

PA20-GM

iPod to GM (LAN Bus) Interface

User's Manual

(Preliminary version 2008.9.3)

Tech Support: 626 336 3836
PST 9:00 AM to 5:00 PM

Thank you for purchasing **USA:SPEC** product. This manual describes the functions and operation of PA20-GM iPod interface for GM Please read this manual before installing the product in your vehicle.

!!IMPORTANT!!

- ❖ It is strongly recommended that the unit is installed in an accessible location, so that it can later be easily reset or upgraded.
- ❖ **Eject ALL CDs from the built-in CDP player or CD changer or DVD before installation.**
- ❖ **USA:SPEC** sells its products through authorized dealers so we can insure customers will receive proper services from the dealers. **USA:SPEC** reserves the right to offer technical support or warranty only on products purchased through authorized **USA:SPEC** accounts.
- ❖ It is strongly recommended that buy **USA:SPEC** product from sellers **who provide dedicated phone contact support.** **USA:SPEC** will not provide technical support or warranty for purchases made through any unauthorized internet sellers.
- ❖ **SAFETY NOTE:** You should always give full attention to driving. Do not operate iPod in such a way that distracts you while you are driving.

!!CAUTION!!

- In general, iPod has not been designed to withstand temperature extremes in automobiles. Please consult your iPod Owner's Manual regarding acceptable operation and storage temperatures.
- Do not disassemble or alter the cable and interface box.
- Make the connections correctly.
- Do not cut away the wire sheath or use the power for other equipments.
Do not install in locations which might hinder vehicle operation or create hazards for vehicle occupants.
- Having the wiring and installation done by professionals.
- Arrange wiring so it is not crimped or pinched.
- Do not use this product for purposes other than stated for the vehicle.

Section 1. ABOUT PA20-GM INTERFACE ADAPTOR

This interface adaptor connects an iPod directly to your GM audio system. Its on-board software translates commands from GM radio into commands that iPod understands. This interface enables the iPod be integrated into XM band and provides the following benefits:

- Directs the iPod's audio output at dock connector to GM vehicle audio system for optimal sound quality playback.
- Controls the iPod via vehicle's radio and steering controls.
- Charges the iPod's internal battery and during playing, and charging stops automatically at 1/2 hours after iPod is paused. iPod goes to sleep mode when charging stops.

Compatibility

Future firmware updates for your iPod may affect the features and functions described in this manual.

PA20-GM is compatible with GM navigation radio or radio it has a CAT button and is XM ready.

This interface adaptor is to co-exist with factory installed XM receiver, built-in CD change or CD player.

Package Content

PA20-GM package contains one each of PA20-GM adaptor, CB-GML, CB-EXL and CB-PA100 cables.

Display Text Information of Songs

1. When Works with Navigation Radio

PA20-GM lists Artist, Album and Playlist **Folders** on navigation screen and therefore it allows text based song track search with on-screen touch button. The **FOLDER LIST** can also be programmed to FAV buttons for on radio easy, fast and friendly access to iPod folders from radio.

2. When works with non-navigation radio (XM Ready)

PA20-GM provides text based menu on radio display to access Artist, album and Playlist folders on iPod.

AUX INPUT OPTION

Besides iPod, PA20-GM also can connect a second audio source to radio. Connecting the second source to the RCA jack labeled **AUX INPUT**. Setting the DIP switch #1 at the side of the interface adaptor to ON position will enable this second input.

PA20-GM APPLICATION GUIDE

90308

Make	Model	Year	Applicable Radio	XM Receiver Location	Note
Buick	Enclave	2008	on- Nav on	Right-Rear Q-panel	(1)
	Lucerne	07 - 08	on- Nav on	Left-Rear trunk	(1)
Cadillac	DTS	06 - 08	All	Left-Rear trunk	(1)
	Escalade	07 - 08	All	Behind Glove Box	(1)
	EVS	07 - 08	All	Behind Glove Box	(1)
	EXT	07 - 08	All	Behind Glove Box	(1)
Chevy	Avalanche	06 - 08	All	Behind Glove Box	(1)
	Cobalt	2008	All	Under Rear Deck	(2)
	Equinox	07 - 08	All	Left Rear Q-Panel	(1)
	HHR	06 - 09	All	Right-Rear Q-panel	(2)
	Impala	06 - 09	All	Right Rear Trunk	(1)
	Malibu	08 - 09	All	Under Left-Rear Deck	(2)
	Silverado	07 - 08	All	Behind Glove Box	(1)
	Suburban	07 - 09	All	Behind Glove Box	(1)
	Tahoe	07 - 09	All	Behind Glove Box	(1)
GMC	Acadia	07 - 08	on- Nav on	Right-Rear Q-panel	(1)
	Sierra	07 - 08	All	Behind Glove Box	(1)
	Yukon	07 - 08	All	Behind Glove Box	(1)
	Yukon Denali	07 - 08	All	Behind Glove Box	(1)
Pontiac	Solistice	07 - 08	All	Right Rear Trunk	(2)

Note (1): Order CB-GL29 cable if the car does NOT have XM receiver.

Note (2): Order CB-GL11 cable if the car does NOT have XM receiver.

Cables can be ordered from USA SPEC @626-3363836

* **USA-SPEC** verified the published radio and vehicle application to the best of our ability. Due to uncontrollable factors, **USA-SPEC** can not 100% guarantee every published application. These factors include variables such as, anomalies within a factory radio, factory radio heretofore unknown to **USA-SPEC** and partial model year changes.

Section 3 CABLE CONNECTION & DIP SWITCH SETTING

3-1 For cars equipped with GM XM receiver:

- Step 1-a-** Unplug the 16-pin male connector from GM XM receiver and connect it to the female 16-pin connector on CB-GML cable. (To unplug the connector on XM box, pull the blue latch towards you horizontally first.)
- Step 1-b-** Plug CB-GML cable's male connector to XM receiver box.
- Step 2-** Plug the 13-pin DIN connector on CB-GML cable to PA20-GM interface adaptor where is labeled RADIO. (A 13-pin extension cable is included. Use it if CB-GML is not long enough for your installation job.)
- Step 3-** Set DIP switch #1 to ON position if the RCA AUX input is required.

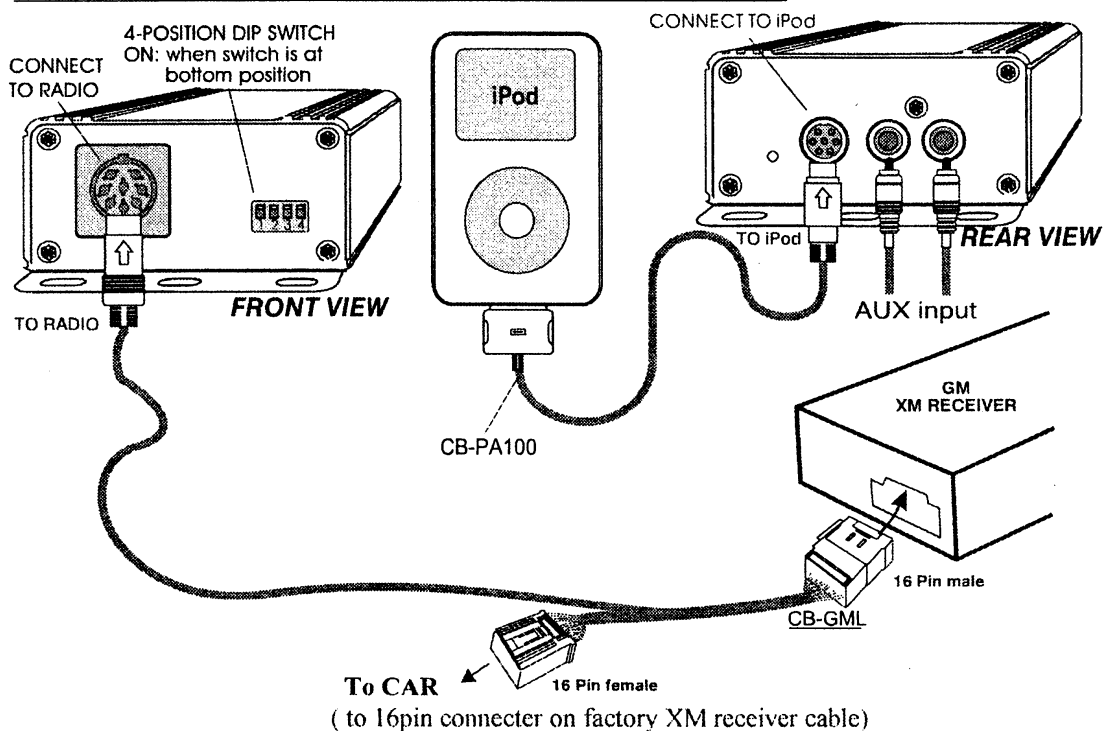
3-2 For cars NOT equipped with GM XM receiver:

- Step 1-** Take the radio out from dash board.
- Step 2-a-** Unplug the 16-pin male connector from the radio and plug it to the female 16-pin connector on CB-GL29 cable or CB-GL11 cable (It depends on car model. See the notes of Application section in this manual.) Plug the 16-pin male connector on **USA-SPEC** cable to radio.
- Step 2-b-** Unplug the 14-pin male connector from radio and plug it to the 14-pin female connector on CB-GL29 or CB-GL11 (It depends on car model. See the of Application section in this manual.) Plug the 14-pin male connector on **USA-SPEC** cable to the radio.
- Step 3-** Set DIP switch #1 to ON position if the RCA Input AUX option is required.

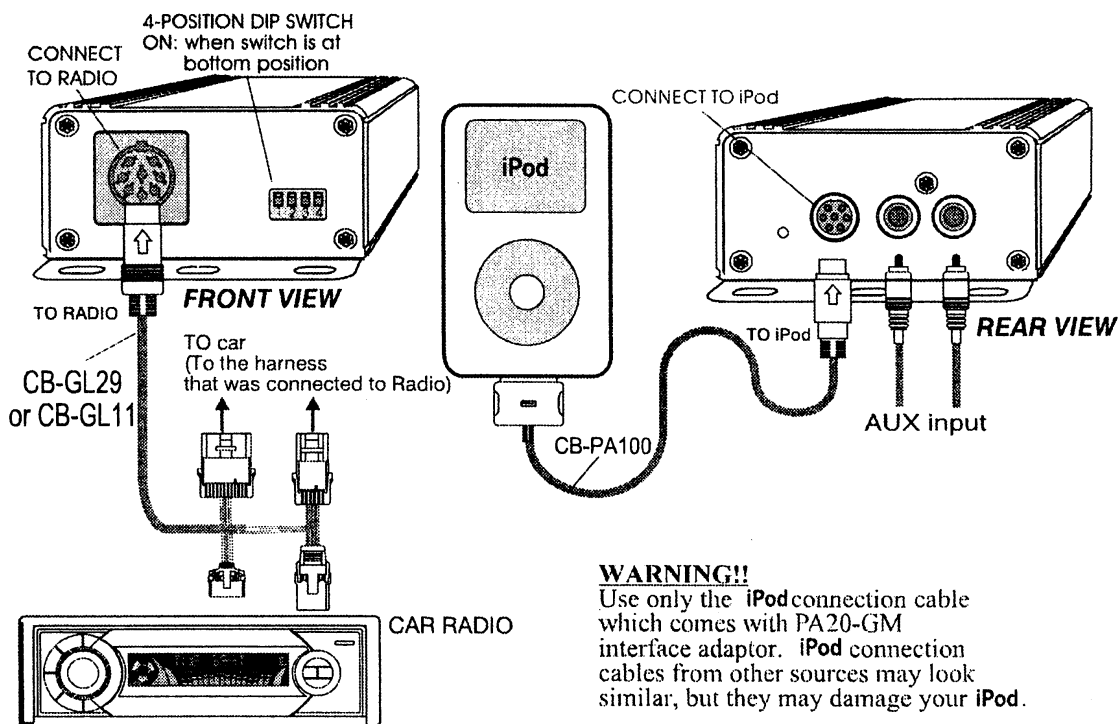
3-3 DIP Switch Setting Summary:

DIP Switch	Position	Function
#1	ON	To enable the RCA AUX feature or option
#1	OFF	To disable the RCA AUX feature or option
#2	ON	For all non-naviagation radios
#2	OFF	For all naviagation radios
#3	ON	For all radios
#4	ON	For all radios

INSTALLATION for Vehicle Equipped with a GM XM receiver



INSTALLATION for Cars with is neither equipped with a GM XM receiver nor Pre-wired for GM XM receiver



WARNING!!

Use only the iPod connection cable which comes with PA20-GM interface adaptor. iPod connection cables from other sources may look similar, but they may damage your iPod.

When iPod is connected to PA20-GM adaptor, iPod will take a few moments to change to its external control mode. The screen of iPod displays "OK to disconnect" to "Connected to accessory. iPod to PA20-GM connection can be made when radio power is either OFF or ON.

4-1 When Works with Navigation Radio

4-1-1 Set-up the "Short-cut" of iPod Folders and Control s to Radio's FAV

This Per-setting procedure is to enable quick access to and exit from iPod folders through steering wheel control or radio touch screen.

Step 1. connect PA20-GM adaptor to radio and turn radio power to ON.

Step 2. Switch to XM band and connect iPod to PA20-GM adaptor.

Step 3-a. Radio displays Fig(1) screen and press "**Preset**" button on radio screen. If radio displays fig(2) screen, press the touch button at screen centre to go to Fig(1).

Step 3-b. Press "**i- Shortcut**" button on radio screen. See Fig(3)

Step 4. Press any one of the folder buttons or function buttons on radio's screen (i.e. **Folders:** Artist, Album and Playlist; **Functions:** Direct, XM Band, AUX).

Step 4. Press any one of the folder buttons or function buttons on radio's screen (i.e.

Step 5. Press the "**Back**" touch button at top right hand corner of radio screen.

Step 6. Press any one of the **FAV** (or, pre-set) buttons at the bottom of radio's screen until a beep sound is heard. The **FAV** (or,pre-set) button will display the name of the folder or the function which was selected in step 4.

Step 7. Repeat **step 4** to **step 6** to program the short-cuts of other folders and functions to **FAV** . Press the "End Preset" button to exit preset menu.

Note 1: GM radio provides 30 FAV pre-sets total (divided into 7 pages) and every folder or function can be programmed into any one of the FAV buttons. An example of after pre-setting the folders and function is shown in Fig (5).

Note 2: Without doing FAV programming, iPod folders are also accessible with your radio. FAV programming only makes the control features are much friendlier from steering wheel.

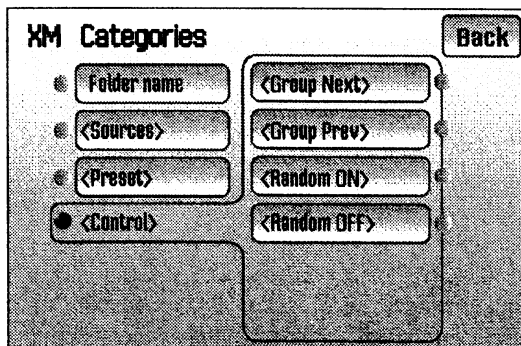


Fig (1)

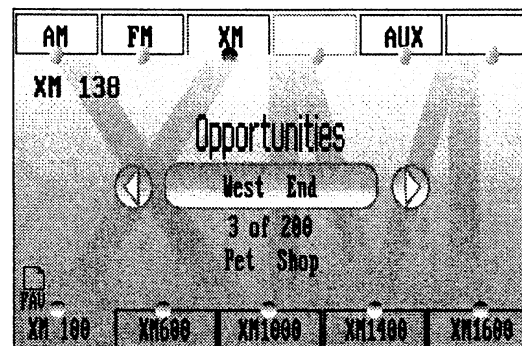


Fig (2)

XM Categories Back

Folder name	<I - Shortcut>
<Sources>	
<Preset>	
<Control>	

Fig (3)

XM Categories Back

Folder name	<Playlist>
<Sources>	<Artist>
<I - Shortcut>	<Album>
<Control>	<Direct>
	<I - AUX>
	<XM Band>

Fig (4)

AM	FM	XM	CD		9:19
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XM 255

THE TIME

West End

West End Grills

Pet Shop

PAU

i-Playlist	i-Artist	i-Album	i-Direct	i-AUX
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Fig (5)

Function	Menu	Function Description
<Control>		Press to display the MENU list of this function.
	<Group Next>	Press to list the next group of 24 files or tracks from iPod. 6 of the 24 files or tracks are displayed per screen (page). Use the up-down slide button on the right side of touch screen to flip screen (page).
	<Group Prev>	Press to list the previous 24 folders or tracks from iPod. 6 of the 24 files or tracks are displayed per screen (page). Use the up-down slide button on the right side of touch screen to flip screen (page).
	<Random ON>	Press to engage random sequence play of tracks in a folder
	<Random OFF>	Press to stop random play of tracks in a folder
<folder name> or <file name>		Press to list the files in the folder. 6 files are displayed per screen (page), and 24 files per GROUP. Press a file name from the list on the right to select Press to list music tracks' name. 6 tracks are displayed per screen, and 24 tracks per GROUP. Press a track name from the list on the right to select
<Preset>	<i - Shortcut>	Press to begin the set-up of shortcuts to iPod folders and adaptor control functions
	< Help >	Displays the steps or guidelines of how to program the shortcuts to FAV. Touch buttons are no function.
<Source>		Press to display the top level folders and functions. Also for select folder type when program shortcuts of iPod folders into FAV or radio preset buttons
	<Playlist>	Press to access the Playlist files on iPod The 1st folder of Playlist is the All Song on your iPod by default. When plays All song, the text on radio for the folder name is your iPod's name by default.
	<Artist>	Press to access the Artist files on iPod
	<Album>	Press to access the Album files on iPod
	<Direct>	Press to unlock iPod's screen and to select folder, file or tack from iPod click wheel directly No text display when in Direct Mode.
	<i - AUX>	Press to access the audio source connected to PA20-GM's RCA jacks If DIP switch #1 is at OFF position, <AUX> does not show on screen.
	<XM Band>	Return to XM broadcast station

Note 1: Radio may not allow some of the functions to operate while car is moving.

Note 2: Hierarchy Definition: **FOLDER**: The top level of Playlist, Artist, Album.

File: One level down from FOLDER.

Track: The music track in the files, or the lowest level.

4-2 When Works with Non-Navigation Radio

4-2-1 Set-up the " iPod Short-cut" to Radio's FAV

Set a shortcut-to iPod to FAV list and this shortcut allows directly return to the last played track on iPod from AM/FM /XM sources with steering wheel control and direct from FAV. This shortcut-to-iPod is displayed as "XM 99 "

Step 1- Connect PA20-GM to radio and turn radio power to ON.

Step 2- Switch to XM band and connect iPod to PA20-GM interface adaptor.

Step 3- When iPod 's music is played from car audio system, press CAT button and reach to the 3rd CAT page.

Step 4- Press a button below the "iPod" menu.

Step 5- Press FAV button on radio.

Step 6- Select a FAV or radio preset button and press it down until a beep sound is Heard and FAV preset will display "XM 99 " .

Note 1: GM radio provides 30 FAV to pre-sets and this short-cut-to- iPod can be single or multiple times programmed to the 30 FAV's. Example screen are Fig (6-1) and Fig (6-2)

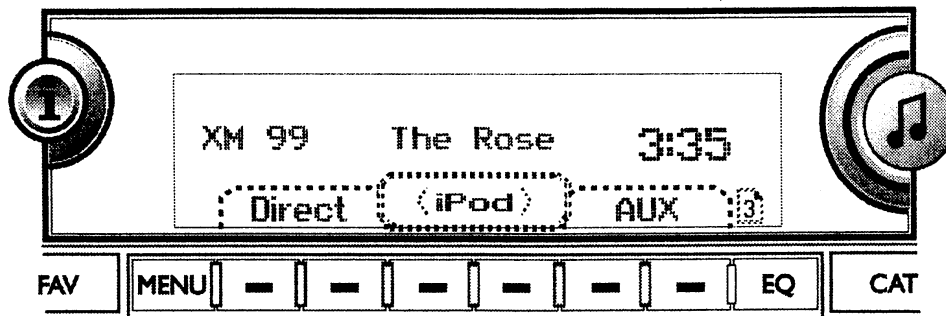


Fig (6-1)

Button	Menu	Function Description	Note
CAT		Press to display and select iPod control menu. 3 menu items are displayed per CAT page and total 3 CAT pages are used to cover the whole menu items.	
	Playlist	Press the button below it to access iPod's Playlist folders. The 1st Playlist is the All Song folder on iPod by default.	
	Artist	Press the button below it to access iPod's Artist folders.	
	Album	Press the button below it to access iPod's Album folders	
	RDM	Press the right button to start playback of tracks in random sequence. Press the left button to end the random play.	
	10x	Press the left button below it to reverse 10 tracks. Press the right button below it to forward 10 tracks.	
	iShortcut	Press the button below it to program this menu into radio's FAV. This FAV item (radio preset button) is a "shortcut" to return to iPod from any band of radio. On non-navigation radios, this short cut is displayed as X99 on radio.	(a)
	Direct	Press the button below it to control and select folders or tracks from iPod's click wheel directly. Song text information is unavailable.	
	AUX	Press the button below it to access the audio source at RCA AUX.	
i		Press to view text information of song.	
	Chan	Press "i" button to highlight it to display track number and song title.	
	Song	Press "i" button to highlight it to display folder name.	
	Artist	Press "i" button to highlight it to display artist name.	
	CAT	Press "i" button to highlight it to display the folder type being played.	
◀ SCAN or ◀ SCAN		Press to return to XM broadcast reception. <i>Note</i> : Radios manufactured by Delphi CO. requires a 2nd press to function. On some radios, press and hold down SEEK button to return to XM band.	

Note: (a) When work with a non-navigation radio, the steering wheel control will not recognize the X99 (iPod short cut) if it is also programmed into radio's FAV. Use the X99 preset button on radio to access iPod directly from AM, FM, XM or CD modes.
The Application Guide in this manual has the information of which car models are 11-bit type data.

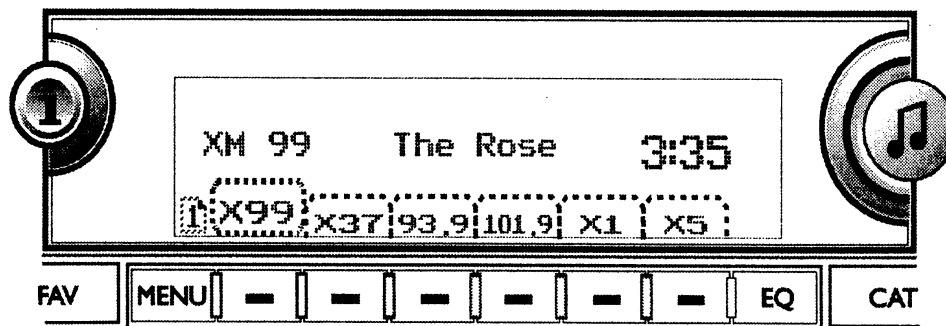


Fig (6-2)

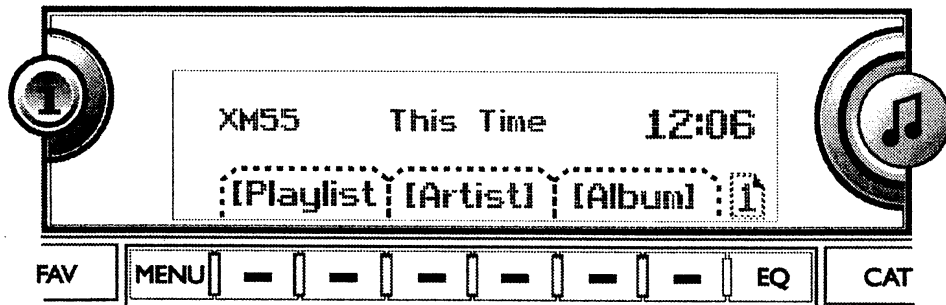


Fig (7)

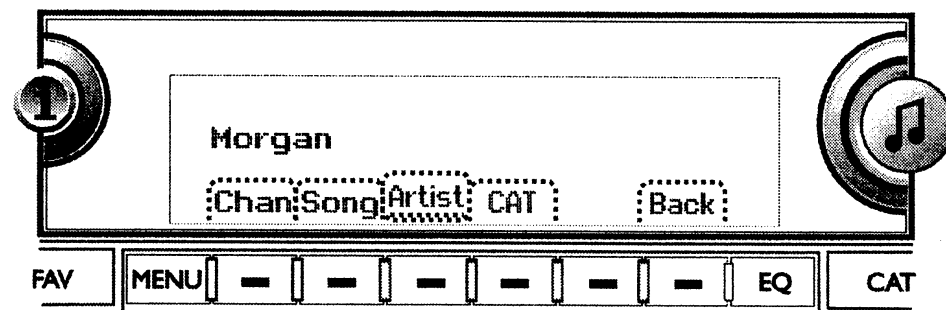


Fig (8)

Note: iPod, iPod nano, iPod classic, iTunes and iPhone are trade marks of Apple Computer, Inc.
 XM is a trade mark of XM Satellite Radio Inc.
 ACURA and Honda are registered trade marks of Honda Co., Ltd.
 Design and specifications are subject to change without notice.

LIMITED WARRANTY

Thank you for choosing a **USASPEC** product. LTI Enterprises Inc., is committed to providing high quality defect free products. All **USASPEC** products are tested before leaving the factory and are warranted against defects in materials and workmanship for a period of one year to the original owner. The one-year warranty period begins at the date of manufacture or the date of original installation. Please see installation registration below.

PRODUCTS COVERED :

Products and related accessories supplied by LTI Enterprises Inc. with the brand name of **USASPEC** are covered by this warranty. Only products purchased in the U.S.A. is covered.

WARRANTY DOES NOT COVER :

1. Damage due to improper installation, operation, accident, negligence, abuse, or not following instructions, warnings, and acceptable industry procedures.
2. Damage caused during the shipment or transportation of the product. All claims of this nature must be presented to the carrier.
3. Damage caused by acts of God, War, or civil disturbance, including without limitation, flood, fire, storms, earthquake or other acts of nature.
4. Any expenses or cost to remove or reinstall products.
5. Any product without the original serial number and factory seal, or has been serviced or modified without the authorization of LTI Enterprises Inc.
6. Any product not distributed by an authorized LTI Enterprises Inc. Dealer.

INSTALLATION REGISTRATION :

To provide warranty coverage from the date of installation the limited warranty registration card with this information must be completed and returned to LTI Enterprises Inc. within thirty(30) days of the installation.

TO OBTAIN WARRANTY SERVICE :

Contact the Customer Service center printed on the back of this manual for assistance. A detailed description of the problem(s) is required for service. Proof of purchase is also required when sending a product for warrant service. If the problem cannot be resolved and the product must be returned for service you will receive an authorization from the service center. The product must be delivered pre-paid to the service center. LTI Enterprises Inc. will, at our option, repair the product or replace it with new or reconditioned product, and if it was shipped to the service center, the return shipping will be pre-paid free of charge provided the repairs are covered by the warranty. The product must be packed securely for shipment to the service center in order to preserve the warranty and prevent damage.

NO IMPLIED WARRANTY, INCLUDING MERCHANTABILITY AND FITNESS FOR USE, APPLIES TO THIS PRODUCT AFTER THE ONE YEAR PERIOD AS DEFINED ABOVE, AND NO OTHER EXPRESSED WARRANTY OR GUARANTEE, EXCEPT AS MENTIONED ABOVE, GIVEN BY ANY PERSON, FIRM OR CORPORATION WITH RESPECT TO THIS PRODUCT SHALL BIND THE WARRANTOR. NEITHER THE WARRANTOR NOR ANY OTHER PERSON, FIRM OR CORPORATION, IS RESPONSIBLE FOR LOSSES OR INCONVENIENCES, OR FOR ANY CONSEQUENTIAL DAMAGES CAUSED BY THE PRODUCT. SOME STATES/PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, AND SOME DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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