

Operation Manual

GEX-FM903XM



Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion – and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel

Level	Example
30	Quiet library, soft whispers.
40	Living room, refrigerator, bedroom away from traffic.
50	Light traffic, normal conversation, quiet office.
60	Air conditioner at 20 feet, sewing machine.
70	Vacuum cleaner, hair dryer, noisy restaurant.
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower.
100	Garbage truck, chain saw, pneumatic drill.
120	Rock band concert in front of speakers, thunderclap.
140	Gunshot blast, jet plane.
180	Rocket launching pad.

Information courtesy of the Deafness Research Foundation.



PIONEER CORPORATION

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Specifications

General

Power source 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system Negative type
Max. current consumption 2.0 A
Dimensions

Hide-away tuner 220 (W) × 28 (H) × 145 (D) mm
[8-5/8 (W) × 1-1/8 (H) × 5-3/4 (D) in]
Control unit 116 (W) × 37 (H) × 18 (D) mm
[4-5/8 (W) × 1-1/2 (H) × 3/4 (D) in]

Antenna switching
unit 45 (W) × 42 (H) × 25 (D) mm
[1-3/4 (W) × 1-5/8 (H) × 1 (D) in]

Weight

Hide-away tuner 0.85 kg (1.9 lbs)
Control unit 0.1 kg (0.2 lbs)
Antenna switching unit 0.15 kg (0.3 lbs)

XM tuner

Frequency range 2,332.50 – 2,345.00 MHz
Usable sensitivity
Satellite – 94.0 dBm
Terrestrial – 90.0 dBm

Audio

Signal-to-noise ratio 92 dB (IHF-A network)
Separation 75 dB

FM modulator

FM modulator usable frequency
..... 87.9/88.1/88.3/88.5/88.7/88.9/89.1
89.3/89.5/89.7/89.9/90.1 MHz



Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

Before Using This Product

Introducing XM Satellite Radio

There's a world beyond AM and FM. XM Satellite Radio. Up to 100 channels. Coast-to-coast coverage. Digital quality sound. With many commercial-free music channels. Plus the best sports, comedy, talk, news and entertainment, including USA Today, Discovery Radio, NASCAR, Sesame Workshop, CNNfn and CNN/SI. Questions? Visit www.xmradio.com. The future is waiting.

How to Subscribe

Listeners can subscribe by visiting XM on the Web at www.xmradio.com or by calling XM's Listener Care at (800) 852-9696. Customers should have their Radio ID ready; for details, refer to "Display the ID Code". Customers are able to receive a limited number of free-to-air channels without activation.

Technology. It is prohibited to copy, decompile, disassemble, reverse engineer or manipulate any technology incorporated in receivers compatible with the XM Satellite Radio system. Furthermore, the AMBE® voice compression software included in this product is protected by intellectual property rights including patent rights, copyrights, and trade secrets of Digital Voice Systems, Inc. The user of this or any other software contained in an XM Radio is explicitly prohibited from attempting to copy, decompile, reverse engineer, or disassemble the object code, or in any other way convert the object code into human-readable form. The software is licensed solely for use within this product.

About the XM Mark



The "XM" mark on this product indicates that it is an XM satellite radio receiver. You can receive XM satellite radio broadcasts by connecting the unit as shown in the installation manual.

About This Product

This product can operate in two modes. Select the configuration that best suits your need.

Note:

- The mode changes depending on how the unit is connected. Refer to the installation manual for details concerning connection.
- If you change the way the unit is connected, be sure to press the RESET button.

ADD-ON MODE

When combining with a car stereo with FM reception capability and using an FM modulator (supplide):

- Audio is output from the car stereo's FM source.
- Perform all operations with the control unit.
- When you use this product, the effective sensitivity of your radio will be reduced slightly.
- When you turn the car stereo off, this product stays on. If you leave it on for a long time, the car battery may go flat.
- When this product is connected to a vehicle's diversity antenna, there may be distortion if a station is broadcasting a strong signal on the frequency you're using for the system. If this occurs, switch to another frequency.
- When not listening to an XM broadcast, switch this product OFF. Leaving it switched ON reduces the sensitivity of your car radio.

IP-BUS MODE

When combining with a PIONEER Head Unit featuring an IP-BUS input:

- Audio is output from the Head Unit's XM (External) source.
- Perform all operations with the Head Unit.

About This Manual

This product features a number of sophisticated functions ensuring superior reception and operation. All are designed for the easiest possible use, but many are not self-explanatory. This operation manual is intended to help you benefit fully from their potential and to maximize your listening enjoyment.

We recommend that you familiarize yourself with the functions and their operation by reading through the manual before you use this product. It is especially important that you read and observe the "Precaution".

Important

The serial number of this device is located on the bottom of this product. For your own security and convenience, be sure to record this number on the enclosed warranty card.

Resetting the Unit

The unit must be reset under the following conditions:

When using this product for the first time after installation.

When this product fails to operate properly.

When strange (incorrect) messages appear on the display.

- **To reset the microprocessor, press the RESET button on the unit with a pen tip or other pointed instrument.**



RESET button

Precaution

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications to this product by other than an authorized service facility could void authorization to use this equipment.

- Keep this manual handy as a reference for operating procedures and precautions.
- Always keep the volume low enough for outside sounds to be audible.
- Protect the product from moisture.
- If the battery is disconnected, the preset memory will be erased and must be reprogrammed.

After-sales Service for Pioneer Products

Please contact the dealer or distributor from where you purchased the product for its after-sales service (including warranty conditions) or any other information. In case the necessary information is not available, please contact the company listed below:

Please do not ship your product to the company at the address listed below for repair without advance contact.

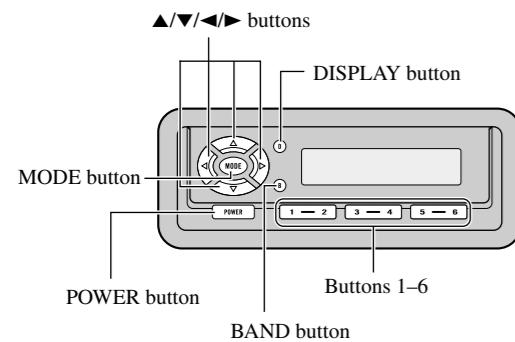
■ U.S.A.

Pioneer Electronics Service, Inc.
CUSTOMER SERVICE
DEPARTMENT
P.O. Box 1760
Long Beach, CA 90801
800-421-1404

For warranty information please see the Limited Warranty sheet included with your product.

Key Finder

Control Unit

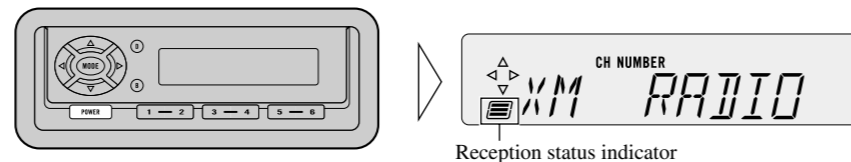


Basic Operation of XM

When using this product for the first time, refer to “FM Modulator Setting” to set the FM frequency and volume appropriately.

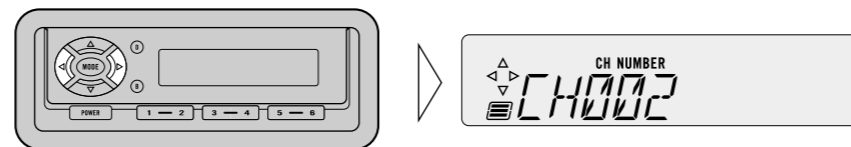
1. Switch to an FM source on your car stereo and tune to the frequency set in “FM Modulator Setting”.

2. Switching power ON.



Reception status indicator

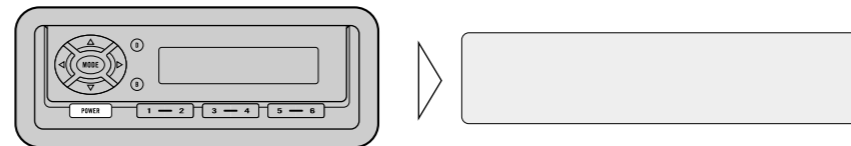
3. Select a desired Channel.



Note:

- For details, refer to “Selecting the Channel by Channel Number”.

4. Switching power OFF.



Note:

- If it is hard to hear the output sound, it may be due to interference from a strong FM broadcast. Refer to “FM Modulator Setting”, and change the setting.
- Even if you switch this product OFF, the FM car stereo remains switched ON.
- When not listening to an XM broadcast, switch this product OFF. Leaving it switched ON reduces the sensitivity of your car radio.
- Display changes as follows when you switch Channels or operate in other ways.

Channel Number → Channel Name → Selected Display *

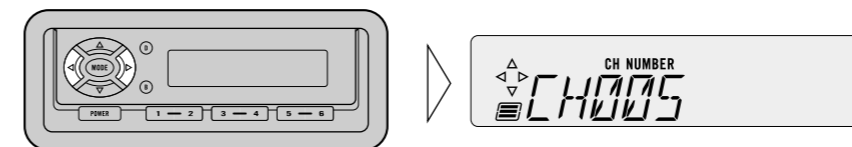
* For details, refer to “Switching the Display”.

- It may take a few seconds before you can hear anything while this product acquires and processes the satellite signal when you switch power ON, change the Source to XM tuner, or select a Channel.

Selecting the Channel by Channel Number

When Channel Number Select mode is selected, you can select a desired Channel by Channel Number. (Refer to “Switching the Channel Select Mode”.) Initially, Channel Number Select mode is selected.

- **Select a desired Channel.**



Note:

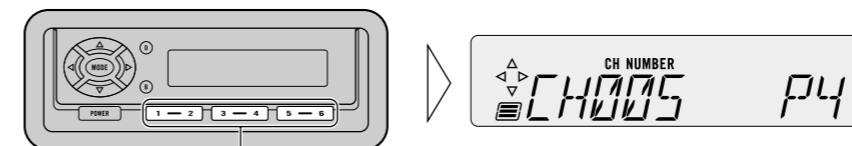
- Channels that cannot currently be selected are skipped, and the next Channel is selected.
- If you continue pressing the button for longer than 0.5 seconds, you can increase/decrease Channel Number by 10 to enable you to quickly jump to your desired Channel.
- You can also select a Channel from a desired Channel Category. (Refer to “Switching the Channel Select Mode”.)

Preset Memory

Preset Memory lets you store Channels in memory.

1. Select a desired Channel to store in memory.

2. When sound from a selected Channel is output, press a button from 1–6 for 2 seconds to store that Channel. (e.g. Press button 4.)



Hold for 2 seconds

The Channel is stored in the selected button.

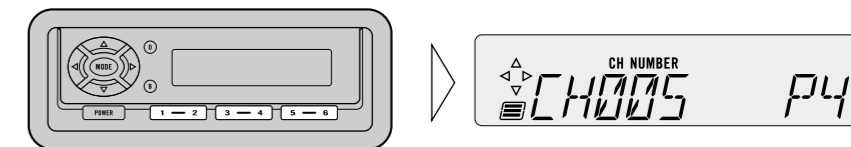
Note:

- Memory/recall are for broadcasts. If you recall a memorized broadcast that has been moved to another Channel, the Channel to which the broadcast was moved is selected.

Recalling Preset Channels

■ **Direct Recall**

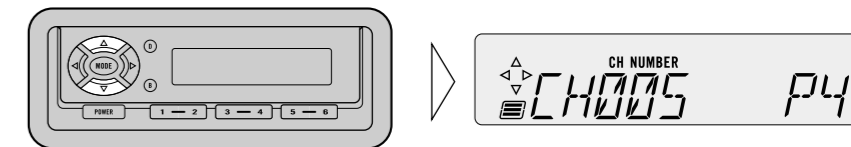
- **Press a button from 1–6 to recall a Channel preset in the button. (e.g. Press button 4.)**



■ **Sequential Recall**

When Channel Number Select mode is selected, you can use the sequential recall. (Refer to “Switching the Channel Select Mode”.)

- **Recall Channels preset in buttons 1–6 in sequence.**



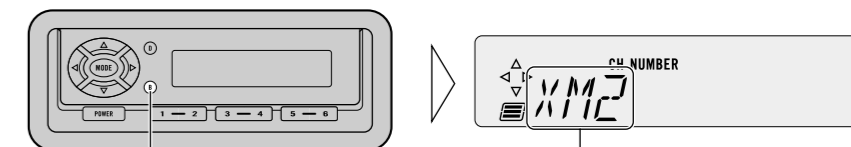
Note:

- If a Channel you have recalled cannot be selected, a message is displayed for 2 seconds and the unit returns to the operating status before the Channel was recalled.

Changing the Band

To enable this product to memorize more Channels, they are stored in three bands: XM1, XM2 and XM3.

- **Switch bands.**



Each press changes the Band ...

XM1 → XM2 → XM3

Using the XM tuner (ADD-ON MODE)

Switching the Display

XM Channels each have a channel number and channel name. XM programing also carries song or program title, artist name, and other information such as lyrics, when available.

• Press the DISPLAY button and select the desired display.

The display changes as follows:

Channel Number → Channel Name → Artist Name/Feature → Song/Program Title
→ Additional Information

Initially, Channel Name is selected.

Note:

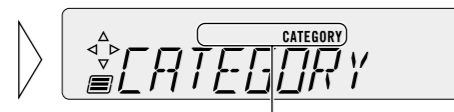
- If the Additional Information is longer than the length of the display, you can scroll the text by pressing the DISPLAY button for 2 seconds.

Switching the Channel Select Mode

You can switch if you select a Channel with a Channel Number or from a Channel Category when you select a channel.

Initially, Channel Number Select mode is selected.

• Press the MODE button and select the desired Channel Select mode.



CH NUMBER ↔ CATEGORY

Channel Number Select mode (CH NUMBER) ↔ Channel Category Select mode (CATEGORY)

Selecting the Channel in the Channel Category

Channels are organized into various program categories, e.g. Rock, Classic, Jazz. You can search between different categories, and then search among channels within each channel category.

1. Select the Channel Category Select mode. (Refer to “Switching the Channel Select Mode” above.)

2. Select the desired Channel Category with the ▲/▼ buttons.



Note:

- Once you select a Channel Category, the unit searches for Channels in that category. During search, the channel category doesn't immediately change even if you press the button. To successively change the Channel Category, continue pressing the button.

3. Select the desired Channel in the selected Channel Category with the ◀/▶ buttons.



Note:

- Channels that cannot currently be selected are skipped, and the next Channel in that Channel Category is selected.

FM Modulator Setting

You can adjust FM Modulator frequency and output level.

■ Frequency

If output from the FM Modulator is hard to hear due to interference from a strong broadcast station transmission, you can switch to another frequency. You can adjust frequency between 87.9 and 90.1MHz.

■ Level

If the output sound is too quiet, too loud or distorted, you can adjust FM Modulator output level. You can adjust level between “LEVEL-1” and “LEVEL-7”.

1. Press the POWER button for 2 seconds to enter the FM Modulator Setting mode.

2. Select the desired frequency with the ◀/▶ buttons.



3. Increase or decrease the level with the ▲/▼ buttons.



4. To cancel the FM Modulator Setting mode, press the POWER button again for 2 seconds.

Note:

- After entering the FM Modulator Setting mode, if you do not perform an operation within about 8 seconds, the FM Modulator Setting is automatically canceled.

Display the ID Code (RADIO ID)

Each XM tuner is identified with a unique Radio ID. You will need the Radio ID when activating XM service or when reporting a problem. How to display the ID Code depends on the Channel Select mode.

■ Channel Number Select mode

If you select “CH 00”, the ID Code is displayed.

- Select the Channel Number zero (CH 00) with the ◀/▶ buttons.

■ Channel Category Select mode

“RADIO ID” is provided as a Channel Category for displaying the ID Code.

- Select the Channel Category “RADIO ID” with the ▲/▼ buttons.

Note:

- If you select another Channel, display of the ID Code is canceled.
- Display of the ID Code repeats displaying “RADIO ID” and the ID Code one after the other.

Messages

When problems occur with XM tuner, a message appears on the display. Refer to the table below to identify the problem, then take the suggested corrective action.

Message	Possible cause	Recommended action
ANTENNA	The XM antenna is not connected. A short-circuit occurring in the antenna or the surrounding antenna cable.	Check whether the XM antenna cable is attached securely. Make sure that there is nothing unusual with the antenna or antenna cable.
UPDATING	Radio is being updated with latest encryption code.	Wait until encryption code is being updated. Channels 00 and 01 should function normally.
NOSIGNAL	XM signal is too weak at the current location.	Wait until the car reaches a location with a stronger signal.
LOADING	Unit is acquiring audio or program information.	Wait until the unit has received the information.
OFF AIR	The channel currently selected has stopped broadcasting.	Select another channel.
-----	The user has selected a Channel Number that does not exist or is not subscribed to.	Automatically switches to Channel 01.
----	There is no artist name/feature, song/program title, or additional information associated with the channel at that time.	No action needed.

Before Using This Product (IP-BUS MODE)

Operating with Different Head Units

Operate this product (for XM reception) with the connected Head Unit.
Head Units are divided into two groups:

Head Unit Group 1

Head Unit Group 1 Head Units operate this product as an external unit (External). These Head Units can control two external units. When two external units are connected, the allocation of them to External Unit 1 or External Unit 2 is automatically set by these Head Units.

DEH-P9300*	DEH-P930*	DEH-P7300	DEH-P730
DEH-P6300	DEH-P630	DEX-P9	FH-P4000

Head Unit Group 2

Head Unit Group 2 Head Units operate this product as an external unit (External). These Head Units can control only one external unit. When one of these Head Units is connected to this product, do not connect any other external units.

DEH-P4300	DEH-P430	DEH-P43
DEH-P3300	DEH-P330	DEH-P33
KEH-P6010	KEH-P601	

For illustration, instructions in this manual use the “DHE-P6300” as an example of Head Unit. The operation of the Head Unit for XM is identical for both groups 1 and 2.

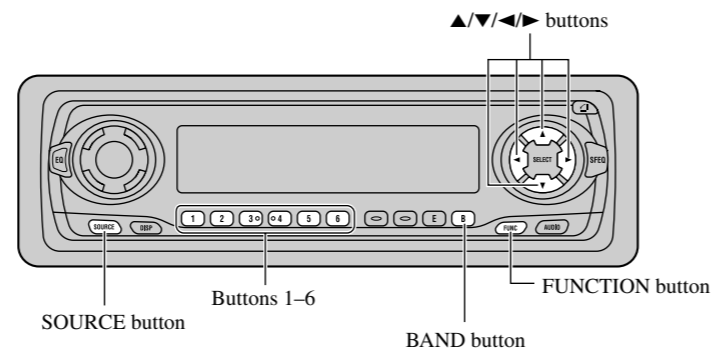
Note:

- When using a remote controller, you can operate these Head Units marked with * in the same way as the “DEH-P6300”. For details concerning operation with the Head Unit itself, refer to the “SOFT KEY Operation” section in the Head Unit’s Operation Manual.

Basic Operation (IP-BUS MODE)

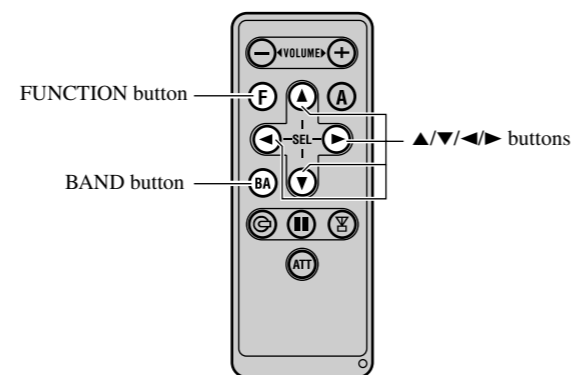
Key Finder

Head Unit (e.g. DEH-P6300)



Remote Controller (e.g. DEH-P6300)

You can operate in the same way with the Remote Controller supplied with the Head Unit. For details, refer to the Head Unit’s Operation Manual.



Switching Power ON/OFF

Each press of the SOURCE button selects XM as follows.

Built-in CD Player → TV → Tuner → DAB → Multi-CD Player → XM tuner (External Unit 1) → External Unit 2 → AUX → ...

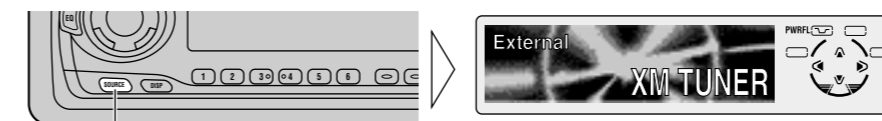
- To switch the sources OFF, hold down the SOURCE button for 1 second.

Note:

- When two external units are connected, the allocation of them to External Unit 1 or External Unit 2 is automatically set by the Head Unit.

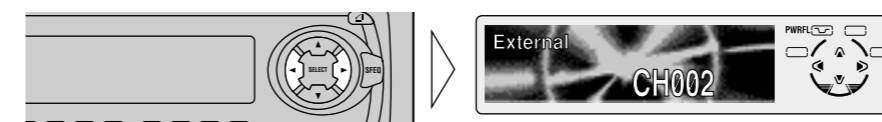
Basic Operation of XM

1. Select XM.



Each press changes the Source ...

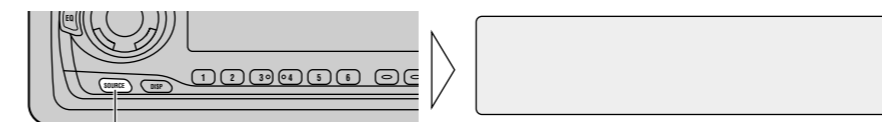
2. Select a desired Channel.



Note:

- For details, refer to “Selecting the Channel by Channel Number”.

3. Turn the source OFF.



Hold for 1 second

Note:

- Display changes as follows when you switch Channels or operate in other ways.

Channel Number → Channel Name → Selected Display *

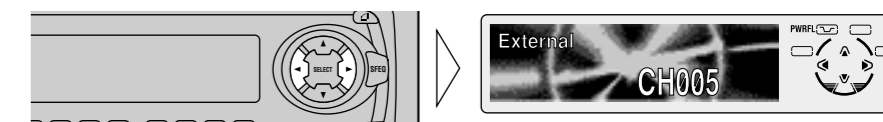
* For details, refer to “Switching the Display”.

- It may take a few seconds before you can hear anything while this product acquires and processes the satellite signal when you switch power ON, change the source to XM Tuner, or select a Channel.

Selecting the Channel by Channel Number

When Channel Number Select mode is selected, you can select a desired Channel by Channel Number. (Refer to “Switching the Channel Select Mode”.)
Initially, Channel Number Select mode is selected.

- Select a desired Channel.



Note:

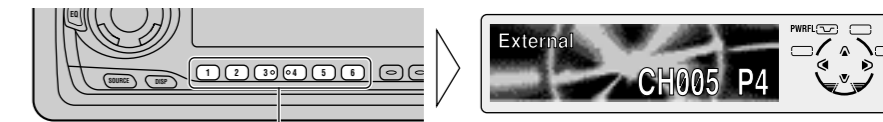
- Channels that cannot currently be selected are skipped, and the next Channel is selected.
- If you continue pressing the button for longer than 0.5 seconds, you can increase/decrease Channel Number by 10 to enable you to quickly jump to your desired Channel.
- You can also select a Channel from a desired Channel Category. (Refer to “Switching the Channel Select Mode”.)

Preset Memory

Preset Memory lets you store Channels in memory.

1. Select a desired Channel to store in memory.

2. When sound from a selected Channel is output, press a button from 1-6 for 2 seconds to store that Channel. (e.g. Press button 4.)



Hold for 2 seconds

The Channel is stored in the selected button.

Note:

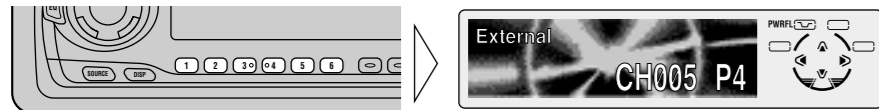
- Memory/recall are for broadcasts. If you recall a memorized broadcast that has been moved to another Channel, the Channel to which the broadcast was moved is selected.

Basic Operation (IP-BUS MODE)

Recalling Preset Channels

■ Direct Recall

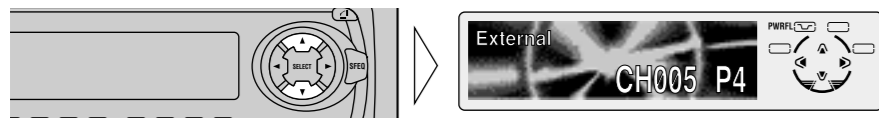
- Press a button from 1–6 to recall a Channel preset in the button. (e.g. Press button 4.)



■ Sequential Recall

When Channel Number Select mode is selected, you can use the sequential recall. (Refer to “Switching the Channel Select Mode”.)

- Recall Channels preset in buttons 1–6 in sequence.



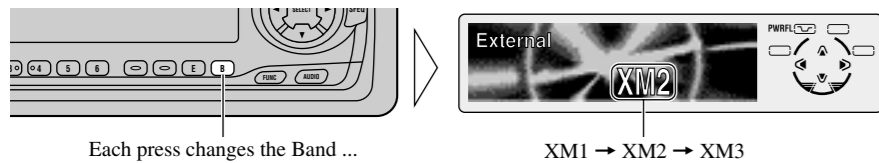
Note:

- If a Channel you have recalled cannot be selected, a message is displayed for 2 seconds and the unit returns to the operating status before the Channel was recalled.

Changing the Band

To enable this product to memorize more Channels, they are stored in three bands: XM1, XM2 and XM3.

- Switch bands.

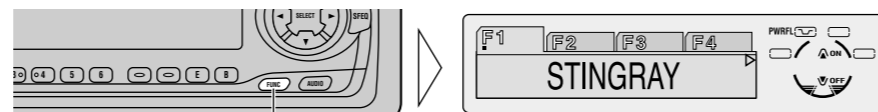


Using the XM tuner (IP-BUS MODE)

Entering the Function Menu

This menu enables selection of XM functions.

- Select the desired mode in the Function Menu.



Each press changes the Mode ...

Each press of the FUNCTION button selects the mode in the following order:

Switching the Display (F1) → Switching the Channel Select mode (F2)
→ No Function (F3) → No Function (F4) → No Function (A/M)

To cancel the Function Menu, press the BAND button.

Note:

- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.
- This product does not feature F3, F4 and A/M function capability.

Switching the Display

XM Channels each have a channel number and channel name. XM programming also carries song or program title, artist name, and other information such as lyrics, when available. When the source is XM, display indications are up to eight letters long.

- Press the FUNCTION button and select the Display mode (F1) in the Function Menu.

- Select the desired display with the ▲/▼ buttons.

The display changes as follows:

Channel Number → Channel Name → Artist Name/Feature → Song/Program Title
→ Additional Information

Initially, Channel Name is selected.

Note:

- If the Additional Information in the Function Menu is longer than the length of the display, you can scroll the text by pressing the ▲/▼ buttons for 2 seconds. Scrolling automatically stops after being repeated 3 times.

Switching the Channel Select Mode

You can switch if you select a Channel with a Channel Number or from a Channel Category when you select a channel.

Initially, Channel Number Select mode is selected.

- Press the FUNCTION button and select the Channel Select mode (F2) in the Function Menu.

- Select the desired Channel Select mode with the ▲/▼ buttons.



Channel Number Select mode (CHNUMBER) ↔ Channel Category Select mode (CATEGORY)

Selecting the Channel in the Channel Category

Channels are organized into various program categories, e.g. Rock, Classic, Jazz. You can search between different categories, and then search among channels within each channel category.

- Select the Channel Category Select mode. (Refer to “Switching the Channel Select Mode” above.)

- Press the BAND button and cancel the FUNCTION Menu.

- Select the desired Channel Category with the ▲/▼ buttons.



Note:

- Once you select a Channel Category, the unit searches for Channels in that category. During search, the channel category doesn't immediately change even if you press the button. To successively change the Channel Category, continue pressing the button.

- Select the desired Channel in the selected Channel Category with the ◀/▶ buttons.



Note:

- Channels that cannot currently be selected are skipped, and the next Channel in that Channel Category is selected.

Display the ID Code (RADIO ID)

Each XM tuner is identified with a unique Radio ID. You will need the Radio ID when activating XM service or when reporting a problem. How to display the ID Code depends on the Channel Select mode.

■ Channel Number Select mode

If you select “CH 00”, the ID Code is displayed.

- Select the Channel Number zero (CH 00) with the ◀/▶ buttons.

■ Channel Category Select mode

“RADIO ID” is provided as a Channel Category for displaying the ID Code.

- Select the Channel Category “RADIO ID” with the ▲/▼ buttons.

Note:

- If you select another Channel, display of the ID Code is canceled.
- Display of the ID Code repeats displaying “RADIO ID” and the ID Code one after the other.