

YAESU
The radio

144/430MHz
DUAL BAND FM TRANSCEIVER

FTM-6000R

FTM-6000E

Advance Manual



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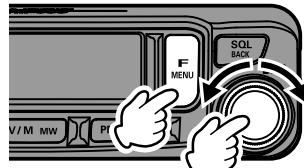
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Basic Operation

Microphone Gain Setting

The microphone gain has been programmed at the factory to a level that should be satisfactory for the supplied SSM-85D Microphone. If an after-market microphone is used, you may wish to set a different Mic Gain level.

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**13 MIC.GAIN**] then press the **DIAL** knob.



- 13
MIC.GAIN

- 13
NORMAL

3. Rotate the **DIAL** knob to select the desired setting. The microphone gain level can be selected from 5 levels.
MIN / LOW / NORMAL / HIGH / MAX

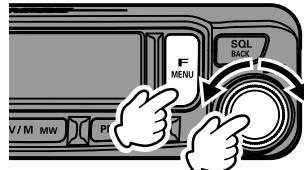
Default: NORMAL

4. Press the **DIAL** knob to save the setting and return to normal operation.

Setting the volume of the beep

Adjust the volume of the beep that sounds when a key is pressed.

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**05 BEEP**] then press the **DIAL** knob.



- 05
BEEP

- 05
LOW

3. Press the **DIAL** knob to select the desired setting. The Beep volume can be selected from 3 levels.
OFF / LOW / HIGH

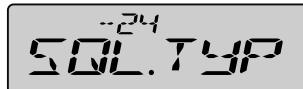
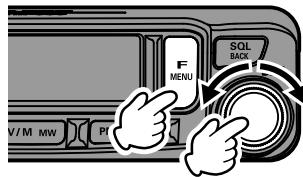
Default: LOW

4. Press the **DIAL** knob to save the setting and return to normal operation.

Communicating with specified stations

Selecting the Squelch Type

1. Press and hold the [F MENU] key.
2. Rotate the DIAL knob to select [24 SQL.TYP] then press the DIAL knob.



3. Rotate the DIAL knob to select the squelch type, refer to the table below.

Squelch Type	Icon indication	Description
OFF	-	Deactivates the tone squelch function and DCS function OFF, then returns to the normal squelch operation.
TON.ENC		FM Transmissions contain the CTCSS tone. Receives as a normal squelch operation.
TON.SQL		Activates the CTCSS tone squelch function.
REV.TON	-	Activates the reverse tone function. Used to monitor communications based on the squelch control system. When a signal contains the designated tone, the squelch is not opened, and when the tone signal disappears, the squelch opens and communication starts.
DCS		Activates the Digital Code Squelch (DCS) function. The DCS code may be selected from 104 codes (from 023 to 754).
PR FRQ		Activates the no-communication squelch function for radios. The no-communication signal tone frequencies may be specified within the range of 300 Hz to 3000 Hz in steps of 100 Hz.
PAGER		Activates a new two-tone CTCSS pager function. When communicating with transceivers among friends, specify personal codes (each code is composed of two tones) so that you can call only specific stations.
DCS.ENC*	-	Transmits the signal containing the DCS CODE. Receives as a normal squelch operation.
TON.DCS*	-	Sends a CTCSS tone signal when transmitting, and receives only signals that match the DCS code.
DCS.TSQ*	-	Sends the DCS CODE when transmitting, and receives only signals that contain a matching CTCSS tone.

* Turning the Set Mode [26 SQL.EXP] to ON, "DCS.ENC", "TON.DCS" and "DCS TSQ" setting values are activated.

4. Press the **DIAL** knob to save the setting and return to normal operation.

-
- The squelch type may be set for each frequency band (BAND).
 - The CTCSS and DCS squelch settings are also active during scanning. If scanning is performed with the CTCSS and DCS squelch function activated, scanning stops only when a signal containing the specified CTCSS tone or DCS code is received.
 - Pressing the program key on the microphone to which the "SQL OFF" function is assigned, allows all signals that do not contain a tone or DCS code, and signals with different tones, DCS codes, to all be heard.
-

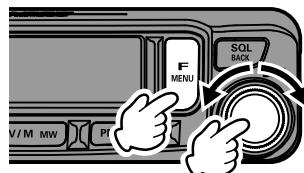
Tone squelch feature

The tone squelch opens the speaker audio only when a signal containing the specified CTCSS tone is received. The receiver will be quiet while waiting for a call from a specific station.

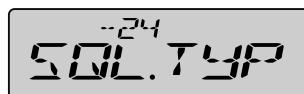
Setting CTCSS Tone frequency

The tone may be selected from 50 frequencies (67.0 Hz to 254.1 Hz).

1. Press and hold the **[F MENU]** key.
2. Rotate the **DIAL** knob to select **[24 SQL.TYP]** then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select **"TON.SQL"**.



4. Press the **[SQL BACK]** key, then rotate the **DIAL** knob to select **[25 SQL.COD]**.



5. Press the **DIAL** knob, then rotate the **DIAL** knob to select the tone frequency.



6. Press the **DIAL** knob to save the setting and return to normal operation.

"TSQ" is displayed on the screen.

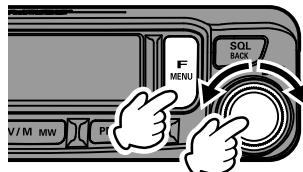


-
- The tone frequency setting is common with the squelch types as follows:
TON.ENC, TON.SQL, REV.TON, TON.DCS, DCS.TSQ
 - The default setting is "100.0 Hz"
-

Searching for the CTCSS Tone transmitted by the other Station

Search and display the CTCSS tone transmitted by the other station.

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**24 SQL.TYP**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select "**TON.SQL**".
4. Press the [**SQL BACK**] key, then rotate the **DIAL** knob to select [**25 SQL.COD**].
5. Press the **DIAL** knob.
6. Press and hold the microphone [**UP**] or [**DWN**] switch.
 - The transceiver begins searching for a matching tone frequency.
 - When a corresponding tone frequency is detected, the searching stops and the audio is heard.
7. Press the **PTT** switch or the [**UP**] or [**DWN**] switch to stop searching.
8. Press the **DIAL** knob to save the detected tone frequency and return to normal operation.

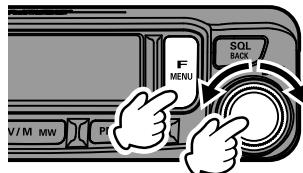
Digital Code Squelch (DCS) feature

The Digital Code Squelch opens the speaker audio only when a signal containing the specified DCS code is received.

Setting the DCS CODE

The DCS code may be selected from 104 types (from 023 to 754).

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**24 SQL.TYP**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select “**DCS**”.
4. Press the [**SQL BACK**] key, then rotate the **DIAL** knob to select [**25 SQL.COD**].
5. Press the **DIAL** knob, then rotate the **DIAL** knob to select the DCS code.
6. Press the **DIAL** knob to save the setting and return to normal operation.
“**DCS**” is displayed on the screen.

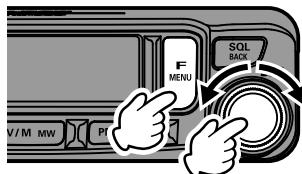


- The DCS code set in the above operation is common for all transmissions with a DCS Code (DCS, DCS.ENC, TON.DCS, DCS.TSQ).
- The default DCS code is “023”.

Searching for the DCS Code Used by the Other Station

Search for the DCS code used by the other station.

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**24 SQL.TYP**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select “**DCS**”.



4. Press the [**SQL BACK**] key, then rotate the **DIAL** knob to select [**25 SQL.COD**].
5. Press the **DIAL** knob.
6. Press and hold the microphone [**UP**] or [**DWN**] switch.

- The transceiver begins searching for a matching DCS code.
 - When a corresponding DCS code is detected, the searching stops and the audio is heard.
7. Press the **PTT** switch or the [**UP**] or [**DWN**] switch to stop searching.
 8. Press the **DIAL** knob to save the detected DCS code and return to normal operation.

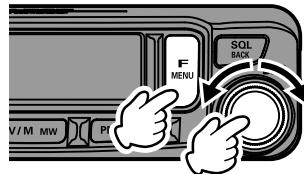
EPCS (Enhanced Paging & Code Squelch) Function

When using FTM-6000R/E transceivers with a group of friends, setting the Two-Tone CTCSS personal codes allows calling just the specific stations. Even when the person who is called is not near the transceiver, the information on the LCD indicates that a call was received.

Setting the Code for Your Station

Set the “pager code” to be called by other stations.

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**15 PAGER**] then press the **DIAL** knob.
“**PAG.CDR**” is displayed on the screen.
3. Press the **DIAL** knob.



-- 15
PAGER

-- 15
PAGE DR

-- 15
R 05 47

-- 15
R 05 47

4. Rotate the **DIAL** knob to select the first tone of the code from 01 to 50.

5. Press the **DIAL** knob.
6. Rotate the **DIAL** knob to select the second tone of the code from 01 to 50.

The same code cannot be used for first tone and second tone.

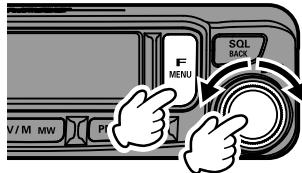
7. Press the [**SQL BACK**] three times to save the setting and return to normal operation.

- i**
- The reverse combination works as the same code, that is “05 47” is the same as “47 05”.
 - If the same code is specified for all individuals, all the individuals can be called at the same time.
 - The default code is “05 47”.

Setting the Code for partner Station

Set the pager code for directing a call to a specific partner station.

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**15 PAGER**] then press the **DIAL** knob.
“**PAG.CDR**” is displayed on the screen.
3. Rotate the **DIAL** knob to the right.
“**PAG.CDT**” is displayed on the screen.
4. Press the **DIAL** knob.



-- 15
PAGER

-- 15
PAGE DT

-- 15
743447

-- 15
743E1

5. Rotate the **DIAL** knob to select the first tone of the code from 01 to 50.

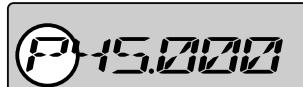
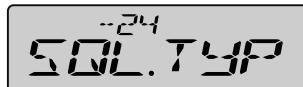
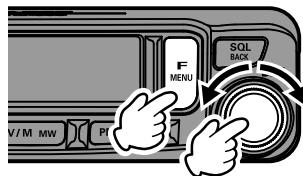
6. Press the **DIAL** knob.
7. Rotate the **DIAL** knob to select the second tone of the code from 01 to 50.

The same code cannot be used for first tone and second tone.

8. Press the [**SQL BACK**] three times to save the setting and return to normal operation.

Activating the pager function

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**24 SQL.TYP**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select "**PAGER**".

4. Press the **DIAL** knob to save the setting and return to normal operation.

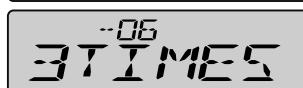
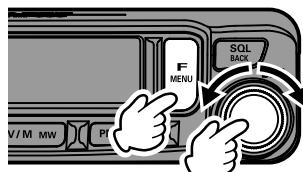
"P" is displayed at the 100MHz digit of the frequency display.

- If the same code is specified for all individuals, all the individuals can be called at the same time.
 - The default code is "05 47".
5. To disable the Enhanced Paging & Code Squelch, just repeat the above procedure, rotating the **DIAL** knob to select "OFF" in step 3 above.

Notification of a Call from a Remote Station by the Bell Function

The Bell may be set to sound an Alert when a call from another station containing a corresponding tone, DCS or pager code is received.

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**06 BELL**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select the desired number of times (1/3/5/8 times or continuous) the Bell rings.

Default: OFF

4. Press the **DIAL** knob to save the setting and return to normal operation.

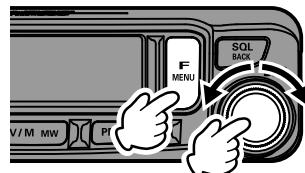
- If the setting is "CONTI", the bell keeps sounding until an operation is made.

DTMF Operation

DTMF (Dual Tone Multi Frequencies) are the tone signals sent to make telephone calls, or control repeaters and network links. Up to 9 registers of 16-digit DTMF tone codes can be stored as telephone numbers to make calls through the public telephone network using a phone patch or to connect through the WIRES-X analog node station.

Transmitting a DTMF code manually

1. Press and hold the [F MENU] key.
2. Rotate the **DIAL** knob to select [**09 DTMF**] then press the **DIAL** knob.



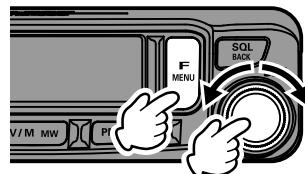
3. Rotate the **DIAL** knob to select “**MANUAL**”.

Default: MANUAL

4. Press the **DIAL** knob to save the setting and return to normal operation.
5. While pressing and holding the **PTT** switch, use the numeric keypad of the microphone and press each digit of the DTMF code in sequence to transmit the code.
The transmission may continue for two seconds after releasing the **PTT** switch.

Registering a DTMF code

1. Press and hold the [F MENU] key.
2. Rotate the **DIAL** knob to select [**11 DT MEM**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select the desired memory channel (CH1 to CH9) to register the DTMF code.

4. Press the **DIAL** knob.
The DTMF memory input screen is displayed.
5. Use the **DIAL** knob or numeric keypad of the microphone to input the DTMF code up to a maximum of 16 digits.



- Using the numeric key:

The DTMF codes from “0” to “9”, “A” to “D”, “*” and “#” may be input.



“*” is displayed “E”, “#” is displayed “F”.

- Using the **DIAL** knob:

Rotate the **DIAL** knob to set the DTMF code.

• • • ⇄ “0” to “9” ⇄ “A” to “F” ⇄ • • •



“*” is displayed “E”, “#” is displayed “F”.

Press the **DIAL** knob to move the cursor to the right.

- Moving the cursor:

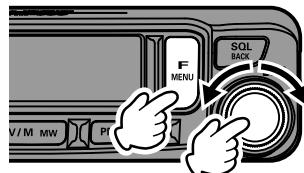
[PMG PW] key: Moves the cursor to the right

[BAND GRP] key: Moves the cursor to the left

- Press and hold the **DIAL** knob to set the DTMF code and return to the DTMF memory channel select screen.
- Press and hold the **[SQL BACK]** key to return to normal operation.

Transmitting the registered DTMF code

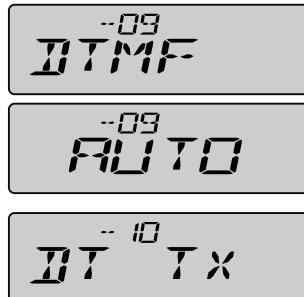
- Press and hold the **[F MENU]** key.
- Rotate the **DIAL** knob to select **[09 DTMF]** then press the **DIAL** knob.



- Rotate the **DIAL** knob to select “**AUTO**”.

Default: MANUAL

- Press the **[SQL BACK]** key.
- Rotate the **DIAL** knob to select **[10 DT TX]** then press the **DIAL** knob.



- Rotate the **DIAL** knob to select the desired channel (CH1 to CH9).

- Press the **DIAL** knob.

The DTMF code registered in the DTMF memory channel is automatically transmitted.

- A DTMF code can also be sent by pressing and holding the PTT switch while pressing the channel number on the microphone numeric keypad (0-9) to which the DTMF code is registered.
- Even after releasing the PTT switch, the transmission continues until the DTMF code is completed. The transceiver is automatically returned to receive mode.



Functions to Use as Needed

Split Memory

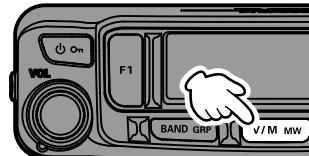
Two different frequencies, one for receive and another for transmit, may be registered to a memory channel.

1. Register the receive frequency to a memory channel first, as described below:

Enter the VFO receive frequency → Press and hold the [V/M MW] key → Rotate the **DIAL** knob to select the desired channel number → Press and hold the [V/M MW] key



2. Press the [V/M MW] key.
3. Enter the desired transmit frequency to the VFO.
4. Press and hold the [V/M MW] key.



5. Rotate the **DIAL** knob to select the channel number that the receive frequency was registered to on step1.
6. While pressing and holding the **PTT** switch, press and hold the [V/M MW] key.
 - This will not cause transmission.
 - Confirmation screen “**OVWRT?**” is displayed.
7. Press and hold the [V/M MW] key.

The split memory is stored.



- While recalling the split memory, “-+” is displayed on the LCD.
- While operating the split memory, to reverse the transmit and receive frequencies temporarily:

Press the [F MENU] key → select the [F-19 RPT.REV]
→ Press the **DIAL** knob.

When reversing the frequencies, “-+” will blink.



Split memory display



Reverse status display

Skip Memory Channels

Each memory channel can be set to be skipped during memory scan.

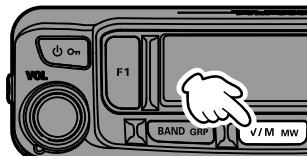
1. Rotate the **DIAL** knob to select the Memory Channel to be skipped during scanning.
2. Press and hold the **[V/M mw]** key.
3. Rotate the **DIAL** knob to select “**SCAN**”.
4. Press the **DIAL** knob.
5. Rotate the **DIAL** knob to select “**SCAN N**”.
6. Press and hold the **[V/M mw]** key.

The channel is programmed to be ignored during memory scanning.

To return a channel into the scanning, select “**SCAN**” in step 5 above.



Scan skip settings cannot be set for the PMS memory channels: L01 / U01 to L50 / U50.



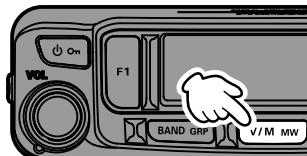
Programmable Memory Channel Scan (PMS)

The **FTM-6000R/E** can be set to tune or scan only the frequencies between user defined lower and upper band limits.

Registering to the Programmable Memory Channels

50 sets of PMS memory channels (L01/U01 to L50/U50) are available.

1. Select the desired lower-limit scan frequency.
2. Press and hold the **[V/M mw]** key.
3. Rotate the **DIAL** knob to select Lxx (L01 to L50).
4. Press and hold the **[V/M mw]** key.
5. Select the desired upper-limit scan frequency
6. Press and hold the **[V/M mw]** key.
7. Rotate the **DIAL** knob to select Uxx (same number as step 3).
8. Press and hold the **[V/M mw]** key.



- Make sure to use the corresponding numbers for the lower and upper limit memory channels.
- Set the Programmable Memory scanning (PMS) lower and upper limits as follows:
 - The lower and upper limit memory channels must be within the same frequency band.
 - The lower and upper limit memory channels must not be registered in reverse.

Performing Programmable Memory Channel Scan

1. Recall the PMS memory channel to which the lower limit (Lxx) or upper limit (Uxx) of the frequency band is registered.
2. Press and hold the microphone [**UP**] or [**DWN**] switch.

Programmable memory channel scanning starts.



- During scanning, “**P**” and “**PMS.SCN**” appears on the display.
 - If the **DIAL** knob is rotated while scanning is in progress, the scanning will continue up or down in frequency according to the direction of the **DIAL** knob rotation.
 - If the scanner halts on an incoming signal, the frequency will blink.
 - The signal is received until the signal fades out. Two seconds after the signal fades out, scanning resumes.
 - If the scan has paused on a signal, rotating the **DIAL** knob will cause scanning to resume instantly.
3. Press the **PTT** switch or the [**UP**] or [**DWN**] switch of the microphone, to cancel the scanning.

In this state, “**P**” is shown at the top of the display and the frequency can be changed only in the range stored by the lower and upper PMS memories, by turning the **DIAL** knob.

● Disable the PMS function

1. Press the [**V/M mw**] key.

Returns to the normal memory mode.

Dual Watch (DW) feature

The FTM-6000R/E's scanning features include a two-channel scanning capability which allows operating on a VFO or Memory channel, while periodically checking a Home channel for activity.

If a station received on the Home channel is strong enough to open the Squelch, the scanner will pause on that station.

Activating the Dual Watch (DW) feature

1. Set the frequency and communication mode to monitor continually.
The monitor frequency may be set on the VFO mode or the memory channel mode.
2. Assigning the “DW” function to a programmable key ([P1]/[P2]/[P3]/[P4]) on the microphone.

How to assign DW function

1. Press and hold the [**F MENU**] key.
 2. Rotate the **DIAL** knob to select [**14 MIC.PGM**], then press the **DIAL** knob.
 3. Rotate the **DIAL** knob to select the [**PGM.P1**], [**PGM.P2**], [**PGM.P3**] or [**PGM.P4**] key to assign a function, then press the **DIAL** knob.
 4. Rotate the **DIAL** knob to select “**DW**”.
 5. Press the **DIAL** knob to save the setting and return to normal operation.
-
6. Press the key to which “**DW**” function is assigned.
 - The dual watch function is activated.
 - When a signal is received on the home channel, it will continue to be received until there is no signal.
 - The frequency will blink while receiving a signal.
 7. Press the key assigned “**DW**” function to cancel the dual watch function.

Receiving Weather Broadcast Channels

This transceiver includes the preprogrammed VHF Weather Broadcast Station Memory Channel Bank, and can receive the broadcast or the weather alert by recalling or scanning a desired channel.

The following channels are stored in the transceiver weather station memory bank:

Channel No.	Frequency
01	162.550 MHz
02	162.400 MHz
03	162.475 MHz
04	162.425 MHz
05	162.450 MHz

Channel No.	Frequency
06	162.500 MHz
07	162.525 MHz
08	161.650 MHz
09	161.775 MHz
10	163.275 MHz

This “WX” function can only be utilized when it is assigned to a programmable key [P1] to [P4] on the microphone.

Assigning the “WX” function to a programmable key on the microphone

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**14 MIC.PGM**], then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select the [**PGM.P1**], [**PGM.P2**], [**PGM.P3**] or [**PGM.P4**] key to assign a WX function, then press the **DIAL** knob.
4. Rotate the **DIAL** knob to select “**WX**”.
5. Press the **DIAL** knob to save the setting and return to normal operation.

Recalling the weather channels

Example: When “WX” is assigned to [P4]

1. Press [**P4**] on the microphone.
The WX function is activated, and the weather channel selected last time the WX function was activated will be displayed on the screen.
2. Rotate the **DIAL** knob to select the other channels.
3. Press the **PTT** switch on the microphone to search for additional WX stations.
Scanning of the channels stored in the weather station memory bank will start. When the scanning pauses on a station, press the **PTT** switch once to halt the scan, or press it twice to restart the scan.
4. Press the **PTT** switch to finish the scan.
5. Press [**P4**] on the microphone.
The WX function will be inactivated and the display will return to the previous screen.

Listening with weather alert

In the event of extreme weather disturbances, such as storms and hurricanes, the NOAA (National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and a subsequent weather report on one of the NOAA weather channels. You may disable receiving the weather alert tone using [**34 WX ALT**] in the Menu list.

ARTS (Automatic Range Transponder System)

The ARTS feature uses DCS signaling to inform both parties when ARTS equipped stations are within communications range.



In Range

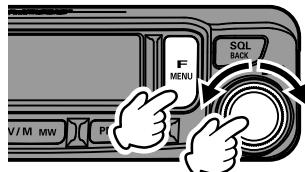


Out of Range

- If the signal of the partner station cannot be received for 1 minute 20 seconds, it is judged as “cannot communicate”.
- Press the PTT switch to communicate with the partner station even while the ARTS function is activated.

ARTS setup

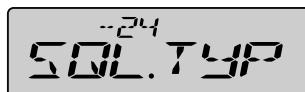
1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**02 AR MOD**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select the ARTS operation from the table below, and then press the [**SQL BACK**] key.

Display	Description
	No beeps. Display only. While within range “IN.RNG” will appear on the LCD, while out of range “OUT.RNG” will appear.
	While within range “IN.RNG” will appear on the LCD. Every time a polling transmission is received from the other station, the alert beeps will be heard. While out of range “OUT.RNG” will appear on the LCD. The beeps are issued only when the radio first confirms that the stations are out of range, but does not re-confirm with beeps thereafter.
	While within range “IN.RNG” will appear on the LCD. The beeps are issued only when the radio first confirms that the stations are within range, but does not re-confirm with beeps thereafter. While out of range “OUT.RNG” will appear on the LCD. A beep sounds every time the signal of the partner station cannot be received for 1 minute 20 seconds.

4. Rotate the **DIAL** knob to select [**24 SQL.TYP**] then press the **DIAL** knob.



5. Rotate the **DIAL** knob to select “DCS” then press the [**SQL BACK**] key.
6. Rotate the **DIAL** knob to select [25 SQL.COD] then press the **DIAL** knob.
7. Rotate the **DIAL** knob to select the same DCS code as the partner station, and then press the **DIAL** knob.

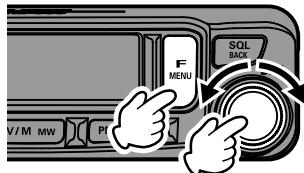
This completes the ARTS settings.



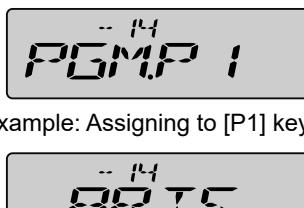
Activating the ARTS feature

This “ARTS” function can only be utilized when it is assigned to a programmable key [P1] to [P4] on the microphone.

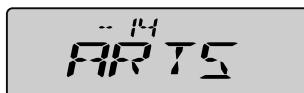
1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**14 MIC.PGM**] then press the **DIAL** knob.



3. Rotate the **DIAL** knob to select the [PGM.P1], [PGM.P2], [PGM.P3] or [PGM.P4] key to assign an ARTS function, then press the **DIAL** knob.
4. Rotate the **DIAL** knob to select “ARTS” then press the **DIAL** knob.



Example: Assigning to [P1] key



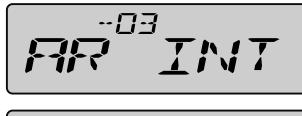
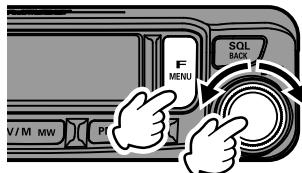
5. Press the key to which the ARTS function is assigned according to the same frequency as the partner station, the ARTS function will operate.
6. While the ARTS function is operating, press the key to which the ARTS function is assigned to cancel the ARTS function.

ARTS Polling Time Options

The ARTS feature may be programmed to poll in 30 second (default value) or 1 minute intervals.

To change the polling interval:

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**03 AR INT**] then press the **DIAL** knob.



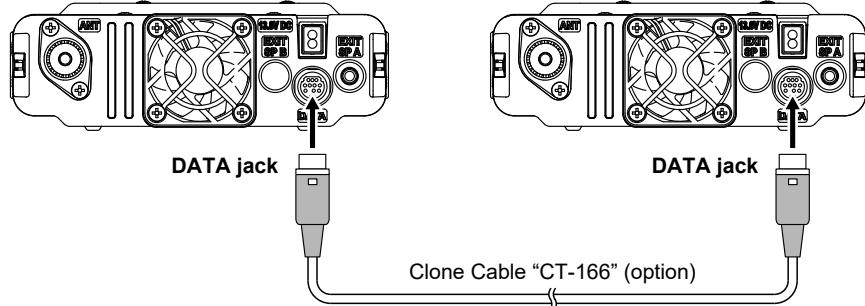
3. Rotate the **DIAL** knob to select “**30 SEC**” or “**1 MIN**”.

4. Press the **DIAL** knob to save the setting and return to normal operation.

Clone

The memory channels and settings in the menu list can be copied to another FTM-6000R/E. This is convenient when matching the settings of associate stations that communicate frequently.

1. Turn both transceivers OFF.
2. Connect the optional clone cable “CT-166” to the DATA jack on the back of the main bodies.



3. Press and hold the [F1] keys, and turn both transceivers ON.
“CLONE” is displayed on the screen.
4. On the transceiver to which data is to be copied, press the DIAL knob.
“CLN RX” is displayed on the screen.
5. On the transceiver from which data is to be copied, press the DIAL knob.
6. Rotate the DIAL knob to select “CLN TX”.
7. On the transceiver to which data is to be copied, press the DIAL knob.
“RCV.WRT” is displayed on the screen.
8. On the transceiver from which data is to be copied, press the DIAL knob.
“SND.ING” is displayed on the screen, and data transfer begins.
9. When cloning is completed, the copy destination FTM-6000R/E will automatically restart, and the copy source FTM-6000R/E will change from “SND.ING” to “SND.CMP”.
10. This completes cloning (copying).

Turn both transceivers OFF, then disconnect the clone cable.

CLONE

CLN RX

CLN TX

RCV.WRT

SND.ING



When “ERROR” appears on the screen during the clone operation, the operation has not completed. Check the clone cable connection, and then repeat the procedure from the beginning.

Connecting an external device

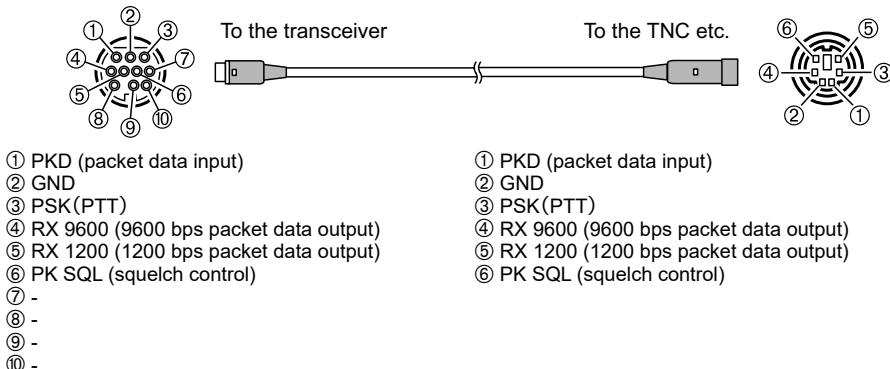
A TNC (Terminal Node Controller) may be connected to the transceiver to enable packet communications.

● Preparation

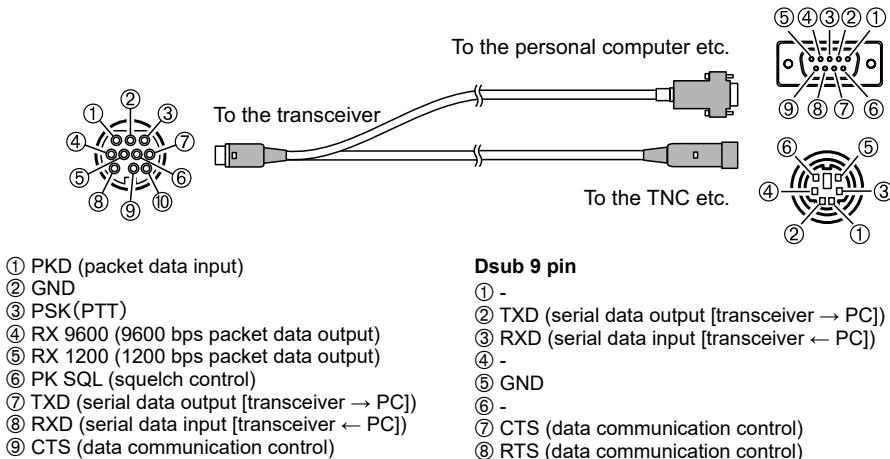
- TNC
- Computer
- Data cable* (Prepare a cable suitable for the connected device.)

*The following optional products are available.

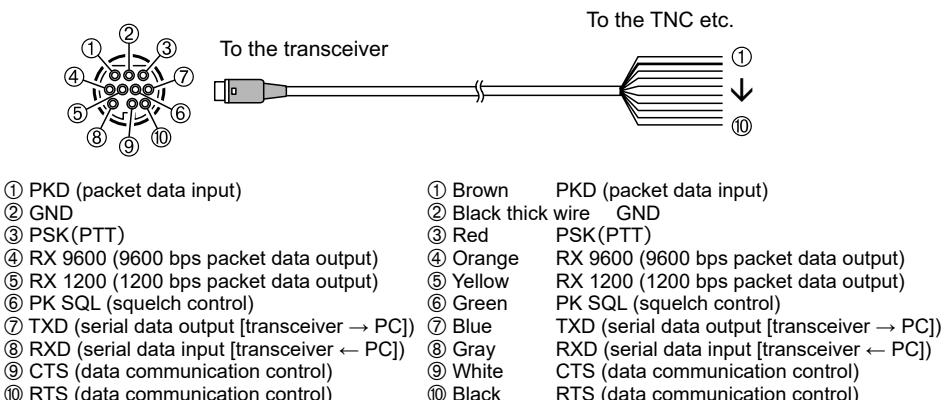
● Data cable “CT-164” (MDIN 10 pin ↔ MDIN 6 pin)



● Data cable “CT-163” (MDIN 10 pin ↔ MDIN 6 pin & Dsub 9 pin)



● Data cable “CT-167” (MDIN 10 pin ↔ MDIN 6 pin)



- Make sure to turn the power to the radio OFF before connecting.
- Refer to the TNC operating manual for instruction on connecting the TNC to a personal computer.
- i** • RF receive interference may occur because of noise occurring in the personal computer. When signals cannot be received normally, keep the personal computer at a distance away from the radio and use a photo-coupler and noise filter to connect.

● DATA communication baud rate settings

1. Press and hold the [**F MENU**] key.
2. Rotate the **DIAL** knob to select [**16 PKT.SPD**] then press the **DIAL** knob.
3. Rotate the **DIAL** knob to select “**1200BP**” or “**9600BP**”.
4. Press the **DIAL** knob to save the setting and return to normal operation.
This completes the packet communication settings.

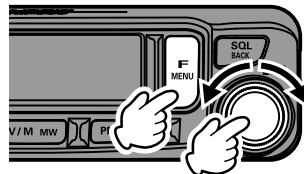
! When transmitting a large volume of packet data, the transmission time gets longer, and the transceiver may heat up. When transmission continues for a long period of time, the overheating prevention circuit will act to lower the transmit power output. When transmission is continued further, transmission will be suspended automatically, and the transceiver will go into the receive mode to prevent failure due to overheating. When the overheating prevention circuit is activated and the radio goes into the receive mode, either switch the power OFF, or wait in receive mode until the transceiver cools.

Using Menu List

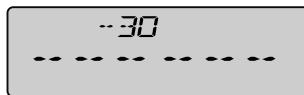
The Menu List Mode permits configuring the various functions to accommodate individual operating needs and preferences.

Menu List Operation

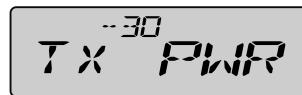
1. Press and hold the [F MENU] key.
The Menu list will be displayed.
2. Rotate the **DIAL** knob to select the desired item in the Menu list, then press the **DIAL** knob.



-
- Items displayed by “-----” are assigned to the “function list” that is displayed by pressing [F MENU] key.
 - With the factory default setting, “F-12 HOME”, “F-19 RPT.REV”, “F-20 RPT.SET”, and “F-30 TX PWR” are assigned to the function list.
 - To select an item in the “Function list”, press and hold the [SQL BACK] key, the assignment to the “Function list” will be canceled and the function can display it in the menu list mode.



Assigned to a function list



Display in Menu list Mode

3. Rotate the **DIAL** knob to change the setting value.
4. Press the **DIAL** knob to return to normal operation.

Tables of Menu list Operations

Number / Menu Item	Description	Selectable options (Options in bold are the default settings)
01: APO	Enables/Disables the Automatic Power Off feature	OFF / 0.5H 1.0H / 1.5H / 2.0H to 12.0H
02: AR MOD	Select the ARTS Beep mode	OFF / IN RNG / OUTRNG
03: AR INT	Select the Polling Interval during ARTS operation	30 SEC / 1 MIN
04: BCLO	Enables/Disables the Busy Channel Lock-Out feature	OFF / ON
05: BEEP	Set the beep level	OFF / LOW / HIGH
06: BELL	Select the CTCSS/DCS/EPCS Bell Ringer repetitions	OFF / 1TIME / 3TIMES / 5TIMES / 8TIMES / CONTI
07: CLK.TYP	Shift the CPU clock frequency	TYP A / TYP B
08: DIMMER	Set the front panel display illumination level	OFF / MID / MAX
09: DTMF	Enable/Disable the DTMF Autodialer feature	MANUAL / AUTO
10: DT TX	Load DTMF Autodialer Memories.	---
11: DT MEM	Register a DTMF code	CH1 to CH9
12: HOME*	Recall the home channel	Depends on the transceiver version.
13: MIC.GIN	Adjust the microphone gain level	MIN / LOW / NORMAL / HIGH / MAX
14: MIC.PGM		
PGM.P1	Program the function assigned to the Microphone [P1] key	ARTS / SCN ON / HOME / RPT.SFT / RPT.REV / TX PWR / SQL OFF / T-CALL / DW / WX
PGM.P2	Program the function assigned to the Microphone [P2] key	Default values: P1: SQL OFF P2: HOME
PGM.P3	Program the function assigned to the Microphone [P3] key	P3: SCN ON
PGM.P4	Program the function assigned to the Microphone [P4] key	P4: WX (USA version) T-CALL (European/Asian versions)
15: PAGER		
PAG.CDR	Set the Receive Pager Code for the Enhanced CTCSS Paging & Code Squelch function	01 to 50 Default value: R05.47
PAG.CDT	Set the Transmit Pager Code for the Enhanced CTCSS Paging & Code Squelch function	01 to 50 Default value: T05.47
16: PKT.SPD	DATA communication baud rate settings	1200BP / 9600BP
17: RX MODE	Select the receive mode	AUTO / FM / AM
18: BND.SEL	Set the frequency bands that can be selected	AIR: ON / OFF VHF: ON / OFF UHF: ON / OFF OTH: ON / OFF
19: RPT.REV*	Reverses the transmit and receive frequencies while working through a repeater.	---
20: RPT.SET*	Set the Repeater Shift direction	SIMP / -SFT / +SFT

Number / Menu Item	Description	Selectable options (Options in bold are the default settings)
21: RPT.OTR		
RPT.ARS	Activate/Deactivate the Automatic Repeater Shift feature	OFF / ON
RPT.FRQ	Set the magnitude of the Repeater Shift	0.00 - 99.95 (MHz) (Depends on the transceiver version.)
22: SCN.ON	Engages the Scan operation	---
23: SCN.TYP		
SCN.RSM	Select the Scan Resume mode	BUSY / HOLD / 1 SEC / 3 SEC / 5 SEC
DW RVT	Enable/Disable the "Primary Channel Revert" feature.	OFF / ON
24: SQL.TYP	Selects the Tone Encoder and/or Decoder mode.	OFF / TON.ENC / TON.SQL / REV.TON / DCS / PR FRQ / PAGER / DCS.ENC* / TONE.DCS* / DCS.TSQ* *Displayed when "26 SQL.EXP" is "ON".
25: SQL.COD	Set the CTCSS Tone Frequency or the DCS code.	CTCSS: 67.0 to 254.1 (Hz) (100.0Hz) DCS: 104 standard DCS codes (023)
26: SQL.EXP	Enable/Disable the split CTCSS/DCS coding	OFF / ON
27: STEP	Set the frequency synthesizer steps	AUTO / 5 / 6.25 / (8.33) / 10 / 12.5 / 15 / 20 / 25 / 50 / 100 (kHz) (8.33 kHz: only for Air band)
28: xx.xF (C)	Indicates the current temperature inside the transceiver	---
29: TOT	Set the Time-Out Timer	OFF* / 1 MIN / 2 MIN / 3 MIN / 5 MIN* / 10 MIN / 15 MIN / 20 MIN / 30 MIN (Depends on the transceiver version.)
30: TX PWR*	Set the transmit power level.	LOW / MID / HIGH
31: VER.DSP	Display the transceiver software version	Mxx.xx (MAIN) Pxx.xx (PANEL)
32: xx.xV	Indicates the DC Supply Voltage.	---
33: WIDTH	Set the FM transmit modulation level and receiver bandwidth	WIDE/NARROW
34: WX ALT	Weather alert operation setting	OFF/ON
35: BLT		
BLT.OFF	Set the Bluetooth function	OFF/ON
BLT.LST	Bluetooth device list	---
BLT.SAV	Set the Bluetooth save function	OFF/ON
BLT.AF	Set the Bluetooth received audio output	AUTO/FIX

* In the factory default, the grayed settings are assigned to the "Function list" that is displayed when the [F MENU] key is pressed.

01 APO

Set the Automatic Power-Off feature

The transceiver can be set to automatically power OFF when there is no operation for a period.

OFF	Does not turn the power OFF automatically.
0.5 H / 1.0H / 1.5H / 2.0H to 12 H (hour)	Turns the power OFF when no operation is performed for a specified time.

02 AR MOD

Selects the Beep option during ARTS operation

Set the operation of the “ARTS function” which informs whether or not communications are possible with the partner station.

OFF	No beeps. Display only. While within range “IN.RNG” will appear on the LCD, while out of range “OUT.RNG” will appear.
IN RNG	While within range “IN.RNG” will appear on the LCD every time a polling transmission is received from the other station, also the alert beeps will be heard. While out of range “OUT.RNG” will appear on the LCD. The beeps are issued only when the radio first confirms that the stations are out of range, but does not re-confirm with beeps thereafter.
OUTRNG	While within range “IN.RNG” will appear on the LCD. The beeps are issued only when the radio first confirms that the stations are within range, but does not re-confirm with beeps thereafter. While out of range “OUT.RNG” will appear on the LCD. A beep sounds every time the signal of the partner station cannot be received for 1 minute 20 seconds.

03 AR INT

Selects the Polling Interval during ARTS operation

Sets the transmission interval of the ARTS signal that is automatically transmitted while the ARTS function is operating.

30 SEC	A confirmation signal is sent approximately every 30 seconds.
1 MIN	A confirmation signal is sent approximately every minute.

04 BCLO

Enables/Disables the Busy Channel Lock-Out feature.

Preventing transmissions when the receive channel is busy.

OFF	Permits starting a transmission while receiving a signal.
ON	Disables transmissions while receiving a signal.

05 BEEP

Set the volume of the Beep

Adjust the Beep Volume.

OFF	The beep does not sound.
LOW / HIGH	LOW (minimum) / HIGH (maximum)

Rotating the **DIAL** knob each time sounds beep for checking the volume.

06 BELL

Set the number of times the bell rings

Set the Bell sound to alert when a call from another station contains a corresponding tone, DCS or pager code.

OFF	The beeper does not sound.
1TIME / 3TIMES 5TIMES / 8TIMES	The number of times the bell rings may be set from among 1, 3, 5 or 8 times.
CONTI	The bell continues to sound until operating a key.

For more details, see "Notification of a Call from a Remote Station by the Bell Function". (☞ page 9)

07 CLK.TYP

Set the CPU clock shift function.

The CPU Clock Shift function may be activated to eliminate an internally generated spurious high frequency signal. Select "TYP A" for normal use.

TYP A	Automatically switches the Clock Shift function between ON & OFF.
TYP B	Activates the Clock Shift function constantly.

08 DIMMER

Set the brightness level of the LCD backlight and numeric keypad light.

Adjusting the LCD backlight and Key Button Light Brightness Level

OFF / MID / MAX	OFF (bright) / MID / MAX (dark)
-----------------	---------------------------------

09 DTMF

Set the DTMF code transmission method

Set method (Auto or Manual) to transmit the registered DTMF code.

MANUAL	Press the number keys on the microphone to manually send out the DTMF code.
AUTO	The DTMF code registered in the DTMF memory is automatically sent.

For more details, see "DTMF Operation". (☞ page 10)

10 DT TX

Transmitting the registered DTMF code

To send the DTMF code automatically, select the channel on which the DTMF code to send is registered.

For more details, see "Transmitting the registered DTMF code". (☞ page 11)

11 DT MEM

Select and edit the DTMF auto dialer memory channel.

Up to 9 registers of 16-digit DTMF tone codes may be stored.

For more details, see "Registering a DTMF code". (☞ page 10)

12 HOME

In the factory default setting, [12 HOME] is registered in the "Function List" that is displayed when the [**F MENU**] key is pressed.

Recalls the HOME channel

Recall the home channel that is stored in memory.

13 MIC.GIN

Adjust the microphone gain level.

Adjust the input level of the microphone.

MIN / LOW	
NORMAL / HIGH	MIN (Mic gain low) - MAX (Mic gain high)
MAX	

While pressing the **PTT** switch, the microphone gain level may be adjusted.

14 MIC.PGM

Set the microphone programable keys

Functions can be assigned to the program keys (P1 to P4) on the provided microphone (SSM-85D).

The default function settings of the [P1] / [P2] / [P3] / [P4] keys are listed below:

[P1]: SQL OFF

[P2]: HOME

[P3]: SCN ON

[P4]: WX (T-CALL: European/Asian versions)

ARTS: Starts or stops the ARTS function.

SCN ON: Starts or stops the scanning function.

HOME: Recalls the HOME channel.

RPT.SFT: Sets the repeater shift direction.

RPT.REV: Reverses the transmit and receive frequencies in repeater mode or split memory.

TX PWR: Selects the transmit power output level.

SQL OFF: Opens the squelch (Squelch OFF)

T-CALL: Transmits the T-CALL (1750 Hz).

DW: Starts or stops the Dual Watch function.

WX: Switches operation to the Weather Channel Bank.

15 PAGER

Specify the receive & transmit personal Enhanced CTCSS Paging code.

Set the pager receive/transmit code to recognize paging stations or transmit calls to other stations.

01 - 05 - 50	Set the Receive or transmit pager code.
01 - 47 - 50	

For more details, see “EPCS (Enhanced Paging & Code Squelch) Function”. (☞ page 7)

16 PKT.SPD

DATA communication baud rate settings.

Set the communication baud rate for data communication (when using the “DATA” terminal on the rear).

1200BP	Set the communication baud rate to 1200bps.
9600BP	Set the communication baud rate to 9600bps.

17 RX MOD

Set the band receiving mode.

Each band receive mode may be set.

AUTO	The receive mode (FM mode or AM mode) is automatically selected according to the frequency band in use.
FM	The selected frequency band is set to FM mode.
AM	The selected frequency band is set to AM mode.

18 BND.SEL

Set up band-skipping

Set the selectable bands (frequency band).

In the factory default setting, all bands are set to “ON”.

AIR: 108MHz - 137MHz

VHF: 137MHz - 174MHz

UHF: 400MHz - 480MHz

OTH: 174MHz - 400MHz, 480MHz - 999.995MHz

ON	The frequency bands set to ON, can be selected.
OFF	The frequency bands set to OFF, cannot be selected.

19 RPT.REV

In the factory default setting, [19 RPT.REV] is registered in the “Function List” that is displayed when the [F MENU] key is pressed.

Reverses the transmit and receive frequencies

The “reverse” state temporarily reverses the transmit and receive frequencies. This allows checking to find if direct communication with the other station is possible.

20 RPT.SET

In the factory default setting, [20 RPT.SET] is registered in the “Function List” that is displayed when the [**F MENU**] key is pressed.

Set the Repeater shift direction

Set the TX frequency shift direction for repeater use.

SIMP	No TX frequency offset.
-SFT	Shifts TX to a lower frequency.
+SFT	Shifts TX to a higher frequency.

21 RPT.OTR

RPT.ARS (Set the ARS (Automatic Repeater Shift)).

Enable or disable the automatic Repeater Shift operation ARS (Repeater operation is initiated by tuning to the repeater frequency).

OFF	Disables the ARS function.
ON	Set the repeater shift offset frequency.

RPT.FRQ (Set the Repeater Shift offset frequency)

Set the repeater shift offset frequency.

0.00MHz - 99.95MHz	Repeater shift offset frequency (0.00MHz - 99.95MHz).
---------------------------	---

22 SCN.ON

Scan frequencies for signals

To find frequencies where there are signals in VFO mode, memory mode or PMG mode.

23 SCAN TYP

SCN.RSM (Set the scan resume condition)

Select the receive operation when scanning is paused on a received signal.

BUSY	Scanning stops on a received frequency until the signal fades out. Two seconds after the signal fades out, scanning resumes.
HOLD	Scanning stops on the current receive frequency (Scanning does not resume). Scanning may be resumed manually.
1 SEC / 3 SEC / 5 SEC	The signal is received for a specified period of time, and then scanning resumes.

DW RVRT (Turn the “Dual Watch Revert” feature ON or OFF during Dual Receive.)

Determines the operation of the **PTT** switch when pressed during the Dual Watch.

OFF	When a signal is received on the HOME Channel, dual watch pauses. Press the PTT switch to transmit on the HOME Channel. Release the PTT switch to receive the HOME Channel for about five seconds, then Dual Watch operation continues. Press the PTT switch when scan is not on home channel, it will transmit at that frequency and DW operation will continue.
ON	Press the PTT switch to transmit on the HOME Channel. Release the PTT switch to receive the HOME Channel for about five seconds, then Dual Watch operation continues.

24 SQL TYPE

Select [**11 SQL TYPE**] to open the squelch only when a signal containing the specified tone or code is received.

For more details, see “Selecting the Squelch Type”. (□ page 2)

25 SQL CODE

Set tone frequency or DCS code

The tone frequency may be selected from 50 frequencies (from 67.0 Hz to 254.1 Hz).

For more details, see “Setting CTCSS Tone frequency”. (□ page 3)

The DCS code may be selected from 104 types (from 023 to 754).

For more details, see “Selecting the DCS Code”. (□ page 5)

26 SQL EXP

Set the squelch code separately for Receive and transmit.

The squelch type can be set separately for transmit and receive.

OFF	Does not add squelch types for transmit and receive, respectively.
ON	“DCS.ENC”, “TON.DCS” and “DCS.TSQ” setting values are activated.

For more details, see “Selecting the Squelch Type”. (□ page 2)

27 STEP

Set the frequency tuning step

Set the frequency step when the **DIAL** knob is turned, or when the [**UP**]/[**DWN**] key on the microphone is pressed.

AUTO	Step automatically changes according to operating frequency.)
5kHz / 6.25kHz	
8.33kHz* / 10kHz	
12.5kHz / 15.0kHz	
20.0kHz / 25.0kHz	
50.0kHz / 100.0kHz	Changes at the selected frequency step.

* For the AIR band, the frequency step “8.33 kHz” can also be selected.

28 xx.xxF (C)

Displays the temperature near the final stage of the transceiver

If the temperature is about 50°F (10°C) or less, “LOWTMP” is displayed.

29 TOT

Set the timeout timer.

Set the transceiver to automatically return to receive mode after transmitting continuously for a certain period of time. The TOT function limits inadvertent transmission of unnecessary signals, and unwanted battery power consumption (time-out timer function).

OFF	The TOT time is deactivated.
1 MIN / 2 MIN	
3 MIN / 5 MIN	
10 MIN / 15 MIN	
20 MIN / 30 MIN	Set the transceiver to automatically return to receive mode after transmitting continuously for the set period of time.

The beep sounds at about 10 seconds before returning to receive mode automatically.

30 TX PWR

Select the transmit power output level

The transmit power can be reduced to save on energy consumption when communicating with a nearby station.

HIGH	50W
MID	25W
LOW	5W

31 VER.DSP

Display the software versions of the transceiver.

Switch between “Main” and “Panel” by turning the **DIAL** knob.

M xx	The software versions of “Main” is shown.
P xx	The software versions of “Panel” is shown.

32 xx.xV

Indicates the DC Supply Voltage

33 WIDTH

Set the Modulation Level

The modulation can be set to half of its usual level. Select “WIDE” for normal amateur operation.

WIDE	Normal transmit modulation level.
NARROW	Modulation is half of the normal level.

34 WX ALT

Set the weather Alert Feature

Set the weather Alert Feature to notify of storms and hurricanes, ON or OFF.

OFF	Disables the Weather Alert Feature.
ON	Enables the Weather Alert Feature.

35 BLT

Bluetooth® (Setting the Bluetooth®)

Make Bluetooth® settings and connect to a Bluetooth® headset.

For details, refer to “Bluetooth® Operation” in the Operating Manual.

BLT.LST (Bluetooth® Device List)

Displays a list of registered or searched Bluetooth® devices. You can select and connect a Bluetooth® headset.

For details, refer to “Bluetooth® Operation” in the Operating Manual.

BLT.SAV (Bluetooth® save)

Set this to reduce the Bluetooth® headset battery consumption.

For details, refer to “Bluetooth® Operation” in the Operating Manual.

BLT.AF (Bluetooth® received audio output)

Set whether received audio is heard from both the Bluetooth® headset and the transceiver speaker, or only from the connected Bluetooth® device.

For details, refer to “Bluetooth® Operation” in the Operating Manual.



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