Operation and Maintenance Manual

Caterpillar Short Body Radio

L66 1-UP (Machine)
L77 1-UP (Machine)
L88 1-UP (Machine)
H66 1-UP (Machine)
H77 1-UP (Machine)
H88 1-UP (Machine)
L22 1-UP (Machine)
H24 1-UP (Machine)
H22 1-UP (Machine)
H26 1-UP (Machine)
L24 1-UP (Machine)

Important Safety Information

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards, including human factors that can affect safety. This person should also have the necessary training, skills and tools to perform these functions properly.

Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.

Do not operate or perform any lubrication, maintenance or repair on this product, until you verify that you are authorized to perform this work, and have read and understood the operation, lubrication, maintenance and repair information.

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the "Safety Alert Symbol" and followed by a "Signal Word" such as "DANGER", "WARNING" or "CAUTION". The Safety Alert "WARNING" label is shown below.

⚠ WARNING

The meaning of this safety alert symbol is as follows:

Attention! Become Alert! Your Safety is Involved.

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

A non-exhaustive list of operations that may cause product damage are identified by "NOTICE" labels on the product and in this publication.

Caterpillar cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are, therefore, not all inclusive. You must not use this product in any manner different from that considered by this manual without first satisfying yourself that you have considered all safety rules and precautions applicable to the operation of the product in the location of use, including site-specific rules and precautions applicable to the worksite. If a tool, procedure, work method or operating technique that is not specifically recommended by Caterpillar is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that you are authorized to perform this work, and that the product will not be damaged or become unsafe by the operation, lubrication, maintenance or repair procedures that you intend to use.

The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job. Cat dealers have the most current information available.

⚠ WARNING

When replacement parts are required for this product Caterpillar recommends using Cat replacement parts.

Failure to follow this warning may lead to premature failures, product damage, personal injury or death.

In the United States, the maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual of the owner's choosing.

Table of Contents

Foreword

Literature Information

This manual should be stored in the literature holder.

This manual contains safety information, operation instructions, and maintenance recommendations.

Some photographs or illustrations in this publication show detail or attachments that can be different from your product.

Continuing improvement and advancement of product design might have caused changes to your product which are not included in this publication. Read, study, and keep this manual with the product.

Whenever a question arises regarding your product, or this publication, please consult your Cat dealer for the latest available information.

Safety

The safety section lists basic safety precautions. In addition, this section identifies the text and locations of warning signs and labels used on the product.

Operation

The operation section is a reference for the new operator and a refresher for the experienced operator. This section includes a discussion of gauges, switches, product controls, attachment controls, and programming information.

Photographs and illustrations guide the operator through correct procedures of checking, starting, operating, and stopping the product.

Operating techniques outlined in this publication are basic. Skill and techniques develop as the operator gains knowledge of the product and its capabilities.

Maintenance

The maintenance section is a guide to equipment care.

Safety Section

i07545194

General Hazard Information

SMCS Code: 7606

⚠ WARNING

Do not operate or work on this equipment unless you have read and understand the instructions and warnings in the Operation and Maintenance Manuals. Failure to follow the instructions or heed the warnings could result in injury or death. Contact your Caterpillar dealer for replacement manuals. Proper care is your responsibility.

Foreword

This document is a supplement to the Operation and Maintenance Manual for the equipment. Permanently attach this document to the Operation and Maintenance Manual for the equipment.

Introduction

This document provides information about the operation of the Caterpillar AM/FM Radio System.

Operation of the equipment and the maintenance of the equipment must not occur unless the instructions and warnings in the Operation and Maintenance Manual for the equipment have been read and the instructions and the warnings are understood. The contents of this document must be understood before the equipment that is equipped with the CaterpillarAM/FM Radio System is operated.

Warnings and Compliance

Thank you for purchasing this product, read the manual carefully before operating, and reserve manual for future reference.

Precaution

• Use only in a 12-volt DC negative- ground electrical system.

• Disconnect the vehicles negative battery terminal while mounting and connecting the unit.

• When replacing the fuse, be sure to use one with an identical amperage rating.

• Using a fuse with a higher amperage rating may cause serious damage to the unit.

• Make sure that pins or obstacles do not get inside the unit, pins and obstacles may cause malfunctions, or create safety hazards such as electrical shock.

• If you have parked the vehicle for a long time in hot or cold weather, wait until the temperature in the vehicle becomes normal before operating the unit.

Before Operation

Do not raise the volume level too high. Keep the volume at a level at which you can hear outside warning sounds (horns sirens, and so on).

Stop the vehicle before performing any complicated operations.

Caution

Do not open the cover and do not repair. Ask your authorized dealer for help.

Note: According to models with different wiring harness to connect the definition of the specific content, refer to the model label.

Note: Specifications and the design are subject to change without notice due to improvements in technology.

Operation and Maintenance Manuals (OMM) are currently available at: http://www.cat.com/en_US/ support/operations/technology/product-link-owners-manuals.html

For mobile equipment or equipment that is located in areas where direct internet access is not available while the product is in use, a paper copy of the OMM must be printed and kept with the product.

For more information or for a paper copy of the OMM contact your nearest Cat Dealer: www.cat.com/en_US/support/dealer-locator.html

Product Information Section

Identification Information

i07214484

Regulatory Compliance

SMCS Code: 7606

FCC Information

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

- This device may not cause harmful interference.

- This device must accept any interference received, including interference that may cause undesired operation.

- Changes or modifications not expressly approved by the party responsible for compliance could void the users authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment receives radio frequencies and can radiate radio frequency energy. Improper installation of the radio and improper use in accordance with the instructions the radio may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, interference can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/ TV technician for help.

FCC Notice

The following notices are provided.

Modification Statement

Caterpillar has not approved any changes or modifications to this device by the user. Any changes or modifications could void the users authority to operate the equipment.

Radiation Exposure

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Radio Frequency Range

The following Driver Safety System communication device specifications are provided to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

The radio has been constructed so that it can be operated in Belgium without infringing upon applicable requirements on the use of their radio spectrum.

Table 1

Bluetooth	
Output power	4 dBm (Class 2)
Frequency band	2.4000 GHz - 2.4835 GHz (ISM Band)
Range	10 m (free space)
Standard	Bluetooth 2.0 specification

Declaration of Conformity

SMCS Code: 7606

Two Declarations of Conformity are listed below.

Table 2

CATERPILLAR ®
EU Declaration of Conformity

This Declaration of Conformity is issued under the sole responsibility of the manufacturer.

The undersigned, representing the manufacturer:

Caterpillar, Inc.

100 N.E. Adams

Peoria, IL 61629

USA

hereby declares that the product, object of this description:

Caterpillar entertainment radios

Brand: Caterpillar	**Model: Caterpillar Short Body Utility Radio**
Part Number:	
525 - 1508	**Antenna: 8E-1118**

Is in conformity with the relevant Union harmonization legislation: Directive 2014/53/EU and Directive 2011/65/EU

Conformity is shown by compliance with the applicable requirements of the following documents:

Conformity Assessment Procedure: _____Annex II, ___ X ___Annex III, _____Annex IV

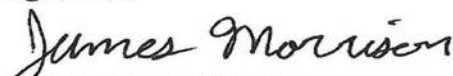|		
2014/53/EU	**LVD (Sec 3.1a):**	**EN 60065:2014**
		EN 62479:2010
	EMC (Sec 3.1b):	**EN 301 489-1 V2.2.0**
		EN 301 489-17 V3.2.0
	RF(Sec3.2)	**EN 300 328 V2.1.1**
		Final Draft EN 303 345 V1.1.7
2011/65/EU	**RoHS**	**EN 50581:2012**

Table 3

Notified Body Name: Siemic Inc.

Notified Body Number: 2200

Examination Certificate #: RE17101308

Signature: *James Morrison*

Name: James Morrison

Title: Engineering Manager - 3

Place: Mossville, IL

Date: 10/2/2018

Illustration 1

g06355605

Declaration of Conformity

Table 4

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Caterpillar, Inc.

100 N.E. Adams

Peoria, IL 61629

USA

hereby declares that the product, object of this description:

Caterpillar entertainment radios

Brand: Caterpillar	**Model: Caterpillar Short Body Utility Radio (DAB)**
Part Number:	
524-3711	**Antenna: 525–7960**

Is in conformity with the relevant European Union harmonization legislation: Directive 2014/53/ EU and Directive 2011/65/EU

Conformity is shown by compliance with the applicable requirements of the following documents:

Conformity Assessment Procedure: _____Annex II, ___ X ___Annex III, _____Annex IV

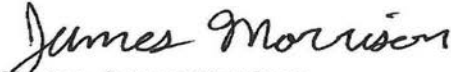|		
2014/53/EU	**LVD (Sec 3.1a):**	**EN 60065:2014**
		EN 62479:2010
	EMC (Sec 3.1b):	**EN 301 489-1 V2.2.0**
		EN 301 489-17 V3.2.0
	RF(Sec3.2)	**EN 300 328 V2.1.1**
		Final Draft EN 303 345 V1.1.7
2011/65/EU	**RoHS**	**EN 50581:2012**

Table 5

Notified Body Name: MiCOM Labs Inc.

Notified Body Number: 2280

Examination Certificate #: DONG59/23 Jul 2018/Rev A

Signature:

James Morrison

Name: James Morrison

Title: Engineering Manager - 3

Place: Mossville, IL

Date: 10/2/2018

Illustration 2

g06355605

Operation Section

Operation

i07257802

Radio
(Entertainment If Equipped)

SMCS Code: 7338

⚠ CAUTION

When driving, always keep your eyes on the road and hands on the steering wheel, paying careful attention to normal driving tasks. As always, the driver is responsible for safe vehicle operation. Not keeping your eyes on the road and hands on the wheel while driving could result in injury to you or others.

Introduction

Information included in this owners manual was accurate at the time of publication. Caterpillar, however, reserves the right to change specifications and performance without prior notice. Check with your dealer for details regarding changes that may have occurred since time of printing.

The Radio system is controlled by using the buttons, RSA (Rear Seat Audio), or steering wheel controls.

Stereo Receivers
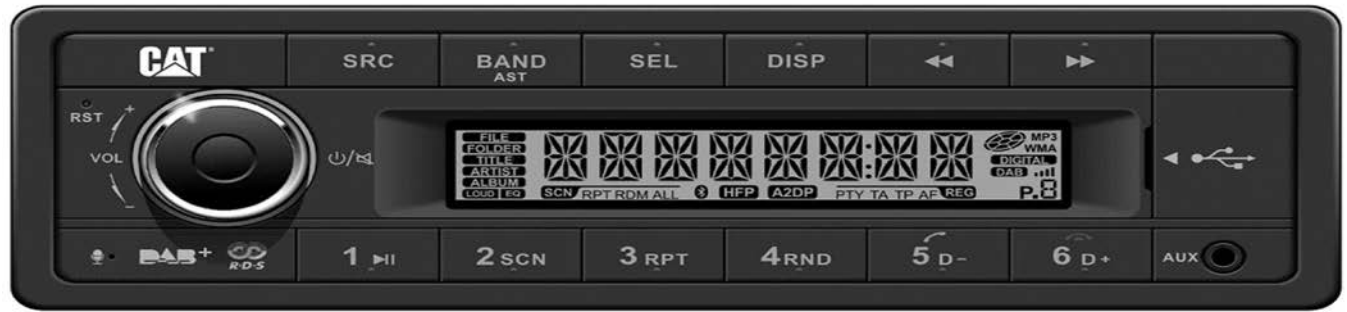
Illustration 3   g06244205
RADIO/USB MP3/USB/DAB+/DAB/Bluetooth Receiver

Radio Pin out

Radio pinout is shown below

Pin No	Note	Pin No	Note
3	Telephone mute low	9	Rear R+
4	Ignition	10	Rear R-
5	Antenna Remote	11	Front R+
6	Illumination	12	Front R-
7	Battery+	13	Front L+
8	Power Ground	14	Front L-
21	SWRC+	15	Rear L+
22	SWRC GND	16	Rear L-
23	Left AUX Input	25	AUX GND
24	AUX Shield GND	26	Right AUX Input
31	Mic+	32	Mic-

Illustration 4

g06247913

General Radio Receiver Functions
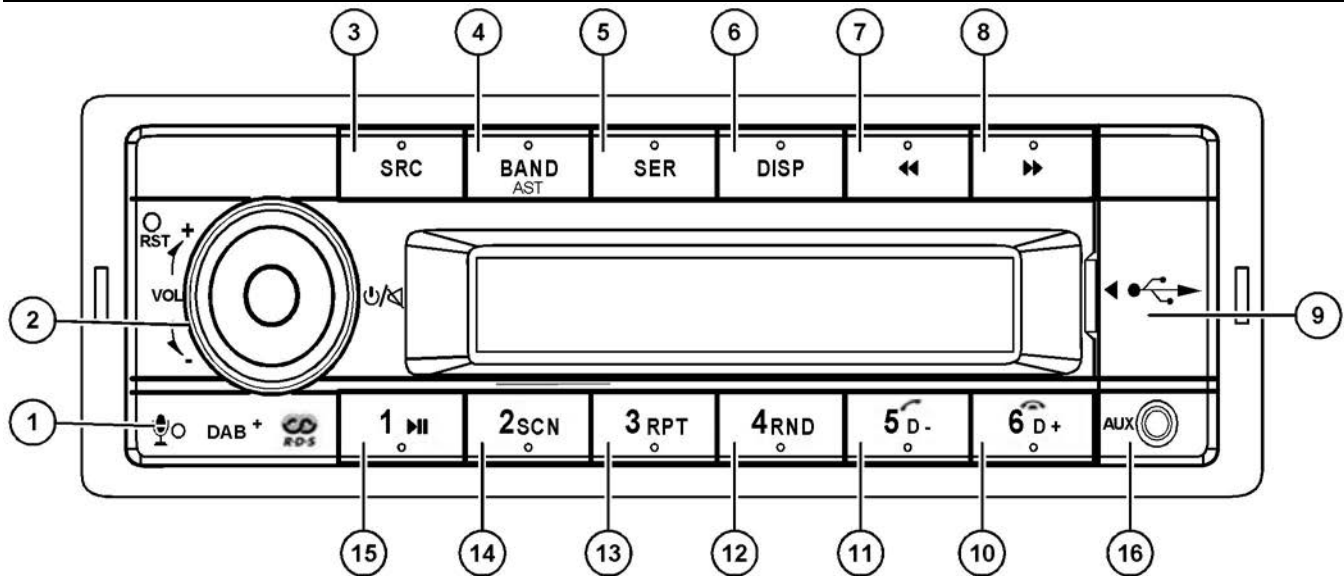
Illustration 5   g06247166

(1) Microphone
(2) Power ON/ OFF / Mute
(3) Power button
(4) Band / AST Button
(5) Source (SRC) Button
(6) DISP (Display) Play/Pause

(7) PREV (Previous)
(8) Next Button
(9) USB Slot
(10) MP3 Folder ahead / Phone Hang Up
(11) MP3 Folder back / Phone Pick Up
(12) MP3 Random play

(13) MP3 Repeat play
(14) Program intro Play (SCAN)
(15) MP3 / Bluetooth Play / Pause
(16) Front Auxiliary input

Options

- An AM band with 6 AM presets

- Three FM bands with a total of 18 FM presets

- One weather band with six WX presets

General Operation

Power ON / OFF / Mute

To Switch on the Radio push the Power ON/OFF button. To switch off the Radio, push the Power ON/ OFF button for more than 2 sec. The Radio will be muted by pushing the Power ON/OFF button for less that 2 sec.

Ignition Logic

With ignition logic activated (Default setting) the Radio can be switched on and off manually even if the vehicles ignition pin is not connected. To avoid battery discharge, the radio is switched off after 1h without user operation.

System Settings

The system settings menu is entered by long pressing the [DISP] button. To access the available menu entries, push the search buttons [<< />>]. To select the available options of each menu entry, rotate the [VOL] knob.

Source (SRC) Button

Press the [SRC] button to switch between and select available sources: TUNER->USB->AUX F->AUX R-> Bluetooth->DAB (applicable to DAB feature). USB and Bluetooth is only visible in the menu when connected.

Reception Area

This Radio is designed to work in different regions with different frequency ranges. The Reception area can be adjusted via the System Settings menu

The following Areas are available:

- EUROPE

- ASIA

- JAPAN

- North Africa

- United States of America (USA)

Clock Setting

The clock time can be adjusted manually by long pressing the [DISP] button to set the time.

Select [CLOCK] with the search buttons [<< />>]. Press [SEL] button and rotate [VOL] knob to adjust the minutes.

VOLUME KNOB/OK

To adjust the Volume, rotate the [VOL] knob

Predefined sound effects

The Radio provides different predefined sound effects . Press the [SEL] button to enter the Sound settings menu. Rotate the [VOL] knob to select one of the following options: EQ OFF -> POP -> ROCK -> CLASSIC -> JAZZ -> CUSTOM.

Balance. Fade and Loudness

To adjust Balance, Fader and Loudness press the [SEL] button and then push [<< / >>] button to select BALANCE -> FADER -> LOUDNESS. Rotate the [VOL] knob to adjust Balance, Fade, and Loudness according to your needs.

Manual Sound Adjustment

For manual sound adjustments first select CUSTOM. Push the [SEL] button again and then select BASS or TREBLE with the [<< / >>] button. Rotate the [VOL] knob to adjust BASS and TREBLE according to your needs.

Note: The default setting

AM-FM Radio

To access AM/FM Radio, press the [SRC] button and select Tuner.

Select Band

Press the [BAND] Button to select one of the available Radio Bands. The Radio bands will be changed in the following order: FM1 -> FM2 -> FM3 -> AM1 -> AM2

Note: The AM Band can be deactivated by the user via the system settings menu.

Automatic Tuning

For Automatic tuning press the [<< / >>] button. The Radio will search and select the next receivable station.

When Traffic Announcement is activated ("TA = ON"), only stations that broadcast Traffic announcements will be tuned.

Manual tuning

For manual station selections press the [<< / >>] button for longer than 2 sec. "MANUAL" is shown in the display. Pressing the [<< / >>] button again the frequency will be incrementally increased/decreased.

Manual Storing Favorites

There are 18 FM , 12 AM Favorite banks available. Select the favorite bank where to store the station and tune the station that shall be stored. Push the preset button longer than 2 sec .to store the station

Recall Stored Favorites

To recall a stored favorite, push the preset button corresponding to the stored favorite.

Auto Memory Store

To search for the best receivable stations and store as favorite, press the (BAND/AST] button for 2 sec. The Radio searches the best receivable station and stores those stations.

RDS

Many FM Stations in Europe transmit RDS data (Radio Data System) in addition to audio programs.

With RDS the user has the following benefits:

- The best audible frequency (AF) of a selected station is tuned automatically for best reception quality. To enable automatic selection of best audible frequency, select "AF=ON" in the Settings menu.

- The Radio recognizes Traffic Announcement and can switch to Radio, even if another Audio source is selected. To enable automatic Traffic announcement, select "TA=ON" in the Settings menu.

- Some Stations provide regional specific programs. With the regional (REG) function only those frequencies are followed that broadcast the selected regional program. To follow regional programs, select "REG=ON" in the Settings menu.

- The stations name can be displayed.

Note: For further settings see System Menu.

Program Type (PTY)

Via the RDS System FM stations in many countries transmit the type of program (Program Type , PTY) that is broadcasted.

To search for a desired Program type, push [SRC] for about 2 seconds and select the Program type by rotating the [VOL] knob. The Radio will search for a Radio-Program with the selected Program type when the [SEL] button is pushed. "PTY SEEK" is shown in the Display.

If no station with the selected Program Type can be found, the last tuned station will be selected and "NO PTY" is shown in the Display.

The following program types are available:

- NEWS

- AFFAIRS

- INFO

- SPORTS

- EDUCATE

- DRAMA

- CULTURE

- SCIENCE

- VARIED

- POP-M

- ROCK-M

- EASY-M

- LIGHT-M

- CLASSICS-M

- OTHER-M

- WEATHER

- FINANCE

- CHILDREN

- SOCIAL

- RELIGION

- PHONE IN

- TRAVEL

- LEISURE

- JAZZ

- COUNTRY

- NATIONAL-M

- OLDI ES

- FOLK-M

- DOCUMENT

- TEST

- ALARM

DAB Radio (applicable to DAB feature)

DAB/DAB+ Provides radio programs in digital sound quality.

DAB Radio Selection

To access Digital Audio Broadcast (DAB), press the [SRC] button and select DAB.

DAB Service SCAN

To search for receivable DAB Services, the DAB service SCAN has to be started by pushing [BAND/ AST] for 2 sec. "SCAN" is shown in the display.

Tuning a DAB Service

To tune a DAB service, push [<< / >>] to select the next/previous DAB service. "Tuning" is shown on the Display.

Storing DAB Favorites

There are 3 DAB favorite bands available. Press the [BAND] Button to select one of the available DAB Bands. The DAB bands will be changed in the following order:

- DAB1 ->

- DAB2 ->

- DAB3

Push the preset button longer than 2 seconds, to store the station.

Recall Stored Favorites

To recall a stored favorite, push the corresponding preset button.

DAB Service List

To get an overview of receivable DAB services, a DAB Service List can be displayed.

Push [SEL] for 2 sec. to open the DAB Service List. Rotate the [VOL] Button to scroll through the list of receivable stations.

To tune a DAB service, push [SEL]. "Tuning" is shown on the display.

In the case that a Service is temporary not receivable "No Service" will be shown on the display.

Switching between DAB and FM

When the DAB signal quality drops significantly, switch to FM and listen to the service via FM.

Switching between DAB and FM (DABFMLNK) can be disabled via the system settings menu.

USB/MP3/WMA

MP3 is short for MPEG Audio Layer 3 and refers to an audio compression technology standard. This product allows playback of MP3 files. The unit cannot read an MP3 file that has a file extension other than ".mp3". •If you play a non-MP3 file that has the ".mp3" extension, you may hear some noise. In this manual, refer to what are called "MP3 file" and "folder " in PC terminology as "track" and "Album," respectively. Maximum number of directories and files is 65535, including the root directory. Maximum number of files per folder is 1000. The unit may not play tracks in the order of Track numbers. Supports bit rate from 8 to 320 kbps and VBR (Variable Bit Rate).

Note: Supports bit rate from 5 to 384 kbps and VBR (Variable Bit Rate).

USB

USB functions (flash memory type) MP3 music play:

*   USB flash memory 2 in 1 support

*   FAT 12 / FAT 16 / FAT 32 format supported

*   File name: 64 byte / directory (DIR) name: 64 byte/ tag name: 30 byte

*   Tag (id3 tag ver 2.0) - title/artist/album: 32 byte support.

*   USB 1.1 support, USB 2.0 support (For 2.0, speed performance is as USB 1.1)

Note: Not all USB devices are compatible with the unit. USB connector can support maximum work power with 500 mA.

Loading / Removal and Functions of USB Device

Insert a USB device into the USB-slot "Reading" is shown on the Display. MP3 Playback will start immediate afterwards.

Before removing the USB Device switch to another Source by pushing the [SRC] button.

The USB Devices has the following functions:

*   **MP3 Playback/Pause**   To pause and resume MP3 Playback push button [1>].

*   **Next/Previous MP3 Track**   To select the next/ previous track push the [>II] button.

*   **Fast forward/fast rewind**   To fast forward/fast rewind the current track push the [>II] button longer than 2 sec.

*   **Random Play**   To activate random play push the button [4 RND].

*   **Repeat**   Push the [3 RPT] button to activate repeat Track/repeat directory/repeat all.

*   **SCAN**   To activate/stop the scan function push the button [2 SCN]. In scan mode all titles are played for 10 sec.

Bluetooth

The Bluetooth allows you to utilize your vehicles built-in audio system for wireless mobile phone or music hands free communication. Some Bluetooth mobile phones have the audio features, and some portable audio players support Bluetooth feature. This system can play audio data stored in a Bluetooth audio device. The vehicle stereo with Bluetooth will be able to retrieve phonebook contacts, received call, dialed call, missed call, incoming calls, outgoing call and listen to music.

Note: Do not leave the microphone on Bluetooth hands free in the places with wind passing such as air outlet of the air conditioner. Leaving the microphone in the aforementioned manner may cause a malfunction.

Note: If left in places subjected to direct sun, high temperature can cause distortion, discoloration which may result in a malfunction.

Note: This system will not operate or may operate improperly with some Bluetooth audio players.

Note: Compatibility of all mobile phones with this unit is not guaranteed.

Note: Audio playback will be set to the same volume level as set during telephone call. The volume level might cause problems, if extreme volume level is set during telephone call.

Hands free Operations

Pairing:

1. Turn on Bluetooth function of your mobile phone.

2. Enter mobile phones Bluetooth setup menu.

3. Search for new Bluetooth devices.

4. Select Bluetooth "Cat Radio" devices from the pairing list on the mobile phone.

5. Enter " 1234 " as the password (The password default setting is " 1234 ").

Note: After pairing successfully, BT and HPF icons will light up. A2DP icon will light up after A2DP connected

Dial Number

LCD screen displays dialing information.

Unit dialing:

1. Press [SRC] button switch to BT /Audio mode

2. Press [5 D+] to choose the DIAL ON function, press [SEL] button / [<</>>] button and rotate the knob to input dialing numbers.

Transfer Call

You can switch between hands free call and mobile phone call. Press the [5 /] button during call.

Answering a call

You can answer an incoming call by pressing the [5/] button. Press the [6 /] button to reject an incoming call.

Audio Streaming

Audio streaming is a technique for transferring audio data, audio streaming can be processed as a steady, and continuous stream. Users can stream music from external audio players to the stereo wirelessly and listen to the tracks through the speakers. Consult your nearest dealer for more information on the product of wireless audio streaming transmitter offered.

Note: Avoid operating your connected mobile phone while audio streaming, doing so may cause noise or sound choppy on the song playback. Audio streaming may or may not resume after telephone interruption and depends on the mobile phone. The system will always return to Radio mode if audio streaming is disconnected. Be sure to read the chapter "Pairing" before proceeding.

BT /Audio mode (A2DP)

- **Playback/Pause** To pause and resume Playback push button [1>].

- **Next/Previous Track** To select the next/previous track push the [<</>>] button.

Note: Playing order will depend on Bluetooth audio player. When the [>II] button is pressed, some A2DP devices will restart the current track depends on the duration of playback. During music streaming playback, "A2DP and HFP" will be shown on the display. When A2DP device is disconnected, "DISCONN" will be shown on the display Some Bluetooth audio players may not have play / pause synchronized with this unit. Make sure that both device and main unit are in the same play/ pause status in BT /Audio mode.

Dimming

The display and buttons can be dimmed. This radio allows manual or automatic dimming. Select "DIMMING" in the settings menu and select one of the following options:

1. Select "OFF" to disable Dimming.

2. Select "Manual" dimming when the radio is not connected to the vehicles illumination pin.

3. Select "Auto" dimming when the Radio is connected correct to the vehicles illumination-pin.

Brightness adjustment

To adjust your favorite brightness-setting for display- and button brightness select manual mode.

Select Manual dimming to adjust Brightness of Display and Buttons

DAY/ Night Selection

Select DIMMAN and change between day mode and night mode by selecting "DIMDAY" or "DIMNIGHT"

Night Brightness adjustment of display and Buttons

To adjust Night Brightness of the display and buttons, select "DIMNIGHT". Then select, "DIM DISP" and adjust the brightness of the Display accordingly. Then select "DIMNIGHT" and adjust the brightness of the Buttons accordingly.

Day Brightness adjustment of display and Buttons

To adjust Day Brightness of the display and buttons, select "DIMDAY". Then, select "DIM DISP" and adjust the brightness of the Display accordingly. Then, select "DIM KEY" and adjust the brightness of the Buttons accordingly.
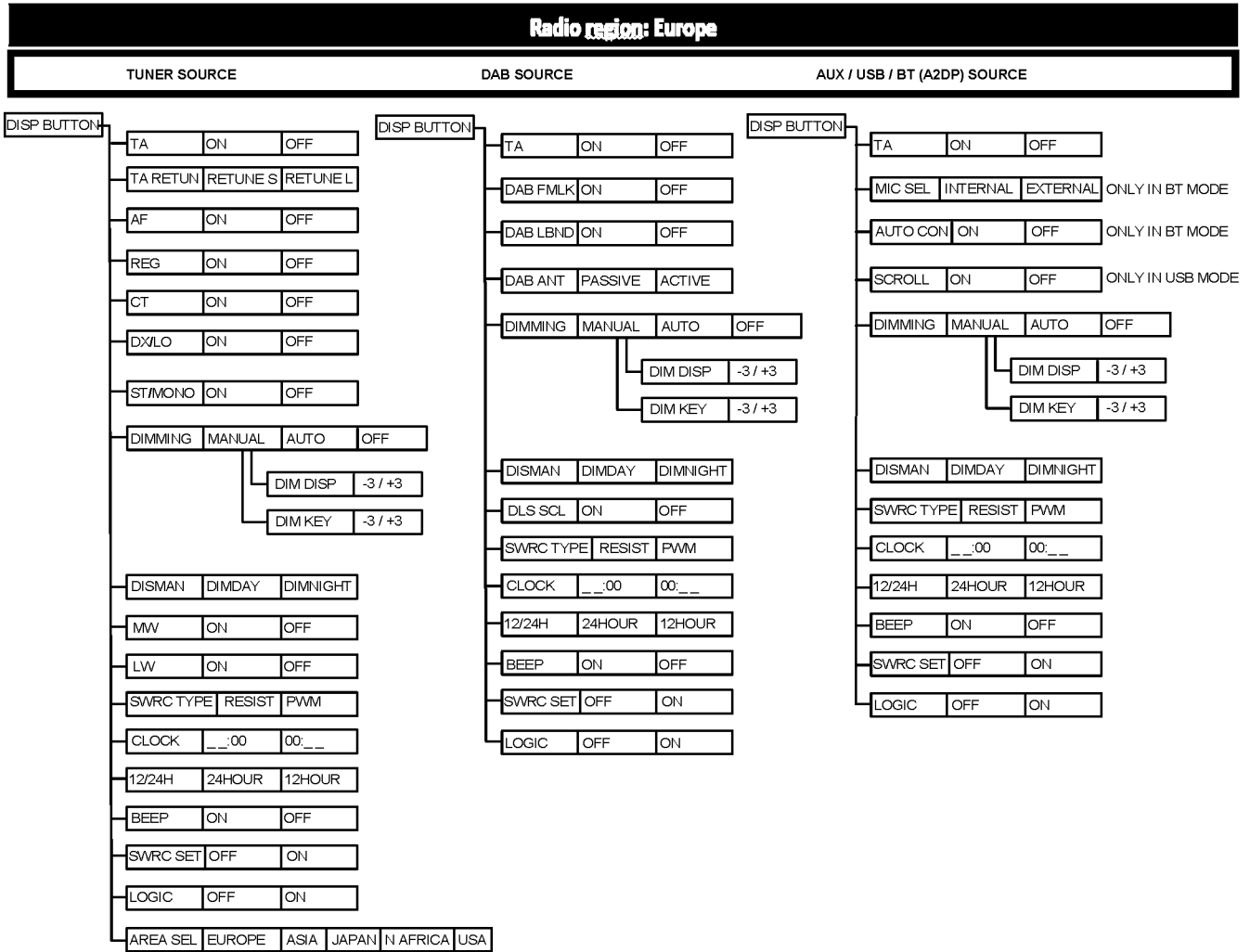
Manual Mode

Change between Day and Night Mode by selecting "DIMDAY" or "DIMNIGHT"

Automatic Mode

In automatic mode the display will change
automatically between day and night mode when the
radio is connected to the vehicles illumination pin.

System Setting Item List

Radio region: Europe

TUNER SOURCE | DAB SOURCE | AUX / USB / BT (A2DP) SOURCE

DISP BUTTON

TUNER SOURCE

TA	ON	OFF
TA RETUN	RETUNE S	RETUNE L
AF	ON	OFF
REG	ON	OFF
CT	ON	OFF
DX/LO	ON	OFF
ST/MONO	ON	OFF
DIMMING	MANUAL	AUTO	OFF
DIM DISP	-3 / +3
DIM KEY	-3 / +3
DISMAN	DIMDAY	DIMNIGHT
MW	ON	OFF
LW	ON	OFF
SWRC TYPE	RESIST	PWM
CLOCK	_ _:00	00:_ _
12/24H	24HOUR	12HOUR
BEEP	ON	OFF
SWRC SET	OFF	ON
LOGIC	OFF	ON
AREA SEL	EUROPE	ASIA	JAPAN	N AFRICA	USA

DISP BUTTON

DAB SOURCE

TA	ON	OFF
DAB FMLK	ON	OFF
DAB LBND	ON	OFF
DAB ANT	PASSIVE	ACTIVE
DIMMING	MANUAL	AUTO	OFF
DIM DISP	-3 / +3
DIM KEY	-3 / +3
DISMAN	DIMDAY	DIMNIGHT
DLS SCL	ON	OFF
SWRC TYPE	RESIST	PWM
CLOCK	_ _:00	00:_ _
12/24H	24HOUR	12HOUR
BEEP	ON	OFF
SWRC SET	OFF	ON
LOGIC	OFF	ON

DISP BUTTON

AUX / USB / BT (A2DP) SOURCE

TA	ON	OFF	
MIC SEL	INTERNAL	EXTERNAL	ONLY IN BT MODE
AUTO CON	ON	OFF	ONLY IN BT MODE
SCROLL	ON	OFF	ONLY IN USB MODE
DIMMING	MANUAL	AUTO	OFF
DIM DISP	-3 / +3
DIM KEY	-3 / +3
DISMAN	DIMDAY	DIMNIGHT
SWRC TYPE	RESIST	PWM
CLOCK	_ _:00	00:_ _
12/24H	24HOUR	12HOUR
BEEP	ON	OFF
SWRC SET	OFF	ON
LOGIC	OFF	ON

Illustration 6   g06247829

Radio region: Asia/ Japan/ N Africa/ USA

| TUNER SOURCE | DAB SOURCE | AUX / USB / BT (A2DP) SOURCE |

TUNER SOURCE — DISP BUTTON

Item	Option 1	Option 2	Option 3
DX/LO	ON	OFF	
ST/MONO	ON	OFF	
DIMMING	MANUAL	AUTO	OFF
DIM DISP	-3 / +3		
DIM KEY	-3 / +3		
DISMAN	DIMDAY	DIMNIGHT	
MW	ON	OFF	
LW	ON	OFF	
SWRC TYPE	RESIST	PWM	
CLOCK	__:00	00:__	
12/24H	24HOUR	12HOUR	
BEEP	ON	OFF	
SWRC SET	OFF	ON	
LOGIC	OFF	ON	
AREA SEL	EUROPE	ASIA	JAPAN	N AFRICA	USA

DAB SOURCE — DISP BUTTON

Item	Option 1	Option 2	Option 3
DAB FMLK	ON	OFF	
DAB LBND	ON	OFF	
DAB ANT	PASSIVE	ACTIVE	
DIMMING	MANUAL	AUTO	OFF
DIM DISP	-3 / +3		
DIM KEY	-3 / +3		
DISMAN	DIMDAY	DIMNIGHT	
DLS SCL	ON	OFF	
SWRC TYPE	RESIST	PWM	
CLOCK	__:00	00:__	
12/24H	24HOUR	12HOUR	
BEEP	ON	OFF	
SWRC SET	OFF	ON	
LOGIC	OFF	ON	

AUX / USB / BT (A2DP) SOURCE — DISP BUTTON

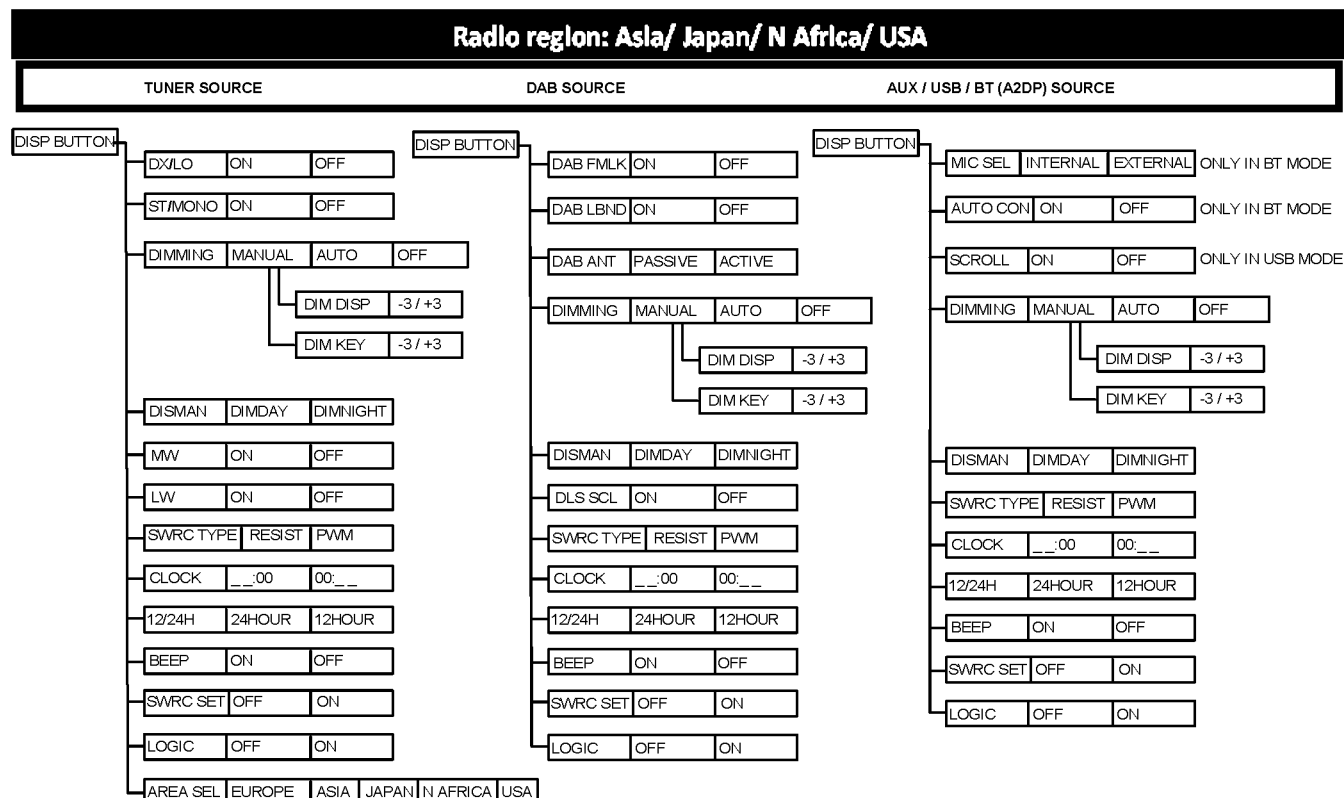| Item	Option 1	Option 2	Note
MIC SEL	INTERNAL	EXTERNAL	ONLY IN BT MODE
AUTO CON	ON	OFF	ONLY IN BT MODE
SCROLL	ON	OFF	ONLY IN USB MODE
DIMMING	MANUAL	AUTO	OFF
DIM DISP	-3 / +3		
DIM KEY	-3 / +3		
DISMAN	DIMDAY	DIMNIGHT	
SWRC TYPE	RESIST	PWM	
CLOCK	__:00	00:__	
12/24H	24HOUR	12HOUR	
BEEP	ON	OFF	
SWRC SET	OFF	ON	
LOGIC	OFF	ON	

Illustration 7
g06247868

AM/FM Tuner Options

The AM/FM tuner has the following options:

- "TA" Enable /Disable automatic switching to FM-tuner mode if there is incoming Traffic announcements.

- "TA Return" Switch back time in the case that Announcement-Signal cannot be detected any more.

- "AF" Enable/Disable automatic selection of best audible frequency in FM-Tuner Mode (RDS).

- "REG" Enable/Disable automatic selection of better audible frequencies that broadcast different regional content.

- "CT" Automatic synchronization of Clock with time received via RDS-Signal.

- "DX/LO" Search Level of AM/FM-Tuner.

- "ST/MONO" Selection of Stereo or Mono output of FM/AM tuner.

- "AREA SEL" To adjust the AM/FM tuner to your region.

DAB Tuner Options

The following features are applicable to DAB feature:

- "DAB FMLINK" Enable /Disable automatic switching to FM-tuner when DAB-Signal drops.

- "DAB LBND" Enable/Disable L-Band Decoding.

- "DAB ANT" Selection of Active or Passive antenna is connected.

- "DLS SCROLL" Enable display of Artist and Song

Bluetooth Options

- "SCROLL" ON: Display ID3 tag information cyclic: Track - Folder -File - Album - Title - Artist - Track. OFF: Display Track.

- "MIC SEL" Use of integrated Microphone in front panel or external Microphone connected by rear connector.

- "AUTO CON" To disable/enable Bluetooth connection.

Steering Wheel Control Options

The following are the steering wheel control options:

- "SWRC TYPE" Selection of Steering Wheel control type (Resistance / PWM).

- "SWRC SET" To enable/disable steering wheel control.

Dimming Options

The following are the Dimming options:

- "DIMMING" To Select Dimming Mode (OFF, Manual, automatic).

- "DIM DISP" To Adjust Display brightness.

- "DIM KEY" To adjust Button brightness.

- "DIS MAN" To switch between DAY and Night Mode

Other options

- "AM / MW" To enable/disable AM / MW Reception.

- "LW" To enable/disable LW Reception.

- "BEEP" To enable/disable confirmation signal.

- "Logic" To enable/disable ignition logic.

- "Clock" To adjust hours and minutes.

- "12 / 24H" To select 12 / 24 h Clock format.

Electrical Connections
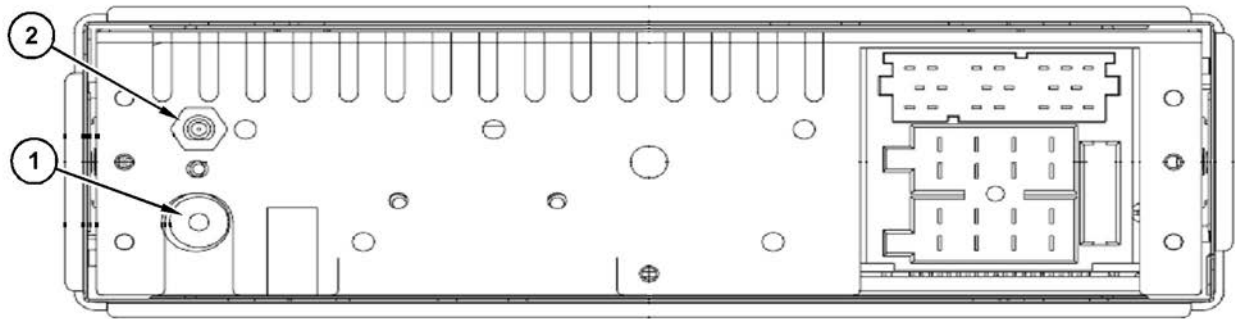
Illustration 8   g06247910
(1)DAB SMB Connector
(2) AM/FM ISO Connector

Tips and Troubleshooting Chart

The following checklist can help you solve some problems which you may encounter when using the unit. Before consulting a service representative, check the connections and follow the instructions in the user manual. Do not use the unit in abnormal condition. Examples of abnormal conditions area as follows, no sound, smoke, or foul smell. The aforementioned examples can cause fire or electric shock. Immediately stop using radio and call the store where your radio was purchased.

Table 6

Problem	Possible Cause	Solution
General		
The unit will not switch on.	vehicle ignition is not on. Cable is not properly connected. Fuse is burnt.	Turn your vehicle key in the ignition. Check cable connection. Replace fuse with a new fuse of the same capacity.
No sound	Volume is set at minimum or the mute function is on.	Check the volume or switch off the mute function.
The unit or screen does not work normally.	The unit system is unstable	Press the RESET button.
Mode Tuner		
Unable to receive stations.	The antenna is not connected properly.	Connect the antenna properly.
Poor quality reception of radio station.	The antenna is not fully extended or broken.	Fully extend the antenna and if broken, replace with a new one.
Mode USB		
Unable to insert USB device.	The USB device has been inserted the wrong way around.	Insert the other way around.
The USB device cannot be read.	NTFS format is not supported.	Check that the file system is in FAT or FAT32 format. Due to different formats, some models of storage devices or MP3 players may not be read.

Specifications

The following information pertains to specifications of
the radio.

General

Power supply :	12-volt DC or a 24-volt DC negative ground according to the right radio variant. (Refer to variants table)
Maximum power output:	41 W x 4 channels (4 Ω) for 12-volt variant
Suitable speaker impedance:	4 Ω
Dimensions (W x D x H):	188 x 114.7 x 58.5 mm
Weight:	0.9Kg

Note: for different bit-rate MP3, ESP time are different;
40 seconds only for bit-rate MP3 file of 128Kbps

FM Stereo Radio

Frequency range:	Refer to AM/FM Tuner table
Usable sensitivity:	< 14 dBµ
Frequency response:	50 Hz – 10 KHz
Stereo separation:	≥ 22dB (1KHz)
Image response ratio:	≥ 40dB
IF response ratio:	≥ 60 dB
Signal/noise ratio:	≥ 50dB

AM/MW) radio

Frequency range:	Refer to AM/FM Tuner table
Usable sensitivity (S/N = 20 dB):	< 35 dBµ
USB Charging:	0.5A 5V

Illustration 9   g06248106

Table 7

AM/FM tuner	BAND	Received Frequency	Auto Space	Channel Space
American	FM	87.5 - 107.9MHz	200KHz	100KHz
	AM	530 - 1710KHz	10KHz	10KHz
Europe	FM	87.5 - 108.0MHz	100KHz	50KHz
	MW	522 - 1620KHz	9KHz	9KHz
	LW	144 - 288KHz	3KHz	3KHz

(continued)

(Table 7, contd)

AM/FM tuner	BAND	Received Frequency	Auto Space	Channel Space
Asia	FM	87.5 - 108.0MHz	50KHZ	50KHz
	AM	522 - 1629KHz	9KHz	9KHz
Japan	FM	76.0 - 95,0MHz	100KHz	100KHz
	AM	522 - 1629KHz	9KHz	9KHZ
Latam	FM	76.0 - 107.9MHz	50KHz	50KHz
	AM	530 - 1710KHz	10KHz	10KHz
N Africa	FM	87.5 - 108.0MHz	100KHz	50KHZ
	MW	531 - 1602KHz	9KHz	9KHz
	LW	153 - 252KHz	3KHz	3KHz

Table 8

Digital (DAB) Radio		
Frequency range:	DAB Band III: 174.928MHz ~ 239.200 MHz	
	DAB Band L: 1452.960MHz ~ 1490.624 MHz	
Usable sensitivity (RF= 72dBM)	-95dBM	
Frequency response:	20Hz-20KHz	
Stereo separation	≥50dB	
Signal/noise ratio:	≥60dB	
	Item	Min	Max
	Far off selectivity:	42dB	60dB
	Adjacent channel rejection:	35dB	40dB

Note: Specifications and the design are subject to change without notice due to improvements in technology.

Table 9

Bluetooth	
Output power	4 dBm (Class 2)
Frequency band	2.4000 GHz - 2.4835 GHz (ISM Band)
Range	10 m (free space)
Standard	Bluetooth 2.0 specification

Accessories
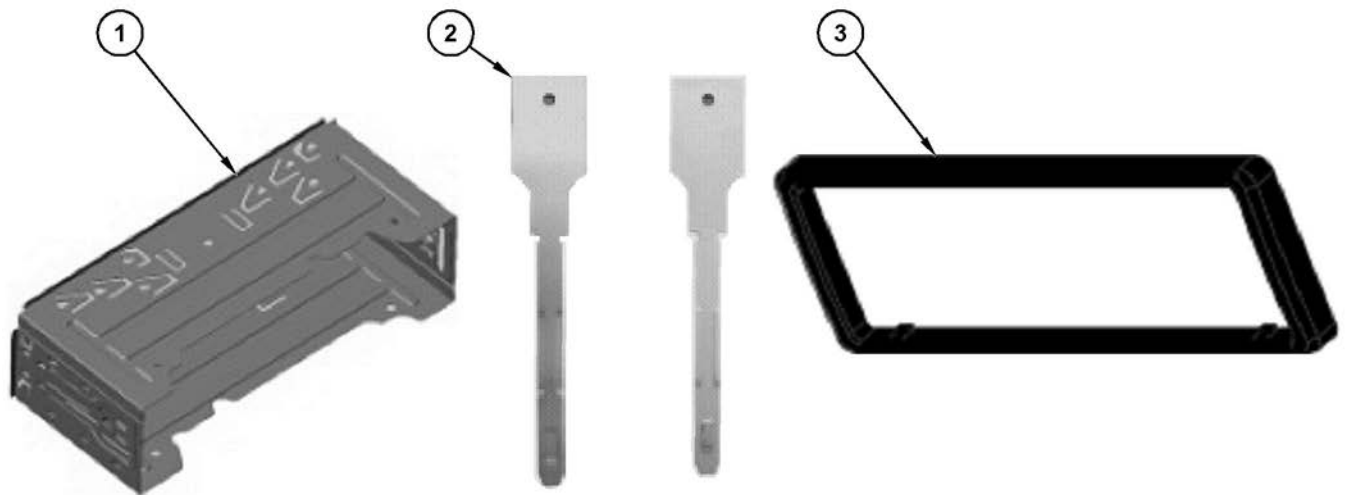
Illustration 10   g06248183

Radio accessories

(1) Metal sleeve   (2) Removal tools   (3) Bezel

i07316460

Radio
(Entertainment If Equipped)

SMCS Code: 7338

S/N: H221–Up

S/N: H241–Up

S/N: H771–Up

⚠ CAUTION

When driving, always keep your eyes on the road and hands on the steering wheel, paying careful attention to normal driving tasks. As always, the driver is responsible for safe vehicle operation. Not keeping your eyes on the road and hands on the wheel while driving could result in injury to you or others.

Introduction

Information included in this owners manual was accurate at the time of publication. Caterpillar, however, reserves the right to and performance without prior notice. Check with your dealer for details regarding changes that may have occurred since time of printing.

The Radio system is controlled by using the buttons, RSA, or steering wheel controls.

Stereo Receivers

Illustration 11   g03566500

MP3/USB/iPod/Aux/Bluetooth Receiver

Illustration 12   g03566527

MP3/USB/iPod/Aux/Bluetooth/CD Receiver

Illustration 13   g03566571

MP3/USB/iPod/Aux/Bluetooth/CD/SAT Receiver

Radio Pin out

Radio pinout is shown below

Cavity	Pin#	Function	I/O
A1	1	CAN-High	I/O
A2	2	CAN-Low	I/O
A3	3	Park Lights	I
A4	4	Ignition	I
A5	5	PWR_ANT/PA_MIC_PWR	O
A6	6	Dim PWM/ANALOG	I
A7	7	Battery	I
A8	8	Power Ground	I
B1	9	RR + (Speaker)	O
B2	10	RR - (Speaker)	O
B3	11	RF + (Speaker)	O
B4	12	RF - (Speaker)	O
B5	13	LF + (Speaker)	O
B6	14	LF - (Speaker)	O
B7	15	LR + (Speaker)	O
B8	16	LR - (Speaker)	O
C1	17	Power Ground	I/O
C2	18	Amp Sense	I
C3	19	Not connected	
C4	20	Cell_Tel_Mute	I
C5	21	ASWC (Analog Steering Wheel Control)	I
C6	22	Not connected	
C7	23	L_AUX_N 1	I
C8	24	AUX_SHIELD_GND	I
C9	25	AUX 1_COM	I
C10	26	R_AUX_N 1	I
C11	27	AUX 1_ON_OFF	I
C12	28	Not connected	
C13	29	Not connected	
C14	30	Not connected	
C15	31	MIC + (BAT)	I
C16	32	MIC - (BAT)	I
C17	33	Not connected	
C18	34	Not connected	
C19	35	Not connected	
C20	36	Not connected	
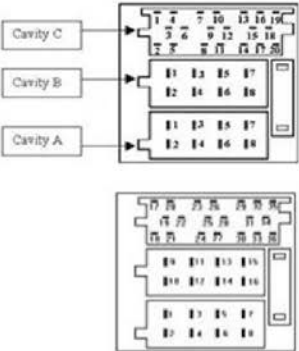
Illustration 14   g03566584

General Radio Receiver Functions
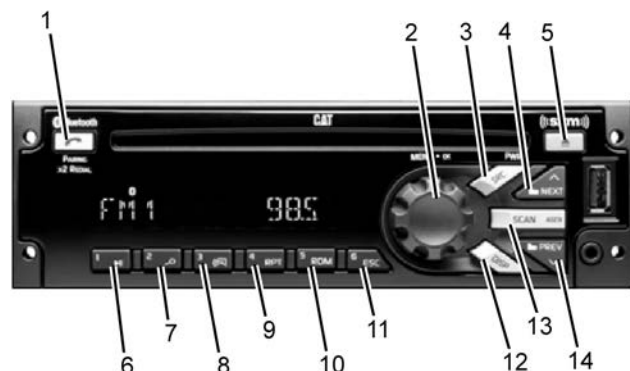
Illustration 15   g03566592

(1) Phone
(2) Knob
(3) SRC/PWR (Source/Power)
(4) Next
(5) Eject
(6) Play/Pause
(7) Browse
(8) Clock/Alarm
(9) RPT (Repeat)
(10) RDM (Random)
(11) ESC (Escape)
(12) DISP (Display)
(13) SCAN/ASCN (Scan/Autoscan)
(14) PREV (Previous)

Options

- An AM band with 6 AM presets

- Three FM bands with a total of 18 FM presets

- One weather band with six WX presets

SRC/PWR (Source/Power)

Press to switch to FM -> AM -> WX -> SXM -> CD ->
USB/iPod ->AUX -> Bluetooth Audio (if equipped)
and to turn Radio ON. Press and hold to turn radio
OFF.

One Hour Timer

With the ignition off, pressing the SRC/PWR button
will turn on the receiver and activate the receivers
one-hour timer. The receiver will turn off after 1 hour
or by pressing and hold the SRC/PWR button.

VOLUME KNOB/OK

Press for less than 3 seconds to display Audio
Control Menu. Press for more than 3 seconds to
show the user menu. Rotate to increase/decrease
volume or during a menu for navigation. Press while
in a menu to confirm the selected action.

PREV (Previous/Reverse)

Press to select previous track or station. Press and
hold for FR or Tune Down

NEXT (Next/Forward)

Press to select next track or station. Press and hold
for FF or Tune Up

EJECT

Press to eject the CD

Phone (if equipped)

Press the Phone button for more than 3 seconds to
show the Bluetooth Menu. When Bluetooth is
enabled, press the button to display the Dial Menu or
to accept an Incoming Call (if a Phone is paired).
During a call press the button for more than 3
seconds to transfer the call from the radio to the
Phone.

CLOCK/ALARM

Press during Alarm activation to cancel the Alarm.

SCAN/ASCAN

Scans stations/CD tracks/MP3/WMA files and folder
and in tuner, stores stations to presets

PLAY/PAUSE

Press to pause / un pause current Media.

RPT (Repeat)

Press to repeat current track. Press again to stop
repeat. Look for the RPT icon in the radio display to
turn this feature ON or OFF.

BROWSE

Press to navigate on the device and select a specific
song or play context (Applicable to USB sticks, CD
MP3 discs and iPod).

RDM (Random)

Press to play the tracks randomly. Press again to
stop random mode. Look for the RDM icon to turn on
in the radio display.

ESC (ESCAPE)

Press to exit one Menu Level.

If the system is equipped with Bluetooth, press the ESC button during Bluetooth call operation to reject or cancel a call.

DISP (DISPLAY)

If vehicle ignition is ON: Press to change source display

Press for more than 3 seconds to show the Clock for a short time.

Radio (Audio source)

To access AM, FM, WX, SXM (if equipped), iPod, USB, Rear Aux, Front Aux, CD, or BT Audio do one of the following:

1. Press the SRC radio button to scroll through the options and select desired option.

2. Press the SRC radio button and then scroll the source menu by knob rotation or NEXT/PREV short presses and then select by short-pressing the knob.

The CD/MP3, USB/iPod, Front AUX, and BT Audio shall be accessed only if the radio model supports those options and a device is connected/inserted for that specific source.

Note, if a device is connected through different sources at the same time, the functionality cannot be guaranteed (Device Dependent). Example: Device connected through Front Aux and Bluetooth or USB and Bluetooth at the same time.

AM-FM-WX Radio

Tuning: Set the desired "Tuner Configuration" following the steps in the Menu section.

If the radio is set to manual, the radio will allow for execution of the following functions:

• Execute manual tuning when the NEXT or PREV buttons are short pressed.

• Execute Seek when the NEXT or PREV buttons are long pressed.

If the radio is set to Auto, the radio will allow for execution of the following functions:

• Execute Seek when the NEXT or PREV buttons are short pressed.

• Execute manual tuning when the NEXT or PREV buttons are long pressed.

Manual tuning

The current frequency will be increased/ decreased by 1 step of 0.2MHz (USA FM mode), 10 kHz (USA AM mode) and one channel (25 kHz) in WX mode.

Seeking a Station

When the Seek function is activated, the radio increments/decrements the frequency until a tunable station is found.

If a tunable station is not found, the radio will display "NO STATION FOUND".

Presets

Storing Radio Station Presets:

1. Tune the desired frequency, and then long press any of the Preset(1-6) buttons until the radio produces a beep.

Tuning Radio Station Presets

1. Short press any of the Preset(1-6) buttons. The frequency stored at the preset location is tuned when the button is released.

Scan

To initiate the Scan function, short press the SCAN/ASCN button. When SCAN is initiated, the radio seeks up in frequency and stops on the next strong frequency for 8 seconds before continuing to seek for the next strong station.

If no station is found in two passes through the band, the radio will display "NO STATION FOUND" and then tune to the starting frequency.

Autoscan

This function temporally stores the strongest 6 stations of the current band in the presets until the radio is powered off or the source is changed.

AUTOSCAN does not store the frequencies on the presets on numerical order. Frequencies are stored based on the order they were found and on the quality of the frequency.

To initiate the AUTOSCAN function, long press the SCAN/ASCAN button until the radio performs a beep. Then the "AUTO SCAN" icon will blink while the radio is storing the temporary presets.

When the Autoscan process finishes, the radio will tune to the station stored in Preset 1 and the "AUTO SCAN" icon shall be illuminated while the mode is active.

To tune any of the 6 frequencies or to store new presets, follow the steps defined in the Presets section.

To exit this mode and return to the original presets execute any of the following actions:

1. Press and hold the SCAN/ASCAN button

2. Press the SCR/PWR button.

3. Turn off the radio.

4. Perform an ignition cycle

5. Disconnect the battery.

WX

The WX band is for the Governmental weather radio services frequencies. The radio can tune to the seven weather channels following the steps in Tuning, Presets, and SCAN sections.

SXM (If Equipped)

Vehicles with a valid SiriusXM® satellite radio subscription can receive SiriusXM programming. SiriusXM satellite radio has a wide variety of programming and commercial-free music, coast to coast, and in digital-quality sound.

SiriusXM®

SXM Display

When SiriusXM is active, the channel number, channel name, artist name/content info, song title, or category name could be displayed on the screen. SiriusXM may update the information at any time.

To change the current display view, short press the DISP button.

When a new channel is selected, a song change occurs, SXM source is selected (from power-up or source change) or the information is updated, all the elements will be displayed using paging. The paging can be stopped by short pressing the DISP button.

Display labels

To recognize the displayed text, the radio uses the following convention :

• Channel Number: CH

• Channel Name: CH

• Artist Name: ART

• Content Info: INFO

• Song Title: SONG

• Category name: CAT

SXM Categories

SiriusXM stations are organized in categories.

The category list for SXM is in the following webpage: "http://www.siriusxm.com/sxm/pdf/sirius/channelguide.pdf"

To change the current category, long press the NEXT/PREV button and the radio will tune the first channel on next or previous category.

Category mode Enable/Disabled

Category Search Mode Enabled means that only channels in the current Category are searched. When enabled, the CATEGORY icon is turned on.

Category Search Mode Disabled means that all channels are searched. When disabled, the CATEGORY icon is turned off.

To enable/disable the category browse mode, follow the steps in the User Menu section

The default after a power-up is Category Disabled.

SXM Channel Selection

Presets and SCAN functions work the same as defined in the SCAN subsection of AM-FM-WX Radio.

NEXT button

While in SXM the radio will scroll to the next channel available in numerical order.

PREV button

While in SXM the radio will scroll to the previous channel available in numerical order

Note: If the SXM service is not activated, only the free-to-air channels will be present.

SXM Radio ID

If tuned to channel 0, "RADIO ID" label alternates with the SXM radio eight-digit code. This code is needed to activate the service.

DISP button does not work in channel 0. Channel 0 is not available in category mode enabled.

SXM Messages

SXM BUSY – The audio system is acquiring and/or processing audio and/or text data. No action is needed.

ART UNAVAIL – There is not Artist Name related with the current song.

SONG UNAVAIL – There is not Song Title related with the current song.

CHAN UNAVAIL – There is no Channel Name related with the current channel.

CHECK ANTENNA – SXM antenna or antenna cable is not connected to the radio or the antenna is shorted.

NO SIGNAL – SXM tuner module reports the No Signal condition. Under this condition only Channel 0 will work as stated in this manual.

CHAN UNSUB – Active channel has become unsubscribed or the requested channel is not unsubscribed.

SUBSCRIPTION UPDATED - PRESS OK TO CONTINUE – The subscription of the radio was updated. To remove the message and return to the previous state pres "OK" (Knob).

CH UNAVAIL – Requested channel is reported unavailable for a newly selected channel or the currently selected channel. Unavailable channels are in the legal channel range but are not currently available for display or subscription as a broadcast service. After 3 seconds the previous channel (if available) or channel 1 will be tuned.

iPod

This radio supports the following iPod models:

- iPod classic (sixth generation)

- iPod nano (6G)

- iPod touch (4G)

- iPhone (3G, 3GS, 4, and 4S)

Other iPods may be played, but functionality is not guaranteed.

Radio provides up to 1A of charge, so any device connected to the USB that requires less than 1 A will be charged.

There may be problems with the operation and function in the following situations:

- When, connecting an iPod on which a more recent version of the firmware is installed than is supported by the Radio

- When, connecting an iPod with firmware from other providers is installed

Playing from an iPod

To connect an iPod:

1. Connect one end of the standard iPod USB cable to the iPods dock connector.

2. Connect the other end to the USB port in the front radio display.

1. Radio will start playing the USB and shows the track number, Song, Artist, elapsed time, and Album information when available.

2. iPod music information displays on the radios display and begins playing through the vehicles audio system.

3. If the iPod is an unsupported model, it can be listened to in the vehicle by connecting to the auxiliary input jack using a standard 3.5mm (1/8 in) stereo cable.

Expected behavior when iPod is connected:

- The iPod battery recharges automatically while the vehicle is on.

- The iPod shuts off and stops charging when the vehicle is shut off.

iPod Menu

Use the following steps to navigate the iPod Menu:

1. Press the magnifying glass (preset 1) button while USB source (iPod connected) is active to access the iPod Menu.

2. Use the Volume Knob or Next/Prev button to navigate through the different options.

3. Use the iPod Menu to select.

Playlists

Use the following steps to navigate playlists:

1. Press to view the playlists on the iPod.

2. Select a playlist name to view a list of all songs in the playlist.

3. Select the song from the list to begin playback.

Artists

Use the following steps to navigate artists:

1. Press to view the artists on the iPod.

2. Select an artist name to view a list of all albums with songs by the artist.

3. Select an album.

4. Select the song from the list to begin playback.

Albums

Use the following steps to navigate albums:

1. Press to view the albums on the iPod.

2. Select an album name to view a list of all songs on the album or select All Songs to view all songs on the iPod.

3. Select the song from the list to begin playback.

Genres

Use the following steps to navigate genres:

1. Press to view the genres on the iPod.

2. Select a genre name to view a list of artists of that genre.

3. Select an artist to view albums or All Albums to view all albums of that genre.

4. Select Artist to view albums.

5. Select Album to view songs.

6. Select the song from the list to begin playback.

Podcasts

Use the following steps to navigate podcasts:

1. Press to view the podcasts on the iPod.

2. Select a podcast name to begin playback.

Songs

Use the following steps to navigate songs:

1. Press to view a list of all songs on the iPod.

2. Select the song from the list to begin playback.

Composers

Use the following steps to navigate composers:

1. Press to view the composers on the iPod.

2. Select the composer to view a list of songs by that composer.

3. Select a song from the list to begin playback.

Audio Books

Use the following steps to navigate audio books:

1. Press to view the audio books on the iPod.

2. Select the audio book from the list to begin playback.

When an iPhone or iPod Touch with iOS lower than iOS 5.0 is connected through USB or Bluetooth, the audio may not be heard when the iPod source is selected. To correct this situation, select either the dock connector in the phone or disconnect and reconnect the Apple device.

Note: iOS is the Apple Operative System.

Use the following controls to play the iPod:

PREV (Previous)- Press to seek to the beginning of the current or previous track.

Note: If the track has been playing for less than 10 seconds, it will seek for the previous track. If longer than 10 seconds, the current track starts from the beginning.

NEXT (Next) - Press to seek to the next track.

FF/FR (Fast Forward/Fast Reverse) - To fast forward or reverse through a track, press and hold Next or PREV button.

RDM (Random) - Press to play the tracks randomly. Press again to stop shuffle mode. Look for the RDM icon to turn on in the radio display.

RPT (Repeat) - Press to repeat current track. Press again to stop repeat. Look for the RPT icon to turn on in the radio display.

Error Messages - If an **"UNSUPPORTED"** message is displayed, it could be for one of the following reasons:

- When, the iPod connected is not supported (look at page X for the list of iPods supported).

- The iPod does not respond to the radio commands, in this case reset the iPod, and try again the connection.

If an **"NO MUSIC"** message is displayed, it could be for one of the following reasons:

- There are not any playable files in the iPod.

USB

Playing from a USB

A USB mass storage device can be connected to the USB port.

The USB port is in the front of the radio display.

Five volts DC power is limited to 1 amp from this port. Devices such as iPad that require greater current will not charge from this port.

USB MP3 Player and USB Drives. The USB MP3 players and USB drive connected must comply with the USB Mass with the USB Mass Storage specification:

- MS-DOS partition only

- Class specification (ESB MSC) and supports formats of FAT32, FAT16, NTFS, and HFS+.

- Hard disk drives may be played, but are not supported.

- The radio will not be able to play write-protected music.

- MTP players are not supported.

The following guidelines must be met when creating MP3 files, otherwise the files might not play:

For MP3 Files:

- Bit rates: 32, 40, 48, 56, 64, 80, 96, 112, 124, 160, 192, 224, 256, 320 kbps for MPEG-1 Audio Layer 3.

- Sampling frequencies: 32, 44.1 and 48 kHz for MPEG-1 Audio Layer 3.

- Maximum number of folders: Eight folders with 255 files per folder.

- Maximum of 1,000 files on a disc.

- M3u and pls playlist versions supported

- Recorded on a CD-R or CD-RW with a maximum capacity of 700 MB.

For Unprotected WMA Files:

- Versions: 1, 2, 7, 8, 9 and 9.1.

- Bit rates: 32 - 320 kbps.

- Sampling frequencies: 32 - 48 kHz.

Playing a USB Device

Use the following steps to navigate and play a USB device:

1. Connect the USB and it begins to play.

2. Using the SRC Button selects the USB source.

3. Radio will start playing the USB and will show the track number, Song, Artist, elapsed time, and Album information when available.

Use the following controls to play the disc:

PREV (Previous)- Press to seek to the beginning of the current or previous track.

Note: If the track has been playing for less than 10 seconds, it seeks to the previous track. If longer than 10 seconds, the current track starts from the beginning.

NEXT (Next) - Press to seek to the next track.

FF/FR (Fast Forward/Fast Reverse) - To fast forward or reverse through a track, press and hold Next or PREV button.

RDM (Random) - Press to play the tracks randomly. Press again to stop shuffle mode. Look for the RDM icon to turn on in the radio display.

RPT (Repeat) - Press to repeat current track. Press again to stop repeat. Look for the RPT icon to turn on in the radio display.

Folder Up - Press to select next folder.

Note: If playing a specific playable scope, when pressed the radio will jump and starts playing track 1 as newly inserted USB.

Folder Down - Press to select previous Folder.

Note: If playing a specific playable scope, when pressed the radio will jump and starts playing track 1 as newly inserted USB.

SCAN:

- Short press to start the SCAN of the current playing context.

- Long press to SCAN the whole device starting on track 1.

Error Messages - If an **"UNSUPPORTED"**message is displayed, the error could be for one of the following reasons:

- When an MTP Player or a USB device with unsupported format or partition is connected.

- When the device is damaged.

- When the connected device was not connected as mass storage device.

If an **"NO MUSIC"**message is displayed, it could be because there are not MP3 or unprotected WMA files that can be played.

Front Auxiliary

In the front auxiliary mode, you can play an external device such as an iPod® or MP3 player via the auxiliary input jack on the front of the receiver.

To use an external device, simply connect the device via the auxiliary input jack.

Front auxiliary mode will not be available if no device is connected to the auxiliary input jack on the front of the receiver

Rear Auxiliary

In rear auxiliary mode, you can play an external device that you have connected via the receivers rear power auxiliary input lines.

To use an external device, simply connect the device via the auxiliary input jack and select it using the source button.

Rear Aux source will be available even when no device is attached to the rear input.

Bluetooth (If Equipped)

The radio can connect to a Bluetooth Device. To use this functionality your device requires Bluetooth and to be paired and connected to the radio.

Supports most Bluetooth devices.

You can connect up to 10 devices to the radio, the radio will connect to the first available paired device, starting from the last paired/connected device.

The Bluetooth Menu is available when the Phone button is pressed for more than 3 seconds. To navigate through it, rotate the knob.

The Bluetooth Menu consists of the following options: BT ENABLE, CONNECT PH, DISCONNECT PH, ADD PHONE, and DELETE PH (some options are only available when a device has been paired previously).

Enabling/Disabling Bluetooth

To Enable/Disable Bluetooth in your Radio (if it is not already activated):

- Press the phone button for more than 3 seconds while the Radio is ON. The Bluetooth Menu will be shown.

- Rotate the volume knob until the display shows: "BT Disable" or "BT Enable". Press the volume knob to Enable or Disable the Bluetooth.

- Press the Volume Know to Enable or Disable the Bluetooth.

When the device was previously paired, the Phone Icon will be active and the arrow icons will blink until the reconnection of the previously paired phones is attempted (each phone will be attempted three times).

Pairing a Bluetooth Device

To complete pairing the following steps must be followed:

1. Enable Bluetooth on the radio and on the device. Refer to your devices Manual for more information.

2. Pair the Device to the Radio:

   - Press the Phone button for more than 3 seconds The Bluetooth Menu will be shown.

   - Rotate the Volume Knob until the display shows: ADD PHONE.

   - Press the Volume Knob to confirm the action.

The radio will display ADDING PH for 3 seconds. In this discoverable mode, the Bluetooth status icon will blink for up to 3 minutes. If no phone was found, the radio will display NO PH FOUND and the Phone and arrows icon will be disabled.

During the discoverable mode, set your cell phone to add a Bluetooth device and look for the name "DEA500 RADIO":

- Follow the instructions on your phone to add a connection. When necessary, use the 4-number PIN 0000 to connect to the radio.

- When the cell phone has been successfully added, the radio will display PH CONNECTED and then the Bluetooth device name. The Phone Icon will be active on the display and the arrows will be disabled.

- When the radio connects, the Bluetooth icon will blink. The blinking icon signifies that the receiver is attempting to download the cell phones CONTACTS (for the DIAL CONTACTS function). The icon will cease to blink if all contacts have been downloaded or if the radio times out from receiving contacts from the cell phone. See your phones user guide for more information.

Note: If a device is connected through different sources at the same time, the functionality cannot be guaranteed (Device Dependent). Example: Device connected through Front Aux and Bluetooth or USB and Bluetooth at the same time.

Note: The iOS is the Apple Operative System.

Note: If the track has been playing for less than 10 seconds, it seeks to the previous track. If longer than 10 seconds, the current track starts from the beginning.

Connecting a Device

If your device was previously paired, you can simply connect to the device:

1. Press the Phone button for more than 3 seconds. The Bluetooth Menu will be shown

2. Rotate the Volume Knob until the display shows CONNECT PH.

3. Press the knob to confirm the action. Select the desired Device (rotate the knob and confirm by pressing the knob). The radio will show CONNECTING for 3 seconds.

4. When the radio connects, the radio will display PH CONNECTED and the Device Friendly Name, the Bluetooth icon will blink. The blinking icon signifies that the receiver is attempting to download the cell phones CONTACTS (for the DIAL CONTACTS function). The icon will cease to blink if all contacts have been downloaded or if the radio times out from receiving contacts from the cell phone device. Phone Icon will be active on the display.

Disconnecting a Device

If your device is connected and you required disconnecting it from the radio, follow the next actions:

1. Press the Phone button for more than 3 seconds. The Bluetooth Menu will be shown.

2. Rotate the Volume Knob until the display shows DISCONNECT PH.

3. Press the knob to confirm the action. The radio will show DISCONNECT PH for a short time. Once, the Phone is disconnected the radio will display DISCONNECTED and then the Bluetooth device name. The Phone Icon will be inactive.

Deleting one or all Devices

To delete a device from the radio, one or all devices previously paired:

1. Press the Phone button for more than 3 seconds. The Bluetooth Menu will be shown.

2. Rotate the Volume Knob until the display shows DELETE PH.

3. Press the knob to enter the submenu.

4. The radio will show a device list (navigate through it by rotating the knob). Select the device to be deleted or select DELETE ALL to erase all the paired devices in the list by pressing the Volume Knob. The radio will show PH DELETED.

Hands Free/Bluetooth Features

Once your device is properly paired (see Paring a Bluetooth Device) and connected (see Connecting a Device), the radio supports the following Hands Free features if the connected device has hands free functionality.

Dial Menu

The radio can retrieve the last calls and contact information from the device (Hands Free profile must be available in the device and sometimes the action must be accepted by the user).

The dial menu is accessed when the device is not in a call and the Phone button is pressed.

Dial/Redial

The user can retrieve the last phone number called and place a call. Press the Phone button and the last phone number called will be dialed.

Quick Dial

The radio can store phone numbers in any of the available preset buttons.

To save a phone number, you can select the contact using either the DIAL CONTACTS feature or the LAST CALLS feature. When the desired contact phone number is displayed, press and hold any of the PRESET buttons until you hear a beep confirming the phone number has been saved.

To dial a saved phone number, select QUICK DIAL from the menu and rotate the knob to select the appropriate PRESET number. Press the knob to place a call to saved phone number.

To change presets simply repeat the process with the desired phone number. Presets are overwritten.

Dial Contact

The radio is able to read and display cell phone contacts. Press the Phone button to show the DIAL MENU and rotate the knob until DIAL CONTACTS is shown, press the knob to select this feature. Rotate the knob to select between the different stored contacts (up to 500 numbers from the phone and 250 contacts from the SIM). Press the OK button if you want to dial to the listed contact.

The radio will download the following phone numbers from each contact (if available): HOME, WORK, MOBILE, OTHER, and PREFERRED. Within the menu phone numbers will be displayed as either: H, W, M, O, or P plus the 10-digit number (XXXXXXXXXX).

When the transfer is successful, the radio will show the DIAL CONTACTS submenu. Each time the radio connects to your phone, the DIAL CONTACTS submenu is updated, so you may need to repeat this manual operation as needed.

Last Calls

The radio is capable of listing the last 10 calls (DIALED, RECEIVED AND MISSED). Rotating the knob will navigate the user through the selected call list. Press the OK button to place the call.

Note: If a device is connected through different sources at the same time, the functionality cannot be guaranteed (Device Dependent). Example: Device connected through Front Aux and Bluetooth or USB and Bluetooth at the same time.

Call Options

The following options are available during a Hands Free call.

Accepting a Call

When an incoming call is received, the radio will play the in bang ringtone if the device supports this feature, otherwise a default ringtone will be played, the user can adjust the Volume of the ringtone, while the ringtone is played. Any volume lower than 13, will not be considered for the next incoming call. Volume above 13 will be stored for the next call.

When an incoming call is received, the radio will display the name (if available) and number of the caller. To accept the call, press any of the following radio buttons: Phone, Knob, or NEXT.

Rejecting a Call

When an incoming call is received, the radio will display the name (if available) and number of the caller. To reject the call, press any of the following radio buttons: ESC or PREV.

Ending a Call

When a Hands Free call is in progress, the radio will display the callers number and the elapsed time. To end a call, press any of the following radio buttons: Phone, ESC, or PREV.

Microphone Mute

When a Hands Free call is in progress, pressing Pause/Play will mute the radios microphone. Press again to deactivate mute.

Bluetooth Microphone

Procedure for troubleshooting the Bluetooth Cab Microphone when the other parties call reception audio is unclear.

Illustration 16   g06281504
(1) UP Arrow

There are common conditions that can affect the audio volume of a call receiver that is not the machine operator.

1. The UP arrow (1) of the Bluetooth Microphone should always be pointed up or away from the operator. (See Illustration 7)

2. If not, attempt to remove and rotate the microphone and see if this improves the audio volume of the other party.

If the audio does not improve by speaking closer to the microphone, then it is possible the cell was not picked up by the radio. Test for audio improvement by talking into the cell phone microphone.

The Bluetooth Microphone is not wireless, also check to make sure that the harness is intact and connected to the Entertainment Radio.

Note: Some Bluetooth capabilities are not available in all countries. Contact the design control for a list of unregulated regions.

Call Transfer

If a call is in progress, press the radio Phone button for more than 3 seconds to transfer the call to the cell phone for private conversations. Repeat this process if you want to return to Hands Free mode again.

Note: If playing a specific playable scope, when pressed the radio will jump and starts playing track 1 as newly inserted USB.

Bluetooth Call Output

Procedure for troubleshooting the Entertainment Radio settings for no audio output.

Illustration 17   g06281444

Bluetooth calls are only audible over the Front Left speaker output. The speaker itself could be behind the operator. This is assuming the phone is properly paired with the radio over Bluetooth already. Refer to the Owner's Manual provided with the Entertainment Radio for assistance with setup and pairing of a Bluetooth device.

There are three common setups that can affect Bluetooth calls being heard over the cab speakers. The Entertainment Radio speaker balance setting, the cab wiring, and call volume of the radio or cell phone.

1. First check the Balance settings to make sure that they are set to 0. (See Illustration 8)

2. With the ignition turned to the ON position and the radio turned ON, press the volume knob for 2 seconds or longer to get to the Audio Control Menu.

3. The first item that is displayed is Bass 1/8. Adjust the volume knob until Balance 5/8 is seen.

4. Press the volume knob to select the Balance option when it is displayed. If the Balance shows any other settings than 0, adjust the volume knob clockwise or counter-clockwise until Balance 0 is displayed. Then press the volume knob again to confirm the selection.

5. Wait for the menu to time out before adjusting any other settings. The radio will go to the previous media setting before the menu was entered.
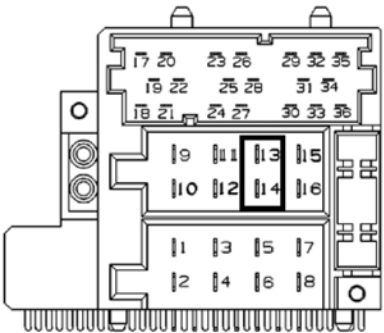
Illustration 18   g06280481

Illustration 19   g06281286

The wiring can also be checked to make sure that the speaker output is connected properly. Review the images above for proper left speaker wire connections. (See Illustration 9 and 10)

If the audio is able to be quietly heard in the left speaker after the above settings are reviewed. Make sure that the volume of the radio is turned up if needed, and check the phone call volume.

BT Audio

Bluetooth Player

If your connected device supports this feature, it can be used as an audio source input to the radio, allowing you to enjoy the music files stored on your phone.

This feature is recommended to be used with the device default player. Functionality cannot be warranted, when a third-party player is used in the connected device. The radio can be out of synchrony if the user alters or command the player within the phone.

To access music files on your phone press the SRC button and select BT AUDIO.

In BT AUDIO you can use the following radio buttons: Play, Pause, NEXT, PREV, Fast Forward and Fast Reverse, Repeat and Random, if the device supports them.

Note: If a device is connected through different sources at the same time, the functionality cannot be guaranteed (Device Dependent). Example: Device connected through Front Aux and Bluetooth or USB and Bluetooth at the same time.

Note: If the track has been playing for less than 10 seconds, it will seek for the previous track. If longer than 10 seconds, the current track starts from the beginning.

Play/Pause - Press to play the current track. Press again to pause the audio.

Note: If playing a specific playable scope, when pressed the radio will jump and starts playing track 1 as newly inserted USB.

PREV (Previous)- Press to seek to the beginning of the current or previous track.

Note: If the track has been playing for less than 10 seconds, it seeks to the previous track. If this is longer than 10 seconds, the current track starts from the beginning.

NEXT (Next) - Press to seek to the next track.

FF/FR (Fast Forward/Fast Reverse) - To fast forward or reverse through a track, press and hold Next or PREV button.

RDM (Random) - Press to play the tracks randomly. Press again to stop shuffle mode. Look for the RDM icon to turn on in the radio display.

RPT (Repeat) - Press to repeat current track. Press again to stop repeat. RPT icon will be turned "ON" or "OFF" when the feature is enabled or disabled.

Note: This function will only be shown if the cell phone supports this feature.

Note: The contacts shown on the radio display will depend on the information received by the radio from the phone device used.

Note: Function may differ depending on the phone.

Note: Some cell phones may require enabling this feature through their own applications. Consult your cell phone user guide regarding how to enable it.

Note: Some phones will make the radio display BT AUDIO PAUSE while audio is available. This is normal on phones that do not have full compatibility with this radio Bluetooth remote control commands.

Note: Some devices will disconnect Bluetooth when a transfer is performed.

Radio Systems Settings

The radio contains two menus for settings adjustment:

• Audio Control Menu

• User Menu

These menus are defined in the following sections.

Audio Control Menu

The Audio Control Menu is shown when the Volume knob is pressed for less than 2 seconds.

In this menu the user can adjust the bass, middle, treble, fade, balance, auto EQ, and, modify the Clock and Alarm Settings.

Once in the Audio Control menu, rotate the knob until the desired option is displayed, press the volume knob to select.

Bass

The display will show BASS and its current level from -6 to +6. Rotate the knob clockwise 13 to increase the Bass and counterclockwise to decrease it.

Middle

The display will show MIDDLE and its current level from -6 to +6. Rotate the knob clockwise to increase the Middle and counterclockwise to decrease it.

Treble

The display will show TREBLE and its current level from -6 to +6. Rotate the knob clockwise to increase the Treble and counterclockwise to decrease it.

Fade

The display will show FADE and its current level from -6 to +6. Rotate the knob clockwise to move the sound to the front speakers and counterclockwise to move the sound to the rear speakers. Fade is not available in 2-speaker mode.

Balance

The display will show BALANCE and its current level from L15 to R15. Rotate the knob clockwise to move the sound to the right speakers and counterclockwise to move it to the left speakers.

Auto EQ

The display will show the current selected option. Rotate the knob clockwise and counterclockwise to cycle through auto EQ options from 1 to 7. Options are:

• Pop

• Rock

• Country

• News

• Jazz

• Classical

• Manual

To select the desired option, press the knob again.

Clock

To adjust the time in the radio, press the knob button to show the Audio Control Menu. Rotate the knob until the Clock is shown on the display and press the knob to enter the Clock Menu.

Once in the Clock Menu you can select 12- Hour or 24-Hour format by rotating the knob and pressing it to confirm.

Finally, after the format configuration and confirmation, adjust the changes by pressing the Knob button.

Alarm

To set the Alarm press, enter the Audio Control Menu, select Alarm, and press the knob. Once in the Alarm Menu, change the ALARM ON/OFF by rotating the knob and presing the knob to the selection. When the user selects "ALARM ON" , the Alarm Icon will be set to "ON" and the following configuration options will be shown.

Time

The alarm hour digits will begin to flash. The format will be the same as the current clock selection (12- or 24-hour mode). Change the hour by rotating the knob and confirm the hour by pressing the knob. After that the alarm minute digits will begin to blink, change and confirm the selection.

Set Tone or Set Music

Change between SET TONE or SET MUSIC by rotating the knob and pressing the knob.

Volume

When Tone is selected, the volume can be changed between Low, Mid, and High (no sound will be heard while setting up the Tone volume). When Music is selected, adjust the volume from 0 to 30.

No Audio Output

Procedure for troubleshooting the Entertainment Radio settings for no audio output.

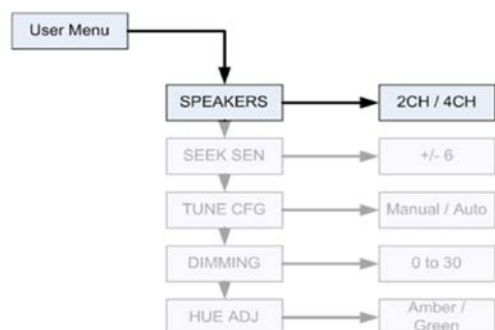Illustration 20   g06281344

Illustration 21   g06281348

The most commonly seen issue for no audio output is the Fade being set to the rear setting. All cabs should be using the Front Speaker output of the Entertainment Radio, even if the speakers are placed behind the operator. This can be troubleshot by making sure the radio is first in 4 Channel Speaker mode because the Fade option is not shown when in 2 Channel Speaker mode.

1. With the ignition turned to the ON position and the radio turned ON, press the volume knob for 2 seconds or longer to get to the User Menu. (See Illustration 12)

2. This will show the Speaker option, with a short press of volume knob it will bring you to either Speaker 2CH or Speaker 4CH.

3. Adjust the volume knob clockwise or counter-clockwise till you see Speaker 4CH. Then press volume knob again to confirm the selection.

4. Wait for the menu to time out before adjusting any other settings. The radio will go to the previous media setting before the menu was entered.
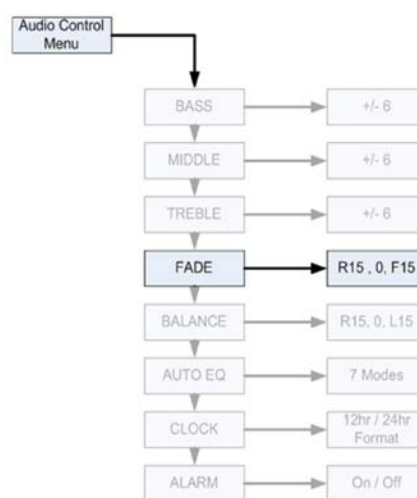
Illustration 22   g06281353

Illustration 23   g06281360

Next check the settings of Fade and make sure it is set to 0. (See Illustration 14)

1. With the ignition turned to the ON position and the radio turned ON. Press the volume knob for 2 seconds or longer to get to the Audio Control Menu.

2. The first item the menu will display is Bass 1/8. Adjust the volume knob until Fade 4/8 is seen.

3. Press the volume knob to select the Fade option when it is displayed. If the Fade shows any other setting than 0, adjust the volume knob clockwise or counter-clockwise until Fade 0 is displayed. Then press the volume knob again to confirm the selection.

4. Wait for the menu to time out before adjusting any other settings. The radio will go to the previous media setting before the menu was entered.

5. If this was the issue, then audio should now be playing if the volume is adjusted and a station or media device is selected.

6. Return the radio to Speaker 2CH so the fade option is hidden to reduce reoccurrences of this audio issue. Reference Illustration 2 and steps below to accomplish.

Turning the Alarm Off

When the alarm is triggered, to cancel the alarm, short press the preset 3 button. If you do not turn off the alarm, it will automatically shut off after 63 minutes.

Activating Snooze

To "SNOOZE" the alarm, press any button for less than 2 seconds when the alarm sounds, except Preset 3 button. "SNOOZE" will appear for 3 seconds and the alarm will be postponed for 9 minutes.

User Menu

The User Menu is shown when the Volume knob is pressed for more than 2 seconds.

In this menu the user can configure the following options:

- Speakers

- Seek Sensitivity

- Playback configuration

- Dimming

- Category Enable/Disable

- Hue Adjustment

Not all the options are available in all the modes. See restrictions in the following sections.

Once in the user menu, rotate the knob until the desired option is displayed, press the volume knob to select.

Speakers (SPEAKERS)

The display will show SPEAKERS and the current selected option. This submenu allows you to change the speakers between 2 and 4 Channels. Rotate the knob to change between 2CH or 4CH and press the Knob to select the desired option.

Seek Sensitivity (SEEK SEN)

The display will show SEEK SENS and the current level from -2 to +2. Rotate the knob clockwise to increase the Sensitivity value and counterclockwise to decrease it. Press the Knob to select the desired option. This option is only available when radio is playing Tuner Mode.

Tune Configuration (TUNE CFG)

The display will show TUNE and the current selected option Auto or Manual. Rotate the knob to change between AUTO and MANUAL, press the Knob to select the desired option.

Playback Configuration (PLBK CFG)

This menu allows the user to select the Next and PREV buttons configuration. The splay will show the current selected option SEEK or FAST F/F. Rotate the knob to change between SEEK or FAST F/F, press the Knob to select the desired option. This option is only available when the radio is playing CD, USB, or iPod Mode.

Dimming

When the vehicle uses dimming by CAN or Analog configuration, the display will show DIMMING 0. This value can be adjusted from -10 to +10. Otherwise the display will show DIMMING and the current selected level from 0 to 30. Rotate the knob clockwise to increase the Dimming and counterclockwise to decrease it

Category Enable/Disable (CAT E/D)

The display will show CAT ENABLE or CAT DISABLE depending on the current selection. Rotate the knob to change between the two options and press the Knob to confirm the selection. This option is only available in SXM Mode.

HUE Adjustment (HUE ADJ)

Depending on the Radio colors available the display will show any of the following options:

- AMBER or GREEN

- RED or BLUE

Rotate the knob to change between the two options and press the knob to confirm selection. This option is only available in models equipped with Dual Color.

Audio Players (CD Player)

The player can be used for CD and MP3 audio.

With the vehicle on, insert a disc into the slot, label side up. The player pulls it in and begins playing.

The system is capable of playing:

- Most Audio CDs

- CD-R

- CD-RW

MP3 or unprotected WMA formats.

When playing any compatible recordable disc, the sound quality can be reduced due to disc quality, the method of recording, the quality of the music that has been recorded, or the way the disc has been handled.

There can be increased skipping, difficulty in recording tracks, finding tracks, and/or difficulty in loading and ejecting.

If these problems occur, check the disc for damage or try a known good disc.

To avoid damage to the CD Player

The following actions are recommended:

- Do not use scratched or damaged discs

- Do no apply labels to discs. (The labels could get caught in the player)

- Insert only one disc at a time

- Keep the loading slot free of foreign materials, liquids, and debris

- Use a marking pen to label the top of the disc

Loading and Ejecting Discs

To load a disc:

- Turn on the vehicle

- Insert a disc into the slot, label side up. The player pulls it in the rest of the way. If the disc Is damaged or improperly loaded, there is an error on the screen and the disc ejects.

The disc automatically plays once loaded.

Press "Eject" to eject a disc from the CD player. If the disc is not removed within a short time, it is automatically pulled back into the player.

Playing an Audio CD

Perform the following steps to play an audio CD

1. Using SRC Button select the CD source.

2. Radio will start playing the CD and will show the track number, Song, Artist, elapse dime, and Album information displays when available.

Use the following controls to play the disc:

PREV (Previous)- Press to seek to the beginning of the current or previous track.

Note: If the track has been playing for less than 10 seconds, it seeks to the previous track. If longer than 10 seconds, the current track starts from the beginning.

NEXT (Next) - Press to seek to the next track.

FF/FR (Fast Forward/Fast Reverse) - To fast forward or reverse through a track, press and hold Next or PREV button.

RDM (Random) - Press to play the tracks randomly. Press again to stop shuffle mode. Look for the RDM icon to turn on in the radio display.

RPT (Repeat) - Press to repeat current track. Press again to stop repeat. RPT icon will be turned "ON" or "OFF" when the feature is enabled or disabled.

SCAN:

- Short press to start the SCAN of the current playing context.

- Long press to SCAN the whole device starting on track 1.

Folder Up (only available when playing MP3 CDs)

Press to select next Folder, if playing a specific playable scope, when pressed the radio plays track 1 as newly inserted USB.

Folder Down (only available when playing MP3 CDs).

Press to select previous Folder, if playing a specific playable scope, when pressed the radio plays track 1 as newly inserted USB.

Error Messages

If "Disc Error" message is displayed and/or the disc comes out, it could be for one of the following reasons:

- The disc has an invalid or unknown format

- The disc is hot. Try again when the temperature returns to normal

- The road is rough. Try the disc again when the road is smoother

- The disc is bent

- The disc is dirty, scratched, wet, or upside down

- The air is humid. Try the disc again later

- There was a problem while burning the disc

- The label is caught in the CD player

- If the disc is not playing correctly, for any other reason, try a known good CD

- If any error continues, contact your dealer

MP3

Playing an MP3 CD:

To play an MP3 CD, follow the same instructions as for "Playing an Audio CD"

The following guidelines must be met when creating an MP3 disc, otherwise it might not play.

For MP3 Files:

- Bit rates: 32, 40, 48, 56, 64, 80, 96, 112, 124, 160, 192, 224, 256, 320 kbps for MPEG-1 Audio Layer 3

- Sampling Frequencies: 32, 44.1 and 48 kHz for MPEG-1 Audio Layer 3

- Maximum number of folders: Eight Folders with 255 files per folder

- Maximum number of 1,000 files on a disc

- M3U and PLS playlist versions supported

- Recorded on a CD-R or CD-RW with a maximum capacity of 700 MB.

For Unexpected WMA Files

- Versions: 1, 2, 7, 9 and 9.1

- Bit rates: 32,- 320 kbps

- Sampling frequencies: 32 - 48 kHz

Music Navigation CD MP3 and USB

Press the magnifying glass (preset 2) button while CD, MP3, or USB source is active to access the CD MP3/USB Music Menu.

Use the Volume Knob or Next/Prev button to navigate through the different options.

The radio had two options.

Folder Mode

Press the Volume Knob to view the folders stored on the disc. Select a folder to view the list of all songs in that folder. There might be a delay before the list displays. Select a song from the list to begin playback.

The folder structure can support up to five levels of depth. The folders and then songs will display in alphabetical order.

In this mode the folders are shown first and at the end the tracks of that folder.

Playlist Mode

Press the Volume Knob to view the playlists stored on the disc. Select a playlist to start playing the first track in the current selected playlist. There might be a delay before the list displays.

Special Considerations

Root Directory:

The root directory is treated as a folder. All files are contained directly under the root directory are accessed prior to any root directory folders.

Empty Folders

If a root directory or folder is empty or contains only folders, the player advances to the next folder in the file structure that contains a compressed audio file. The empty folders are not displayed or numbered.

Fuse

Radio's fuse is located in the fuse box of the vehicle.

The optimal fuse values are between 10A and 15A.

Tips and Troubleshooting Chart

RADIO:

Unable to tune stations:

- You are in a weak signal area

- Increase the Seek Sensitivity(see Seek Sensitivity section for details

CD:

CD player not functioning:

CD player may be out of the operation range, operation temperature of the CD is −20° C (−4° F) to 55° C (131° F)

Allow the vehicles interior temperature to increase or decrease depending in the case.

CD insertion is not possible:

- A CD is already in the CD player

- Eject the CD and remove it

iPod

iPod does not play or there is no sound:

The iPod has not been recognized:

- Verify that the iPod is supported

- If the iPod is supported, reset the iPod and reconnect again (see iPod section for details)

iPod not functioning

The iPod may be out of the operation range, operation temperature of the iPod player is −20° C (−4° F) to 85° C (185° F).

Allow the vehicles interior temperature to increase or decrease to human supportable range.

Bluetooth

My radio does not recognize my Bluetooth enabled device.

Try one of the following actions:

- Remove the device, after that pair and connect the device. Refer to DELETE ONE OR DELETE ALL DEVICES and to Pairing a Bluetooth Device and Connecting a Device sections.

- Make sure that the device is turned on.

- Make sure that the Bluetooth adapter on your radio is enabled, Refer to Bluetooth Enabling/ Disabling section.

- The device might be out of range. Try moving it closer.

The device and my radio cannot communicate.

Try one of the following actions.

- Make sure that you selected the correct device to be connected to. For example, you might have two or more devices previously paired or connected, so make sure that you selected the right device.

- Some devices require a passkey before they can be connected to the radio.

- Probably an incorrect passkey was typed or the time limit expired for typing the passkey. Refer to Connecting a Device section.

- If the device is close to other devices that use radio frequencies (such as microwave ovens, cordless phones, remote controls for electronics or lighting, or 802.11 wireless networks), those devices might be creating interference. Try moving the device that is not working farther away from the other devices.

Device music cannot be heard:

- Verify that the device is paired and connected. Refer to sections: Pairing a Bluetooth Device and Connecting a Device.

- Make sure that BT AUDIO SRC is selected in the source list menu. Refer to PWR SRC Button section.

- Adjust the Volume on the radio by rotating the knob.

- Verify that your device is not paused.

- Make sure that your device has music files.

Rear Seat Audio (RSA)

The RSA shows no link

The radio requires up to 15 seconds to wake up, so if you wake up the radio using the RSA and the radio is in sleep mode, the RSA will show "No-link" while the radio starts. The communication shall be reestablished after this time lapse expires.

Trademarks and License Agreements

Illustration 24   g06229251

"Made for iPod" and "Made for iPhone" mean that an electronic accessory has been designed to connect specifically to the iPod or iPhone and has been certified by the developer to meet Apple performance standards.

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SiriusXM

Illustration 25   g06229256

""SiriusXM" means that the radio has been designed and certified to meet SiriusXM standards.

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FCC Information

Radio is compliant with part 15 of the Dereal Communications Commission (FCC) rules and with Industry Canada Standards RSS-GEN/210/220/310.

Index

Product and Dealer Information

Note: For product identification plate locations, see the section "Product Identification Information" in the Operation and Maintenance Manual.

Delivery Date: _____

Product Information

Model: _____

Product Identification Number: _____

Engine Serial Number: _____

Transmission Serial Number: _____

Generator Serial Number: _____

Attachment Serial Numbers: _____

Attachment Information: _____

Customer Equipment Number: _____

Dealer Equipment Number: _____

Dealer Information

Name: _____   Branch: _____

Address: _____

_____

_____

	Dealer Contact	Phone Number	Hours
Sales:	_____	_____	_____
Parts:	_____	_____	_____
Service:	_____	_____	_____

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