

# *T-D500*

# Tuner





OWNER'S MANUAL

### CAUTION: READ THIS BEFORE OPERATING YOUR UNIT.

- 1 To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- 2 Install this unit in a well ventilated, cool, dry, clean place away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold. For proper ventilation, allow the following minimum clearances. Top : 10 cm (4 in) Rear: 10 cm (4 in)
- **3** Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds.
- 4 Do not expose this unit to sudden temperature changes from cold to hot, and do not locate this unit in an environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
- 5 Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:
  - Other components, as they may cause damage and/or discoloration on the surface of this unit.
  - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
  - Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.
- 6 Do not cover this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
- 7 Do not plug in this unit to a wall outlet until all connections are complete.
- 8 Do not operate this unit upside-down. It may overheat, possibly causing damage.
- 9 Do not use force on switches, knobs and/or cords.
- **10** When disconnecting the power cable from the wall outlet, grasp the plug; do not pull the cable.
- 11 Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- 12 Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. Yamaha will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
- 13 To prevent damage by lightning, keep the power cable and outdoor antennas disconnected from a wall outlet or the unit during a lightning storm.
- **14** Do not attempt to modify or fix this unit. Contact qualified Yamaha service personnel when any service is needed. The cabinet should never be opened for any reasons.
- **15** When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the wall outlet.
- **16** Install this unit near the AC outlet and where the AC power plug can be reached easily.
- 17 Be sure to read the "TROUBLESHOOTING" section on common operating errors before concluding that this unit is faulty.

- 18 Before moving this unit, press  $\bigcirc$  to set this unit to the standby mode, and disconnect the AC power plug from the wall outlet.
- **19** Condensation will form when the surrounding temperature changes suddenly. Disconnect the power cable from the outlet, then leave this unit alone.
- 20 The batteries shall not be exposed to excessive heat such as sunshine, fire, or the like. When you dispose of batteries, follow your regional regulations.

#### WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you set this unit to standby mode by  $\bigcirc$ . In this state, this unit is designed to consume a very small quantity of power.

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NFORMAT

#### Features

#### DAB (Digital Audio Broadcasting) /DAB+ tuner

- Automatic scanning function to locate all DAB stations in your area
- DLS (Dynamic Label Segment) information display
- ◆ Tuning aid function to optimize DAB reception
- ♦ 40 DAB/DAB+ station preset tuning
- Coaxial and optical digital audio output capability for DAB audio signals

#### Supplied accessories

Please check that you have received all of the following parts.

Remote control

Indoor FM antenna

AM loop antenna



Battery (CR2025)



Indoor DAB antenna







#### About this manual

- :: indicates a tip for your operation.
- This manual describes how to operate this unit using a remote control except when it is not available. Some of these operations are also available using the front panel.
- This manual is printed prior to production. Design and specifications are subject to change in part as a result of improvements, etc. In case of differences between the manual and the product, the product has priority.

#### Sophisticated FM/AM tuner

- 30-station (each band) FM/AM preset tuning
- Automatic preset tuning

### **REMOTE CONTROL AND FRONT PANEL**



#### ① Infrared transmitter

Outputs infrared controls signals. Aim this transmitter at the component you want to operate.

#### ② FM MODE

Switches the FM radio wave reception mode (stereo or monaural) when this unit is in the FM tuning mode (see page 11).

#### **③ DIMMER**

Changes brightness level of the front panel display. Choose brightness from 3 levels by pressing this button repeatedly.

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This setting is retained even if you turn off this unit.

#### ④ PRESET ∧ / ∨

Switches the preset stations.

#### **(5) MEMORY**

Sets this unit to the preset station memory mode (see pages 7, 12).

#### (6) $\triangle / \bigtriangledown / \triangleleft / \triangleright$ , ENTER

Selects and confirms an item.

#### ⑦ INFO/TEXT

Turns on and changes the DAB station information (see page 10) on the front panel display.

#### **⑧** Numeric buttons, ENTER

Selects the desired preset stations (see pages 7, 12).

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To enter number less than 10 (i.e. 1 to 9), press the desired number and then ENTER, or press 0 and then enter the desired number.



#### 9 BAND

Selects the reception band (DAB, FM, or AM).

#### 10 AUTO SCAN

Starts the automatic scanning function (see pages 6, 12).

#### 1 🛈 (standby/on)

Turns on this unit. Press this button again to set this unit to the standby mode.

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The standby/on indicator lamp above lights up when this unit is turned on.

#### Note

In the standby mode, this unit consumes a small amount of power in order to receive infrared signals from the remote control.

#### 12 TUNING $\land$ / >

- Selects the desired frequency when you press this button.
- Searches the next FM or AM station when you press and hold this button for more than 2 seconds.

#### **13 FUNCTION**

Activates the function set up menu (see pages 8, 13).

#### CLEAR

- Clears a preset station (see pages 8, 13).
- Clears all station information and preset settings in the DAB tuning mode when you press and hold this button for more than 3 seconds (see page 9).
- Clears all preset stations in the FM or AM tuning mode when you press and hold this button for more than 3 seconds (see page 13).

#### (5) STEREO indicator

Lights up when this unit is in the stereo playback.

#### 16 TUNED indicator

Lights up when this unit is tuned into a station.

#### Multi-information display

Displays tuning status messages and the DAB station information.

#### 18 SECONDARY indicator

Lights up when this unit is in the DAB tuning mode and receiving a secondary station.

#### **19 TUNING MODE**

Selects the tuning mode (automatic, manual, or preset tuning).

#### PRESET/TUNING

- Searches the next FM or AM station when this unit is in the automatic tuning mode.
- Selects the desired frequency when this unit is in the manual tuning mode.
- Switches the preset stations when this unit is in the preset tuning mode.

#### Using the remote control

Use the remote control within 6 m (20 ft) of this unit and point it toward the remote control sensor. It receives signals from a remote control provided with a Yamaha amplifier or AV receiver.



#### Notes

- Do not spill liquid on the remote control.
- Do not drop the remote control.
- Do not leave the remote control in the following places: - hot or humid places such as a bathroom or near heater
- extremely cold places
- dusty places

#### Installing the battery in the remote control

Change the battery when the operation range of the remote control decreases.



#### CAUTION

- Keep the battery out of the reach of children, so that it is not mistakenly swallowed.
- Insert the battery according to the polarity markings.

### CONNECTIONS

#### Note

If you experience poor reception quality, install an outdoor antenna. Consult the nearest authorized Yamaha dealer or service center about outdoor antennas.



black

white

AM



### **DAB TUNING**

DAB (Digital Audio Broadcasting) uses digital signals for clearer sound and more stable reception compared to analog signals.

DAB is broadcasted in blocks of data called "ensembles" containing up to several radio stations that are simultaneously broadcasted.

DAB can also include an extensive amount of text information - called DLS (Dynamic Label Segment, see page 10) - which is displayed on the front panel display of the unit, enabling you to select a station by name. DAB+ is a standard for digital radio broadcasts that uses the MPEG4 HE-AAC v2 audio format and provides higher quality sound than DAB.



#### Notes

- Be sure to check the DAB coverage in your area in that not all areas are currently being covered. For a list of nationwide DAB statuses and worldwide DAB frequencies, check WorldDMB online at http://www.worlddab.org/.
- The sound quality and station information are controlled by the DAB broadcaster, not this unit. Not all DAB broadcasters transmit station information.
- DAB signals are broadcast in Band III (174 240 MHz) and L Band (1452 1492 MHz).

### Preparing the DAB tuning

Before tuning into DAB stations, you must perform the automatic scanning. The scanning starts automatically when you select DAB as the input source for the first time.





## Press BAND repeatedly to select DAB as the reception band.

The scanning starts automatically.

The number of channels found is displayed on the front panel display.



Once the scanning is complete, this unit is tuned into the first DAB station in the registry list.

### If the automatic scanning operation is not successful...

"No stations Available" and then following is displayed on the front panel display.



### Press $\triangle$ / $\bigtriangledown$ to select "Tune Aid" or "Autoscan".

#### **2** Press $\triangleright$ or ENTER.

The selected function ("Tune Aid" or "Autoscan") starts.

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- For details on the Tune Aid function, see page 9.
- For details on the Autoscan Full function, see page 6.
- For further details about problems and their remedies, see page 14.

#### Using the automatic scanning function

Use the automatic scanning function to scan the DAB station again.

#### Autoscan Full (Full range scanning)

This unit scans the entire range of Band III and L Band (see page 10).

### Press and hold AUTO SCAN for more than 2 seconds.

This unit starts the full range scanning. "Autoscan Full" is displayed on the front panel display.

Once this unit has finished scanning, this unit is tuned into the first DAB station in the registry list.

#### Autoscan Local (Local range scanning)

This unit scans the limited range of Band III.

#### Press AUTO SCAN.

This unit starts the local range scanning. "Autoscan Local" is displayed on the front panel display. Once this unit has finished scanning, this unit is tuned into the first DAB station in the registry list.

### Manual tuning

Use this feature to select the desired DAB station by browsing the registry list.

#### Note

Once you have performed the automatic scanning, the registry list of available stations is updated automatically as long as this unit is in the DAB tuning mode. To register new ensembles, use the automatic scanning function (see page 5).



1 Press BAND repeatedly to select DAB as the reception band.

# 2 Press TUNING $\land$ / $\checkmark$ to select the desired DAB station.

When this unit tuned into a station, the TUNED indicator lights up.

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On the front panel, press TUNING MODE repeatedly to select "Manual tune" and then rotate PRESET/TUNING.



If the selected DAB station is a secondary station, the SECONDARY indicator lights up.

#### Note

"Off air" is displayed when this unit can not receive the specified DAB station.

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You can change the order of the DAB stations listen in the registry listed by using the "Station order" function (see page 8).

### **Presetting DAB stations**

You can tune into stations easily by storing (presetting) and recalling them. This function enables this unit to preset up to 40 DAB stations.



#### Storing DAB stations

**1 Tune into the desired DAB station.** See page 6 for tuning instructions.

#### 2 Press MEMORY.

The preset number blinks on the front panel display for 10 seconds.

#### Note

Perform the next operation within 10 seconds after pressing MEMORY.

3 Press PRESET ∧ / ∨ or the numeric buttons to select the desired preset number while the preset number blinks.

#### <u>`</u>`

On the front panel, rotate PRESET/TUNING.

#### Note

Perform the next operation within 10 seconds after selecting the preset number.

## 4 Press MEMORY or ENTER to confirm the preset.

#### Note

When you preset a new station to an existing preset number, new preset data will overwrite the existing preset data.

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To clear the preset DAB station, see "Clearing the preset DAB station" on page 8.

#### Recalling the preset DAB stations

You can tune into any desired station simply by selecting the preset number.

1 Press BAND repeatedly to select DAB as the reception band.

# **2** Press PRESET $\land$ / $\checkmark$ or the numeric buttons to select the desired preset number.

When this unit is tuned into the selected station, the TUNED indicator lights up.

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- On the front panel, press TUNING MODE repeatedly to select "Preset tune" and then rotate PRESET/TUNING.
- "CHXX Empty" (XX indicates the preset number) is displayed briefly when no preset DAB station is assigned to the corresponding preset number. The DAB station currently being received is then displayed on the front panel display.

#### Clearing the preset DAB station

Follow the steps below to clear a preset DAB station one at a time.

#### 1 Select the desired preset number.

See "Recalling the preset DAB stations" on page 7.

#### 2 Press CLEAR.

The selected preset number blinks on the front panel display.



#### Note

If you do not perform the next operation within 10 seconds, the clearing is canceled.

#### **3** Press CLEAR again to confirm.

"CHXX cleared" (XX indicates the preset number) is displayed on the front panel display.

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- To clear all preset DAB stations, press and hold CLEAR for more than 3 seconds. After all preset DAB stations are cleared, the Autoscan Full function starts automatically (see page 6).
- You can also clear all preset DAB stations by using the DAB functions. See "DAB Clear" on page 9.

### Using the DAB functions

Use this feature to set the DAB functions.



# 1 Press BAND repeatedly to select DAB as the reception band.

#### 2 Press FUNCTION.

The DAB function menu is displayed on the front panel display.

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You can select the following functions.

- Station Order (see page 8)
- Tune Aid (see page 9)
- Dynamic Range (see page 9)
- DAB Clear (see page 9)
- Auto Power Down (see page 9)

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To exit from the DAB function menu, press FUNCTION again or press  $\triangleleft$ .

#### Station Order

You can change the order of the registered DAB stations.

# 1 Select "Station Order" in the DAB function menu.

## 2 Press △ / ▽ to select the desired station order setting and then press ENTER.

Choice	Description
Alphanumeric	Default setting. Stations are listed in the alphanumeric order.
Active	This unit lists the currently active DAB stations first, and then other DAB stations in the alphanumeric order.
Ensemble	Select this setting to browse through the registered DAB stations from the lowest to the highest channel labels (see page 10).

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While pressing  $\triangle / \nabla$  to select the desired setting, "\*" is displayed next to the current setting.

#### Tune Aid

Measure reception strength of the received signal (from 0 (none) to 100 (best)).

#### **1** Select "Tune Aid" in the DAB function menu.

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The strength of the selected DAB channel signal is displayed on the front panel display. Adjust the orientation of the DAB antenna so that the strength of the selected DAB channel signal gets stronger.

#### Dynamic Range

You can change the dynamic range compression setting. This is especially useful when you listen to a DAB station in a noisy environment or at a low volume at night.

# 1 Select "Dynamic Range" in the DAB function menu.

# 2 Press △ / ▽ to select the desired dynamic range compression setting and then press ▷ or ENTER.

Choice	Description
AUTO	Default setting. This unit utilizes the dynamic range compression automatically if it is transmitted.
OFF	This unit does not utilize the dynamic range compression.

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While pressing  $\triangle / \nabla$  to select the desired setting, "\*" is displayed next to the current setting.

#### DAB Clear

### Clears all DAB station information and preset settings stored in the unit.

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You can also perform DAB Clear by pressing and holding CLEAR for more than 3 seconds in the preset tuning mode. See "Clearing the preset DAB station" on page 8.

#### Note

Once DAB Clear is performed, the deleted information and preset settings cannot be restored.

# 1 Select "DAB Clear" in the DAB function menu.

# 2 Press △ / ▽ to select "OK" and then press ▷ or ENTER.

After DAB Clear is complete, the Autoscan Full function starts automatically (see page 6).

کلاً: To cancel the operation, select "CANCEL".

#### Auto Power Down

This unit automatically enters standby mode if it is not operated for specified amount of time. This setting is effective for all tuning modes.

# 1 Select "Auto Power Down" in the DAB function menu.

# 2 Press $\triangle / \nabla$ to select the desired auto power down setting and then press $\triangleright$ or ENTER.

Choice	Description
OFF	This unit will not be set to standby mode automatically.
4 Hours, 8 Hours, 12 Hours	This unit is set to standby mode automatically after the specified amount of time passes. Default setting is "8 Hours".

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While pressing  $\triangle / \nabla$  to select the desired setting, "\*" is displayed next to the current setting.

### DAB station information

Use this feature to display various information about the current DAB station.



#### **1** Tune into the desired DAB station.

#### 2 Press INFO/TEXT repeatedly to display information about the current DAB station.

#### **DLS (Dynamic Label Segment)**

Displays information about the current DAB station, such as the name of the song, artist and speaker, etc. This data is continuously updated by the DAB broadcaster, thus changing often with every new song or program. Other data, such as news, weather, and sports headlines, may be broadcast as well.

#### Audio mode

Displays bit rate and digital radio format (DAB or DAB+).

#### Program type

Displays the genre of the current DAB station.

#### Ensemble label

Displays the name of the current ensemble.

#### Date & time

Displays the current date and time.

#### **Channel & frequency**

Displays the channel label and frequency of the current DAB station (See page 10).

#### Signal quality

Displays the signal reception quality (from 0 (none) to 100 (best)) of the current DAB station.

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The front panel display can display up to 16 alphanumeric characters at once. The dynamic label segment scrolls in a continuous manner.

### DAB frequency information

#### Band III

#### Note

When you perform the local range scanning, this unit scans only within the frequencies marked with an asterisk (\*) in the following table (see page 6).

Frequency	Channel label	Frequency	Channel label
174.928 MHz	5A	* 208.064 MHz	9D
176.640 MHz	5B	* 209.936 MHz	10A
178.352 MHz	5C	* 211.648 MHz	10B
180.064 MHz	5D	* 213.360 MHz	10C
181.936 MHz	6A	* 215.072 MHz	10D
183.648 MHz	6B	* 216.928 MHz	11A
185.360 MHz	6C	* 218.640 MHz	11B
187.072 MHz	6D	* 220.352 MHz	11C
188.928 MHz	7A	* 222.064 MHz	11D
190.640 MHz	7B	* 223.936 MHz	12A
192.352 MHz	7C	* 225.648 MHz	12B
194.064 MHz	7D	* 227.360 MHz	12C
195.936 MHz	8A	* 229.072 MHz	12D
197.648 MHz	8B	* 230.784 MHz	13A
199.360 MHz	8C	* 232.496 MHz	13B
201.072 MHz	8D	* 234.208 MHz	13C
* 202.928 MHz	9A	* 235.776 MHz	13D
* 204.640 MHz	9B	* 237.488 MHz	13E
* 206.352 MHz	9C	* 239.200 MHz	13F

#### L Band

Frequency	Channel label	Frequency	Channel label
1452.960 MHz	LA	1473.504 MHz	LM
1454.672 MHz	LB	1475.216 MHz	LN
1456.384 MHz	LC	1476.928 MHz	LO
1458.096 MHz	LD	1478.640 MHz	LP
1459.808 MHz	LE	1480.352 MHz	LQ
1461.520 MHz	LF	1482.064 MHz	LR
1463.232 MHz	LG	1483.776 MHz	LS
1464.944 MHz	LH	1485.488 MHz	LT
1466.656 MHz	LI	1487.200 MHz	LU
1468.368 MHz	LJ	1488.912 MHz	LV
1470.080 MHz	LK	1490.624 MHz	LW
1471.792 MHz	LL		

### FM/AM TUNING

### Automatic and manual tuning



#### Automatic tuning

Automatic tuning is effective when station signals are strong and there is no interference.

- 1 Press BAND repeatedly to select FM or AM as the reception band.
- 2 Press and hold TUNING  $\land$  /  $\gtrsim$  for more than 2 seconds to begin automatic tuning.

When this unit is tuned into a station, the TUNED indicator lights up and the frequency of the station is displayed on the front panel display.

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On the front panel, press TUNING MODE repeatedly to select "Auto tune" and then rotate PRESET/TUNING.

#### Manual tuning

If the signal from the station you want to select is weak, tune into it manually.

# 1 Press BAND repeatedly to select FM or AM as the reception band.

# 2 Press TUNING $\land$ / $\checkmark$ to select the desired frequency.

When this unit is tuned into a station, the TUNED indicator lights up.

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On the front panel, press TUNING MODE repeatedly to select "Manual tune" and then rotate PRESET/TUNING.

#### Improving FM reception

If the signal from the station is weak and the sound quality is not good, set the FM radio wave reception mode to the monaural tuning mode to improve reception.

#### Press FM MODE repeatedly to select "AUTO STEREO" (stereo mode) or "MONO" (monaural mode) when this unit is tuned into an FM radio station.

- When this unit is in the stereo tuning mode, the STEREO indicator lights up on the front panel display.
- When this unit is in the monaural tuning mode, the STEREO indicator goes off.

#### Note

Even if this unit is in the stereo tuning mode, the STEREO indicator does not light up when the current program is monaural.

### **Presetting stations**

You can tune into stations easily by storing (presetting) and recalling them. This function enables this unit to preset up to 30 stations for each band.



#### Automatic station preset

1 Press BAND repeatedly to select FM or AM as the reception band.

#### 2 Press AUTO SCAN.

"Auto Preset" blinks on the front panel display. This unit starts searching the stations with strong signals and stores them automatically.



When automatic station preset is completed, this unit tunes into the station preset to "01".

#### Notes

- FM or AM with sufficient signal strength are stored automatically. To store a station with weak signal strength, store it manually. See "Manual station preset" below.
- When you rerun "Automatic station preset", all of the preset data will be deleted and new preset data will be set to each preset number.
- If no station is found, the search ends and this unit returns to the previous station tuned in before the search.

#### Manual station preset

### **1** Tune into the desired FM/AM station.

See page 11 for tuning instructions.

#### 2 Press MEMORY.

The preset number blinks on the front panel display for 10 seconds.

#### Note

Perform the next operation within 10 seconds after pressing MEMORY.

**3** Press PRESET  $\land$  /  $\checkmark$  or the numeric buttons to select the desired preset number while the preset number blinks.



 Shi the front panel, rotate PRESET/TUNING.

#### Note

Perform the next operation within 10 seconds after selecting the preset number.

#### 4 Press MEMORY or ENTER to confirm the preset.

#### Notes

- When you preset a new station to an existing preset number, new preset data will overwrite the existing preset data.
- The reception mode (stereo or monaural) is stored along with the station frequency.

#### Recalling preset stations

You can tune into any desired station simply by selecting the preset number.

## **1** Press BAND repeatedly to select FM or AM as the reception band.

# 2 Press PRESET $\wedge / \vee$ or the numeric buttons to select the desired preset number.

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- On the front panel, press TUNING MODE repeatedly to select "Preset tune" and then rotate PRESET/TUNING.
- "CHXX Empty" (XX indicates the preset number) is displayed briefly when no preset FM or AM station is assigned to the corresponding preset number. The FM or AM station currently being received is then displayed on the front panel display.

#### Clearing the preset FM or AM station

Follow the steps below to clear a preset FM or AM station one at a time.

#### 1 Select the desired preset number.

See "Recalling preset stations" on page 12.

#### 2 Press CLEAR.

The selected preset number blinks on the front panel display.



#### Note

If you do not perform the next operation within 10 seconds, the clearing is canceled.

#### **3** Press CLEAR to confirm.

"CHXX cleared" (XX indicates the preset number) is displayed on the front panel display.

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- To clear all preset FM or AM stations, press and hold CLEAR for more than 3 seconds.
- You can also clear all preset FM or AM stations, by using the FM/AM functions. See "Presets Clear" on page 13.

### Using the FM/AM functions

Use this feature to set the FM/AM functions.



## 1 Press BAND repeatedly to select FM or AM as the reception band.

#### 2 Press FUNCTION.

The FM/AM function menu is displayed on the front panel display.

# **3** Press $\triangle / \nabla$ to select desired FM/AM function and then press $\triangleright$ or ENTER.

You can select the following functions.

- Presets Clear (see page 13)
- Auto Power Down (see page 13)

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To exit from the FM/AM function menu, press FUNCTION again or press  $\triangleleft$ .

#### Presets Clear

Clears all preset settings stored in the unit for the current tuning mode.

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You can also perform Presets Clear by pressing and holding CLEAR for more than 3 seconds in the preset tuning mode. See "Clearing the preset FM or AM station" on page 13.

#### Note

Once Presets Clear is performed, the deleted preset settings cannot be restored.

#### 1 Select "Presets Clear" in FM/AM function menu.

### 2 Press △ / ▽ to select "OK" and then press ▷ or ENTER.

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To cancel the operation, select "CANCEL".

#### Auto Power Down

This unit automatically enters standby mode if it is not operated for specified amount of time.

This setting is effective for all tuning modes. See "Auto Power Down" on page 9 for detail.

### TROUBLESHOOTING

Refer to the table below when this unit does not function properly. If the problem you are experiencing is not listed below or if the instruction below does not help, set this unit to the standby mode, disconnect the power cable, and contact the nearest authorized Yamaha dealer or service center.

#### Tuner

	Problem	Cause	Remedy	See page
	Cannot tune into any DAB stations.	The automatic scanning operations were not performed, or the DAB registry list needs to be updated.	Perform the automatic scanning operations.	6
		There is no DAB coverage in your area.	Check with your dealer or WorldDMB online at "http://www.worlddab.org" for a listing of the DAB coverage in your area.	
		The DAB signals are too weak.	Use a high-quality outdoor DAB antenna.	_
	The automatic scanning operations are not	The DAB antenna may not be connected.	Make sure the DAB antenna is firmly connected.	4
	successful.	The DAB signals are too weak.	Use a high-quality outdoor DAB antenna.	_
DAB		There is no DAB coverage in your area.	Check with your dealer or WorldDMB online at "http://www.worlddab.org/" for a listing of the DAB coverage in your area.	
	The DAB station reception is weak.	The positioning of the indoor DAB antenna and/or this unit is not optimal for DAB reception.	Use the tuning aid feature to locate the best positioning of the DAB antenna and this unit for optimal DAB reception.	9
		The DAB signals are too weak.	Use a high-quality outdoor DAB antenna.	_
	There is noise interference (e.g. hiss	The indoor DAB antenna needs to be repositioned.	Readjust the position of the indoor DAB antenna.	_
	or crackle).	The DAB signals are too weak.	Use a high-quality outdoor DAB antenna.	_
	The DAB station information does not appear or is inaccurate.	The DAB station may be temporarily out of service, or the DAB station information is not provided by the DAB broadcaster.	Contact the DAB broadcaster.	_

	Problem	Cause	Remedy	See page
	FM stereo reception is noisy.	The characteristics of FM stereo broadcasts may cause this problem when the transmitter is too far away or the antenna input is poor.	Check the antenna connections.	4
			Try using a high-quality directional FM antenna.	_
FM	There is distortion, and clear reception cannot be obtained even with a good FM antenna.	There is multi-path interference.	Adjust the antenna position to eliminate multi-path interference.	_
	The desired station	The signal is too weak.	Use a high-quality directional FM antenna.	_
	cannot be tuned into with the automatic tuning method.		Use the manual tuning method.	11
	The desired station cannot be tuned into	The signal is weak or the antenna connections are loose.	Tighten the AM loop antenna connections and orient it for the best reception.	_
АМ	with the automatic tuning method.	Use the manual tuning method.	11	
	There are continuous crackling and hissing noises.	Noise can result from lightning, fluorescent lamps, motors, thermostats and other electrical equipment.	Use an outdoor antenna and a earth ground. This will help somewhat, but it is difficult to eliminate all noise.	
	There are buzzing and whining noises.	A TV set is being used nearby.	Move this unit away from the TV set.	_

#### General

Problem	Cause	Remedy	See page
This unit fails to turn on when 안 is pressed.	The power cable is not connected or the plug is not completely inserted.	Connect the power cable firmly.	4
	This unit has been exposed to a strong external electric shock (such as lightning or strong static electricity).	Disconnect the power cable, plug it back in after 30 seconds, then use it normally.	
A "humming" sound can be heard.	Incorrect cable connections.	Firmly connect the audio connection cord plugs. If the problem persists, the cables may be defective.	
This unit does not operate properly.	The internal microcomputer has been frozen by an external electric shock (such as lightning or excessive static electricity) or by a power supply with low voltage.	Disconnect the AC power plug from the outlet and then plug it in again after about 30 seconds.	4
This unit suddenly turns off.	The Auto Power Down function has turned this unit off.	Change the auto power down setting.	9

### **SPECIFICATIONS**

#### DAB SECTION

- Output Level/Impedance ..... 1.5 V/1.2  $k\Omega$ 

<ul> <li>Tuning Range</li> </ul>	
(Band III)	
(L-Band)	
Sensitivity	

• Sensitivity	
(Band III)	–98 dBm
(L-Band)	–93 dBm
• Selectivity (for adjacent channel)	
(Band III)	40 dB
(L-Band)	40 dB
Signal to Noise Ratio	95 dB
Total Harmonic Distortion	0.01%
Stereo Separation (1 kHz)	77 dB

#### **FM SECTION**

+ Output Level/Impedance 1.0 V/1.2 $k\Omega$
• Tuning Range
<ul> <li>50 dB Quieting Sensitivity (IHF, 100% mod.) Mono</li></ul>
+ Usable Sensitivity (Signal to Noise Ratio, 30 dB, Mono) $1.0\mu V$
Image Rejection Ratio
• IF Rejection Ratio 70 dB
• Selectivity (400 kHz)
Signal to Noise Ratio (IHF) Mono/Stereo
Harmonic Distortion (1 kHz) Mono/Stereo
Stereo Separation (40 kHz Dev.)     1 kHz     43 dB
• Frequency response (20 Hz to 15 kHz) –3 dB
• Antenna Input (unbalanced)
AM SECTION
+ Output Level/Impedance 0.36 V/1.2 $k\Omega$
• Tuning Range 531 to 1611 kHz
• Usable Sensitivity 300 µV/m

- Harmonic Distortion ......
   1.0%

#### GENERAL

Power Supply	AC 240 V, 50 Hz
Power Consumption	10 W
• Dimensions (W x H x D)	
• Weight	

\* Specifications are subject to change without notice.

Digital Audio Broadcasting



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This receiver supports DAB/DAB+ tuning.

