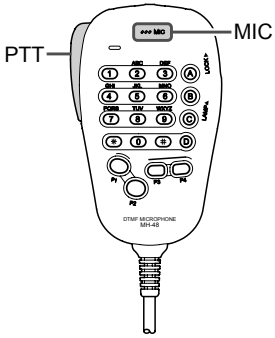
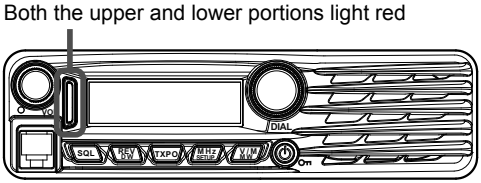
Basic Operation

Transmission

1. Press and hold **PTT** on the microphone.
   Both the upper and lower portions of the PTT mode/status indicator light red.





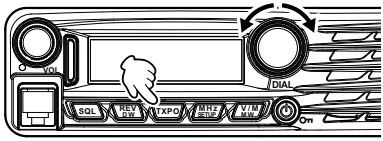
2. Speak into **MIC** on the microphone.
   Note: Keep the microphone about 5 cm away from your mouth.
   The sensitivity (gain) of the microphone can be adjusted. For details, refer to the Advanced Manual (download from the Yaesu website).
3. Release **PTT**.
   The transmit mode/status indicator turns off and the transceiver returns to the receive mode.
   Caution: Do not continue transmitting for a prolonged period. The transceiver may overheat, resulting in malfunction or injury.
   Note: "ERROR" appears if you attempt to transmit on an unavailable frequency.

Adjusting the transmit power

When communicating with a nearby station, the transmit power level may be lowered to reduce the battery power consumption.

1. Press the [**TXPO**] key.
2. Rotate the **DIAL** to select the transmit power.

   Note: The default setting: HIGH

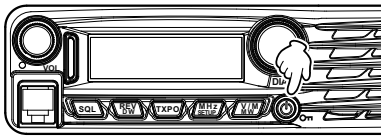


HIGH (65 W) MID (30 W) LOW (5 W)

3. Press the [**TXPO**] key to save the new setting and exit to normal operation.

Lock Feature

To activate the key-lock feature, press the [**Power**(**Lock**)] key. The "On" icon will appear on the LCD.
To cancel key-lock, press the [**Power**(**Lock**)] key again.



To select which keys are locked, use the Setup Menu Item "**17 LOCK**" see page 30 for details.

Advanced Operation

Repeater Operation

The FTM-3100R includes the ARS (Automatic Repeater Shift) function, which permits communication through repeaters automatically, by simply setting the receiver to the repeater frequency.

1. Tune to the repeater frequency.
2. Press the **PTT** to transmit.

   During transmission, radio waves having an 100.0 Hz* tone signal are emitted on the frequency offset from the receive frequency by 0.6 MHz*.

   *: Depends on the transceiver version.

   Note: From the Setup Menu, you can change the repeater setting.

   RPT ARS 29 ➠ Deactivates the ARS function.

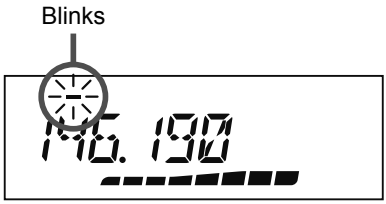
   RPT FREQ 30 ➠ Allows changing the repeater shift frequency offset.

   RPT SFT 31 ➠ Allows setting the repeater shift direction.

Checking the Repeater Uplink (Input) Frequency

It is often helpful to be able to check the uplink (input) frequency of a repeater, to see if the calling station is within direct ("Simplex") range.

To do this, just press the [**REV**(**DW**)] key. You'll notice that the display has shifted to the repeater uplink frequency. Press the [**REV**(**DW**)] key again to cause operation to revert to normal monitoring of the repeater downlink (output) frequency. While listening on the repeater input frequency using the [**REV**(**DW**)] key, the repeater offset icon will blink.



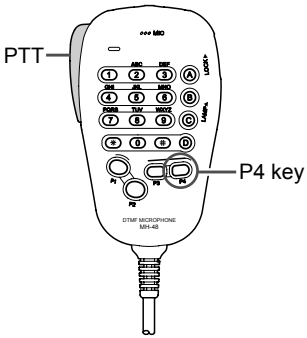
Weather Broadcast Reception

The FTM-3100R includes a unique feature which allows reception of weather broadcasts in the 160 MHz frequency range. Ten standard Weather Broadcast channels are preloaded into a special memory bank.

To listen to a Weather Broadcast Channel:

1. Press the Microphone [**P4**] button to recall the Weather Broadcast channels.

   Note: The [**P4**] key, one of the programmable keys, is assigned (default setting) as the "WX Broadcast" one-touch access key. Please note that if you change/assign another function to the [P4] key, one-touch access to the WX channel will be unavailable.
2. Turn the **DIAL** knob to select the desired Weather Broadcast channel.
3. To scan the other channels for activity, press the Microphone **PTT** switch.
4. To exit to normal operation, press the [**P4**] button again. Operation will return to the VFO or Memory channel in operation before you began Weather Broadcast operation.



CH	Frequency	CH	Frequency
1	162.550 MHz	6	162.500 MHz
2	162.400 MHz	7	162.525 MHz
3	162.475 MHz	8	161.650 MHz
4	162.425 MHz	9	161.775 MHz
5	162.450 MHz	10	163.275 MHz

Severe Weather Alert Feature

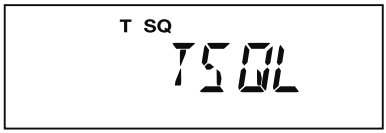
In the event of extreme weather disturbances, such as storms and hurricanes, NOAA (the National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and subsequent weather report on one of the NOAA weather channels. You may enable this feature via Setup Menu Item "**43 WX ALERT**" see page 31 for details.

Advanced Operation

CTCSS Operation

This radio is equipped with the CTCSS (Continuous Tone-coded Squelch System) that allows audio to be heard only when receiving signals containing a tone corresponding to the tone squelch menu setting. By matching the CTCSS tone with the partner station in advance, quiet standby monitoring is possible.

1. Press and hold the [**MHz**(**SETUP**)] key for over one second.
   The Setup menu appears.
2. Rotate the **DIAL** knob to select "**SQL TYPE 35**", then press the [**MHz**(**SETUP**)] key.
3. Rotate the **DIAL** knob to select "**TSQL**", then press and hold the [**MHz**(**SETUP**)] key for over one second.



" **T SQ** " is displayed on the screen. Now the squelch opens only when receiving tone signals of the set frequency.

Note: From the Setup Menu, you can change the CTCSS setting.

TONE FRQ 38 ➠ The tone frequency can be selected from 50 frequencies.

BELL 6 ➠ A bell tone (beep) may be set to sound when signals containing a corresponding CTCSS tone are received.

Tone Search

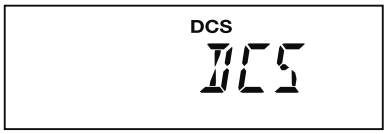
When the CTCSS tone being transmitted by another station is not known, you can tune the radio to the incoming signal and activate tone scan to search for and identify the tone being used.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

DCS Operation

This radio is equipped with a DCS (Digital Coded Squelch) function that allows audio to be heard only when signals containing the corresponding DCS code are received. By matching the DCS code with the partner stations beforehand, a quiet receive standby is possible.

1. Press and hold the [**MHz**(**SETUP**)] key for over one second.
   The Setup menu appears.
2. Rotate the **DIAL** knob to select "**SQL TYPE 35**", then press the [**MHz**(**SETUP**)] key.
3. Rotate the **DIAL** knob to select "**DCS**", then press and hold the [**MHz**(**SETUP**)] key for over one second.



Displays " **DCS** " on the screen. The squelch opens only when receiving a signal containing the corresponding DCS code.

Note: From the Setup Menu, you can change the DCS setting.

DCS CODE 9 ➠ The DCS code can be selected from 104 codes.

BELL 6 ➠ A bell tone (beep) may be set to sound when signals containing a corresponding DCS code are received.

DCS Search

When the DCS code being transmitted by another station is not known, you can tune the radio to the incoming signal and activate DCS code scan to search for and identify the DCS code being used.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

The following features are also available:

EPCS (Enhanced Paging & Code Squelch) Operation

Use the pager code consisting of two CTCSS tones to exchange communications with specified stations.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Split Tone Operation

The FTM-3100R can be operated in a “Split Tone” configuration that enables operation on repeaters using a mix of both CTCSS and DCS control via the Setup menu.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

DTMF Operation

DTMF tones (Dual Tone Multi Frequencies) are the tones you hear when dialing from a telephone keypad. The FTM-3100R transceiver can transmit the DTMF codes by using the keys on the microphone or recalling registered number strings from memories.
The maximum of 16-digit DTMF codes can be registered in up to 10 memory channels. It is convenient to register telephone patch numbers, and network linking sequences to the DTMF memory channels.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Memory Operation

The FTM-3100R provides a wide variety of memory system resources. These include:

- ❒ 199 “basic” memory channels, numbered “1” through “199”.
- ❒ A “Home” channel, providing storage and quick recall of one prime frequency.
- ❒ 10 sets of band-edge memories, also known as “Programmable Memory Scan” channels, labeled “L0/U0” through “L9/U9”.

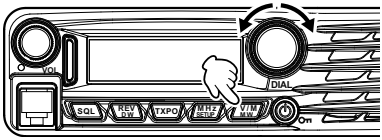
Each memory may be appended with an alphanumeric label of up to 8 characters, for quick channel recognition.

Memory Storage

1. In the VFO mode, select the desired frequency, repeater shift, CTCSS/DCS tone, and TX power level.
2. Press and hold the [**V/M**(**MW**)] key for one second.

   A memory number will appear in the bottom right corner of the display.

   Note: If the channel number is blinking, there currently is no data stored on that channel; if the channel number is not blinking, that channel is currently “occupied” by other frequency data.



3. Within five seconds of pressing the [**V/M**(**MW**)] key, use the **DIAL** knob to select the desired memory into which you wish to store the frequency.

   Note: While operating in the Memory Storage mode, the keypad of the MH-48A6JA Microphone may be used to enter the memory channel number directly.

   To do this, enter the desired Channel Number on the keypad and then press the [**#**] key. Refer to the “For example” of the “Memory Recall from the Microphone Keypad“ on next page.
4. Press the [**V/M**(**MW**)] key again, this time momentarily, to store the displayed data into the selected memory channel slot.
5. To store additional frequencies, repeat steps 1 through 4, remembering to set the repeater shift, CTCSS/DCS tone, and TX power level, as appropriate.

Split Memory

A separate transmit frequency may be registered to a memory channel to which a receive frequency has already been registered.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Naming a Memory Channel

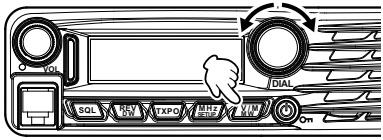
You may also append an alphanumeric “Tag” (label) to each memory, to aid in recollection of the channel’s use (such as club name, etc.).

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Memory Recall

Once the desired frequencies are stored into memory channels, switch from the "VFO" mode to the "Memory Recall" mode, to operate on the just-stored memory channels.

1. Press the [**V/M**(**MW**)] key, repeatedly if necessary, until the " **MR** " icon and a memory channel number appear on the display; this indicates that the "Memory Recall" mode is now engaged.
2. When more than one memory has been stored, use the **DIAL** knob to select any of the programmed memories for operation.



Note: Alternatively, the microphone [**UP**] or [**DWN**] button may be used to step or scan through the available memories. When using the microphone buttons, press the button momentarily to move one step up or down; press and hold the [**UP**] or [**DWN**] button for one second to begin memory scanning.

Memory Recall from the Microphone Keypad

While operating in the Memory Recall mode, the keypad of the MH-48A6JA Microphone may be used for direct recall of memory channels.

To do this, enter the desired Channel Number on the keypad and then press the [**#**] key.

For example:

To recall Memory Channel "**5**", press [**5**] ➠ [**#**]

To recall Memory Channel "**123**", press [**1**] ➠ [**2**] ➠ [**3**] ➠ [**#**]

You may also recall Programmable Memory Scan (PMS) channels ("L0/U0" through "L9/U9") by entering the channel numbers listed in the below table:

L1	201	L3	205	L5	209	L7	213	L9	217
U1	202	U3	206	U5	210	U7	214	U9	218
L2	203	L4	207	L6	211	L8	215	L0	219
U2	204	U4	208	U6	212	U8	216	U0	220

Moving Memory Data to the VFO

Data stored on memory channels can easily be moved to the VFO.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Memory Only Mode

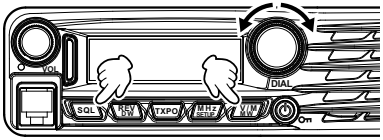
Once memory channel programming has been completed, you may place the radio in a "Memory Only" mode, whereby VFO operation is impossible.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Memory Operation

Masking Memories

There may be situations where you want to “Mask” memories so they are not visible during memory selection or scanning. (except for Memory Channel “1”, the Priority Channel, and the Home Channel).



1. In the Memory Recall mode, press and hold the [**V/M**(**MW**)] key for one second, then rotate the **DIAL** knob to select the memory channel you wish to mask.
2. Press the [**SQL**] key.
   The erase confirmation screen appears.
3. Press the [**SQL**] key.
   The previously selected memory will be “masked”.

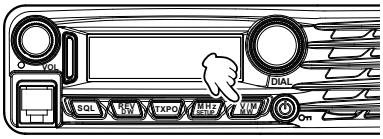
Note: Press any key, other than [**SQL**], to cancel the memory mask.

Unmasking Memories

1. To Unmask a hidden memory, in the Memory Recall mode, press and hold the [**V/M**(**MW**)] key for one second.
2. Rotate the **DIAL** knob to select the masked memory number.
3. Press the [**SQL**] key to restore the memory channel data.

HOME Channel Memory

A convenient one-touch “Home” channel memory is available to simplify returning to an often used frequency.



To recall the Home channel, just press the [**V/M**(**MW**)] key, repeatedly if necessary, until the “ **HM** ” icon appears on the display; this indicates that the Home Channel has been recalled.

Note: When shipped from the factory, the Home Channel is set to 146.520 MHz (USA version) or 144.000 MHz (EXP version).

Changing the frequency of the home channel

The default frequency setting of the home channel can be changed.

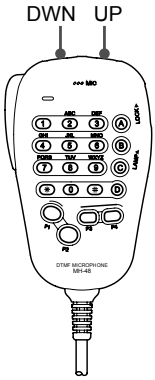
1. In the VFO mode, tune to the desired Home channel frequency.
2. Press and hold the [**V/M**(**MW**)] key for one second, and then press the [**REV**(**DW**)] key.
   The overwrite confirmation screen appears.
3. Press the [**REV**(**DW**)] key.
   The home channel frequency is overwritten.

Basic Scanner Operation

Before activating the scanner, make sure that the Squelch is set to silence the background noise when no signal is present. Scanning is not possible while the Squelch is open (if noise or signals are being heard).

Scanning may be started or stopped using the microphone [**UP**] or [**DWN**] button.

The following techniques are used for scanning:



- ❒ in the ***VFO mode***, press and hold either the [**UP**] or [**DWN**] button for one second, to start upward or downward scanning of the band.
- ❒ In the ***Memory mode***, press and hold either the [**UP**] or [**DWN**] button for one second to start channel scanning toward a higher or lower-numbered memory channel, respectively.
- ❒ Scanning pauses when a signal opens the squelch, and the decimal point on the display will blink. You can choose one of three scan-resume modes (described later).
- ❒ To halt the scan manually, the easiest way is to push the **PTT** switch on the microphone momentarily (no transmission will occur while you are scanning). The scan may also be halted manually by pressing the microphone [**UP**] or [**DWN**] button, or the [**V/M**(**MW**)] key.

Scan Resume Options

Select which of the three resume scan modes is to be performed after the scanning stops.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Memory Skip Scanning

Memory channels which you do not want to receive can be skipped during scanning.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Preferential Memory Scan

Set up a “Preferential Scan List” of channels which you can “flag” within the memory system.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Programmable Memory Scan (PMS)

Using the dedicated PMS memory channels, only the frequencies within the specified frequency range will be scanned.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Priority Channel Scanning (Dual Watch)

Scanning features include a two-channel scanning capability which allows you to operate on a VFO, Memory channel, or Home channel, while periodically checking a user defined Memory Channel for activity.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Reset Procedure/Clone

Reset Procedure

In some instances of erratic or unpredictable operation, the cause may be corruption of data in the microprocessor (due to static electricity, etc.). If this happens, resetting the microprocessor may restore normal operation. Note that all memories will be erased if you do a complete microprocessor reset, as described below.

Microprocessor Resetting

To clear all memories and other settings to factory defaults:

1. Turn the radio OFF.
2. Press and hold the [**TXPO**], [**MHz**(**SETUP**)], and [**V/M**(**MW**)] keys while turning the radio on. The "ALL RESET PUSH V/M KEY" notation will scroll on the display.

3. Press the [**D/M**(**MW**)] key momentarily to reset all settings to their factory defaults (press any other key to cancel the Reset procedure).

Set Mode Resetting

To reset the Set (Menu) mode settings to their factory defaults, while leaving other settings unchanged:

1. Turn the radio OFF.
2. Press and hold the [**TXPO**] and [**MHz**(**SETUP**)] keys while turning the radio on. The "SET MODE RESET PUSH V/M KEY" notation will scroll on the display.

3. Press the [D/M(MW)] key momentarily to reset the Set (Menu) mode settings to their factory defaults (press any other key to cancel the Reset procedure).

Clone

The FTM-3100R includes a convenient "Clone" feature, which allows the memory and configuration data from one transceiver to be transferred to another FTM-3100R.
This can be particularly useful when configuring a number of transceivers for a public service operation.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Miscellaneous Settings

Programming the Key Assignments

Default FTM-3100R key functions have been assigned to the Microphone's [**P1**]/[**P2**]/[**P3**]/[**P4**] keys at the factory. The user may change these key function assignments, if quick access to another function is desired.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Keyboard Beeper

A key/button beeper provides useful audible feedback whenever a key/button is pressed. If you want to turn the beeper off (or back on again).

Note: If you want to turn the beeper off (or back on again), see Setup Menu Item "**3 BEP KEY**" on page 29.

Display Brightness

You can adjust the display brightness.

Note: See Setup Menu Item "**16 LCD DMMR**" on page 30.

Time-Out-Timer (TOT)

The "Time-Out Timer" (TOT) feature is designed to force the transceiver into the "receive" mode after a preset time period of continuous transmission (the default is 3 minutes).

Note: See Setup Menu Item "**39 TOT**" on page 31.

Automatic Power Off (APO)

The "Automatic Power-Off" (APO) feature will turn the radio completely off after a user defined period of PTT or key/button inactivity.

Note: See Setup Menu Item "**1 APO**" on page 29.

Busy Channel Lock-Out (BCLO)

The BCLO feature prevents the transmitter from being activated whenever a signal strong enough to break through the "noise" squelch is present on the frequency.

Note: See Setup Menu Item "**2 BCLO**" on page 29.

TX Deviation Level

You can reduce the receiver bandwidth and transmit deviation when operating on closely spaced frequencies (channel spacing of 12.5 or 15 kHz). The reduced transmitter deviation will minimize adjacent channel interference to other users.

Note: See Setup Menu Item "**45 W/N DEV**" on page 31.

MIC Gain Setting

At the factory, the microphone gain has been programmed so that it should be satisfactory for the supplied MH-48A6JA Microphone. If you use an after-market microphone or connect a TNC, you may wish to set a different Mic Gain level.

Note: See Setup Menu Item "**18 MIC GAIN**" on page 30.

Miscellaneous Settings

Displaying the Supply Voltage

Display the Power Supply voltage.

Note: See Setup Menu Item "**8 DC VOLT**" on page 29.

Displaying the Temperature

Indicates the current temperature inside the transceiver's case.

Note: See Setup Menu Item "**37 TEMP**" on page 30.

Band Edge Beeper

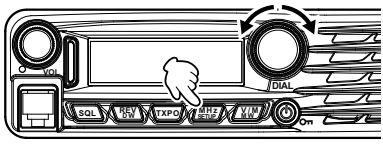
The FTM-3100R will automatically "beep" when the receiver's band edge is encountered during scanning (either in standard VFO scanning or during PMS operation). You may additionally enable this feature (band edge beeper) when the frequency reaches the band edge while selecting the VFO frequency manually, using the **DIAL** knob.

Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Setup (Menu) Mode

The FTM-3100R Setup (Menu) mode, already described in parts of many previous chapters, is easy to activate and set. It may be used for configuration of a wide variety of transceiver parameters, some of which have not been detailed previously. Use the following procedure to activate the Setup (Menu) mode:

1. Press and hold the [**MHz**(**SETUP**)] key for one second to enter the Setup menu.
2. Rotate the **DIAL** knob to select the Menu Item to be adjusted.
3. Press the [**MHz**(**SETUP**)] key momentarily to enable adjustment of the selected Menu item, and then rotate the **DIAL** knob to perform the actual adjustment.
4. After completing your selection and adjustment, press and hold the [**MHz**(**SETUP**)] key for one second to exit the Setup menu and resume normal operation.



Note: For details, refer to the Advanced Manual (download from the Yaesu website).

Menu Item	Function	Available Values	Default
1: APO	Enables/Disables the Automatic Power Off feature.	0.5H to 12H (0.5H step)/ OFF	OFF
2: BCLO	Enables/Disables the Busy Channel Lock-Out feature.	ON/OFF	OFF
3: BEP KEY	Enables/Disables the key beeper.	KEY+SCAN/KEY/OFF	KEY+SCAN
4: BEP EDGE	Enables/Disable the Band-edge beeper while scanning.	ON/OFF	OFF
5: BEP STBY	Enables/Disable the Standby beep	ON/OFF	ON
6: BELL	Selects the CTCSS/DCS/EPCS Bell Ringer repetitions.	1 to 20/CONTINUE/OFF	OFF
7: CLK TYPE	Shifting of the CPU clock frequency.	A/B	A
8: DC VOLT	Indicates the DC Supply Voltage.	---	---
9: DCS CODE	Setting of the DCS code.	104 standard DCS codes	023
10: DCS INV	Select a combination of DCS inversion codes in terms of communication direction.	NORMAL/INVERT/ BOTH	NORMAL
11: DT AUTO	Enables/Disables the DTMF Autodialer feature.	MANUAL/AUTO	MANUAL
12: DT DELAY	Setting of the DTMF Autodialer TX Delay Time.	50/250/450/750/1000	450 MS
13: DT SET	Loading of the DTMF Autodialer Memories.	---	---
14: DT SPEED	Setting of the DTMF Autodialer Sending Speed.	50/100	50 MS

Setup (Menu) Mode

Menu Item	Function	Available Values	Default
15: DW RVRT	Enables/Disables the "Priority Channel Revert" feature.	ON/OFF	OFF
16: LCD DMMR	Setting of the front panel display's illumination level.	LEVEL 1/2/3/4	LEVEL 4
17: LOCK	Selects the Control Locking Lockout combination.	KEY+DIAL/PTT/ KEY+PTT/DIAL+PTT/ ALL/KEY/DIAL	KEY+DIAL
18: MIC GAIN	Adjust the microphone gain level.	LEVEL 1 to 9	LEVEL 5
19: MEM NAME	Programming an Alpha/Numeric label for a Memory Channel.	---	---
20: MW MODE	Selects the method of selecting of channels for Memory Storage.	NEXT CH/LOWER CH	NEXT CH
21: OPEN MSG	Selects the Opening Message that appears when the radio is powered ON.	OFF/DC/MESSAGE	MESSAGE
22: PAG CD-R	Setting the Receiver Pager Code for the Enhanced CTCSS Paging & Code Squelch function.	---	05 47
23: PAG CD-T	Setting the Transmitting Pager Code for the Enhanced CTCSS Paging & Code Squelch function.	---	05 47
24: PRG P1	Programming the function assigned to Microphone's [**P1**] key.	SQL OFF HOME WX CH CD SRCH SCAN T CALL TX POWER DIG/ANA GM Setup Menu Item #1 to 45	SQL OFF
25: PRG P2	Programming the function assigned to Microphone's [**P2**] key.		HOME
26: PRG P3	Programming the function assigned to Microphone's [**P3**] key.		CD SRCH
27: PRG P4	Programming the function assigned to Microphone's [**P4**] key.		※
28: RF SQL	Adjusts the RF Squelch threshold level.	OFF/S1 to S8	OFF
29: RPT ARS	Activates/Deactivates the Automatic Repeater Shift feature.	ON/OFF	ON
30: RPT FREQ	Sets the magnitude of the Repeater Shift.	0.00 - 150.00 (MHz)	0.60 MHz
31: RPT SFT	Sets the Repeater Shift direction.	-RPT/+RPT/SIMPLEX	SIMPLEX
32: SCAN RSM	Selects the Scan Resume mode.	BUSY/HOLD/2-10 (SEC)	5.0 SEC
33: SCAN SKP	Selects the Memory Scan mode.	OFF/SKIP/SELECT	OFF
34: SQL EXP	Sets the squelch type separately for transmission and reception.	ON/OFF	OFF
35: SQL TYPE	Selects the Tone Encoder and/or Decoder mode.	TONE/TSQL/DCS/ RV TONE/PAGER/OFF	OFF
36: STEP	Sets the Synthesizer steps.	AUTO/5/6.25/10/12.5/15 /20/25/50/100 (kHz)	AUTO
37: TEMP	Indicates the current temperature inside the transceiver's case.	---	※
38: TONE FRQ	Setting of the CTCSS Tone Frequency.	67.0 to 254.1 (Hz)	100.0 HZ

Setup (Menu) Mode

Menu Item	Function	Available Values	Default
39: TOT	Sets the Time-Out Timer.	0.5 to 10.0 (MIN)/OFF	3.0 MIN
40: TS MUTE	Enables/Disables the receiver audio output while the Tone Search Scanner is activated.	ON/OFF	ON
41: TS SPEED	Selects the Tone Search Scanner speed.	FAST/SLOW	FAST
42: VER DISP	Displays the transceiver software version	CPU x.xx DSP x.xx	---
43: WX ALERT	Enables/Disables the Weather Alert feature.	ON/OFF	OFF
44: WX VOL	Selects the audio output level of the Weather Alert.	NOR VOL/MAX VOL	NOR VOL
45: W/N DEV	Reduction of the Microphone Gain/Deviation and receiver bandwidth.	WIDE/NARROW	WIDE

※: Depends on the transceiver version.

Maintenance

Care and maintenance

Turn the power OFF before wiping away any dust and stains on the transceiver with a dry soft cloth. For stubborn stains, slightly moisten a soft cloth and wring it out before using it to wipe away the stains.

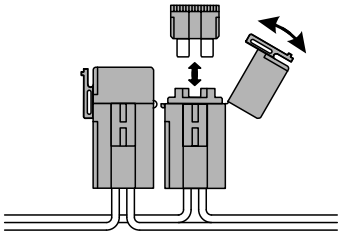
Caution: Never use washing detergents and organic solvents (thinner, benzene, etc.). Doing so may result in paint flaking or damage to the transceiver finish.

Replacing the fuse

When the fuse of the DC power supply cable blows and the transceiver becomes inoperable, correct the cause of the problem, and then replace the fuse with a new one of the correct (25 Amp) rating.

Caution: When replacing the fuse, be sure to disconnect the power supply cable from the transceiver and from the external DC power supply.

Replacing the fuse of the DC power supply cable



1. Prepare a new fuse.
   Use a fuse with a rating of 25 A.
   Caution: Never attempt to use a fuse that is not of the specified rating
2. Open the fuse holder as shown in the diagram on the right.
3. Remove the blown fuse.
4. Attach the new fuse.
5. Close the fuse holder.

Specifications

General

Frequency Range:	Tx 144 - 148 MHz
	Rx 136 - 174 MHz
Channel Step:	5/6.25/10/12.5/15/20/25/50/100 kHz
Standard Repeater Shift:	±600 kHz
Frequency Stability:	±10 ppm [-4 °F to +140 °F (-20 °C to +60 °C)]
Modes of Emission:	F3E
Antenna Impedance:	50 Ohms, unbalanced
Supply voltage:	13.8 V DC ±15%, negative ground
Current Consumption (typical):	Rx: less than 0.7 A, less than 0.5 A (squelched)
	Tx: 15 A (65 W) /10 A (30 W) /5 A (5 W)
Operating Temperature Range:	-4° F to +140° F (-20° C to +60° C)
Case Size (WxHxD):	6.1” x 1.7” x 6.1” (154 x 43 x 155 mm) (w/o knobs)
Weight (Approx.):	2.86 lb (1.3 kg)

Transmitter

Output Power:	65/30/5 W
Modulation Type:	Variable Reactance
Maximum Deviation:	±5 kHz (Wide)
	±2.5 kHz (Narrow)
Spurious Radiation:	Better than -60 dB
Microphone Impedance:	2k Ohms

Receiver

Circuit Type:	Double Conversion Superheterodyne
Ifs:	1st 47.25 MHz, 2nd 450 kHz
Sensitivity (for 12dB SINAD):	0.20 µV (Ham band, wide)
	0.22 µV (Ham band, narrow)
Selectivity (–6/–60dB):	12 kHz/28 kHz
Maximum AF Output:	3 W @ 13.8 V, 10% THD

Rated values are at normal temperature and pressure.
Ratings and specifications are subject to change without notice.

1. Changes or modifications to this device that are not expressly approved by YAESU MUSEN could void the user's authorization to operate this device.
2. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference including received, interference that may cause undesired operation.
3. The scanning receiver in this equipment is incapable of tuning, or readily being altered, by the User to operate within the frequency bands allocated to the Domestic public Cellular Telecommunications Service in Part 22.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

DECLARATION BY MANUFACTURER

The Scanner receiver is not a digital scanner and is incapable of being converted or modified to a digital scanner receiver by any user.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

CAN ICES-3 (B) / NMB-3 (B)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❒ Reorient or relocate the receiving antenna.
- ❒ Increase the separation between the equipment and receiver.
- ❒ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❒ Consult the dealer or an experienced radio/TV technician for help.

YAESU
The radio

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