

DAB/FM/AM Tuner

Operating Instructions



Digital Audio Broadcasting



ST-SDE700

WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To prevent fire, do not cover the ventilation of the apparatus with newspapers, table-cloths, curtains, etc. And don't place lighted candles on the apparatus.

To prevent fire or shock hazard, do not place objects filled with liquids, such as vases, on the apparatus.

Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.



Don't throw away batteries with general house waste; dispose of them correctly as chemical waste.

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)



This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

About This Manual

The instructions in this manual describe the controls on the supplied remote. You can also use the controls on the tuner if they have the same or similar names as those on the remote.

Overview of DAB

DAB (Digital Audio Broadcasting) is a new multimedia broadcasting system that replaces the current FM/AM broadcast to transmit audio programmes with a quality comparable to that of CDs*.

Each DAB multiplex radio station converts programmes (services) into an ensemble, which it then broadcasts. Each service contains one or more components. All services and components are identified by name, so you can access any of them without having to know their frequencies.

Furthermore, additional information (called programme associated data) can be broadcast along with the services in the form of text.

With DAB digital radio, you can enjoy:

- CD sound quality without any hiss or crackle to spoil the sound*
- both music and data services from a single tuner (this tuner does not support data services)
- the same radio stations of the same frequency from anywhere in the country
- multiple programmes (services) from a single frequency

* Some service components may not match CD quality sound.

Notes

- The status of the DAB broadcast depends on your country or region. It may not be broadcasted or may be in test phase.
- DAB programmes are broadcast in Band-III (174 to 240 MHz) and/or L-Band (1,452 to 1,491 MHz), with each band divided into channels. Each of these channels has its own channel label. For details on the channel labels and frequencies that this tuner supports, see the Frequency Table on page 30.
- This tuner supports Band-III and L-Band.
- This tuner does not support data services.
- This tuner does not support reception in countries outside of Europe.

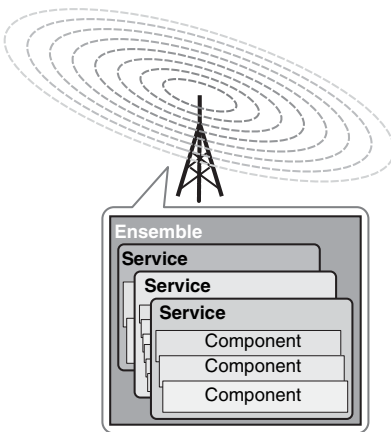


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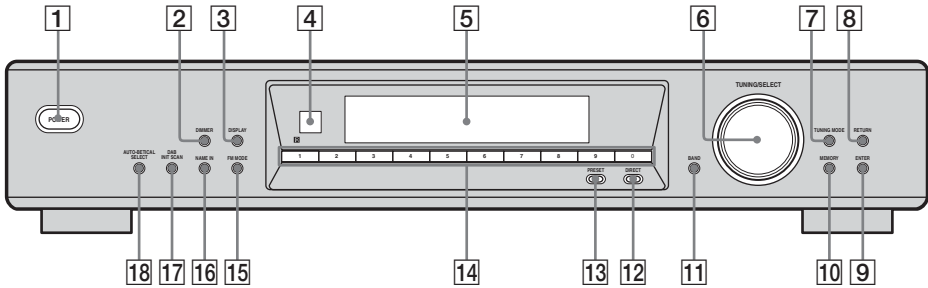
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Description and location of parts

Front panel



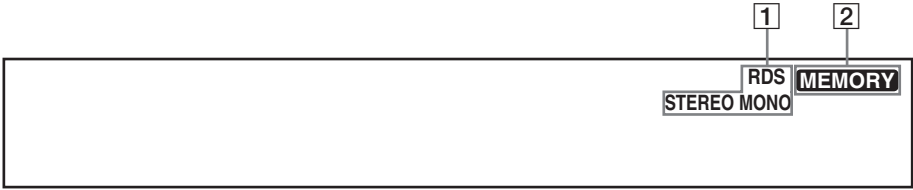
Name	Function
1 POWER switch	Press to turn the tuner on or off (page 15, 20).
2 DIMMER	Press to change the brightness of the display (page 26).
3 DISPLAY	Press to select information displayed on the display (page 24, 25).
4 Remote sensor	Receives signals from remote commander.
5 Display	The current status of the selected station or a list of selectable items appears here (page 7).
6 TUNING/SELECT	Turn to <ul style="list-style-type: none"> – select a preset station. – scan a station. – select character during Name In function.
7 TUNING MODE	Press to select the tuning mode (page 16, 18, 19, 22).
8 RETURN	Press to return to the previous display during Name In, Auto-betical Select and DAB Initialization Scan function.

Name	Function
9 ENTER	Press to <ul style="list-style-type: none"> – enter the selection when selecting the settings. – move to the next character position during Name In function.
10 MEMORY	Press to <ul style="list-style-type: none"> – store a preset station. – store the name of a preset station.
11 BAND	Press to select DAB, FM or AM band (page 15, 16, 18, 19, 20, 22).
12 DIRECT	Press to select direct tuning mode (page 19).
13 PRESET	Press to select preset tuning mode.
14 Numeric buttons	Press to <ul style="list-style-type: none"> – preset a radio station. – tune to preset stations. – direct tune to the FM/AM station when using with DIRECT.
15 FM MODE	Press to select FM monaural or stereo reception (page 19).

continued

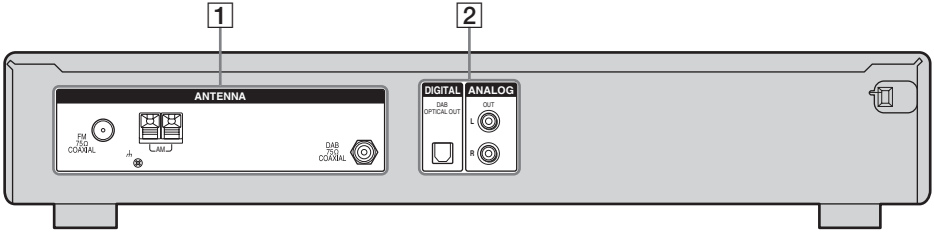
Name	Function
16 NAME IN	Press to name in preset station for FM and AM band only (page 22).
17 DAB INIT SCAN	Press to select DAB Initialization Scan function (page 15).
18 AUTO-BETICAL SELECT	Press to select Auto-betical Select function (page 20).

About the indicators on the display



Name	Function
1 Tuner indicators	Lights up when using the tuner to tune in radio stations (page 18), etc.
2 MEMORY	Lights up when a memory function, such as Preset Memory (page 17, 21), etc., is activated.

Rear panel



1 ANTENNA section



FM ANTENNA Connects to the FM wire antenna supplied with this tuner (page 13).



AM ANTENNA Connects to the AM loop antenna supplied with this tuner (page 13).



DAB ANTENNA Connects to the DAB wire antenna supplied with this tuner (page 13).

2 AUDIO OUTPUT section



OPTICAL OUT jack Connects to a DAT deck or MD recorder for digital-to-digital recording (page 11). With this connection, you can obtain the highest possible sound quality when recording DAB digital broadcasts, even if you use the analog outputs for listening purposes.



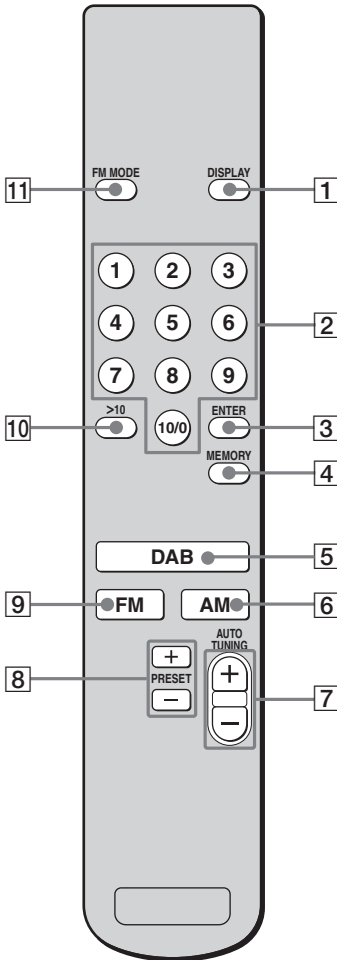
White (L) ANALOG OUT jack Connects to an amplifier (page 12).



Red (R)

Remote commander

You can use the supplied remote RM-S900D to operate the tuner.



Name	Function
1 DISPLAY	Press to select information displayed on the display (page 7).
2 Numeric buttons	Press to preset/tune to preset stations (page 17, 21, 22).
3 ENTER	Press to enter the selection when selecting the settings (page 17, 19, 21).
4 MEMORY	Press to store a station (page 17, 21).
5 DAB	Press to select DAB band (page 15, 16, 17).
6 AM	Press to select AM band (page 18, 21, 22).
7 AUTO TUNING +/-	Press to – scan a station (for FM and AM band). – select a station (for DAB band).
8 PRESET +/-	Press to select preset stations (page 17, 22).
9 FM	Press to select FM band (page 18, 21, 22).
10 >10	Press to select preset tuning mode, especially for preset station over 10.
11 FM MODE	Press to select FM monaural or stereo reception (page 19).

1: Connecting the audio components

How to hook up your components

This section describes how to hook up your components to this tuner. Before you begin, refer to “Component to be connected” below for the pages which describe how to connect each component.

After hooking up all your components, proceed to “2: Connecting the antennas” (page 13).

Component to be connected

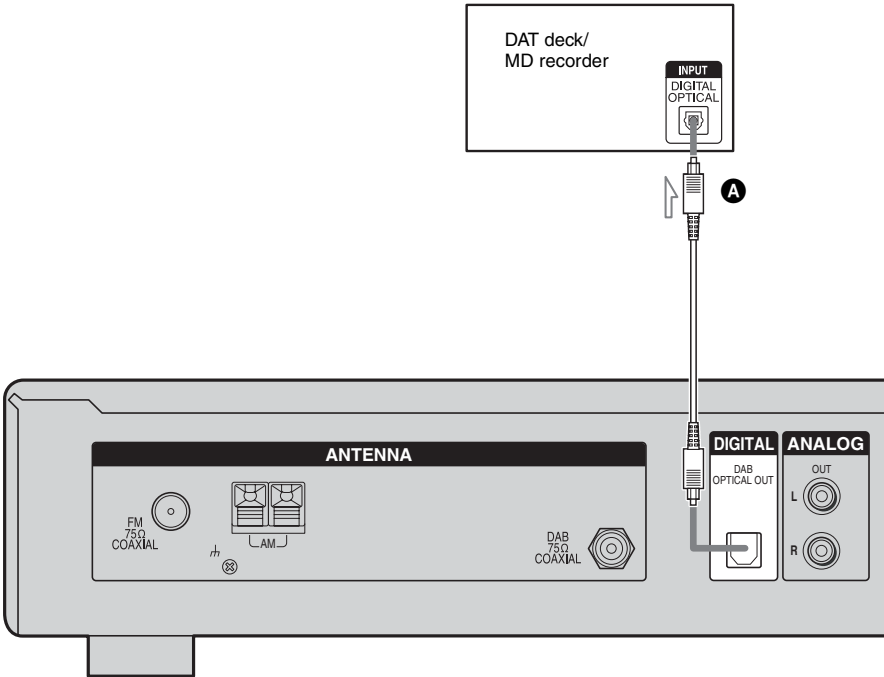
Component	With	Page
DAT deck/ MD recorder	Digital optical input ^{a)}	11
Amplifier	Analog audio input ^{b)}	12

^{a)}Model equipped with DIGITAL OPTICAL IN jacks, etc.

^{b)}Model equipped with AUDIO IN L/R jacks, etc.

Connecting components with digital optical jacks

The following illustration shows how to connect a component which has digital optical jacks such as DAT deck or MD recorder, etc. With this connection, you can do digital-to-digital recording and obtain the highest possible sound quality when recording DAB digital broadcasts.



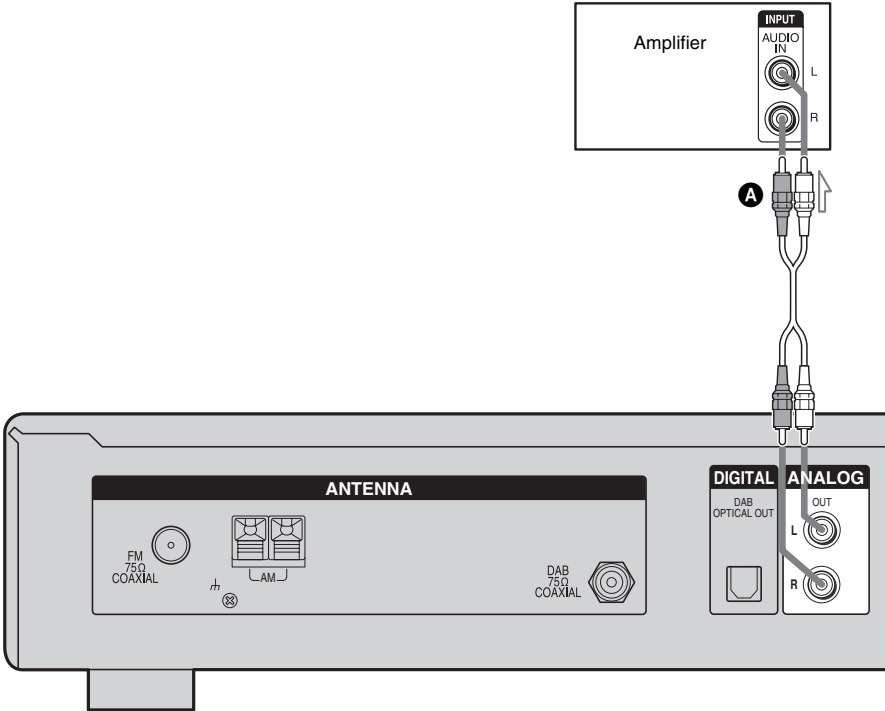
A Optical digital cord (not supplied)

Notes

- The DIGITAL DAB OPTICAL OUT jack has a retractable cover. Insert the plug into the jack.
- When connecting optical digital cords, insert the plugs straight in until they click into place.
- Do not bend or tie optical digital cords.
- FM/AM broadcast signals are not output from the DIGITAL DAB OPTICAL OUT jack.
- When you use a recorder which does not support the 48kHz sampling frequency mode, you cannot play or record the digital signals from the DIGITAL DAB OPTICAL OUT jack.

Connecting components with analog audio jacks

The following illustration shows how to connect a component which has analog jacks such as amplifier, etc.



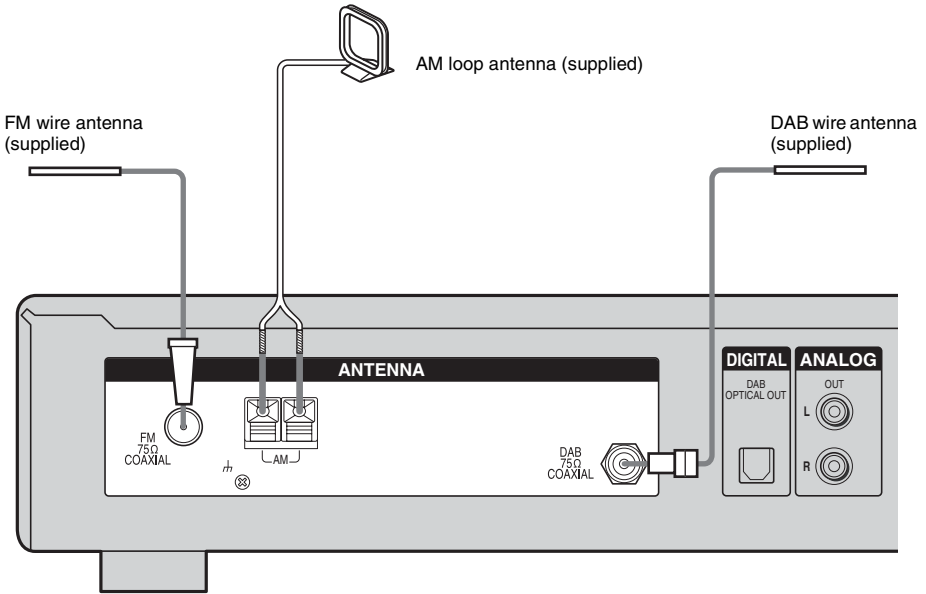
A Audio cord (supplied)

Notes

- When connecting audio cord, insert the white plugs to the white (L) jacks and the red plugs to the red (R) jacks.
- Insert the plugs completely into the jacks; incomplete connections may cause noise.

2: Connecting the antennas

Connect the supplied AM loop antenna, FM wire antenna and DAB wire antenna.



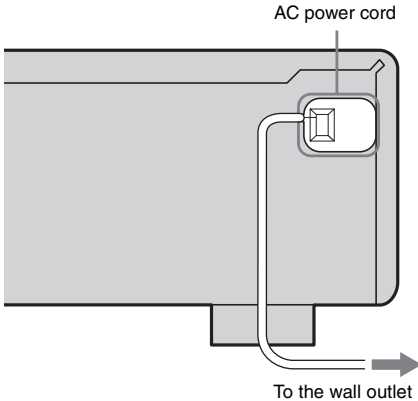
Notes

- To prevent noise pickup, keep the AM loop antenna away from the tuner and other components.
- Be sure to fully extend the FM wire antenna.
- After connecting the FM wire antenna, keep it as horizontal as possible.
- With a DAB outdoor antenna, you can obtain a higher DAB broadcast sound quality. We recommend that you use the supplied DAB wire antenna only temporary until you install a DAB outdoor antenna.

3: Preparing the tuner and the remote

Connecting the AC power cord

Connect the AC power cord to a wall outlet.



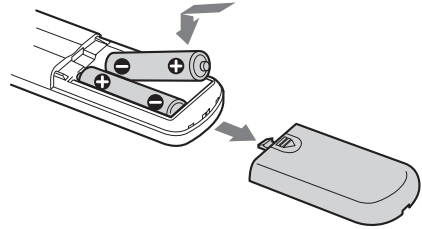
Note

Install this system so that the power cord can be unplugged from the wall socket immediately in the event of trouble.

Inserting batteries into the remote

Insert two R6 (size-AA) batteries in the RM-S900D remote commander.

Observe the correct polarity when installing batteries.



Notes

- Do not leave the remote in an extremely hot or humid place.
- Do not use a new battery with old ones.
- Do not mix alkaline batteries and other kinds of batteries.
- Do not expose the remote sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you do not intend to use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

Tip

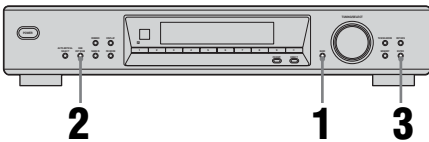
Under normal conditions, the batteries should last for about 3 months. When the remote no longer operates the tuner, replace all the batteries with new ones.

Receiving DAB Broadcasts

Before you can receive DAB stations (DAB INITIAL SCAN)

Before you can receive DAB stations, you must register the contents of broadcast (service components) so that they can be received by this tuner using the DAB INITIAL SCAN procedure.

Be sure to use the buttons on the tuner for this operation.



1 Press **BAND** repeatedly to select the DAB band.

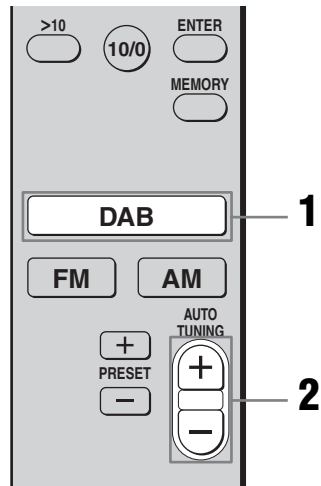
2 Press **DAB INIT SCAN**.
“DAB SCAN” flashes on the display.

3 Press **ENTER**.
“SCAN ON” appears in the display and the tuner scans and stores all the DAB broadcasting contents and registers them in this tuner.
When done, “FINISH” appears in the display momentarily and the tuner returns to the normal operation.

Notes

- If you have not registered the contents of broadcast (service components) in DAB band, “DAB TUNE” appears in the display for a while, then “DAB ____” appears. “PLEASE RUN DAB SCAN FOR DAB STATION” will then scroll across the display. In this case, do the DAB INITIAL SCAN procedure (page 15).
- Buttons on the tuner or supplied remote will not function during DAB INITIAL SCAN procedure, except POWER.
- If you move to another area, repeat this procedure to store stations in your new area.
- This procedure does not create any presets.
- This procedure clears all previously stored presets.
- For details on presets, see “Presetting DAB stations” on page 16.

Automatic tuning



1 Press **DAB** to select the DAB band.

The last received station is tuned in. When selecting DAB, “DAB TUNE” will appear in the display while the tuner is collecting DAB data. Please wait until this message disappears.

- 2 Press **AUTO TUNING +** or **AUTO TUNING -** to select the DAB station you want.

Using the controls on the tuner

- 1 Press **BAND** repeatedly to select the DAB band.
- 2 Press **TUNING MODE** repeatedly to select “AUTO T.”.
- 3 Turn **TUNING/SELECT**.

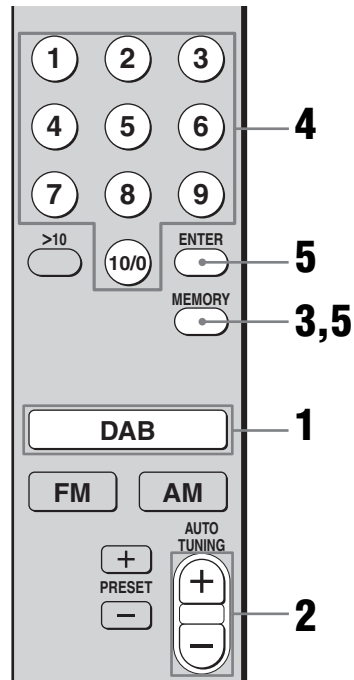
Notes

- When tuning in a DAB station, it may take a few seconds before you hear any sound.
- Before you can receive DAB stations, you must complete the DAB INITIAL SCAN procedure (page 15).
- Preset your favourite DAB stations so that you can use the supplied remote to tune to the stations you want. For details, refer “Presetting DAB stations” (page 16).

Presetting DAB stations

You can preset up to 30 DAB stations. Then you can easily tune in the stations you often listen to.

Presetting DAB stations



- 1 Press **DAB** to select the DAB band.

The last received station is tuned in. When selecting DAB, “DAB TUNE” will appear in the display while the tuner is collecting DAB data. Please wait until this message disappears.

- 2 Press **AUTO TUNING +** or **AUTO TUNING -** to select the DAB station you want.

Tuning to preset stations

3 Press MEMORY.

You can also use MEMORY on the tuner. The cursor flashes and you can select a preset station number.

4 Press the numeric buttons to select a preset station number.

You can also use numeric buttons or TUNING/SELECT on the tuner to select a preset station number.

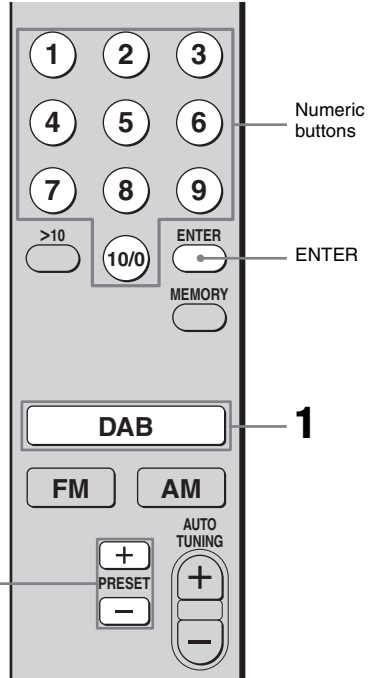
5 Press ENTER or MEMORY.

You can also use ENTER or MEMORY on the tuner. The station is stored as the selected preset number.

6 Repeat steps 1 to 5 to preset another station.

Notes

- When you preset a DAB station that is broadcasting station name information, the station name is automatically stored in the station preset.
- The DAB INITIAL SCAN procedure clears all DAB presets.

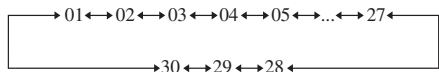


1 Press DAB to select the DAB band.

The last received station is tuned in. When selecting DAB, “DAB TUNE” will appear in the display while the tuner is collecting DAB data. Please wait until this message disappears.

2 Press PRESET + or PRESET – repeatedly to select the preset station you want.

Each time you press the button, you can select a preset station as follows:



You can also press the numeric buttons to select the preset station you want. Then, press ENTER to enter the selection.

continued

Using the controls on the tuner

- 1 Press BAND repeatedly to select the DAB band.
- 2 Press TUNING MODE repeatedly to select “PRESET T”.
- 3 Turn TUNING/SELECT to select the preset station you want.

Tip

If you have not preset any DAB stations, “DAB NO PRESET” scrolls across the display when you press PRESET + or PRESET –.

Receiving FM/AM Broadcasts

Listening to FM/AM radio

You can listen to FM and AM broadcasts through this tuner. Before operation, make sure you have connected the FM and AM antennas to the tuner (page 13).

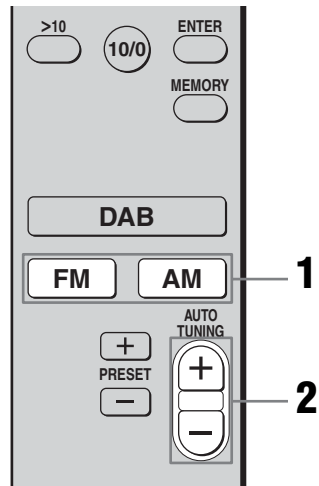
Tip

The tuning scale is:

FM: 50 kHz

AM: 9 kHz

Automatic tuning



- 1 Press FM or AM to select the FM or AM band.
- 2 Press AUTO TUNING + or AUTO TUNING –.

Press AUTO TUNING + to scan from low to high frequency; press AUTO TUNING – to scan from high to low frequency.

The tuner stops scanning whenever a station is received.

Using the controls on the tuner

- 1 Press BAND repeatedly to select the FM or AM band.
- 2 Press TUNING MODE repeatedly to select "AUTO T."
- 3 Turn TUNING/SELECT.

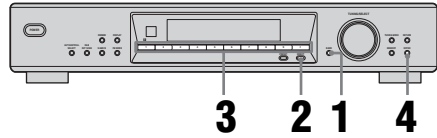
In case of poor FM stereo reception

If the FM stereo reception is poor and "STEREO" flashes on the display, select monaural audio so that the sound will be less distorted.

Press FM MODE repeatedly to select FM MONO. The "FM MONO" appears and "MONO" indicator lights up on the display. To return to stereo mode, press FM MODE. The "FM AUTO" appears and "MONO" indicator do not lights up on the display.

Direct tuning

Be sure to use the buttons on the tuner for this operation.



- 1 Press **BAND** repeatedly to select the FM or AM band.

You can also use FM or AM on the remote.

- 2 Press **DIRECT**.

- 3 Press the numeric buttons to enter the frequency.

You can also use the numeric buttons on the remote.

Example 1: FM 102.50 MHz

Select 1 → 0 → 2 → 5 → 0

Example 2: AM 1,350 kHz

Select 1 → 3 → 5 → 0

- 4 Press **ENTER**.

You can also use ENTER on the remote.

If you have tuned in an AM station, adjust the direction of the AM loop antenna for optimum reception.

If you cannot tune in a station

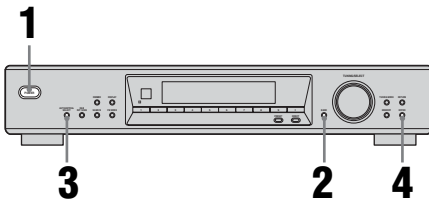
Make sure you have entered the right frequency. If not, repeat steps 2 to 4. If you still cannot tune in a station, the frequency is not used in your area.

Storing FM stations automatically

(AUTOBETICAL)

This function lets you store up to 30 FM and FM RDS stations in alphabetical order without redundancy. Additionally, it only stores the stations with the clearest signals.

If you want to store FM or AM stations one by one, see “Presetting radio stations” (page 21). Be sure to use the buttons on the tuner for this operation.



- 1 Press POWER to turn on the tuner.**
- 2 Press BAND repeatedly to select the FM band.**
- 3 Press AUTO-BETICAL SELECT.**
“A. BETICAL” flashes on the display.
- 4 Press ENTER.**

“AUTO-BETICAL SELECT” scrolls across the display and the tuner scans and stores all the FM and FM RDS stations in the broadcast area.

For RDS stations, the tuner first checks for stations broadcasting the same program, then stores only the ones with the clearest signal. The selected RDS stations are sorted alphabetically by their Program Service name, then assigned a 2-character preset code. For more details on RDS, see page 23.

Regular FM stations are assigned 2-character preset codes and stored after the RDS stations.

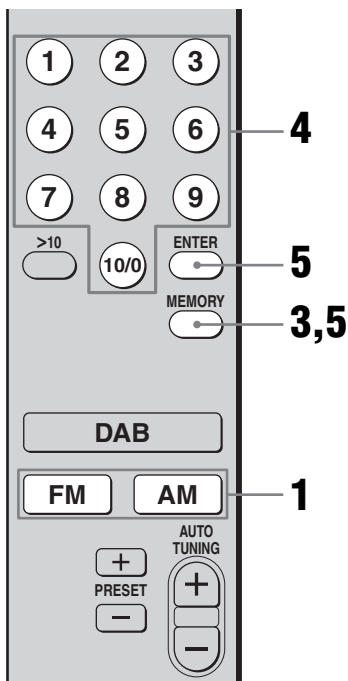
Notes

- Buttons on the tuner or supplied remote will not function during autobetrical operation, except POWER.
- If you move to another area, repeat this procedure to store stations in your new area.
- For details on tuning the stored stations, see “Tuning to preset stations” (page 22).
- If you move the antenna after storing stations with this procedure, the stored settings may no longer be valid. If this happens, repeat this procedure to store the stations again.

Presetting radio stations

You can preset up to 30 FM stations and 30 AM stations. Then you can easily tune in the stations you often listen to.

Presetting radio stations



- 1 Press FM or AM to select the FM or AM band.**
- 2 Tune in the station that you want to preset using Automatic Tuning (page 18) or Direct Tuning (page 19).**

Switch the FM reception mode, if necessary (page 19).

- 3 Press MEMORY.**

You can also use MEMORY on the tuner. The cursor flashes and you can select a preset station number.

- 4 Press numeric buttons to select a preset station number.**

You can also use numeric buttons or TUNING/SELECT on the tuner to select a preset station number.

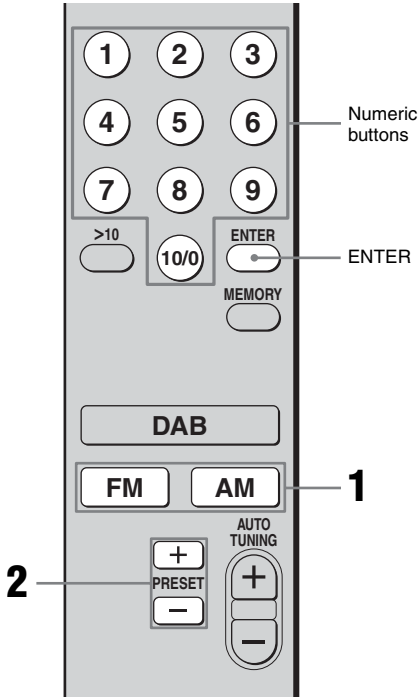
- 5 Press ENTER or MEMORY.**

You can also use ENTER or MEMORY on the tuner.

The station is stored as the selected preset number.

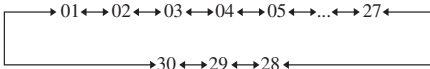
- 6 Repeat steps 1 to 5 to preset another station.**

Tuning to preset stations



- 1** Press FM or AM to select the FM or AM band.
- 2** Press PRESET + or PRESET – repeatedly to select the preset station you want.

Each time you press the button, you can select a preset station as follows:



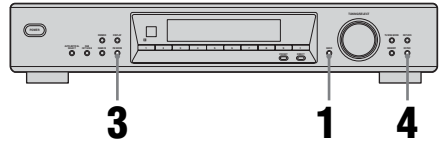
You can also press the numeric buttons to select the preset station you want. Then, press ENTER to enter the selection.

Using the controls on the tuner

- 1** Press BAND repeatedly to select the FM or AM band.
- 2** Press TUNING MODE repeatedly to select “PRESET T.”.
- 3** Turn TUNING/SELECT to select the preset station you want.

Naming preset stations

Be sure to use the buttons on the tuner for this operation.



- 1** Press BAND repeatedly to select the FM or AM band.
You can also use FM or AM on the remote.
- 2** Tune in the preset station you want to create an index name for (page 22).
- 3** Press NAME IN.
“NAME IN” flashes on the display. Perform step 4 before “NAME IN” goes out.
- 4** Press ENTER.

The cursor flashes and you can select a character. Follow the procedure given in “To create an index name” below.

To return to the previous display

Press RETURN.

To create an index name

- 1 Use TUNING/SELECT to create an index name.
Turn TUNING/SELECT to select a character, then press ENTER to confirm the selected character and move to the next character position.

If you made a mistake

Press RETURN.

You need to return to step 3 of “Naming preset stations”.

Tip

You can enter a name up to 8 characters.

- 2 Press MEMORY.

The entered name is registered.

Notes

- When you name an RDS station and tune in that station, the Program Service name appears instead of the name you entered. (You cannot change the Program Service name. The name you entered will be overwritten by the Program Service name.)
- You cannot name DAB stations. The service component label appears when you tune in DAB stations.

Using the Radio Data System (RDS)

This tuner also allows you to use RDS (Radio Data System), which enables radio stations to send additional information along with the regular program signal. You can display RDS information.

Notes

- RDS is operable only for FM stations.
- Not all FM stations provide RDS service, nor do they provide the same type of services. If you are not familiar with the RDS services in your area, check with your local radio stations for details.

Receiving RDS broadcasts

Simply select a station on the FM band using direct tuning (page 19), automatic tuning (page 18), or preset tuning (page 22).

When you tune in a station that provides RDS services, “RDS” lights up and the program service name appears on the display.

Note

RDS may not work properly if the station you tuned to is not transmitting the RDS signal properly or if the signal strength is weak.

Displaying RDS information

While receiving an RDS station, press **DISPLAY** repeatedly on the tuner.

Each time you press the button, RDS information on the display changes cyclically as follows:

Program Service name → Frequency → Program Type indication^{a)} → Radio Text indication^{b)} → Current Time indication (in 24-hour system mode)

^{a)}Type of program being broadcast.

^{b)}Text messages sent by the RDS station.

Notes

- If there is an emergency announcement by government authorities, "ALARM" flashes in the display.
- When the message consists of 9 characters or more, the message scrolls across the display.
- If a station does not provide a particular RDS service, "NO XXXX" (such as "NO TEXT") appears on the display.

Description of program types

Program type indication	Description
NEWS	News programs
AFFAIRS	Topical programs that expand on current news
INFO	Programs offering information on a wide spectrum of subjects, including consumer affairs and medical advice
SPORT	Sports programs
EDUCATE	Educational programs, such as "how-to" and advice programs
DRAMA	Radio plays and serials
CULTURE	Programs about national or regional culture, such as language and social concerns
SCIENCE	Programs about the natural sciences and technology

Program type indication	Description
VARIED	Other types of programs such as celebrity interviews, panel games, and comedy
POP M	Popular music programs
ROCK M	Rock music programs
EASY M	Easy Listening
LIGHT M	Instrumental, vocal, and choral music
CLASSICS	Performances of major orchestras, chamber music, opera, etc.
OTHER M	Music that does not fit into any categories above, such as Rhythm & Blues and Reggae
WEATHER	Weather information
FINANCE	Stock market reports and trading, etc.
CHILDREN	Programs for children
SOCIAL	Programs about people and the things that affect them
RELIGION	Programs of religious content
PHONE IN	Programs where members of the public express their views by phone or in a public forum
TRAVEL	Programs about travel. Not for announcements that are located by TP/TA.
LEISURE	Programs on recreational activities such as gardening, fishing, cooking, etc.
JAZZ	Jazz programs
COUNTRY	Country music programs
NATION M	Programs featuring the popular music of the country or region
OLDIES	Programs featuring oldies music
FOLK M	Folk music programs
DOCUMENT	Investigative features
NONE	Any programs not defined above

Changing the display

You can check the status of this tuner and the information about the programme using the display.

Be sure to use the buttons on the tuner for this operation.

Press DISPLAY.

Each time you press the button, the display changes cyclically as follows.

FM and AM band

Program Service name^{a)} or index name of the preset station^{b)} → Frequency → Program Type indication^{a)} → Radio Text indication^{a)} → Current Time indication (in 24-hour system)^{a)}

^{a)} During RDS reception only (page 23).

^{b)} Index name appears only when you have assigned one to the preset station (page 23). Index name does not appear when only blank spaces have been entered.

DAB band

Service Component Label → Frequency → Program Type indication → Dynamic label segment → Current Time indication (in 24-hour system)^{a)} → Channel label → Audio info^{b)} → Signal Quality^{c)}

^{a)} Time information appearing in the display is sent by the DAB station. As a result, the time may not be displayed properly if the station is located in a different time zone.

“_ _H _ _M” will display until time information is received.

^{b)} Audio information on bit rate (32kbps - 256kbps), signal type (stereo, dual, mono) and sampling type (F: 48kHz, H: 24kHz) is displayed.

Example: 128K S F

^{c)} The DAB station signal quality is displayed.

“Q. _ _ _” is displayed until the signal quality information is received.

Note

When “STEREO” appears in the display, the current program is broadcasted in the stereo/joint (intensity) stereo mode.

Customizing the display

You can select the brightness of the display. Be sure to use the buttons on the tuner for this operation.

Press DIMMER.

Lets you adjust the brightness of the display in 3 steps.

Additional Information

Precautions

On safety

Should any solid object or liquid fall into the unit, unplug the tuner and have it checked by qualified personnel before operating it any further.

On power sources

- Before operating the tuner, check that the operating voltage is identical with your local power supply.
The operating voltage is indicated on the nameplate on the back of the tuner.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- If you are not going to use the tuner for a long time, be sure to disconnect the tuner from the wall outlet. To disconnect the AC power cord, grasp the plug itself; never pull the cord.
- The AC power cord must be changed only at a qualified service shop.

On placement

- Do not place heavy objects on the tuner which might cause malfunctions.
- Place the tuner in a location with adequate ventilation to prevent heat buildup and prolong the life of the tuner.
- Do not place the tuner near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock.
- Do not place the tuner near equipment such as a television, VCR, or tape deck. (If the tuner is being used in combination with a television, VCR, or tape deck, and is placed too close to that equipment, noise may result, and picture quality may suffer. This is especially likely when using an indoor antenna. Therefore, we recommend using an outdoor antenna.)
- Use caution when placing the tuner on surfaces that have been specially treated (with wax, oil, polish, etc.) as staining or discoloration of the surface may result.

On operation

Before connecting other components, be sure to turn off and unplug the tuner.

On cleaning

Clean the cabinet, panel, and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent, such as alcohol or benzine.

If you have any questions or problems concerning your tuner, please consult your nearest Sony dealer.

Troubleshooting

If you experience any of the following difficulties while using the tuner, use this troubleshooting guide to help you remedy the problem. Should any problem persist, consult your nearest Sony dealer.

There's no sound.

- Connect the antennas.
- Set the source setting on the amplifier to TUNER.
- Connect the tuner to the amplifier using an audio cord (page 12) or optical digital cord (page 11).
- The specified station has temporarily stopped broadcast.
- Perform the DAB INITIAL SCAN procedure (page 15).
- FM/AM broadcast signals are not output from the DIGITAL DAB OPTICAL OUT jack.

You cannot tune in a frequency.

- Adjust the position of the antenna.
- Connect an external antenna for DAB/FM/AM broadcasts.
- Preset the stations again if you have moved.

There is severe hum and/or background noise.

- Adjust the position or direction of the antenna.
- Tune to a correct frequency.
- Connect an external antenna for DAB/FM/AM broadcasts.
- Move the tuner away from the source of the noise.

RDS isn't working.

- Make sure that you tune in an FM station.
- Select a stronger FM station.

The appropriate display or information does not appear.

- Contact the radio station and find out whether or not they actually provide the service in question. The service may be temporarily out of order.

You cannot name the preset station.

- You cannot name DAB/FM RDS stations.

The tuner malfunctions.

- The microprocessor in the tuner has malfunctioned. Turn off the tuner, then turn it on again.

“DAB _ _ _ _” appears in the display. (DAB reception only)

- Check all antenna connections, then turn TUNING/SELECT to select a service.
- The current DAB service is not available. Turn TUNING/SELECT to select a different service.
- If you have moved to another area, some services/frequencies may have changed and you may not be able to tune into your usual broadcast.

Perform the DAB INITIAL SCAN procedure to re-register the contents of broadcasts. (Performing this procedure clears all previously stored presets.)

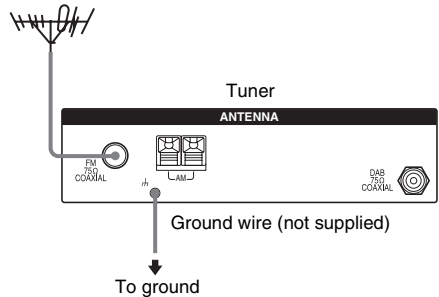
There's no sound from the DIGITAL DAB OPTICAL OUT jack, or you cannot record a programme.

- Make sure that the optical digital cord is properly connected.
- The connected recorder does not support the 48kHz sampling frequency mode. Use a recorder that supports this mode.
- The sound of the FM and AM programme does not output from the DIGITAL DAB OPTICAL OUT jack of the tuner. Connect the recorder to the ANALOG OUT jack of the tuner.

The FM reception is poor.

- Use a 75-ohm coaxial cable (not supplied) to connect the tuner to an outdoor FM antenna as shown below. If you connect the tuner to an outdoor antenna, ground it against lightning. To prevent a gas explosion, do not connect the ground wire to a gas pipe.

Outdoor FM antenna



Remote control

The remote does not function.

- Point the remote at the remote sensor (R) on the tuner.
- Remove any obstacles in the path between the remote and the tuner.
- Replace both batteries in the remote with new ones if they are weak (page 14).

Error messages

If there is a malfunction, the display shows a message. You can check the condition of the tuner by the message. Refer to the following table to solve the problem.

DAB EROR

The tuner is unable to collect the DAB data. Turn off the tuner and turn it on again.

Specifications

DAB tuner section

Frequency range	
Band-III:	174.928 (5A) – 239.200 (13F) MHz
L-Band:	1452.960 (LA) – 1490.624 (LW) MHz
	For details, see “DAB frequency table” on page 30.
Sensitivity	–99 dBm
Signal-to-noise ratio	97 dB
THD+N	0.009% (1 kHz)
Channel separation	87 dB (1 kHz)
Selectivity	40 dB (at adjacent channel)
Frequency response	+0.5/–0.5 dB (5 Hz – 20 kHz)
Digital output	Optical
	Sampling frequency: 48 kHz
Aerial terminal	75 ohms, F female
Analog output level	2 Vrms

FM tuner section

Frequency range	87.5 – 108.0 MHz (50 kHz step)
Intermediate frequency	10.7 MHz
IHF Sensitivity	1.0 μ V
Signal-to-noise ratio	at 40 kHz deviation 70 dB (stereo)
THD+N	1 kHz, 40 kHz deviation 0.5% (stereo)
Channel separation	45 dB (1 kHz)
Selectivity	at 400 kHz 60 dB
Frequency response	+0.5/–2.0 dB (30 Hz – 15 kHz)
Aerial terminal	75 ohms, IEC male

AM tuner section

Frequency range	531 – 1,602 kHz (9 kHz step)
Intermediate frequency	450 kHz
Sensitivity	(with AM loop aerial) 330 μ V/m
Signal-to-noise ratio	54 dB
THD+N	0.5% (400 Hz)
Selectivity	at 9 kHz 35 dB
Aerial terminal	Push lever

General

Power requirements	230 V AC, 50/60 Hz
Power consumption	16 W
Dimensions (w/h/d) (Approx.)	430 × 85 × 290 mm
Weight (Approx.)	2.8 kg
Remote control capability	IR
Station preset capacity	DAB maximum of 30 FM maximum of 30 AM maximum of 30

Supplied accessories

Audio cord (1)
AM loop antenna (1)
FM wire antenna (1)
DAB wire antenna (1)
Remote commander RM-S900D (1)
R6 (size-AA) batteries (2)

Design and specifications are subject to change without notice.

DAB frequency table

Band-III (174 to 240 MHz)

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

L-Band (1,452 to 1,491 MHz)

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

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