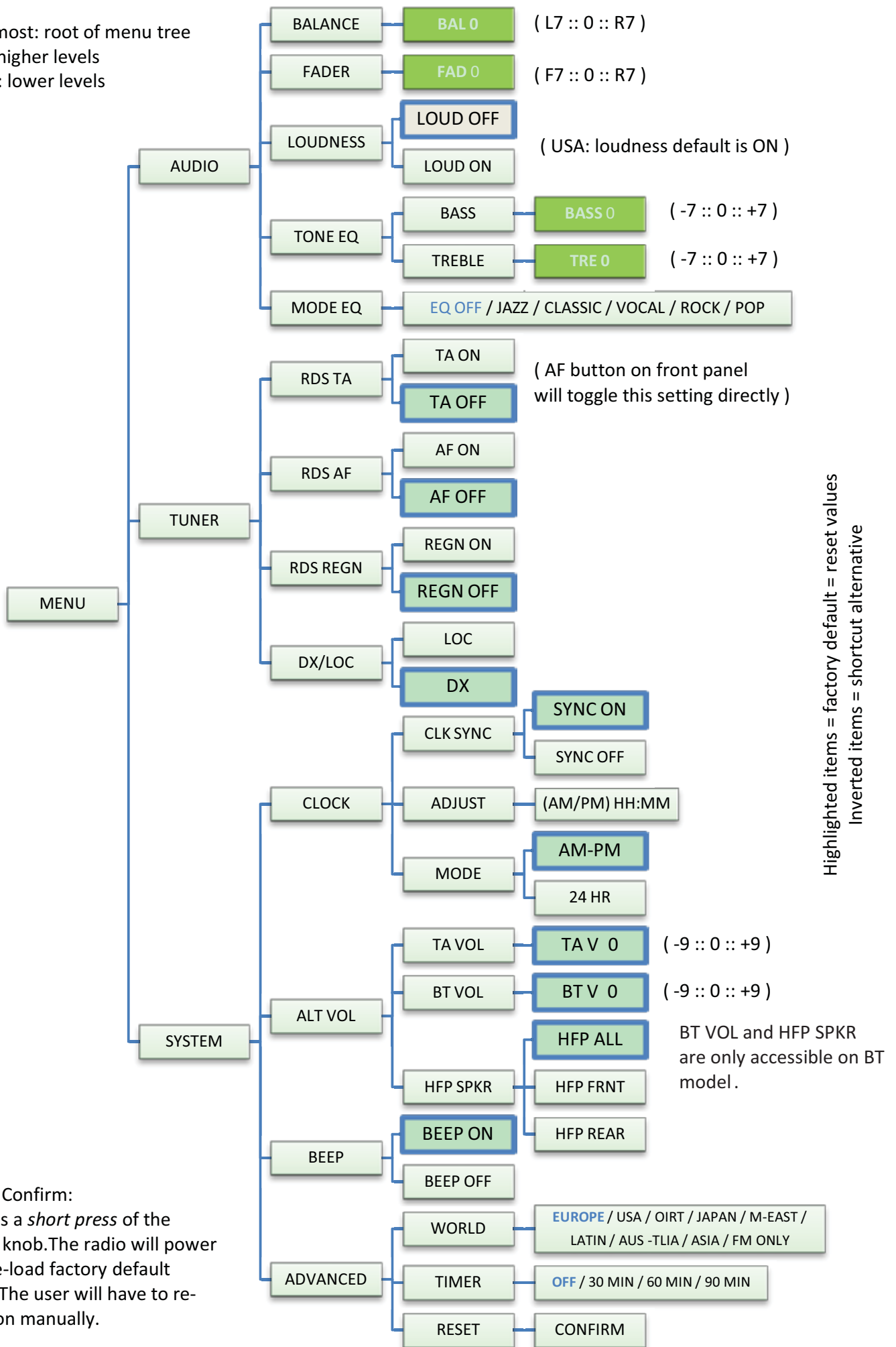
Refer "Software menu tree" diagram on next page.

Next/Previous button to operate MENU and AUDIO



# Software Menu Tree

Left-most: root of menu tree  
 Left: higher levels  
 Right: lower levels

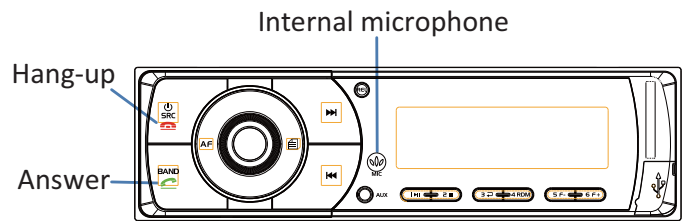


Highlighted items = factory default = reset values  
 Inverted items = shortcut alternative

Reset – Confirm:  
 Requires a *short press* of the volume knob. The radio will power off to re-load factory default values. The user will have to re-power on manually.

## General operation

Bluetooth-enabled variant of this radio has additional 'answer' (accept call) and 'hang-up' (end/reject call) silkscreen printed on the front panel buttons. There is an internal microphone on the front panel. *Press and hold* "Answer" button activates last-number-redial.



## Pairing

To use Bluetooth handfree function, a mobile phone would need to be connected by "pairing". The mobile phone must also have Bluetooth capability. To "pair" the mobile phone with the radio, ensure that the radio is turned on. On the mobile phone, search for available Bluetooth device. Pair to "JCB BT" using passcode "1234". The phone should notify to the user pairing has been successful. Once paired, many mobile phones are capable of automatically reconnecting the Bluetooth link the next time the radio is powered on (e.g. on re-entry to the vehicle) so subsequent pairing is not necessary on these phones.

## Bluetooth profiles

Bluetooth-enabled variant of this radio(00 0564 909 1) can wirelessly link to Bluetooth devices such as mobile phones. The modes of Bluetooth connection are referred to as "profiles". This radio supports the following profiles:

- (1) A2DP: Advanced Audio Distribution Profile – Playing (Streaming) music using Bluetooth

Bluetooth devices that have A2DP functionality can stream music into the radio to be played through the vehicles loudspeaker system. In addition, if the device supports the Bluetooth AVRCP profile(Remote Control Profile), functions like 'next track' and 'previous track' can be controlled from the radio.

- (2) HFP: Hands Free Profile – Making or receiving telephone calls using Bluetooth (see "General operation" and "Pairing" section above)

To ensure the optimum sound quality of the connected Bluetooth HFP device the user can select which loudspeakers the sound will come through. The software menu entry MENU->SYSTEM->ALT\_VOL->HFP\_SPKR provides three options:

HFP\_ALL: Audio is played through all four loudspeaker channels (this is the default option)

HFP\_FRNT: Audio is played through only the front loudspeaker channels, rear channels are switched off during telephone conversation.

HFP\_REAR: Audio is played through only the rear loudspeaker channels, front channels are switched off during telephone conversation.

The Default setting is HFP\_ALL.

**For vehicles with only 2 loudspeakers fitted, it is advisable to keep the default option of HFP\_ALL (four loudspeakers).**

## RDS

When RDS (Radio Data System) is operating, the radio will show the station name e.g. "BBC R1" rather than the frequency. RDS is an FM enhancement and it is not available in AM or WB radio. If RDS service is not available, the radio operates in conventional FM radio mode.

- AF: Alternative Frequencies. When this feature is enabled, the radio can stay on BBC R1 by automatically retuning the reception frequency when the first signal becomes weak such as when the vehicle has moved out of range. Providing that a stronger signal on the alternative frequency is available, the listener will not notice any sound interruption during the automatic retuning. In fringe reception area, the user may switch off AF. The AF button on the front panel toggles between AF ON and AF OFF.
- TA: Traffic Announcement. An indicator is displayed when the radio receives an FM TA flag. If a louder or quieter sound is preferred, the TA\_VOL can be adjusted accordingly. When playing media files (USB and SD card) the radio will temporarily switch to Traffic Program if this TA is turned on.
- TP: Traffic Program –automatic retuning. Say, traffic announcement is available every 15 minutes. The RDS radio signal will contain a TA flag so the radio tunes to the TA frequency automatically. After the traffic broadcast has finished, the radio will revert to the original radio station or media device that was playing.
- PS: Program Service – static display of radio station name, e.g. "BBC R1", maximum 8 characters.
- REGN: Regional: In UK and in some countries there are "region-specific" broadcastings. For example, BBC may have regional opt-outs on some of their transmitters so local news, for example, can break in. Selecting REGN ON will "lock-down" the set to the current region. Selecting REGN OFF lets the radio tune into other region-specific program as it moves into the other region.

# Tips

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- Clock display: user can *press and hold* the AF button to call up the clock display. The clock will show for 3 seconds after which the LCD display reverts automatically.
- This unit will not display non-English characters such as Ê and Ö. Non-displayable character may be shown as asterisk “\*”.
- Many RDS functions are not immediately apparent. For example, the user will only notice TP when traffic announcement is being broadcasted. If in doubt, the user is advised to use the default settings.
- TA VOL and BT VOL: These menu options allow predefined adjustment to the master volume when a Traffic Announcement or when Bluetooth handfree telephone call is in progress. A positive value increases the volume so sound is louder whereas a negative value reduces the volume so sound is less loud. BT VOL is only available on Bluetooth models of this radio.

## Media (USB/SD card)

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- For SD card or USB stick, the unit can play files inside sub-folders.
- Avoid having too many levels of depth in the sub-folders.
- Do not carry too many audio files on a media to avoid difficulty in finding the desirable song / track.
- With media, both the hardware and software get updated at a relatively fast pace. The unit is shipped with the latest media compatibility; newer cards and/or new file formats may not be compatible with this unit.
- Files in sub-folders are listed flat. The sub-folder structure will not be displayed.
  - The >>| and |<< buttons will scroll through all tracks through all folders.
  - The F+ F- buttons moves to the first track on the previous and next folder respectively.
  - Track operation and folder operation can mix.
  - Listed below is an illustration of track selection jump points:

Folder-control: F+ F-; Folder1                      Folder2                      Folder3                      .....

Track-control :>>| |<<; Track1 T2 T3 ... Track1 T2 T3 ... Track1 T2 T3...

## Power off timer

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This radio has a power-off-timer enhancement feature. The setting is accessed through MENU->SYSTEM->ADVANCED->TIMER. Settings of OFF, 30 min, 60 min and 90 min are available. "OFF" is the factory default value where the radio powers off immediately upon ignition key off. This is the same as conventional radios. If, for example, "30 min" is selected, you can freely power on and off the radio when the countdown timer is active. Since this countdown timer is not shown on the display the user will not be able to visually observe its operation. Upon expiry of the set 30 minutes, the radio will power off after which the ignition key must be turned again to re-activate the radio. This feature extends listening time while the ignition key can be removed for safety reasons. It also prevents the battery from being drained whilst the radio is left turned on for extended period of time. Exact availability of this feature depends on the type of the vehicle since both a switched ignition "IGN" wire and a permanent battery "BATT" wire are needed to be connected to the radio.

# FAQ / Troubleshoot

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This radio model is designed to include two important objectives: to operate reliably, and with enhanced features. Here are some frequently asked questions (FAQ) the user may have. When reading this section, it may be useful for the user to identify other relevant sections and relate to them to enhance understanding.

Q: My radio doesn't power off after the ignition key is removed from the key barrel.

A: Your radio has a power-off-timer enhancement feature. Consult "Power off timer" section in this manual.

Q: My radio jumped frequency /My radio is seeking through the frequency band causing an interruption in sound.

A: If you are listening to an FM radio station, when the reception is weak such as in a rural area, you may stop the automatic frequency selection by turning off "AF". The "AF" button on the front panel toggles this setting between "ON" and "OFF". The same setting can also be accessed using the menu function.

Q: My radio does not track radio station as RDS radios normally do.

A: If you are listening to an FM radio station, when the reception is reasonably strong such as in a town or city, you may enable the automatic frequency selection by turning on AF. The "AF" button on the front panel toggles this setting between "ON" and "OFF". The same setting can also be accessed using the software menu on screen. The AF setting is default "OFF".

Q: Although my radio powers up normally, I am not sure if someone has changed my settings.

A: You can try restoring the factory default settings. MENU->SYSTEM->ADVANCED->RESET->CONFIRM. Upon a reset, factory default settings will supersede existing ones AND all preset values will be set to default. For example, the user may need to change the country (see also Q&A), and then scan for radio stations and store them into presets 1, 2, 3, 4, 5 and 6 for quick access later on.

Q: I am trying to scan for radio stations but the radio does not seem to be receiving. There are fewer than expected or even no radio station (seek stop) being found.

A: Assuming the antenna is connected and broadcasting is available, you may check that MENU->SYSTEM->ADVANCED->WORLD corresponds to your country / area. For example, if you are in the United Kingdom, you would select 'EUROPE'. If you are in the United States of America, you would select 'USA'.

Q: WB Weatherband is not found.

A: MENU->SYSTEM->ADVANCED->WORLD must be set to "USA" (The default is "EUROPE"). After this setting is made, exit the on-screen software menu, use BAND button on the front panel to select amongst FM1, FM2, FM3, AM1, AM2 and WB. The Weatherband is only broadcasted within the United States and Canada.

Q: My radio jumped to listen to traffic announcement on another channel, after a while, it then returns to the one that I had been listening to.

A: Check if TA function is enabled. You may wish to disable it: MENU->TUNER->RDS\_TA->TA\_OFF.

Q: My Bluetooth sound is not heard or it is hardly heard through the loudspeakers.

A: This can be related to HFP (Hands Free Profile) settings. During a Bluetooth phone call, the user can use the volume knob rotary dial to increase the audio level. The user may also wish to check BT VOL and HFP SPKR settings in the software menu to correspond to his / her cabin settings. In addition, the user may also wish to check the settings on the connected Bluetooth mobile phone.



# Symbols

Symbols on front panel:

BAND	radio frequency band FM/AM/WB. This radio has 3 x FM, 2 x AM, 1 xWB. (WB is only available when "USA" is selected)	>>	Next / FF: radio frequency / audio track
SRC	Source: Radio/Media (SD,USB)/Aux	<<	Previous / REW: radio frequency / audio track
MENU	Software function menu	▶	Play / pause press toggles play / pause
F+ / F-	Folder navigation	■	Stop Press to stop playing media file
RDM	Random: track playing order	↺	Repeat: "RPT OFF", "RPT ONE", "RPT DIR", "RPT ALL"

# Wiring

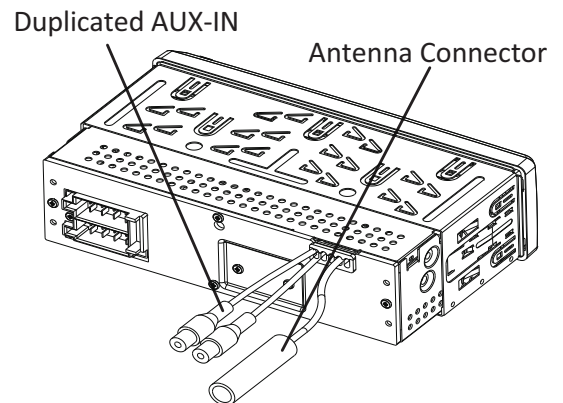
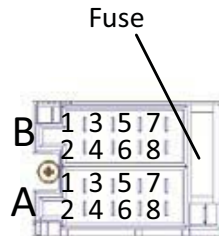
Connections are to be made from the back of the unit.

Connector A pins:

- A4. BATT +12V  
When the radio is turned on, electric power is supplied to the internal electronics of the unit through this pin. Main consuming blocks such as audio power amplifier and backlights draw power from this pin. Ensure the connecting wire has minimum AWG14 wire gauge to carry the current.
- A5. AUTO ANTENNA OUTPUT +12V  
The voltage state on this output pin is a direct indicator of whether this unit is powered on or off. It can be used to control ancillary equipment such as an automatic electric antenna or an audio power amplifier. If connected properly, such ancillary equipment will power on automatically in sync with the radio.
- A6. ILLUMINATION INPUT +12V  
On this radio model this pin is configured internally as a "DIMMING CONTROL". When +12V is applied to this pin, the front panel goes into "night mode" – backlight is dimmed. In a usual and common configuration, this wire would have been connected to the side lights so the display dims in unison with the external illumination of the vehicle.
- A7. +12V IGNITION KEY INPUT  
Normally connects to the ignition key circuit. By sensing the voltage on this pin, the unit is able to automatically power on and power off using the input from the ignition key switch.
- A8. CHASSIS GROUND (EARTH)  
All electric current drain out from this pin to complete the power supply circuit. Ensure the connecting wire has minimum AWG14 wire gauge to carry the current. The metal enclosure of this unit is grounded to this pin. The unit is only suitable for "negative earth" vehicles.

Connector B, loudspeakers pins:

- B1. REAR RIGHT (+)
- B2. REAR RIGHT (-)
- B3. FRONT RIGHT (+)
- B4. FRONT RIGHT (-)
- B5. FRONT LEFT (+)
- B6. FRONT LEFT (-)
- B7. REAR LEFT (+)
- B8. REAR LEFT (-)



Plus and minus signs (+ & -) in this context represent phases of the audio signal. This notation is not used in the conventional sense of polarity. In this context, these signs do not denote a positive nor negative voltage on the respective terminal pin.

## FUSE 15A

Always replace fuse with the proper type and rating. Blown fuse usually indicates a problem in the circuit. Do not rely completely on replacing the fuse to fix a problem. Over-rated fuse compromises protection against over-current. Under-rated fuse can blow even if a fault condition does not exist.

## MP3/WMA PLAYER SECTION

Signal to Noise Ratio	> 55 dB
Channel Separation	> 55 dB @ 1kHz
Frequency Response	20 Hz - 20 kHz
Media file format	MP3/WMA - ID3

## TUNER (FM)

Frequency range	65MHz – 108MHz
Sensitivity	≤12 dBμV (S/N=26dB)
Stereo separation	≥25 dB (@1KHz)
Signal to noise ratio	≥50 dB
Channel step	50 KHz

## TUNER (Weatherband, USA-only)

Frequency range	162.4MHz -162.55MHz
Sensitivity	≤10 dBμV

## TUNER (MW AM)

Frequency range	520 KHz -1710 kHz
Sensitivity	≤30 dB μV (S/N=26dB)

## FRONT AUX IN

Frequency Response	20 Hz - 20 kHz
Sensitivity	775 mV
Impedance	20KOhm

## GENERAL

Power Supply	12V DC (10.8V -15.6V)
Speaker impedance	4 Ohm - 8 Ohm
Output power	40W x 4CH
Fuse	15A

World	FM /MHz			AM / KHz			Notes
	Start	End	Step/KHz	Start	End	Step	
<b>EUROPE</b>	87.5	108	50	522	1620	9	---
USA	87.5	107.9	200	530	1710	10	Has WB
OIRT	65	74	10	522	1620	9	---
JAPAN	76	90	100	522	1629	9	---
M-EAST	87.5	108	100	531	1602	9	---
LATIN	87.5	108	100	520	1620	10	---
AUS-TLIA	87.5	108	100	522	1710	9	---
ASIA	87.5	108	100	531	1602	9	---
FM ONLY	87.5	108	50	---			---

Specification and design are subject to possible modifications without prior notice due to improvements.

### FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

### FCC Warning

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 interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### Instructions on environment protection

Do not dispose of this product in the usual household garbage at the end of its lifecycle; hand it over at a collection point for the recycling of electrical and electronic appliances. The symbol on the product, the instructions for use or the packing will inform about the methods for disposal.

The materials are recyclable as mentioned in this marking. By recycling, material recycling or other forms of re-utilization of old appliances, you are making an important contribution to protect our environment.

Please inquire at the community administration for the authorized disposal location.

