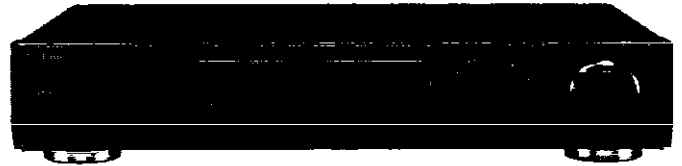


Technics

Stereo Synthesizer Tuner ST-GT650/ST-GT550

Operating Instructions



The photograph shows the ST-GT650 model.

Notes:

- The "EB" area code, for example, indicates United Kingdom specifications.
- The "EB" indication is shown on the packing case.

Before connecting, operating or adjusting this product, please read these instructions completely.

Dear Customer

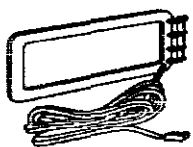
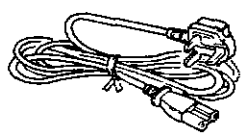
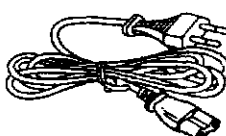
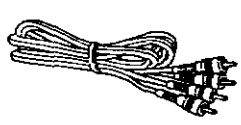




Thank you for purchasing this Technics product.
For optimum performance and safety, please read
these instructions carefully.

These operating instructions are applicable to models
ST-GT650 and ST-GT550.
These operating instructions, however, are intended primarily
for model ST-GT650.

Contents

• Accessories	2	• Using Memory Preset	12
• Caution for AC mains lead (United Kingdom only)	3	• Enjoying RDS Broadcasts	13
• Connections	4	• Suggestions for Safety	18
• Front Panel Controls	6	• Troubleshooting Guide	19
• Manual Tuner Operation	8	• Maintenance	19
• Memory Presettings	10	• Technical Specifications	Back cover

Accessories

• AC power supply cord	1	• AM loop antenna	1
(For United Kingdom)			
(For others)			
			
			
• Stereo connection cable	1	• AM antenna holder	1
			
• FM indoor antenna	1	• Screws	2
			
		• Attachment plug	1
		(United Kingdom only)	
			

Caution for AC mains lead

(United Kingdom only)



("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.


Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

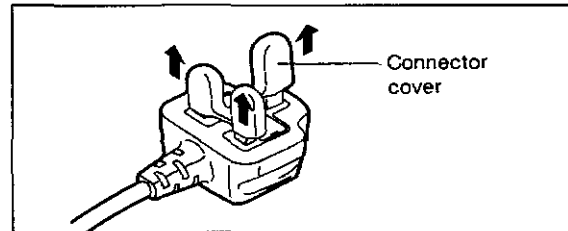
A replacement fuse cover can be purchased from your local dealer.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

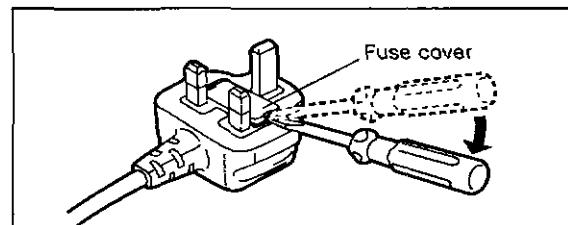
Before use

Remove the connector cover as follows.

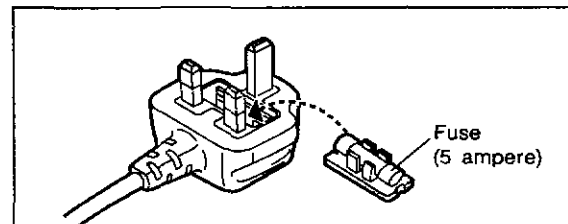


How to replace the fuse

1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.



CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

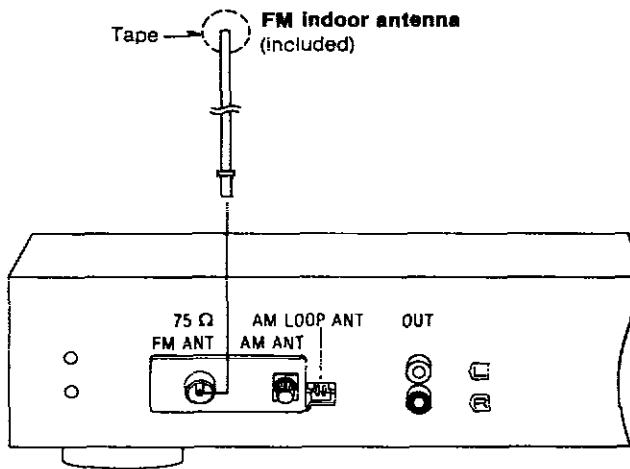
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

Connections

To connect the FM antenna

FM indoor antenna (included)



Attach to a wall (using a tape) facing in the direction of best reception.

For best reception sound quality:

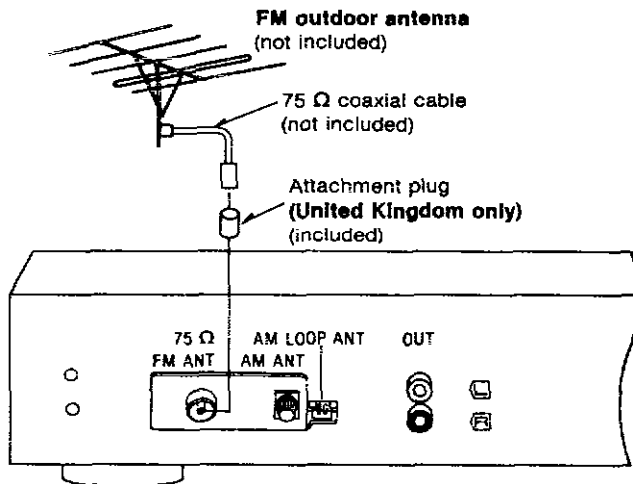
Find the optimum height and direction that gives the maximum signal reception strength.

Note:

If the FM indoor antenna does not provide satisfactory reception, an outdoor antenna should be used.

FM outdoor antenna (not included)

The outdoor antenna may be required in a mountainous region, or if this unit is located inside a reinforced-concrete building, etc. Disconnect the FM indoor antenna if an FM outdoor antenna is installed.

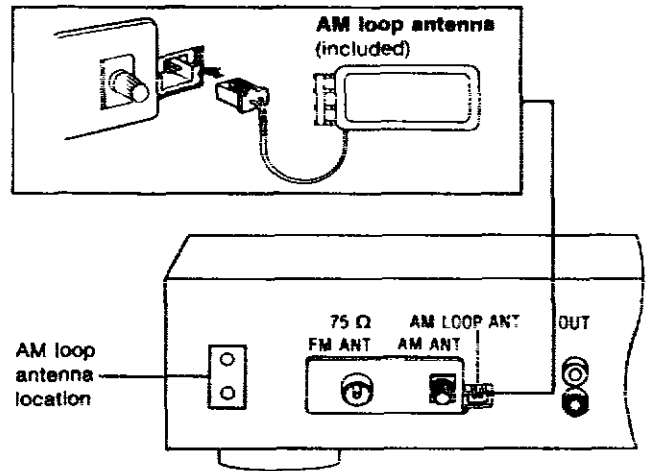


Note:

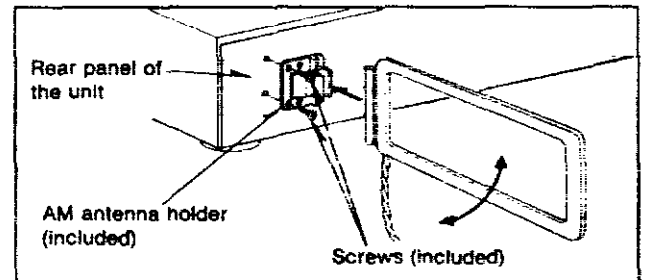
An outdoor antenna should be installed by a competent technician only.

To connect the AM (MW/LW) antenna

AM loop antenna (included)

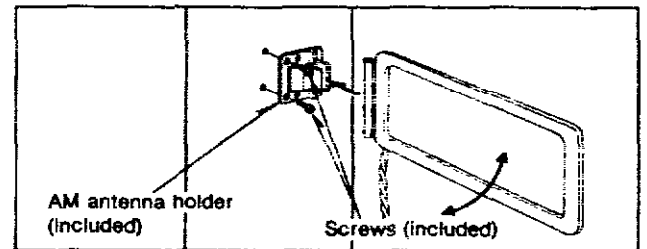


Connect the AM loop antenna to the AM loop antenna terminals, and mount it vertically to the rear panel of this unit.



When mounting the antenna to a column, a wall or a rack

Mount it vertically.

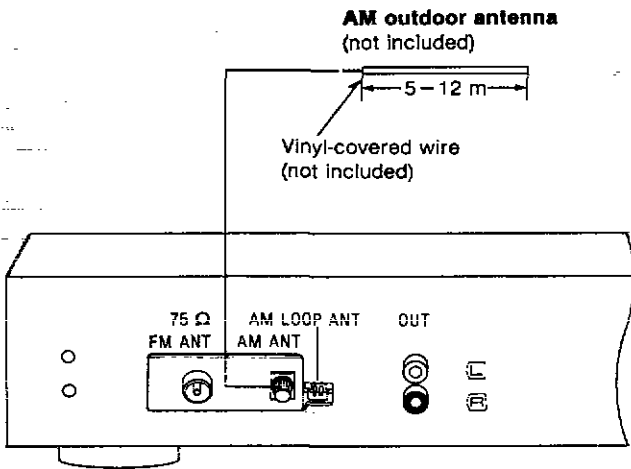


Pay attention to the following points when mounting the antenna.

- Do not mount it horizontally (Doing so will impair reception).
- Do not mount it close to power cords, speaker wires or metal surfaces (Doing so will result in noise).
- Do not mount it close to a tape deck. When the tape deck is being used, chirping or beeping sounds may result.

AM outdoor antenna (not included)

An outdoor antenna may be required in a mountainous region, or if this unit is located inside a reinforced-concrete building, etc.



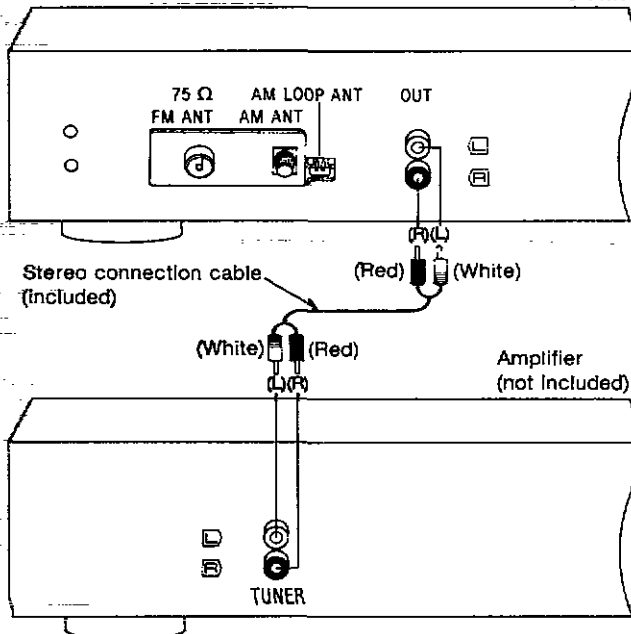
Use 5–12 m of vinyl-covered wire horizontally at the window or other convenient location.

Notes:

- Be sure to connect the AM loop antenna even when an outdoor antenna is used.
- When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

To connect with an amplifier

This unit



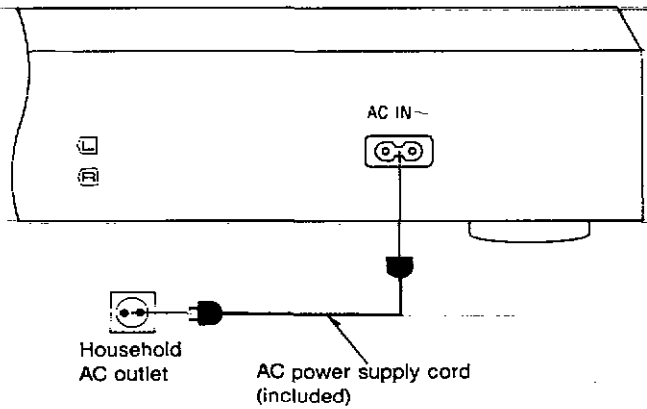
To connect the AC power supply cord

Connect the AC power supply cord (included) after all other cables are connected.

Note:

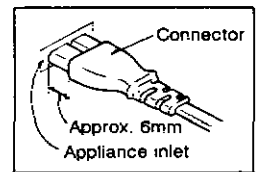
The configuration of the AC power supply cord differs according to area.

FOR UNITED KINGDOM ONLY
BE SURE TO READ THE CAUTION FOR THE AC POWER SUPPLY CORD ON PAGE 3 BEFORE THE FOLLOWING CONNECTION.



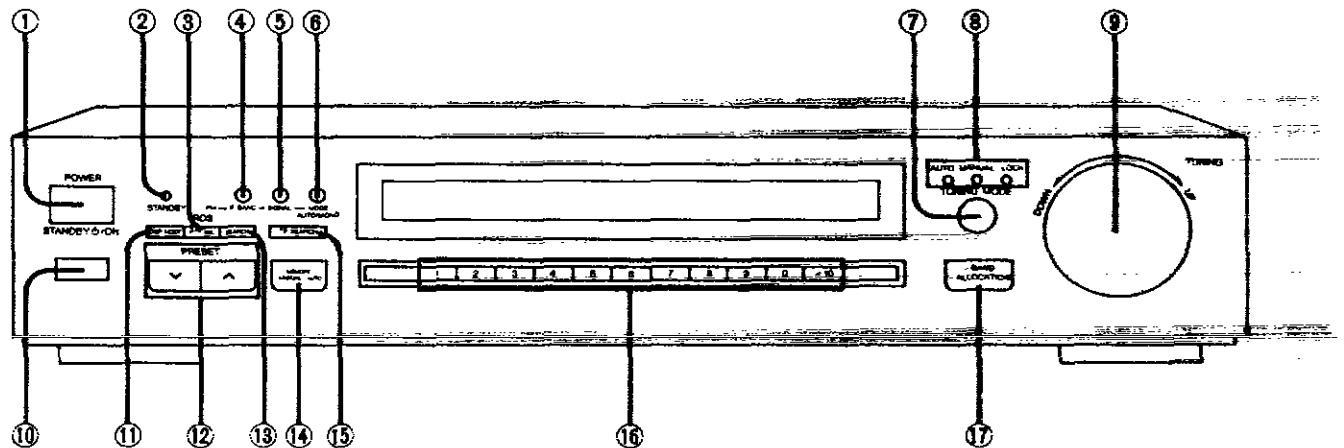
Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. However there is no problem using the unit.



Front Panel Controls

Control section



**① Power "STANDBY" / ON switch
(POWER, STANDBY / ON)**

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

② "STANDBY" indicator (STANDBY)

When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

③ PTY selector (PTY SEL)

(See page 16.)

④ FM IF band selector (IF BAND)

(See page 9.)

**⑤ FM signal-strength indication button
(SIGNAL)**

(See page 9.)

⑥ FM mode selector (MODE)

(See page 9.)

⑦ Tuning-mode selector (TUNING MODE)

(See page 8.)

⑧ ST-GT650 only

**Tuning mode indicators
(AUTO, MAMUAL, LOCK)**

(See page 8.)

⑨ Tuning control (TUNING)

(See page 8.)

⑩ Remote control signal sensor

When connecting a Technics amplifier with the remote control transmitter to this unit, you can operate this unit using a remote control transmitter of the amplifier. (See the operating instructions of the amplifier.)

⑪ Display mode selector (DISP MODE)

(See pages 14 and 17.)

⑫ Preset channel buttons (PRESET)

(See page 10.)

⑬ AF/PTY search button (SEARCH)

(See pages 14 and 16.)

⑭ Memory button (MEMORY)

(See pages 10 and 11.)

⑮ TP search button (TP SEARCH)

(See page 15.)

⑯ Preset-tuning buttons (1-0, ≥10)

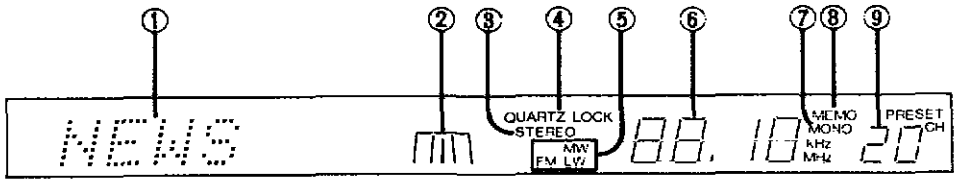
(See pages 11 and 12.)

⑰ Band selector (-BAND, -ALLOCATION)

(See page 8.)

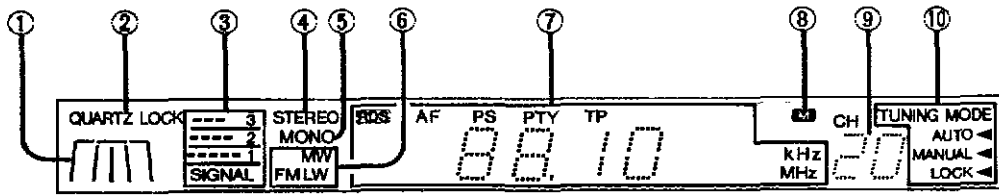
Display section

ST-GT850 only



- ① **RDS display**
(See page 14–17.)
- ② **FM IF band indicator**
(See page 9.)
- ③ **FM stereo indicator (STEREO)**
(See page 8.)
- ④ **Quartz-lock indicator (QUARTZ LOCK)**
(See page 8.)
- ⑤ **Band indicators (FM, MW, LW)**
(See page 8.)
- ⑥ **Digital frequency/FM signal-strength display**
(See page 9.)
- ⑦ **FM mode Indicator (MONO)**
(See page 9.)
- ⑧ **Memory Indicator (MEMO)**
(See page 11.)
- ⑨ **Channel display**
(See page 11.)

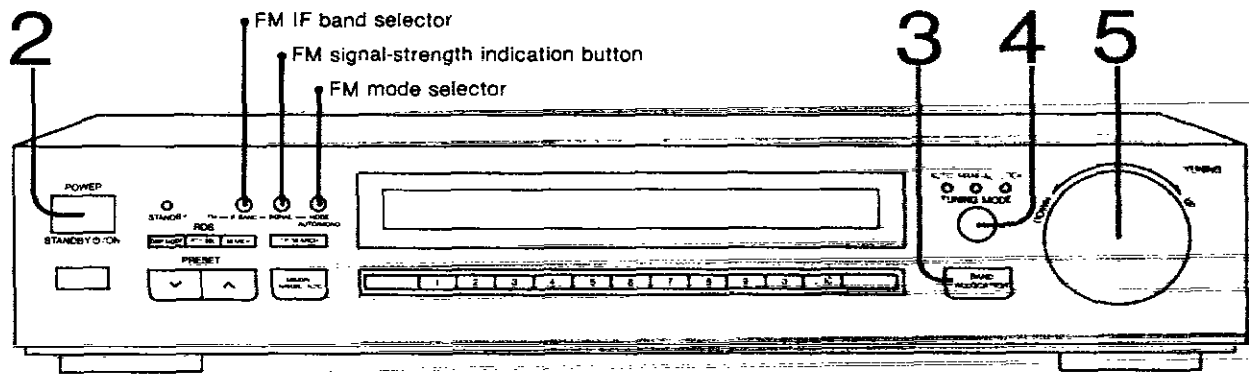
ST-GT550 only



- ① **FM IF band indicator**
(See page 9.)
- ② **Quartz-lock indicator (QUARTZ LOCK)**
(See page 8.)
- ③ **Signal-strength indicators (SIGNAL)**
(See page 9.)
- ④ **FM stereo indicator (STEREO)**
(See page 8.)
- ⑤ **FM mode Indicator (MONO)**
(See page 9.)
- ⑥ **Band indicators (FM, MW, LW)**
(See page 8.)
- ⑦ **Digital frequency/FM signal-strength/RDS display**
(See pages 9 and 14–17.)
- ⑧ **Memory indicator (M)**
(See page 11.)
- ⑨ **Channel display**
(See page 11.)
- ⑩ **Tuning mode indicators (TUNING MODE)**
(See page 8.)

Manual Tuner Operation

To listen to broadcasts by using the tuning control.



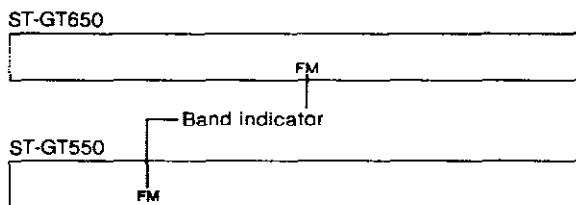
1 Switch the amplifier ON, and set it for listening to radio broadcasts.

2 Switch ON the power "STANDBY ϕ /ON" switch.

3 Press the band selector to select the desired band.

The band indicator changes in the following way each time the selector is pressed.

FM \rightarrow MW \rightarrow LW



FM: for FM broadcasts
MW: for MW broadcasts
LW: for LW broadcasts

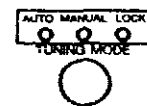
To change the MW frequency step:
 The MW frequency step is set to 9 kHz before shipment. To change to 10 kHz per step, press and hold the band selector for 4 seconds while the "MW" of the band indicator is illuminated.

4 Press to select the desired tuning mode, "AUTO" or "MANUAL".

The tuning mode Indicator changes in the following way each time the selector is pressed.

AUTO \rightarrow MANUAL \rightarrow LOCK

ST-GT650



Tuning mode indicators

ST-GT550



In "AUTO" mode, the next station, higher or lower in broadcast frequency, will be automatically tuned in.

In "MANUAL" mode, the frequency will change, using the smallest step available, only as the tuning control is being turned. This will allow you to tune in all of the broadcast frequencies available in that band.

5 Turn the tuning control so as to tune to the desired frequency.

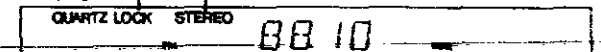
ST-GT650



Illuminates when tuned precisely

Illuminates when receiving a FM stereo broadcast

ST-GT550



To lock a broadcast station being received

Press the tuning mode selector to select "LOCK".

(Refer to step 4 on page 8.)

During this mode, the frequency will not change if the tuning control is turned.

To view the signal strength of FM broadcasts

Press the FM signal-strength indication button.

The frequency display will change to signal strength display (2 dB steps).

ST-GT650



ST-GT550



To display the frequency, press the button again or turn the tuning control.

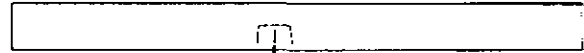
To select a FM IF band

Press the FM IF band selector.

This unit detects interference to the FM station received caused by neighboring broadcast frequencies, and automatically selects NORMAL (□□) or SUPER NARROW (▣) of FM IF (intermediate frequency) band depending on the amount of interference.

This selector is used to make this selection manually.

ST-GT650



FM IF band indicator

ST-GT550

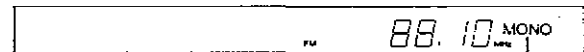


If noise is excessive in the FM stereo mode

Press the FM mode selector.

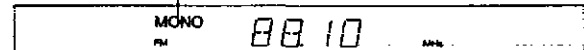
The sound will then be heard as monaural sound and noise will be reduced. The FM mode indicator "MONO" will illuminate.

ST-GT650



FM mode Indicator

ST-GT550



ST-GT550 only

About the signal-strength indicators:



Signal-strength indicators

These indicators show the relative strength of broadcast signals being received by the antenna. The best condition for reception, for FM, MW and LW, is when the indicators illuminate completely to the top.

Memory Presettings

By presetting the desired broadcast stations into the memory channels of this unit, broadcast stations can be selected simply by pressing preset tuning button(s). (Refer to "Using Memory Preset" on page 12.)

In order to enjoy RDS broadcasts, be sure to preset a FM broadcast station into the memory.

Before presetting

How many broadcast stations can be preset?

A total of 39 FM, MW and LW stations can be preset.

How is presetting done?

The two following methods are available.

• Automatic memory presetting

Automatic memory presetting allows this unit to automatically search for broadcast stations and then preset them into memory.

With this function, searching proceeds from the frequency currently being displayed and continues to highest frequency, and broadcast stations are preset in the order in which they are located.

In this method, the channel ranges that can be preset into the memory for different bands (FM, MW or LW) are set as follows.

Channel



For example, after presetting the FM band, if the MW band is preset, the previous presettings in the sections in the above illustration which overlap will be erased and the subsequent settings will be preset. Therefore, the FM band stations will be kept for channels 1–20 and the MW band stations will be preset to channels 21–39.

• Manual memory presetting

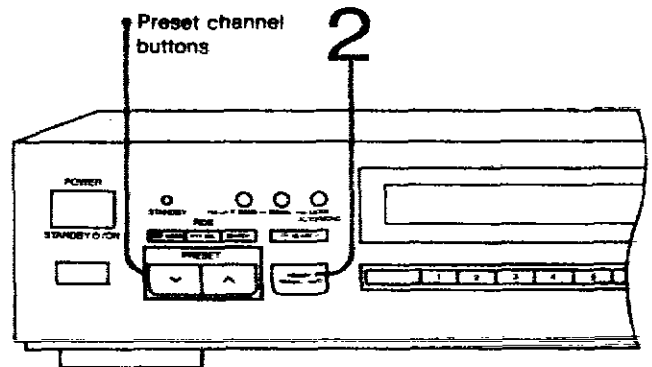
The desired broadcast stations can be preset into the desired channels by the user.

This can also be used as a method for changing selected broadcast stations that were preset in "Automatic memory presetting".

NOTE:

If a new broadcast station is preset into a channel, the setting for the broadcast station which was previously entered in that channel will be automatically erased.

Automatic memory presetting



1 Set to the band and frequency from which you want to start automatic memory presetting.

(Refer to steps 1 through 5 in "Manual Tuner Operation" on page 8.)

2 Press and hold the memory button until the frequency begins to change.

(Automatic memory presetting will start.)

Once the memory presetting has been made, check the broadcast stations that have been preset into the memory for each channel according to the procedure in "To confirm the station settings" below.

Write the checked broadcast stations into the "Station Memory File" on page 12 for easy reference when listening to the radio.

Notes:

- For automatic presetting in areas where there are fewer than 39 FM stations, the remaining channels (through channel 39) will be left unoccupied. The unoccupied channels can be filled by using manual memory presettings (refer to page 11).
- For MW/LW broadcasts with extremely strong signal transmissions, the frequency memorized may be slightly different than the correct frequency. If this occurs, make a manual presetting.

To confirm the station settings:

Press one of the preset channel buttons continually.

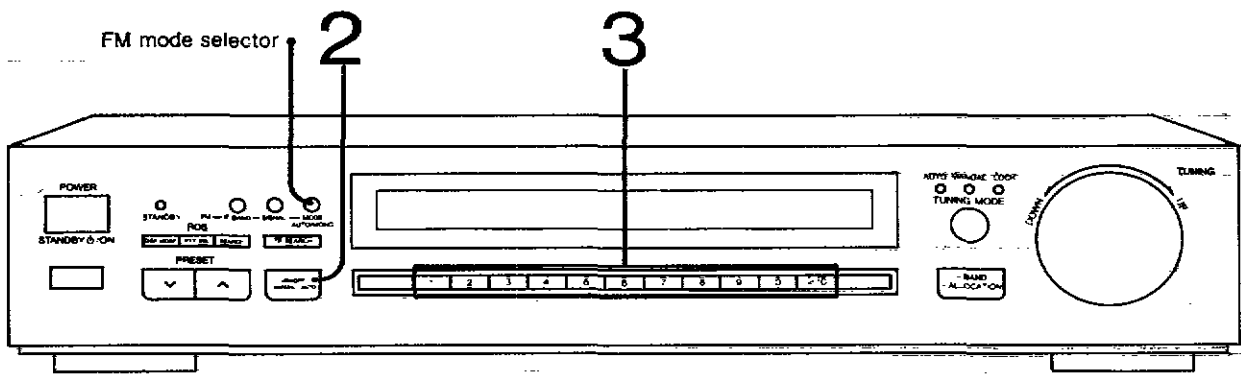
: Backward search to check the channel setting

: Forward search to check the channel setting

Each time the button is pressed, the frequency preset into that channel is displayed.

If the button is kept pressed down, the channels will change continuously.

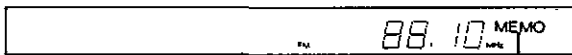
Manual memory presetting



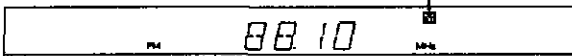
- 1 Set to the desired broadcast.**
(Refer to steps 1 through 5 in "Manual Tuner Operation" on page 8.)

- 2 Press the memory button momentarily.**
(The memory indicator will illuminate.)

ST-GT650



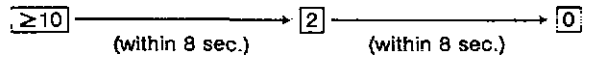
ST-GT550



Note:

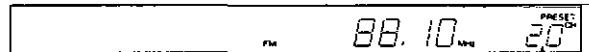
If the memory button is pressed and held, the automatic memory presetting is activated. To stop the automatic memory presetting, once again press the memory button. Then begin again from step 1.

- 3 Select the desired "CHANNEL".**
To designate channels 1-9:
Press the appropriate (1-9) preset-tuning button.
To designate channels 10-39:
(Example: Channel 20)

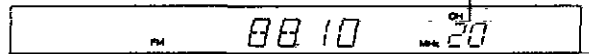


(The preset channel will be displayed, and the memory indicator goes off.)

ST-GT650



ST-GT550



(To continue presetting)

- 4 Repeat steps 1 through 3.**
During presetting, enter the preset broadcast stations into the "Station Memory File" on page 12 for easy reference when listening to the radio.

FM mode (MONO) memory:

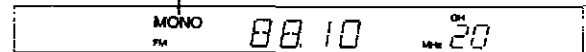
If an FM broadcast station has a lot of noise, this noise can be reduced by switching the reception to monaural mode. With this unit, FM broadcast stations can be entered into memory in monaural mode by means of the following method.

- ① Follow step 1 above.
- ② Press the FM mode selector to select "MONO". (The FM mode indicator "MONO" will illuminate.)
- ③ Follow steps 2 through 3 above.

ST-GT650

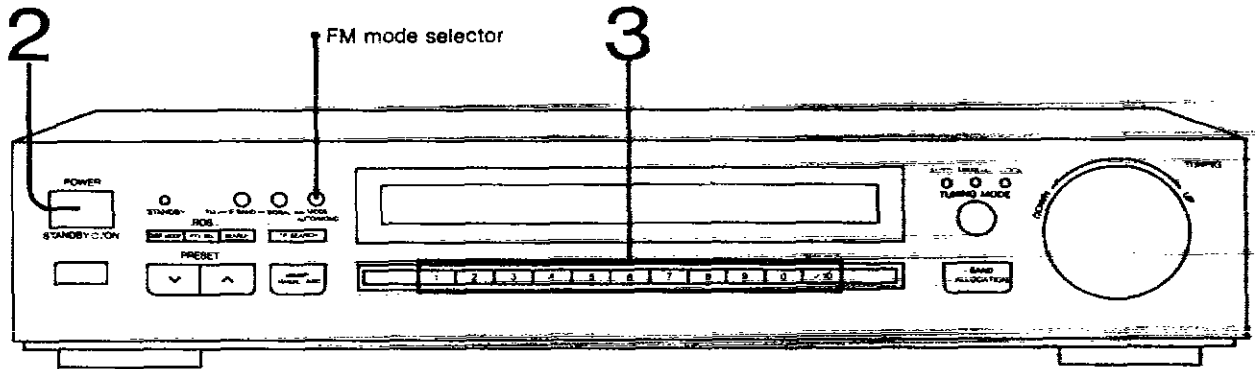


ST-GT550



Using Memory Preset

To listen to broadcast stations preset into the memory.

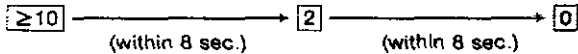


Have you completed the steps (on page 10 or 11) of "Memory Presettings"?

- 1** Switch the amplifier ON, and set it for listening to radio broadcasts.

- 2** Switch ON the power "STANDBY \downarrow / ON" switch.

- 3** Press the preset-tuning button(s) for the desired channel (1 - 39).
 To designate channels 1 - 9:
 Press the appropriate (1 - 9) preset-tuning button.
 To designate channels 10 - 39:
 (Example: Channel 20)



If noise is excessive in the FM stereo mode

Press the FM mode selector.

The sound will then be heard as monaural sound and noise will be reduced. The FM mode indicator "MONO" will illuminate.

Back-up memory

The back-up function maintains the preset memory and the most-recent memory (see below) when the power is switched to the standby condition, in the event of a power failure, or if the power cord is disconnected. The memory will be maintained for as long as approximately one month.

Most-recent memory

The most-recent memory system "remembers" the broadcast station last tuned to when the unit was switched OFF. That station will be automatically tuned to when the power is switched ON.

If frequency presettings are accidentally erased from the back-up memory

Make the frequency presettings (on page 10 or 11) once again.
 The power cord should remain connected for one hour or more for the memory back-up to be effective.

Station Memory File (Use this file to record your memory selections.)

CH. 1	CH. 2	CH. 3	CH. 4	CH. 5	CH. 6	CH. 7	CH. 8	CH. 9	CH. 10	CH. 11	CH. 12	CH. 13
CH. 14	CH. 15	CH. 16	CH. 17	CH. 18	CH. 19	CH. 20	CH. 21	CH. 22	CH. 23	CH. 24	CH. 25	CH. 26
CH. 27	CH. 28	CH. 29	CH. 30	CH. 31	CH. 32	CH. 33	CH. 34	CH. 35	CH. 36	CH. 37	CH. 38	CH. 39

Enjoying RDS Broadcasts

What Is RDS (Radio Data System)?

RDS is a multiplex broadcasting system which adds a variety of message signals to the audio signals of FM broadcasts. For example, when a number of broadcast stations are broadcasting identical programs, receiving this signal enables automatic selection of the broadcast that has the strongest signal. Another feature of

this system is that it is possible to automatically search for traffic information services, etc.

This unit can utilize the following signals among the various RDS signals.

■ RDS messages used by this unit

• PS (Program service name)	Name of the broadcast station
• PI (Program identification)	Program identification signal consisting of a program code
• AF (Alternative frequency)	List of frequencies of broadcast stations that are currently broadcasting the same programs
• TP (Traffic program identification)	Identification signal for traffic information broadcast stations
• PTY (Program type)	Identification signal for program types such as news and sport

Note:

"PTY" may not be available in some areas.

(Future function)

Functions of this unit which use RDS

■ To display the name of the broadcast station (PS display)

When this unit receives a PS signal in an RDS broadcast, the name of the broadcast station is shown on the display.
(For details, refer to page 14.)

■ To listen to the broadcast station with the best signal from different stations broadcasting the same program (AF search)

The AF search uses the PI and AF signals.
At times when a sufficiently strong FM broadcast signal is not received, a broadcast station that is broadcasting the same program but with a better signal can be searched.
(For details, refer to page 14.)

■ To listen to traffic information (TP search)

When you wish to listen to traffic information, a traffic information broadcast can be searched.
(For details, refer to page 15.)

■ To search for a program of a particular type, such as news or sport (PTY search)

When you wish to listen to a particular type of program, a program of that type can be searched.
Furthermore, while the PTY signal is being received, the name of the type of program currently being broadcast can be shown on the display. (For details, refer to pages 16 and 17.)

Notes:

1. Even if an FM broadcast station is transmitting RDS signals, the functions of this unit may not be able to utilize these signals if the signal quality is too poor.
2. For cable-TV and radio, the frequency for the station in the antenna outlet is not the same as that of the signals in the air. Accordingly, the AF search function will not operate correctly.

Enjoying RDS Broadcasts (continued)

Broadcast station name display—(PS display)

ST-GT650 only

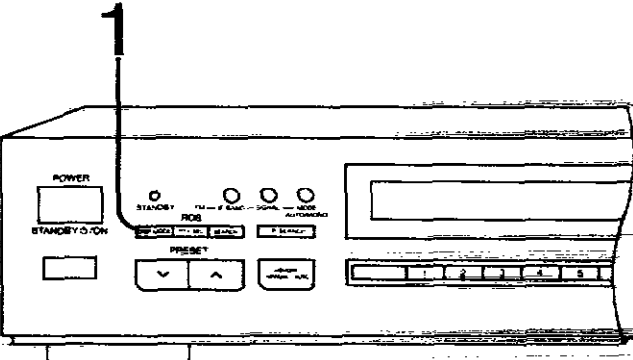
If the FM broadcast being received provides the RDS service, the name of the broadcast station will be automatically shown on the RDS display of this unit.



Example of PS display

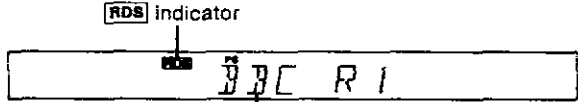
ST-GT550 only

To display the name of a broadcasting station:



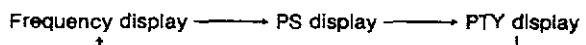
(When the FM station is received)

1 Press the display mode selector.
If the FM broadcast being received provides the RDS service ("RDS" indicator will illuminate), the name of the broadcast station and "PS" indicator will be shown on the display of this unit.



Example of PS display

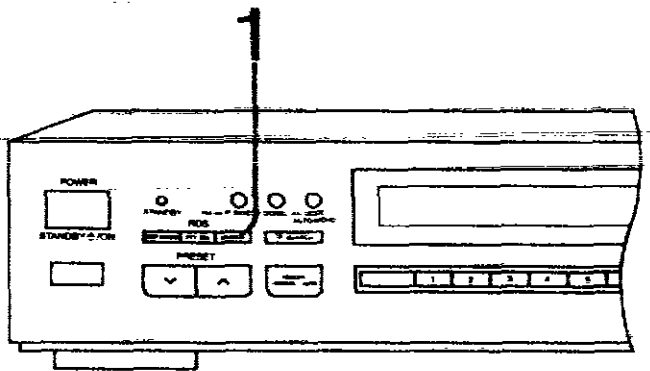
About the display mode selector:
The display mode changes in the following way each time the selector is pressed.



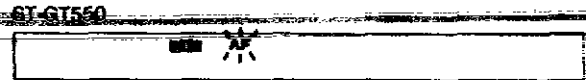
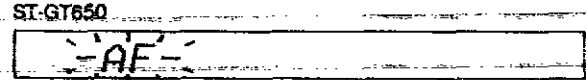
(For PTY displays, refer to page 17.)

To listen to the same program from a broadcast station with a better signal—(AF search)

Carry out this operation while an RDS broadcast is being received.
(For the ST-GT550, carry this operation when the display shows the frequency display or the PS display.)



1 Press the AF/PTY search button.
The AF search will begin. ("AF" will flash on the display.)



When the search is completed, the broadcast station being received will be automatically changed to the station with the best signal quality.

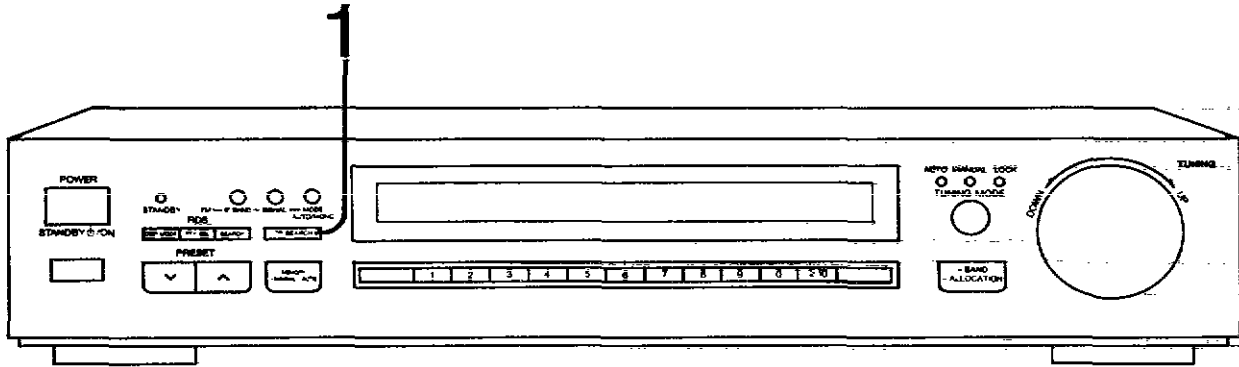
If a broadcast station with a better signal quality is not found

"NO AF" will be displayed for approximately 5 seconds, and the program will return to the previous broadcast station.

Note:
If the broadcast is an RDS broadcast but no AF signal is being received, the search function will not work. (When the AF/PTY search button is pressed, "NO AF" will be displayed for approximately 5 seconds, and the program will return to the previous broadcast station.)

To listen to traffic information—(TP search)

- The TP search is carried out with respect to FM broadcast stations that have been preset into the memory. Make sure that "Memory Presettings" on page 10 or 11 have been completed before carrying out a TP search.
- Carry out this operation while listening to an FM broadcast.



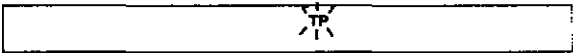
1 Press the TP SEARCH button.

The TP search will begin. ("TP" will flash on the display.)

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■ When a TP service is located

"TP ON" will be displayed for approximately 5 seconds, and the broadcast station being received will be automatically changed to the station located.

To search for a different broadcast station, press the TP search button once more while "TP ON" is still displayed.

■ If a TP service is not found

"NO TP" will be displayed for approximately 5 seconds, and the program will return to the previous broadcast station.

Note:

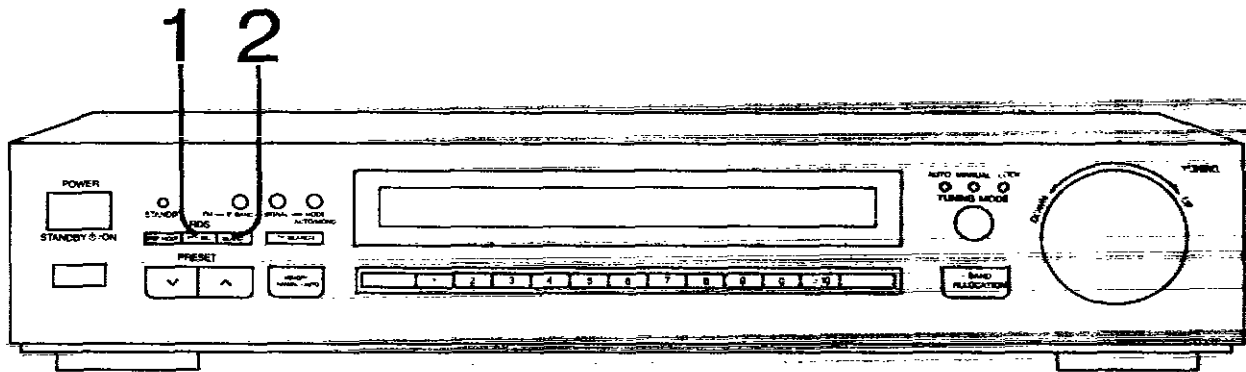
Depending on the time, some broadcast stations which output a TP signal may not be broadcasting traffic information. To search for another broadcast station, repeat the procedure step 1 above.

Enjoying RDS Broadcasts (continued)

Note: "PTY" may not be available in some areas. (Future function)

To listen to a program of a particular type, such as news or sport—(PTY search)

- The PTY search is carried out with respect to FM broadcast stations that have been preset into the memory. Make sure that "Memory Presettings" on page 10 or 11 have been completed before carrying out a PTY search.
- Carry out this operation while listening to an FM broadcast.



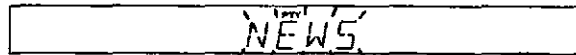
1 Press the PTY selector to select the desired program type.

(The PTY display will flash on the display.)

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Each time the selector is pressed, the PTY display will change in sequence. (Refer to "About the PTY display" on the following page.)

Note:

Approximately 8 seconds after the PTY display starts flashing, the display will disappear.

To select a different PTY, or when proceeding to the following step 2, be sure to perform all operations while the PTY display is flashing.

■ When the desired type of program is located

The type of program is displayed for approximately 5 seconds, and the program will automatically change to the broadcast station that has just been located.

ST-GT650 only

To search for a different broadcast station, press the AF/PTY search button once more while the type of program is displayed.

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To search for a different broadcast station, press the AF/PTY search button once more while the type of program is displayed and "PTY" is flashing.

■ If the desired type of program is not found

"NO PTY" will be displayed for approximately 5 seconds, and the program will return to the previous broadcast station

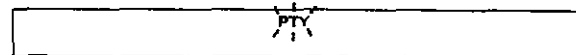
2 (While PTY display is flashing) Press the AF/PTY search button.

The PTY search will begin. ("PTY" will flash on the display.)

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Most-recent memory:

The most-recent memory system "remembers" the program type last selected in step 1 above when the unit was switched OFF. For example, if "SPORT" is selected and the unit is turned OFF, when the PTY selector is pressed again at step 1, "SPORT" will be displayed.

About the PTY display

There are a total of 15 PTY displays on this unit. The display changes in order each time the PTY selector is pressed. The

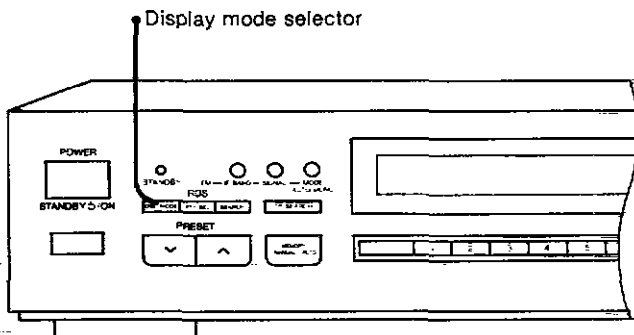
table below shows the order in which the display changes, and also gives an explanation of each display.

Display	Explanation
NEWS	Short accounts of facts, events and publicly expressed views, reportage and actuality.
AFFAIRS	Topical program expanding or enlarging upon the news, generally in different presentation style or concept, including documentary debate, or analysis.
INFO	Program whose purpose is to impart advice in the widest sense, including meteorological reports and forecasts, consumer affairs, medical help, etc.
SPORT	Program concerned with any aspect of sport.
EDUCATE	Program intended primarily to educate.
DRAMA	All radio plays and serials.
CULTURE	Programs concerned with any aspect of national or regional culture, including religious affairs, philosophy, social science, language, theatre, etc.
SCIENCE	Programs about the natural sciences and technology.
VARIED	Used for mainly speech-based programs, usually of a light-entertainment nature not covered by above categories. Examples are: quizzes, panel games, personality interviews, comedy and satire.
POP M	Commercial music which would generally be considered to be of current popular appeal, often featuring in current or recent record sales charts.
ROCK M	Contemporary modern music, usually written and performed by young musicians.
M.O.R. M	(Middle of the Road Music). Common term to describe music considered to be "easy-listening", as opposed to Pop, Rock or Classical. Music in this category is often, but not always, vocal, and usually of short duration (<5 min.).
LIGHT M	Classical Musical for general, rather than specialist, appreciation. Examples of music in this category are instrumental music and vocal or choral works.
CLASSICS	Performances of major orchestral works, symphonies, chamber music etc., and including Grand Opera.
OTHER M	Musical styles not fitting into any of the above categories. Particularly used for specialist music, of which Jazz, Rhythm & Blues, Folk, Country, and Reggae are examples.

After "OTHER M" is displayed, the display returns to "NEWS".

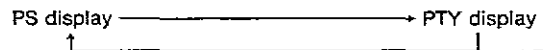
To display the name of the program type currently being listened to—(PTY display)

When listening to an RDS broadcast and a PTY signal is being received, the name of the program type can be displayed by pressing the display mode selector.



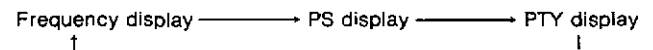
ST-GT650 only

The display mode changes in the following way each time the selector is pressed.



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The display mode changes in the following way each time the selector is pressed.



("PTY" will illuminate on the display when in the PTY display mode.)

Note:

If a PTY signal is not being received, "NO PTY" will be displayed when the PTY display mode is selected.

Suggestions for Safety

■ Use a standard AC wall outlet

1. **Use from an AC power source of high voltage, such as for an air conditioner, is very dangerous.**
There is the possibility that a fire might be caused by making such a connection.
2. **A DC power source cannot be used.**
Be sure to check the power source carefully, especially on a ship or other place where DC is used.

■ Grasp the plug when disconnecting the power supply cord

1. **Wet hands are dangerous.**
A dangerous electric shock may result if the plug is touched by wet hands.
2. **Never place heavy items on top of the power supply cord, and never force it to bend sharply.**

■ Place the unit where it will be well ventilated

Place this unit at least 10 cm (4") away from wall surfaces, etc.

■ Avoid places such as the following:

In direct sunlight or in other places where the temperature is high.

In places where there is excessive vibration or humidity.
Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

■ Be sure to place the unit on a flat, level surface

If the surface is inclined, a malfunction may result.

■ Never attempt to repair or reconstruct this unit

A serious electric shock might occur if this unit is repaired, disassembled or reconstructed by unauthorized persons, or if the internal parts are accidentally touched.

■ Take particular care if children are present

Never permit children to put anything, especially metal, inside this unit. A serious electric shock or malfunction could occur if articles such as coins, needles, screwdrivers, etc. are inserted through the ventilation holes, etc. of this unit.

■ If water is spilled on the unit

Be extremely careful if water is spilled on the unit, because a fire or serious electric shock might occur. Immediately disconnect the power cord plug, and consult with your dealer.

■ Avoid spray-type insecticides

Insecticides might cause cracks or "cloudiness" in the cabinet and plastic parts of this unit. The gas used in such sprays might, moreover, be ignited suddenly.

■ Never use alcohol or paint thinner

These and similar chemicals should never be used, because they might cause flaking or cloudiness of the cabinet finish.

■ Disconnect the power supply cord if the unit will not be used for a long time

If the unit is left for a long time with the power ON, this will not only shorten its useful operation life, but may also cause other troubles.

■ If trouble occurs

If, during operation, the sound is interrupted or indicators no longer illuminate, or if abnormal odor or smoke is detected, immediately disconnect the power cord plug, and contact your dealer or an Authorized Service Center.

Troubleshooting Guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your Technics dealer for instructions.

Problem	Probable cause(s)	Suggested remedy
While listening to FM broadcasts		
An unusual hissing noise is heard when listening to the broadcast in stereo, but is not heard when listening monaurally.	A slight noise may be heard because the method used for modulation of FM stereo broadcasts is different than that used for monaural broadcasts.	<ul style="list-style-type: none"> • Try reducing the treble sound by using the treble control of the amplifier. • Set the FM mode selector to the monaural position. (Note that the broadcast will then be heard as monaural sound.)
Noise is excessive in both stereo and monaural broadcasts.	Poor location and/or direction of the antenna. Transmitting station is too far away.	<ul style="list-style-type: none"> • Try changing the location, height and/or direction of the antenna. • If an indoor antenna is being used, change to an outdoor antenna. • Try using an antenna with more elements.
The FM stereo indicator or the quartz lock indicator flickers, without completely illuminating.	Poor location and/or direction of the antenna. Transmitting station is too far away.	<ul style="list-style-type: none"> • Try changing the location, height and/or direction of the antenna. • If an indoor antenna is being used, change to an outdoor antenna. • Try using an antenna with more elements.
Excessive distortion in the sound of stereo broadcasts.	Nearby building or mountain. [Multipath distortion is being caused by the mutual interference of broadcast signals received directly from the transmitting station (direct waves) and signals being reflected from nearby buildings or mountains (reflected waves).]	<ul style="list-style-type: none"> • Try using an antenna with more elements.
Sound is distorted, "popping" noise is heard, and/or the volume level becomes low.	Broadcast signals are being disturbed by nearby automobile traffic or airplanes.	<ul style="list-style-type: none"> • Relocate the antenna and the connection wires to a place farther away from where automobiles pass.
TP search and PTY search do not operate.	The FM broadcast stations have not been preset into the memory.	<ul style="list-style-type: none"> • Preset the FM broadcast stations into the memory. (Refer to pages 10 and 11.)
While listening to AM broadcasts		
An unusual "beat" sound is heard.	Unit is being used at the same time as the television set. Interference from adjacent broadcast signal.	<ul style="list-style-type: none"> • Turn off the television set, or use this unit farther away from it. • Try reducing the treble sound by using the treble control of the amplifier.
A low-pitched "hum" sound is heard when the broadcast is tuned.	The AM loop antenna connection wires are too close to the power cord. The power supply frequency from the power cord is modulated and heard from the speakers.	<ul style="list-style-type: none"> • Place the antenna connection wires and the power cord farther apart. • Install a special outdoor antenna.
A strange hissing noise is produced continuously or intermittently.	Caused by the "discharge phenomenon" and the "oscillation phenomenon" of electric appliances (such as fluorescent lights, TV, small series-type motors, rectification equipment, etc.).	<ul style="list-style-type: none"> • Try placing this unit farther away from such equipment. • Install noise-prevention equipment on this unit or on the electric appliance.

Maintenance

To clean this unit, use a soft, dry cloth.
For very dirty surfaces, dip a soft cloth in a weak soap-and-water solution and wring well. After cleaning, wipe with a soft, dry cloth.

Never use alcohol, paint thinner, benzine, or a chemically treated cloth to clean this unit.
Such chemicals may damage the unit's finish.

Technical Specifications ⁴⁸⁹ (DIN 45 50_v)

■ FM TUNER SECTION

Frequency range	87.50—108.00 MHz (0.05 MHz steps)	
Sensitivity	1.5 μ V (IHF, usable)	
S/N 30 dB	1.3 μ V (75 Ω)	
S/N 26 dB	1.2 μ V (75 Ω)	
S/N 20 dB	0.9 μ V (75 Ω)	
IHF 46 dB stereo quieting sensitivity	28 μ V (75 Ω)	
Total harmonic distortion		
MONO (NORMAL)	[ST-GT650] 0.05%	
	[ST-GT550] 0.15%	
STEREO (NORMAL)	[ST-GT650] 0.1%	
	[ST-GT550] 0.2%	
S/N		
MONO	[ST-GT650] 75 dB (80 dB, IHF)	
	[ST-GT550] 70 dB (75 dB, IHF)	
STEREO	[ST-GT650] 66 dB (72 dB, IHF)	
	[ST-GT550] 65 dB (70 dB, IHF)	
Frequency response	10 Hz—15 kHz, +0.5 dB to -1.0 dB	
Alternate channel selectivity		
NORMAL \pm 400 kHz	70 dB	
SUPER NARROW \pm 200 kHz	25 dB	
Capture ratio	1.0 dB	
Image rejection at 98 MHz	100 dB	
IF rejection at 98 MHz	95 dB	
Spurious response rejection at 98 MHz	100 dB	
AM suppression	55 dB	
Stereo separation		
1 kHz	45 dB	
Carrier leak		
19 kHz	[ST-GT650] -66 dB (-72 dB, IHF)	
	[ST-GT550] -62 dB (-68 dB, IHF)	
38 kHz	[ST-GT650] -72 dB (-78 dB, IHF)	
	[ST-GT550] -46 dB (-51 dB, IHF)	
Channel balance (250 Hz—6.3 kHz)	\pm 1.0 dB	
Limiting point	0.85 μ V	
Bandwidth		
IF amplifier	180 kHz	
FM demodulator	1000 kHz	
Antenna terminal(s)	75 Ω (unbalanced)	

■ AM TUNER SECTION

Frequency range	522 kHz—1611 kHz (9 kHz steps)	
MW	530 kHz—1620 kHz (10 kHz steps)	
LW	144 kHz—288 kHz (9 kHz steps)	
Sensitivity (S/N 20 dB)		
MW (at 999 kHz)	20 μ V, 600 μ V/m	
LW (at 216 kHz)	150 μ V	
Selectivity (\pm 9 kHz)		
MW (at 999 kHz)	40 dB	
LW (at 216 kHz)	40 dB	
Image rejection		
MW (at 999 kHz)	40 dB	
LW (at 216 kHz)	40 dB	
IF rejection		
MW (at 999 kHz)	50 dB	
LW (at 216 kHz)	50 dB	

■ GENERAL

Output voltage	0.3 V (0.6 V, IHF)
Power consumption	8 W
Power supply	AC 50 Hz/60 Hz, 230 V—240 V
Dimensions (W x H x D)	430 x 91.5 x 308 mm
Weight	2.9 kg

Notes:

- Specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

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