2m FM TRANSCEIVER

FT-2600M

Operating Manual

Specifications

General

Frequency Range:	Tx 144~148 MHz
	Rx 144~146 MHz or 134~174 MHz
Channel Step:	5,10,12,5,15,20,25&50 kHz
Frequency Stability:	< ±10 ppm(-20 to +60℃)
Mode of Emission:	F3 (G3E)
Antenna Impedance:	50-ohms,unbalanced
Supply voltage:	13.8 V DC ±10 %,negative ground
Current Consumption(typical):	Rx:
	Tx: 60 w / 25 w / 10 w / 5 w 10 A / 6 A / 4 A / 3 A
Operating Temperature Range:	-20 to +60 ℃
Case Size(WHD):	160 mm(W)×40 mm(H)×160 mm(D) (w/o knobs)
Weight:	1.4 kg

Transmitter

Output Power:	60w/25w/10w/5w
Modulation Type:	Variable Reactance
Maximum Deviation:	±5 kHz / ±2.5 kHz
Spurious Radiation:	less than –60 dB
Microphone Impedance:	2-kohm

Receiver

Circuit Type:	Double Conversion Superheterodyne
Ifs:	21.7 kHz & 450 kHz
Sensitivity (for 12dB SINAD):	better than 0.2 μV
Selectivity(-6/-60dB):	12 / 30 kHz
IF Rejection:	better than 70 dB
Image Rejection:	better than 70 dB
Maximum AF Output:	3.5 W into 4-ohms @10 % THD

Specifications subject to change without notice or obligation.

Accessories

Hand Mic	MH-36B6	M30900100
DTMF Keypad Mic	MH-42B6	M30900098
External Loudspeaker	SP-7	
AC Power Supply	FP-1025A	

Controls & Connector
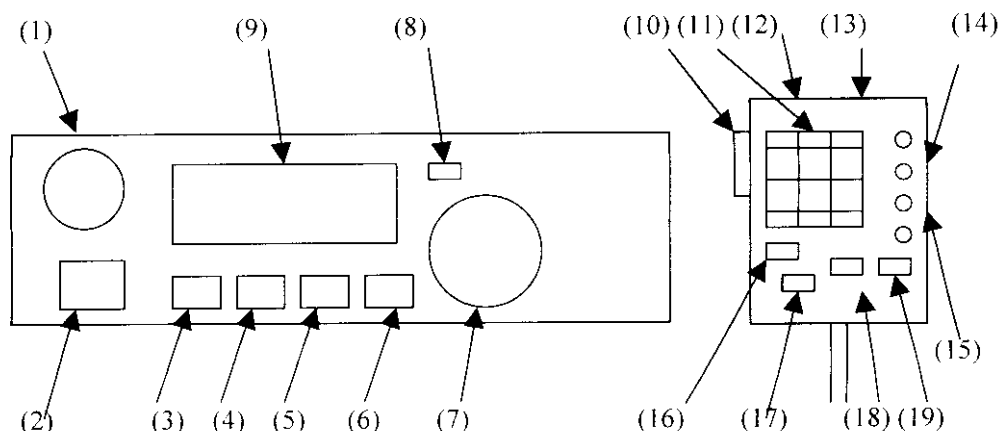
(1) **Power / VOL** Knob

Turn this control clockwise to turn the radio on and to increase the volume.
Turn it counterclockwise into the click-stop to turn the radio off.

(2) Microphone Jack

This 6-contact modular jack accepts transmit audio, tone call (burst) or dial / memory selection and scanning control from the microphone.
Pin 1: SW 2
Pin 2: Cloning
Pin 3: +9V
Pin 4: GND
Pin 5: Microphone Input
Pin 6: SW 1

(3) **MHz** Key

This button allows tuning in 1-MHz steps (the MHz digits blinks on the display).If receiving on a memory, pressing this button the first time activates the Memory Tune (MT) mode, and pressing it again enables 1-MHz steps.
Press and hold this key for 1/2 second, to activate the Set Mode.

(4) **REV** Key

During split-frequency operation, such as through a repeater, this button reverses transmit and receive frequencies.
Press and hold this key for 1/2 second, to activate the transmitter power output level: HIGH (60W)-> LOW1 (25W) -> LOW2 (10W) -> LOW3 (5W) -> HIGH(60W).

(5) **A/N** Key

While receiving on a memory, pressing this button toggles the display between frequency and alphanumeric name.
Press and hold this key for 1/2 second, to activate the Priority Monitoring, described in the Operation chapter (PRI displayed instead of the memory number to the upper left of the frequency).

(6) **D/MR** Key

This button switches operation between the two main tuning modes: dial and memory.

(7) **MAIN DIAL** Knob

This 20-position detected rotary switch is used for tuning, memory selection and most function settings. The microphone **UP/DWN** buttons duplicate the functions of this knob.

(8) BUSY/TX Indicator

This lamp glows green when the channel is busy, and red burring transmission by the radio.

(9) Display

The main digits on the display may show operating frequency, memory name, or any of many parameters during setting.

MH-36 Microphone

Note: ACC, P1, and P2 button functions can be changed via the Menu system. See page XX.

(10) **PTT** Switch

Press this switch to transmit, release to receive.

(11) **KEYPAD**

The desired operating frequency may be entered directly from the keypad.

(12) **DWN** Button

Press this button to turn down in the default step size, hold this button to start scanning.

(13) **UP** Button

Press this button to turn up in the default step size, hold this button to start scanning.

(14) **LOCK** Switch

Slide this switch upward to lock the microphone buttons.

(15) **LAMP** Switch

(16) **ACC** Button (T-BURST)

(17) **P** Button (D/MR)

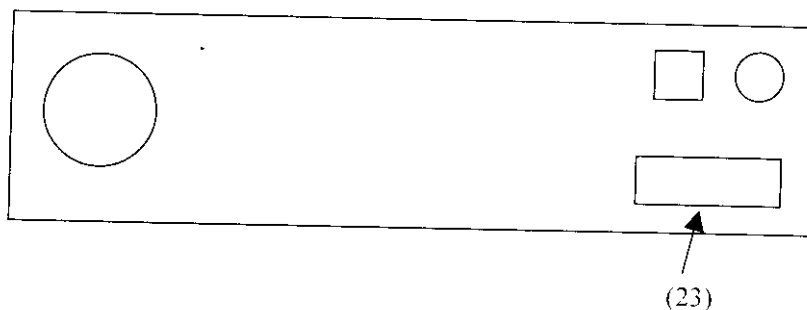(18) **P1** Button (SQL OFF)

(19) **P2** Button (SSRCH)

(20)   (21)   (22)

(23)

(20) ANT Coaxial Socket

Connect a 144-MHz antenna to this type-M (SO-239) socket using 50-ohm coaxial cable and a type-M (pl-259) plug. Make sure the antenna Is designed specifically for use on the operating frequency.

(21) 13.8V DC Cable Pigtail w/Fuse

This Is the power supply connection for the transceiver. Use the supplied DC cable to connect this pigtail to the car battery or other DC power supply capable of at least 10 Amperes (continuous duty). Make certain that the red lead connects to the positive side of the supply. The fuse is 15-A. fast-blow.

(22) EXP SP Jack

This 2-contact mini 3.5-mm mini phone jacks provide receiver audio output for an optional external speaker. The audio Impedance is 4-ohm. and the level varies according to the setting of the front panel's VOL control. Inserting a plug Into this jack disable audio from the transceiver's Internal speaker.

(23) DSUB 9-Pin Data Connector

External Transmit Audio input. **PTT** (Push To Talk). Squelch. and Receive Audio output signals may be obtained from this connector for use with accessories such as a data transmission/reception modem. etc.

1: Squelch Signal Output
2: Packet Rx Output
3: Packet Tx Input
4: Not Used
5: Ground
6: Accessory Output
7: External PTT Signal Input
8: DC 13.8V Output
9: Not Used

OPERATION

Power ON/OFF

Turn the **Power / VOL** Knob clockwise to turn on the radio.

The channel indicated will be the same one on which you were operating when the radio was last turned off.

Supply Voltage Display

When you turn on the radio. the current DC supply voltage is indicated on the display for one second.

After this interval, the display will resume its normal indication of the operating frequency.

To view the supply voltage at any time during operation, use the following procedure:

Press and hold the [MHz] key for 1/2 second, then rotate the **MAIN DIAL** knob to select the **"10 DC IN"**.

Press [MHz] key, the current DC supply voltage is indicated on the display.

Press and hold the [MHz] key for 1/2 second to exit to normal operation.

Adjusting the Volume and Squelch

Rotate the **VOL** control adjust receiver volume.

To change the Squelch Setting: a little past the point where band noise is muted.

Press and hold the [MHz] key for 1/2 second. then rotate the **MAIN DIAL** knob to select **"28 SQL"**.

Press the [MHz] key. then rotate the **MAIN DIAL** knob to select the squelch threshold level (**OFF, 1 to 15**).

Press and hold the [MHz] key for 1/2 second to save your new setting and exit to normal operation.

A special RF Squelch feature is provided on this radio. This feature allows you to set the squelch so that only signals exceeding a S-meter level will open the squelch. To set up the RF squelch circuit for operation. use the following procedure:

Press and hold the [MHz] key for 1/2 second, then rotate the **MAIN DIAL** knob to select **"22 RFSQL"**.

Press the [MHz] key. then rotate the **MAIN DIAL** knob to select the desired signal strength level for the squelch threshold (**OFF, S-3, S-5, S-7,S-9** or **S-FULL**).

Press and hold the [MHz] key for 1/2 second to save your new setting and exit to normal operation.

Finally. carefully advance the **SQL** control such that both edge segments of the S-meter scale begin to blink.

This adjustment can be set independently for each band. See the instructions regarding band change below.

If nothing happens when you press a button …

the panel may be "locked" (this feature is normally used to prevent accidental changes to the settings of controls and switches). To unlock the front panel. use the following procedure:

(1) Press and hold the [MHz] key for 1/2 second. then rotate the **MAIN DIAL** knob to select **"17 LOCK"**.

(2) Press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select the display to "**OFF**".

(3) Press and hold the **[MHz]** key for 1/2 second to save your new setting and exit to normal operation.

To re-lock the front panel, select to "**ON**" in step (2) above.

Keypad Beeper

A key/button beeper provides useful audible feedback whenever a button is pressed. Each key and button has a different beep pitch, and each function has a unique beep combination.

If you want to turn the beeper off (or back on again):

Press and hold the **[MHz]** key for one second, then rotate the **MAIN DIAL** knob to select "**05 BEEP**".

Press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select the display to "**OFF**".
Press and hold the **[MHz]** key for 1/2 second to save your new setting and exit to normal operation.

Display Brightness

The Omni-Glow display illumination has been specially engineered to provide high visibility with minimal disruption of your "night vision" while you are driving. The brightness of the display is manually adjustable, using the following procedure:

(1) Press and hold the **[MHz]** key for 1/2 second, then rotate the **MAIN DIAL** knob to select "**09 DIMR**".

(2) Press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select a comfortable brightness level (**D1, D2, D3, D4**, and **OFF**).

(3) Press and hold the **[MHz]** key for 1/2 second to save your new setting and exit to normal operation.

Tuning: the "Dial" (VFO) Mode

This mode is used for selecting a frequency within the selected band of operation. In the "VFO" mode, the **MAIN DIAL** knob and microphone **[UP]** and **[DWN]** buttons allow the Variable Frequency Oscillator (VFO) to tune in the selected 1 MHz step size. When scanning in the VFO mode, the same step size are used as in manual tuning.

To select the 1 MHz range in which you wish to operate, press the **[MHz]** key momentarily, then rotate the **MAIN DIAL** knob. The 1 MHz digit of the frequency display will blink while "1 MHz Tuning" is enabled, press the **[MHz]** key again (momentarily), you may rotate the **MAIN DIAL** knob to tune around the band in the selected synthesizer steps.

Channel Step Selection

Tuning steps are factory present to default increments which are appropriate for the country to which this radio is exported. To change to another step size as following:

Press and hold the [MHz] key for one second, then rotate the **MAIN DIAL** knob to select "29 STEP".

Press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select the desired step size (**5.0/10.0/12.5/15.0/20.0/25.0/50.0** kHz).

Press and hold the [MHz] key for one second to save your new setting and exit to normal operation.

Transmission

To transmit, simply close the **PTT** (Push To Talk) switch on the microphone when the frequency is clear. Hold the microphone approximately 25 mm (1") from your mouth, and speak into the microphone in a normal voice level. When your transmission is complete, release the **PTT** switch, the transceiver will revert to the receive mode.

During transmission, the Bar Graph deflects in the display, according to the power output selected.

The white keys (with numbers, letters, or the */# characters printed on them) on the microphone may be used for normal sending of DTMF tones for autopatch or repeater control use. Just press the **PTT** switch, and hold it in, while pressing the desired keys.

In the European version, press the **[ACC]** button on the microphone to transmit a 1750 Hz Burst Tone for repeater access.

Power Output Setting

Four power output levels are available on this transceiver: 5 watts (Low 3), 10 watts (Low 2), 25 watts (Low 1) and 50 watts (High).

To change the power level, press and hold the **[REV]** key to select one of four power setting. The power level may be stored in a memory register, if desired.

PTT Locking

The **PTT** circuitry may be locked out, so as to prevent unauthorized or otherwise undesired transmission. To lock out the **PTT** and prevent transmission as following:

Press and hold the [MHz] key for 1/2 second, then rotate the **MAIN DIAL** knob to select "16 LCKTX".

Press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select the display to "ON".

Press and hold the [MHz] key for 1/2 second to save your new setting and exit to normal operation.

To cancel PTT lock, select to "**OFF**" in step (2) above.

Repeater Splits

This transceiver offers three methods of setting up split frequency operation on repeaters:

Manual selection of preset repeater shifts;

Automatic Repeater Shift (ARS). providing automatic activation of repeater shifts during designated repeater frequency subbands; and

Independently stored transmit and receive frequencies (typically not corresponding to established repeater frequency shifts).

[1] Standard Repeater Shift

To activate the standard shift manually, as following:

Press and hold the [**MHz**] key for 1/2 second. then rotate the **MAIN DIAL** knob to select "**23 RPTR**".

Press the [**MHz**] key, then rotate the **MAIN DIAL** knob to select the desired shift direction (**SHIFT–. SHIFT+**, or **OFF** (Simplex)).

Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to normal operation.

With repeater shift activated. you can temporarily reverse the transmit and receive frequencies by pressing the Programmable key (or Button). if you are assigned. Use this feature to display the transmit frequency *without transmitting*. and to check the strength of signals on a repeater uplink frequency (so as to determine whether or not a particular station is within "Simplex" range. for example).

The repeater offset is fixed to 600 kHz on the VHF band from the factory. You can change the offset by following procedure. if needed:

Press and hold the [**MHz**] key for 1/2 second. then rotate the **MAIN DIAL** knob to select "**26 SHIFT**".

Press the [**MHz**] key. then rotate the **MAIN DIAL** knob to set the desired offset. Note that the resolution of the "standard" repeater shift is to the nearest 50 kHz multiple.

Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to normal operation.

[2] Automatic Repeater Shift

The ARS (Automatic Repeater Shift) feature in this transceiver allows easy and convenient repeater operation by automatically activating the repeater shift function whenever you tune to a standard repeater sub band. The ARS function is preset at the factory to conform to the standards for the country to which it is exported.

The ARS function is *enabled* at the factory. To *disable* it:

Press and hold the [**MHz**] key for 1/2 second, then rotate the **MAIN DIAL** knob to select "**03 ARS**".

Press the [**MHz**] key. then rotate the **MAIN DIAL** knob to change the display to "**OFF**".

Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to normal operation.

· To enable the ARS function again. select to "**ON**" in step (2) above.

[3] Separate Transmit Frequency Memories

All memory channels can store independent receive and transmit frequencies, to accommodate occasional non-standard offsets with greater frequency resolution than is available using the "standard" shift feature.

First store the *receive* (repeater output) frequency. In the VFO mode. tune the transceiver to the desired receive frequency. Now press and hold the [**D/MR**] key on the for 1/2 second.

Within five seconds of pressing the [**D/MR**] key, use the **MAIN DIAL** knob or microphone's [**UP**]/[**DWN**] buttons to select the desired memory for storage (The occupied memory channel will be appears memorized frequency).

Now press the [**D/MR**] key momentarily to store the receive frequency into the selected memory.

Next store the *transmit* (repeater input) frequency. Since you are still in the VFO mode. tune the transceiver to the desired transmit frequency.

Now press and hold the [**D/MR**] key for 1/2 second.

Press and hold the **PTT** switch. and press the [**D/MR**] key momentarily while holding in the **PTT** switch. This will not cause transmission. but rather it will instruct the transceiver that you are *programming* a separate transmit *frequency* into memory.

Memory Storage

To store a frequency into memory:

In the VFO mode. select the desired frequency. repeater shift. CTCSS tone. TX power level. and. if this is a packet channel. the desired baud rate (1200/9600).

Press and hold the [**D/MR**] key on the microphone for 1/2 second. A memory number or letter will appear blinking in the display.

Within five seconds of pressing the [**D/MR**] key. use the **MAIN DIAL** knob or microphone's [**UP**]/[**DWN**] buttons to select the desired memory for storage (The occupied memory channel will be appears memorized frequency).

Press the [**D/MR**] key again. this time momentarily. to store the displayed data into the selected memory channel slot. The memory label will stop blinking for a second. then will disappear (since you are still operating in the VFO mode).

To name a memory:

You will notice the first entry's place blink. Within the A/N entry mode. press the [**MHz**] key. then

rotate the **MAIN DIAL** knob to select *characters*, and pressing the **[D/MR]** key to move the character's *entry place* to the right.

MAIN DIAL knob to select the desired number, letter, or symbol, then press the **[D/MR]** key to move the next character's place.

Do this as necessary to complete a name tag for your memory, then press and hold the **[MHz]** key for 1/2 second to save the A/N name entry and exit to normal operation.

To turn on the memory name display:
Press the **[A/N]** key to change.

Recalling Memories

From the VFO mode, momentarily press the **[D/MR]** key on the activates the memory mode.

When more than one memory has been stored, use the **MAIN DIAL** knob to select a memory for operation. Alternatively, microphone's **[UP]** or **[DWN]** button may be used to stop or scan through the available memories. When using the microphone's buttons, press and release the button to move one step up or down; press and hold the **[UP]** or **[DWN]** button for 1/2 second to begin memory scanning.

Home Channel Memory

Convenient one-touch "Home" channel memory is available to simplify return to your most-often-used frequency.   This memory do not appear in the regular memory banks, simplify operation.

To recall the Home channel, just press the **[D/MR]** key on the momentarily.

The factory default frequency for the Home channel is 145.000 MHz. You can re-program the Home channel in a manner identical to that used for the regular memories:

From the VFO mode, tune in the frequency you wish to store, and set all repeater shifts and other data just the way you do for "normal" memory channel storage.

Press and hold the **[D/MR]** key for 1/2 second, then rotate the **MAIN DIAL** knob to select **"HOME"**.

Press the **[D/MR]** key on the return to your *last-used* frequency (VFO or Memory).

Naming and Displaying Memories

You can name stores memories with an alphanumeric tag (up to seven characters) for easy reference.

To name a memory:
Recall the memory to be named.

Press and hold the **[MHz]** key for 1/2 second, then rotate the **MAIN DIAL** knob to select **"01 ALPH"**.

You will notice the first entry's place blink. Within the A/N entry mode, press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select *characters*, and pressing the [D/MR] key to move the character's *entry place* to the right.

MAIN DIAL knob to select the desired number, letter, or symbol, then press the **[D/MR]** key to move the next character's place.

Do this as necessary to complete a name tag for your memory, then press and hold the **[MHz]** key for 1/2 second to save the A/N name entry and exit to normal operation.

To turn on the memory name display:
(6) Press the **[A/N]** key to change.

Memory Tuning

Once you have recalled a particular memory channel, you may easily tune off that channel, as though you were in the VFO mode.

- With the FT-2600M in the Memory Recall mode, select the desired memory channel.
- Press the **[MHz]** key momentarily.
- Rotate the **MAIN DIAL** knob, as desired, to tune to a new frequency.
- IF you wish to return to the original memory frequency, press the **[D/MR]** key momentarily.

You can now tune around the original memorized frequency..

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. This may be particularly useful during public-service events where a number of operators may be using the radio for first time, and ultimate simplicity of channel selection is desired.

To place the radio into the Memory Only mode, turn it off. Now press and hold in the **[D/MR]** key on the 1/2 while turning the radio on.

To return to normal operation, repeat the above power-on procedure.

Masking and Recovering Memories

With 174 total memories available, there frequently are situations where you may desire to "Mask" certain memories temporarily (except the Memory Channel "1").

This feature is different from "Memory Skip Scanning," described later; Masking hides the memory contents during scanning and manual operation, while Memory Skip Scanning hides the memory contents *only* during *scanning*.

To mask a memory:

Recall the memory to be masked.

Press the **[A/N]** button. This will cause the display to Memory Channel "1", and the previously

selected memory to be masked (not accessible during scanning nor by manual selection).

Important Note: The masked memory channel can not be un-hidden.

Scanning

Before activating the scanner. make sure that the Squelch is set to squelch off the background noise when no signal is present.

Scanning may be started or stopped with the microphone's [UP] or [DWN] button. The following techniques are used for scanning:

Press and hold either the [UP] or [DWN] button for one second in the *VFO mode* will causes upward or downward *band* scanning, respectively, to begin.

Press and hold either the [UP] or [DWN] button for one second in the *Memory mode* will causes memory 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 two scan-resume modes (described later).

To holt 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's [UP] or [DWN] button. or the [D/MR] (microphone's |VFO/MR] button).

Scan-Resume Option

Two scan-resume modes are available on the radio:

In the **BUSY** mode. the scanner will remain halted for as long as there is carrier present on the channel: after the carrier drops at the end of the other station's transmission. the scanner will resume.

In the **TIME** mode. the scanner will halt for five seconds *only*. after which scanning will resume (whether or not the other station is still transmission).

To change the scan-resume mode. as following:

Press and hold the |MHz] key for 1/2 second. then rotate the **MAIN DIAL** knob to select ¨**24 SCAN¨**.

Press the [MHz] key. then rotate the **MAIN DIAL** knob to select the desired scan-resume mode (**BUSY** or **TIME**).

Press and hold the [MHz] key for 1/2 second to save your new setting and exit to normal operation.

Memory Skip Scanning

When you have some continuously-active channels in memories. you may wish to *skip* them for

scanning. but still have them available for *manual selection.*

To mask a memory to be skipped during scanning, as following:

(44)   Recall the memory channel to be skipped.

(45)   Press and hold the **[MHz]** key for 1/2 second, then rotate the **MAIN DIAL** knob to select **"26 SKIP"**.

(46)   Press the **[MHz]** key. then rotate the **MAIN DIAL** knob to select **"SKIP"**.

(47)   Press and hold the **[MHz]** key for 1/2 second to save and exit to normal operation.

To re-enable a "skipped" memory channel. select to **"STOP"** in step (3) above.

Programmable Band-Scan Limits

Besides band and memory scanning. this radio can be set to tune or scan only the frequencies between user-defined lower and upper limits. These limits are stores in special "Sub-Band Limit Memories" labeled **PMS-1L, PMS-1U, PMS-2L,** and **PMS-2U.** with "L" and "U" designations representing the Lower and Upper limit, respectively. To utilize this feature. use the following steps:

Store the lower edge of the desired scanning/tuning range in memory **"PMS-1L"**, and the upper edge in memory **"PMS-1U"** (or. alternatively. in memories **"PMS-2L"** and **"PMS-2U"**).

With any of these memories recalled. press the **[MHz]** key momentarily. to activate the Programmable Band-Scan Limits. The frequencies stored in memories **"L"** and **"U"** will now serve as tuning and scanning limits. thus creating a tuning sub-band.

To cancel the sub-band limits and return to normal memory operation. press the **[D/MR]** key on the momentarily.

Smart Search Operation

The Smart Search feature may be used to load – automatically with no operator intervention – a special bank of up to 50 memory channels (per band) based on activity. Smart Search will sweep either the entire band or the portion of the band within the Programmable Band-Scan Limits and will load the special memory bank with the frequency and other data pertaining to those channels on which activity is found. The channels are loaded in the order in which they are encountered. not according to signal strength or by ascending frequency.

The Smart Search feature is especially useful when visiting a city for the first time. where you may be unfamiliar with the repeater frequencies: Smart Search discovers where the local activity is to be found, and automatically loads those frequencies for you.

Smart Search operation is simple to activate:

Press the **[P2]** key.

The Smart Search process will now cause the radio to scan upward on current band. loading channels on which it encounters a signal strong enough to open the squelch.

When 50 channels are loaded or scanner is reached band edge, the scanner will stop and the transceiver will revert to the starting frequency.

To recall the Smart Search Memories just stored, rotate the [P2] key.

Press the [D/MR] key momentarily to exit the Smart Search mode.

Note that these memories are so-called "soft" memories; they will be lost if you initiate a new Smart Search.

Priority Channel Monitoring

The Priority function allows automatic checking for activity on a particular memory every five seconds while operating on the VFO or a different memory. When the receiver detects a signal on the designated "Priority" memory, operation automatically shifts to that memory while the signal is present (plus a few seconds). If you transmit while "paused" on the priority channel, priority monitoring will cease, and the transceiver will "hold" indefinitely on the priority channel.

We recommend that Memory Channel 1 is reserved by you as the "Priority" channel, as the transceiver will *only* check *Memory Channel 1* as the priority channel if you are operating in the memory mode. However, if you are operating in the VFO mode, priority operation will define the *last-used memory channel* as the priority channel.

To set up for priority monitoring:

Preset the **SQL** control to silence the background noise on a clear channel, then store the frequency to be the "Priority" channel into a memory location (this must be *Memory Channel 1* if you will be operating on other *memories* during priority monitoring).

Press the [D/MR] key to operate in the VFO mode. If you are in the memory mode, select the memory on which you wish to operate (other than the priority channel).

Press the [A/N] key momentarily to start the priority monitoring.

In the priority monitoring, the displayed frequency will shift to the priority memory briefly about every five seconds, while the receiver checks for the presence of a signal.

When no signal appears on the priority memory (causing the squelch to open), you can tune, transmit and receive on the VFO, or select and operate on other memories; however, you cannot scan (except manually, using the microphone's [UP] and [DWN] buttons), as the scanning logic circuits are already dedicated to the priority scanning activities.

If a station you wish to talk with appears on the priority memory, press the **PTT** switch momentarily while receiving their signal (no transmission will occur) to *holt* priority scanning. Otherwise, when a signal appears on the priority channel, priority monitoring will pause and the decimal on the display will blink. Priority monitoring will resume based on the setting of the regular scanning-resume mode – either

after a 5-second pause, or after the carrier drops out.

To cancel the priority monitoring, press the [**D/MR**] key momentarily.

A few other rules govern priority operation:

You may use any available memory as a priority channel in the above procedure when you are operation in the VFO mode. You may *not*, however, switch from the memory mode to the VFO mode, or vice-versa, without first *canceling* priority monitoring.

You can not scan operation during priority operation.

The priority function is not disabled by switching the transceiver off. If you were engaged in priority monitoring at the moment you turned the radio off, it will *assume* that you will want to continue priority monitoring during your next operating session, and will come up still in the priority mode when the transceiver is switched back *on*.

Tone Squelch Modes

These systems allow silently monitoring until a call directed to you is received, and offer privacy on an otherwise busy channel.

CTCSS (Continuous Tone Coded Squelch System)

This imposes a coetaneous, subaudible tone on your transmitted audio. When decoded at the other station, this allows their squelch to open and receive your transmission. Some "closed" repeaters use this to limit access, or to prevent signals intended for other repeaters (with the same input frequency) in fringe areas from locking up the repeater. There are 47 selectable CTCSS tones.

DCS (Digital Code Squelch)

DCS operation modulates a subaudible tone according to a digital protocol (continuous 32-bit synchronous code). DCS is widely used in the commercial land-mobile industry because of its superior performance and its 104 unique codes offer greater privacy than CTCSS.

To use either CTCSS or DCS, both stations must be on the same frequency, and have selected the same CTCSS tone or DCS code.

To select and activate CTCSS or DCS operation:

Press and hold the [**MHz**] key for 1/2 second, then rotate the **MAIN DIAL** knob to select "**29 TONE**".

Press the [**MHz**] key, then rotate the **MAIN DIAL** knob to select the desired squelch type from the following:

"**ENC**" (encode) appears when the CTCSS tone generator is activated for *transmission* only.

"**ENC/DEC**" (encode & decode) appears when the CTCSS tone squelch is activated for both

TX & RX (only signals "encoded" with the matching tone open the squelch).

"**DCS**" (digital code squelch) appears when digital code squelch system (TX & RX) is active.

Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to the normal operation.

Next, select the CTCSS tone, or DCS code that you and the other station have both agreed to use:

    ○ If "**ENC**" and "**ENC/DEC**" is selected:

        Press and hold the [**MHz**] key for 1/2 second, then rotate the **MAIN DIAL** knob to select "**30 TONEF**".

        Press the [**MHz**] key, then rotate the **MAIN DIAL** knob to choose the desired CTCSS tone.

        Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to the normal operation.

    If "**DCS**" is selected:

        (1) Press and hold the [**MHz**] key for 1/2 second, then rotate the **MAIN DIAL** knob to select "**11 DCSN**".

        (2) Press the [**MHz**] key, then rotate the **MAIN DIAL** knob to choose the desired DCS code.

        (3) Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to the normal operation.

CTCSS/DCS setting are stored in each memory in the same manner and at the same tone as storing frequencies. To change the programmed tone/code or state, just recall it, reset the tone or function, and store the memory again. If you activate CTCSS/DCS on a PMS memory, it will be active when that memory pair is used to start PMS scanning or tuning.

CTCSS Tone Search Scanning

In operating situations where you don't know the CTCSS tone being used by another station, you can command the radio to listen to the incoming signal and scan in search of the tone being used.

To scan for the CTCSS tone in use:

    Set the radio up for the CTCSS operation.

    Press the [**AC**] button on the microphone momentarily, to start scanning for the incoming CTCSS tone

    When the radio detects the correct tone, it halts on that tone, and audio is allowed to pass.

(4) Press and hold the [**MHz**] key for 1/2 second to exit to normal operation.

DCS Tone Search Scanning

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command the radio to listen to the incoming signal and scan in search of the tone being used.

To scan for the DCS tone in use:

Set the radio up for the DCS operation.

Press the [AC] button on the microphone momentarily. to start scanning for the incoming DCS tone.

When the radio detects the correct tone. it halts on that tone. and audio is allowed to pass.

Press and hold the [MHz] key for 1/2 second to exit to normal operation.

CTCSS Bell Paging

Bell Paging adds an alert ringer to CTCSS tone squelch operation. for added convenience. When you receive a call with a matching CTCSS tone. the ringer sounds to alert you to the call.

(1) Press and hold the [MHz] key for 1/2 second. then rotate the **MAIN DIAL** knob to select "**06 BELL**".

(2) Press the [MHz] key. then rotate the **MAIN DIAL** knob to change the display to "**ON**".

(3) To activate the CTCSS Bell operation. select to "**OFF**" in step (2) above.

As before. calls without a matching CTCSS tone is ignored. That with a matching tone cause the transceiver to ring as the squelch opens while the caller transmits. Note that other stations do not need to have the CTCSS Bell function to call you: they can just use standard CTCSS encoding.

When you repel to a CTCSS Bell call. you may want to turn off the Bell function. or else the transceiver will ring every time your squelch opens.
You can store the CTCSS Bell Paging in a memory. along with different CTCSS tone and encode/decode states.

ARTS Auto Range Transpond System

This system uses DCS signaling to inform you when you and *another ARTS-equipped station* are within communications range. Both stations must first select DCS operation using the same DCS code.

Whenever you press the **PTT**. or every 30 seconds after ARTS is activated. your radio transmits a (subaudible) DCS signal. If the other radio is in range. the beeper sound (if enable) and "**ARTS IN**" will appears on the display.

Whether you talk or not. the radio continue to poll each other every 30 seconds while ARTS is activated. you can also have your radio transmit your callsign via CW every nine minutes, to comply with identification requirements.

If you move out range for more than one minute (two polls). your radio senses that no signal has been received. Sounds the beep and the display changes to "**ARTS OUT**" (out of range). If you move back into range. your radio again beeps. and the display changes back to "**ARTS IN**".

. During ARTS operation, you *never* change the operating frequency or other settings; you must first terminate ARTS to resume normal operation. This is a safety feature to prevent accidental loss of contact due to channel change, etc.

Here is how to activate ARTS:

(4) Press and hold the **[MHz]** key for 1/2 second, then rotate the **MAIN DIAL** knob to select "**04 ARTS**".

(5) Press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select the ARTS operating mode: "**RX** (receive-only)", "**TX** (transmit-only)", "**TRX** (transceive)" or "**OFF**". The operating descriptions assume both radio are set to "**TRX**".

(6) Press and hold the **[MHz]** key for 1/2 second to save the entry and exit. The display now shows "**ARTS OUT**". After two pollings (one minute), a response is not detected, "**ARTS OUT**" appears continuously, otherwise "**ARTS IN**" is displayed as long as both stations remain in range.

(7) To cancel ARTS operation, select to "**OFF**" in step (2) above.

ARTS Modes ......

In the previous ARTS description, both transceivers were set to the "**TRX**" (transceive) mode. There are two other ARTS modes available from MENU function, as outlined below:

RX – Use this mode if you only want your radio to listen, and not poll the other station (in which case their radio should be set to the "TX" mode). Here, your radio will beep and display "**ARTS IN**" or "**ARTS OUT**" to indicate the state of connection.

TX – Likewise, this puts your radio into a *transmit-only* "beacon" mode where you won't hear the polling beeps (but you can still hear when the other station talks). When activated, you have *no display of whether the other station is in range,* or not ("**ARTS IN**" and "**ARTS OUT**" do not appear). You should have your CW IDer enabled when this mode is activated.

CW ID (Morse Identifier) Set up

The ARTS feature includes a CW identifier, as mentioned previously. The radio can be instructed to send "DE (*your callsign*) K" in Morse code every nine minutes during ARTS operation. The callsign may contain up to 7 characters.

Here's how to program the CW Ider:

Press and hold the **[MHz]** key for 1/2 second, then rotate the **MAIN DIAL** knob to select "**08 CWIDN**".

You will notice the first entry's place blink. Within the CW IDer entry mode, rotate the **MAIN DIAL** knob to selects *characters*, and pressing the **[D/MR]** key to move the character's *entry place* to the

right.

Then rotate the **MAIN DIAL** knob to select the desired number or letter, then pressing the [MHz] key to move the next character's place.

Press and hold the [MHz] key for 1/2 second to save the CW IDer entry and exit to normal operation

To activate the CW Ider:

Press and hold the [MHz] key for 1/2 second, then rotate the **MAIN DIAL** knob to select "07 CWID".

Press the [MHz] key, then rotate the **MAIN DIAL** knob to change the display to "ON".

Press and hold the [MHz] key for 1/2 second to save your new setting and exit to normal operation.

To disable the CW IDer, select to "OFF" in step (2) above.

DTMF Autodialer Operation

Eight DTMF Autodialer memories are available on this radio. These DTMF Autodialer memories can store up to 16 digits of a telephone number for repeater autopatch or other use.

To load DTMF Autodialer memories, use following procedure:

Press and hold the [MHz] key for 1/2 second, then rotate the **MAIN DIAL** knob to select "15 DTMFW".

Press the [MHz] key, then rotate the **MAIN DIAL** knob to select the DTMF Autodialer memory channel number into which you wish store a telephone number ("1" to "8")

Press the [MHz] key momentarily.

Press the [MHz] key, then rotate the **MAIN DIAL** knob to select the first digit of the telephone number you wish to store.

When you have selected the correct digit, press the [MHz] key momentarily. Press the [MHz] key, then rotate the **MAIN DIAL** knob to select the second of 16 available numbers in the current DTMF Autodialer memory resistor.

Repeat this procedure for each digit in the telephone number.

When entry of all digits is complete, press and hold the **MAIN DIAL** to enter another telephone number in another DTMF Autodialer memory channel, or press and hold the [MHz] key for one second to save your new setting and exit to the normal operation.

To *transmit* the memorized telephone number, use the following procedure:

(1) Hold the microphone's **PTT** switch to continue transmitting during the following steps.

(2) Rotate the **MAIN DIAL** knob to select the DTMF Autodialer memory channel to be transmitted

(3) While still holding the **PTT** switch in, press the [MHz] key momentarily to transmit the tone

string.

Once you have pressed the **[MHz]** button above step, you can release the **PTT** switch, as Autodialer transmits the whole DTMF string automatically.

The speed at which the DTMF digits are sent can be changed. Two speed levels are available: Low (10 digits per second) and High (20 digits per second: default). To toggle between Low and High speed, use the following procedure:

Press and hold the **[MHz]** key for one second. then rotate the **MAIN DIAL** knob to select **"14 DTMFS"**.

Press the **[MHz]** key. then rotate the **MAIN DIAL** knob to select the desired speed ("**50 ms**": High speed or "**100 ms**": Low speed).

Press and hold the **[MHz]** key for one second to save your new setting and exit to the normal operation.

You can also set a longer delay between the time your transmitter is keyed and the first DTMF digit is send. To set a delay time. use the following procedure:

Press and hold the **[MHz]** key for one second. then rotate the **MAIN DIAL** knob to select **"13 DTMFD"**.

Press the **[MHz]** key, then rotate the **MAIN DIAL** knob to select the desired speed **(50/250/450/750/1000** ms).

Press and hold the **[MHz]** key for one second to save your new setting and exit to the normal operation.

Packet Operation

Packet operation only requires that you define the baud rate at which you wish to operate, 1200 bps or 9600 bps. and that you connect your TNC.

To select the Packet baud rate. use the following procedure:

Press and hold the **[MHz]** key for 1/2 second. then rotate the **MAIN DIAL** knob to select **"18 PCKT"**.

Press the **[MHz]** key. then rotate the **MAIN DIAL** knob to select the desired baud rate (**1200bps** or **9600bps**).

Press and hold the **[MHz]** key for 1/2 second to save your new setting and exit to the normal operation.

The packet baud rate selection can be set independently for each band . and note that this data may be stored in memory channels.

Miscellaneous Setting

Time-Out Timer

The "Time-Out Timer" (TOT) feature is designed to force the transceiver into the "receive" mode after a present time period of continuous transmission (the default is 6 minutes). This feature prevents your transceiver from transmitting a "dead carrier" for a long period of time in the event that the microphone **PTT** switch is accidentally locked in the "TX" condition.

The Time-Out Timer's "switch-to-receive" time may be adjusted. in one minute increments, for any period between 1 and 60 minutes.

To change the default (6 minute) time setting as follows:

Press and hold the [**MHz**] key for 1/2 second. then rotate the **MAIN DIAL** knob to select "**32 TOT**".

Press the [**MHz**] key. then rotate the **MAIN DIAL** knob to select the desired time interval (between **1** and **60** minutes). or **OFF**.

Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to the normal operation.

Automatic Power-Off

The "Automatic Power-Off" (APO) feature will turn the radio completely *off* after a user-defined period of **PTT** or key/button inactivity. If you do not press any front panel keys or buttons, rotate the **MAIN DIAL** knob or use the microphone's keys and buttons. or transmit. and so long as the transceiver is not scanning or engaged in priority monitoring. the radio will shut itself off after the specified time period. This feature is useful in minimizing battery drain in a mobile installation if you forget to turn the transceiver off when you leave your vehicle.

To activate the APO feature as follows:

Press and hold the [**MHz**] key for 1/2 second. then rotate the **MAIN DIAL** knob to select "**02 APO**".

Press the [**MHz**] key. then rotate the **MAIN DIAL** knob to select the desired "switch-off" time (between **1** and **12** hours). or **OFF**.

Press and hold the [**MHz**] key for 1/2 second to save your new setting and exit to the normal operation.

MIC Gain Control

You can reduce the microphone input level when over deviation. To reducing the microphone input level as follow:

Press and hold the [**MHz**] key for 1/2 second. then rotate the **MAIN DIAL** knob to select "**33 TXNAR**".

Press the [**MHz**] key. then rotate the **MAIN DIAL** knob to change the display to "**ON**".

Press and hold the [MHz] key for one second to save your new setting and exit to the normal operation.

To inquirers microphone input level, select to "OFF" in step (2) above.

Programming the key assignment

Default FT-2600M key functions have been assigned to Microphone's [P1] / [P2] / [ACC] buttons at the factory. These may be changed by the user, if you wish to make another function.

To programming the function:

(1) Press and hold the [MHz] key for one second, then rotate the MAIN DIAL knob Menu Item# to be assigned (19 PG P1, 20 PG P2, or 21 PG AC).

(2) Press the [MHz] key to select the function you wish to assign to the key or button you selected in the previous step.

(3) Rotate the MAIN DIAL knob to select another programmable key or button to modify, if desired, and repeat the above steps.

(4) Press and hold the [MHz] key for one second to save your new setting and exit to the normal operation.

DCS Code Inversion

The DCS system was first introduced in the commercial LMR (Land Mobile Radio) service, where it is now in widespread use. DCS is sometime referred to by its different proprietary names, such as DPL® (Digital Private Line®, registered trademark of motorola, Inc.).

DCS uses a codeword consisting of a 23-bit frame, transmitted (subaudible) at a data rate of 134.4 bps (bit/sec). Occasionally, signal *inversion* can result in the *complement* of a code to be sent or received. This prevent receiver squelch from opening with DCS enabled, as the decoded bit sequence would not match that selected for operation. Typical situations that might cause inversion to occur are:

Connection of an external receiver preamplifier.

Operating through a repeater.

Connection of an external linear amplifier.

Note that code inversion does *not* mean that any of the above listed equipment is detective !

In certain amplifier configurations, the output signal (phase) is inverted from the input. Small signal or power amplifiers having an odd number (1, 3, 5, etc.) of amplification stages may result in inversion of a transmitted or received DCS code.

While under most circumstances this should not occur (amplifier designs and industry standards take this into account), if you find that your receiver squelch does not open when both you and the other station are using a common DCS code, you or the other station (*but not both*) can try the following:

(1) Press and hold the [MHz] key for 1/2 second, then rotate the MAIN DIAL knob to select "12

DCSNR".

(2) Press the **[MHz]** key. then rotate the **MAIN DIAL** knob to select the following mode.

  TRX NOR: Encoder; Normal. Decoder; Normal

  RX REV: Encoder; Normal. Decoder; Reverse (Invert)

  TX REV: Encoder; Reverse (Invert). Decoder; Normal

  TRX REV: Encoder; Reverse (Invert). Decoder; Reverse (Invert)

(3) Press and hold the **[MHz]** key for 1/2 second to save your new setting and exit to the normal operation.

Remember to restore the default setting to "**TRX NOR**" (Encoder; Normal, Decoder; Normal) when done.

Resetting the CPU

To resets all menu setting to factory-default. press the **[REV]** key and **[D/MR]** button while turning the transceiver on.

To CPU master reset for all memories and menu setting. press the **[MHz]** key. **[A/N]** key, and **[D/MR]** key while turning the transceiver on.

Transceiver Cloning

You can transfer all data stored in one transceiver to another set by utilizing the handy "Cloning" feature. This requires a user-constructed Cloning cable which connects the **MIC** jacks on the two transceivers as shown below. To clone from one transceiver to another. use the following procedure:

(1) Insert the Clone Cable into the **MIC** jack of each transceiver.

(2) Turn both transceiver off. then press **[A/N]** key on each radio while turning the power on again. The "**CLONE**" will appears on the display.

(3) On the "destination" radio. press the **[REV]** button.

(4) Now, on the "source" radio. press the **[D/MR]** key.

(5) IF there is a problem during the cloning process. "**Err**" is displayed. Check your cable connections and try again.

(6) If cloning successful. turn the "destination" radio off. Now turn the "source" radio off.

(7) Remove the Clone Cable. Channel and operating data for both radios are now identical. They both may be turned on now for normal operation.

Menu System

The FT-2600M Menu System is east to activated and set. Use the following procedure:

Press and hold the [**MHz**] key for 1/2 second.

Rotate the **MAIN DIAL** knob to select the Menu item to be adjusted.

Press the [**MHz**] key, then rotate the **MAIN DIAL** knob to adjust or select the parameter to be changed on the Menu item selected in step 2. above.

After completing your selection and adjustment, press and hold the [**MHz**] key for 1/2 second to exit the Menu mode and return to normal operation.

Menu Selection Details
01 ALPH

Function: Naming memory.

02 APO

Function: Enable/disable the Automatic Power Off feature.

Available Values: 1 ~ 12 hour or OFF

Default Setting: OFF

03 ARS

Function: Enable/disable the Automatic Repeater Shift.

Available Values: ON/OFF

Default Setting: ON

04 ARTS

Function: Select the ARTS mode.

Available Values: TRX/TX/RX/OFF

Default Setting: OFF

05 BEEP

Function: Enable/disable the key/button beeper.

Available Values: ON/OFF

Default Setting: ON

06 BELL

Function: # of Rings.

Available Values: ON/OFF

Default Setting: OFF

07 CWID

Function: Enable/disable the CW IDer during ARTS operation.

Available Values: ON/OFF

Default Setting: ON

08CWIDN

Function: Programming the CW IDer.

Default Setting: YAESU

09 DIMR

Function: Setting the front panel display's illumination level.

Available Values: d1/d2/d3/d4/OFF

Default Setting: d1

10 DC IN

Function: Indicate the Supply Voltage.

11 DCSN

Function: Setting the DCS code.

Available Values: 104 standard DCS codes

Default Setting: 023

12 DCSNR

Function: Select "Normal" or "Inverted" DCS code.
Available Values: TRX NOR (Encoder: Normal. Decoder: Normal)
                        RX REV (Encoder: Normal. Decoder: Reverse (Invert))
                        TX REV (Encoder: Reverse (Invert). Decoder: Normal)
                        TRX REV (Encoder: Reverse (Invert). Decoder: Reverse (Invert))

Default Setting: TRX NOR: (Encoder: Normal. Decoder: Normal)

13 DTMFD

Function: Setting the DTMF Autodialer delay time.

Available Values: 50/250/450/750/1000 ms

Default Setting: 450 ms

14 DTMFS

Function: Setting the DTMF Autodialer sending speed.

Available Values: 50/100 ms

Default Setting: 50 ms

15 DTMFW

Function: Loading the DTMF Autodialer memory.

16 LCKTX

Function: Enable/disable the PTT lock.

Available Values: ON/OFF

Default Setting: OFF

17 LOCK

Function: Enable/disable the key/button lock.

Available Values: ON/OFF

Default Setting: OFF

18 PCKT

Function: Set the transceiver's circuitry for the Packet baud rate to be used.

Available Values: 1200/9600 bps

Default Setting: 1200 bps

19 PG P1

Function: Programming the [P1] key assignment.

Available Values: SQL OFF / SSRCH / TONE / TSRCH / T-BURST / RPTR

Default Setting: SQL OFF

20 PG P2

Function: Programming the [P2] key assignment.

Available Values: SQL OFF / SSRCH / TONE / TSRCH / T-BURST / RPTR

Default Setting: SSRCH

21 PG AC

Function: Programming the [ACC] button y assignment.

Available Values: SQL OFF / SSRCH / TONE / TSRCH / T-BURST / RPTR

Default Setting: TSRCH

22 RFSQL

Function: Adjust the RF SQL threshold level.

Available Values: OFF/S-3/S-5/S-7/S-9/S-FULL

Default Setting: OFF

23 RPTR

Function: Setting the Repeater Shift Direction.

Available Values: OFF/Shift - /Shift +

Default Setting: OFF

24 RVRT

Function: Select the Priority Scanning Revert

Available Values: OFF/ON

Default Setting: OFF

25 SCAN

Function: Select the Scan Resume mode.

Available Values: BUSY/TIME

Default Setting: BUSY

26 SHIFT

Function: Set the magnitude of the Repeater Shift.

Available Values: 0.00MHz ~ 99.95 MHz (50 kHz step)

Default Setting: Depends on transceiver version (U.S.A., European, etc.).

27 SKIP

Function: Enable/disable the scan skip memory.

Available Values: SKIP/STOP

Default Setting: STOP

28 SQL

Function: Set the Squelch level.

Available Values: OFF/1-15

Default Setting: 4

29 STEP

Function: Setting the synthesizer steps.

Available Values: 5.0/10.0/12.5/15.0/20.0/25.0/50.0 kHz

Default Setting: Depends on the transceiver version (U.S.A., European, etc.).

30 TONE

Function: Select the CTCSS/DCS Operation.

Available Values: OFF, ENC, ENC/DEC, BELL, DCS,

Default Setting: OFF

31 TONEF

Function: Setting the CTCSS Tone Frequency.

Available Values: 39 standard CTCSS Tones

Default Setting: 100 Hz

32 TOT

Function: Set the TOT time.

Available Values: 1 ~ 60 minutes or OFF

Default Setting: 6 minutes

33 TXNAR

Function: Reducing the MIC Gain.

Available Values: WIDE/NARROW

Default Setting: WIDE