CW Convenience Features

Contest Memory Keyer (Using the optional FH-2 Remote Control Keypad)

You may also utilize the CW message capability of the **FT DX 3000** from the optional **FH-2** Remote Control Keypad, which plugs into the rear panel **REM** jack.

Message Memory

Five memory channels capable of retaining 50 characters each are provided (using the PARIS standard for characters and word length).

Example: CQ CQ CQ DE W6DXC K (19 characters)

(C) (Q) (C) (Q) (C) (Q) (D)(E) (W) (6) (D) (X) (C) (K)

Storing a Message into Memory

1. Press and hold in the [**MENU**] button for one second to enter the Menu mode.
2. Rotate the [**CLAR/VFO-B**] knob or press the ▲/▼ button to select the CW Memory Register into which you wish to store the message; for now, we are just setting the message entry technique to (Keyer entry).
   026 CW MEMORY 1
   027 CW MEMORY 2
   028 CW MEMORY 3
   029 CW MEMORY 4
   030 CW MEMORY 5
3. Rotate the [**CLAR/VFO-B**] knob to set the selected CW Memory Register to "MESSAGE". If you want to use your keyer paddle for message entry on all memories, set all five Menu items (#026 ~ 030) to "MESSAGE".
4. Press the [**SELECT**] button, then press the [**MENU**] buttonto save the new settings and exit.

[SELECT] Button

[MENU] Button   [CLAR/VFO-B] Knob
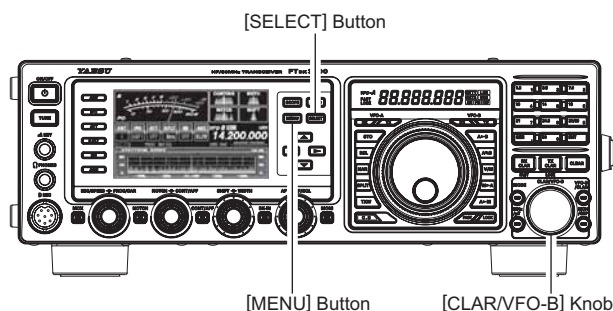
Terminology:

PARIS Word Length: By convention in the Amateur industry (utilized by ARRL and others), the length of one "word" of CW is defined as the length of the Morse Code characters spelling the word "PARIS". This character (dot/dash/space) length is used for the rigorous definition of code speed in "words per minute".

Note:

You must exercise care in sending to ensure that the spaces between letters and words are accurately done; if your timing is off, the spacing may not come out right in the stored message. For ease in setting up the keyer memories, we recommend you set Menu item "037 A1A F-TYPE" and/or "039 A1A R-TYPE" to "ACS" (Automatic Character Spacing) while you are programming the keyer memories.
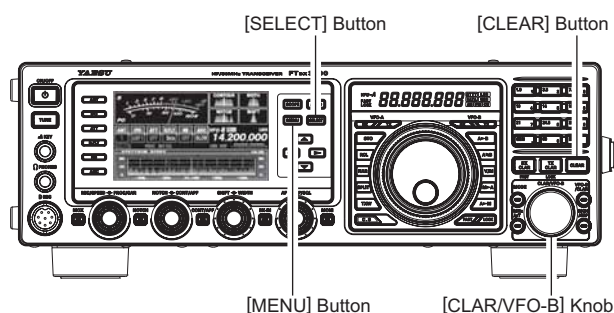

Contest Number Programming

Use this process if you are starting a contest, or if you somehow get out of sync with the proper number in the middle of a contest.

1. Press and hold in the [**MENU**] button for one second to enter the Menu mode.
2. Rotate the [**CLAR/VFO-B**] knob or press the ▲/▼ button to select Menu item "025 CONTEST NUMBER". The current contest number appears in the Multi-Display Window on the display.
3. Press the [**SELECT**] button, then rotate the [**CLAR/VFO-B**] knob or press the ▲/▼ button to set the Contest Number to the desired value.

   #### Advice:
   Press the [**CLEAR**] button (located at the upper right of the [**CLAR/VFO-B**] knob) to reset the Contest Number to "1".


[SELECT] Button   [CLEAR] Button

[MENU] Button   [CLAR/VFO-B] Knob

4. Press and hold the [**MENU**] button for one second more to store the new number and exit.


CONTEST MEMORY KEYER (USING THE OPTIONAL FH-2 REMOTE CONTROL KEYPAD)

MESSAGE MEMORY PROGRAMMING (USING YOUR PADDLE)

1. Set the operating mode to CW.
2. Set the [**BK-IN**] button to "Off".
3. Turn the internal Electronic Keyer "On" by pressing the [**KEYER**] button, if necessary.
4. Press the [**MEM**] key on the **FH-2**. A blinking "REC" icon will appear in the display.
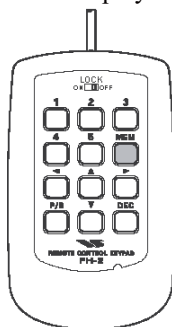
5. Press any of the **FH-2**'s keys numbered [**1**] through [**5**] to begin the memory storage process, and the "REC" icon will glow steadily.
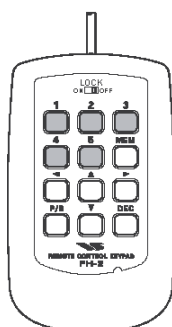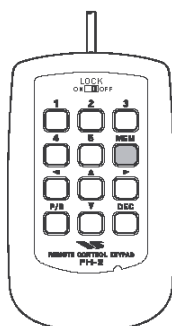
6. Send the desired message using your keyer paddle.
   ADVICE:
   If you do not start keying within ten seconds, the memory storage process will be cancelled.
7. Press the [**MEM**] key on the **FH-2** once more at the end of your message. Up to 50 characters may be stored in each of the five memories.
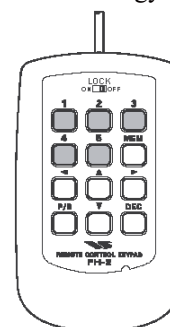
NOTE:
You must exercise care in sending to ensure that the spaces between letters and words are accurately done; if your timing is off, the spacing may not come out right in the stored message. For ease in setting up the keyer memories, we recommend you set Menu item "018 F KEYER TYPE" and/or "020 R KEYER TYPE" to "ACS" (Automatic Character Spacing) while you are programming the keyer memories.

CHECKING THE CW MEMORY CONTENTS

1. Be sure that Break-in is still turned "Off" by the [**BK-IN**] button.
2. Press the [**MONI**] button to enable the CW monitor. A "MONI" icon will appear in the display.
3. Press the **FH-2**'s [**1**] ~ [**5**] key whichever one you just recorded in. You will hear the results in the sidetone monitor, but no RF energy will be transmitted.
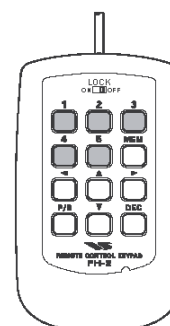
NOTE:
You may adjust the monitor level using the [**MONI**] knob.

ON-THE-AIR CW MESSAGE PLAYBACK

1. Press the [**BK-IN**] button to enable transmission. Either Full- or Semi-break-in will be engaged, depending on the setting of Menu item "062 CW BK-IN".
2. Press the **FH-2**'s [**1**] ~ [**5**] key, depending on which CW Memory Register's message you wish to transmit. The programmed message will be transmitted on the air.

NOTE:
If you subsequently decide to use the "Text Memory" technique for memory storage, please note that a message stored using keyer paddle input will not be transferred over when you select "Text Memory technique" on a particular memory register (the Menu Mode Setting is set to "TEXT").

CW CONVENIENCE FEATURES

CONTEST MEMORY KEYER (USING THE OPTIONAL FH-2 REMOTE CONTROL KEYPAD)

TEXT Memory

The five channels of CW message memory (up to 50 characters each) may also be programmed using a text-entry technique. This technique is somewhat slower than when you send the message directly from your keyer paddle, but accuracy of character spacing is ensured.

Example 1: CQ CQ CQ DE W6DXC K (20 characters)

The sequential Contest Number ("Count up") feature is another powerful feature of the CW Memory Keyer.

Example 2: 599 10 200 # K (15 characters)

TEXT MEMORY STORAGE

1. Press and hold in the [**MENU**] button for one second to enter the Menu mode.
2. Rotate the [**SELECT**] knob or press the ▲/▼ button to select the CW Memory Register into which you wish to store the message; we are now setting the message entry technique to (Text entry).

   026 CW MEMORY 1
   027 CW MEMORY 2
   028 CW MEMORY 3
   029 CW MEMORY 4
   030 CW MEMORY 5
3. Press the [**SELECT**] button, then rotate the [**CLAR/VFO-B**] knob or press the ▲/▼ button to set the selected CW Memory Register to "TEXT". If you want to use text message entry on all memories, set all five Menu items (#026 ~ 030) to "TEXT".
4. Press the [**SELECT**] button, then press the [**MENU**] button to save the new settings and exit.

[SELECT] Button

[MENU] Button   [CLAR/VFO-B] Knob
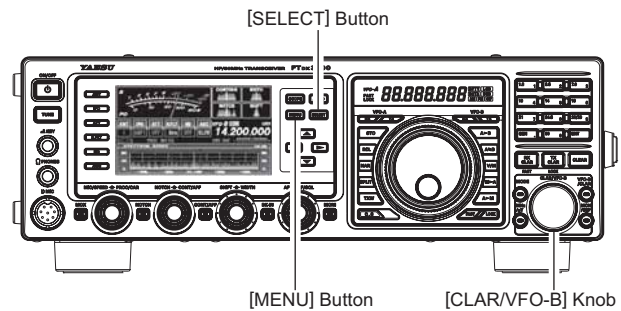
| TEXT	DISPLAY	CW CODE	TEXT	DISPLAY	CW CODE	TEXT	DISPLAY	CW CODE	TEXT	DISPLAY	CW CODE
!		SN	(		KN	/		DN	@		@
"		AF	)		KK	:		OS	[		–
#		–	*		–	;		KR	\		AL
$		SX	+		AR	<		–	]		–
%		KA	,		MIM	=		BT	^		---
&		AS	–		DU	>		–	_		IQ
'		WG	.		AAA	?		IMI	}		–

CW CONVENIENCE FEATURES

CONTEST MEMORY KEYER (USING THE OPTIONAL FH-2 REMOTE CONTROL KEYPAD)

TEXT MESSAGE PROGRAMMING

1. Press the [**MODE**] button to set the operating mode to CW.
2. Be sure that Break-in is "Off" by pressing the [**BK-IN**] button, if necessary.
3. Press the **FH-2** [**MEM**] key. A blinking " REC " icon will appear in the display.
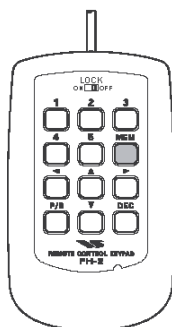

4. Press an **FH-2** [**1**] ~ [**5**] key to select the desired CW Memory Register into which you wish to program the text, the blinking " REC " icon will be disappeared.
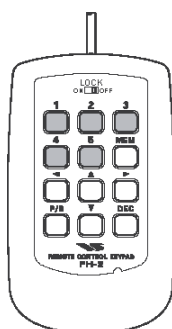
5. Use the **FH-2**'s [◄] and [►] keys to set the cursor position and use the **FH-2**'s [▲] and [▼] keys to choose the letter/number to be programmed in each slot of the memory. In the case of the second example above, the "**#**" character designates the slot where the Contest Number will appear.
   ### ADVICE:
   You may also use the Main Tuning Dial knob and the [**CLAR/VFO-B**] knobs to program the message characters.
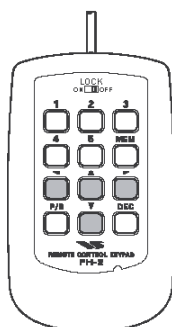

6. When the message is complete, add the "**}**" character at the end to signify the termination of the message.
7. Press and hold in the **FH-2**'s [**MEM**] key for one second to exit, once all characters (including "**}**") have been programmed.

Deleting Previously-stored Characters

Use the **FH-2**'s [◄] and [►] keys or Main Tuning Dial knob to select the last correct letter in the message. Now use the **FH-2**'s [▲] and [▼] keys or rotate the [**CLAR/VFO-B**] knob to select the "**}**" character; everything after the "**}**" character will be deleted.


CHECKING THE CW MEMORY CONTENTS

1. Be sure that Break-in is still turned "Off" by the [**BK-IN**] key.
2. Press the [**MONI**] button to enable the CW monitor. The " MONI " icon will appear in the display.
3. Press an **FH-2** [**1**] ~ [**5**] key, whichever one you just recorded in. You will hear the results in the sidetone, but no RF energy will be transmitted.
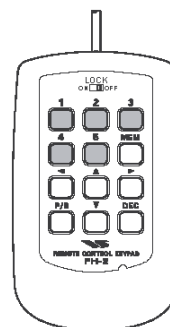
ON-THE-AIR CW MESSAGE PLAYBACK

1. Press the [**BK-IN**] button to enable transmission. Either Full- or Semi-break-in will be engaged, depending on the setting of Menu item "062 CW BK-IN".
2. Press an **FH-2** [**1**] ~ [**5**] key, depending on which CW Memory Register message you wish to transmit. The programmed message will be transmitted on the air.
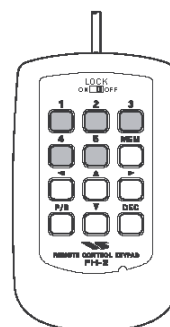
CW CONVENIENCE FEATURES

CONTEST MEMORY KEYER (USING THE OPTIONAL FH-2 REMOTE CONTROL KEYPAD)

NOTE:

If you subsequently decide to use the "Message Memory" technique for memory storage, please note that the contents of a message stored using text input will not be transferred over when you set entry to "Message Memory technique" on a particular memory register (the Menu Mode Setting is set to "MESSAGE").

Decrementing the Contest Number

Use this process if the current contest number gets slightly ahead of the actual number you want to send (in case of a duplicate QSO, for example).

Press the **FH-2** [**DEC**] key momentarily. The current Contest Number will be reduced by one. Press the **FH-2**'s [**DEC**] key as many times as necessary to reach the desired number. If you go too far, use the "Contest Number Programming" technique described previously.

FM MODE OPERATION

BASIC OPERATION

1. Press the [**MODE**] button several times, until the " FM " icon will appear in the display, to select the FM operating mode.

2. Rotate the Main Tuning Dial knob to select the desired operating frequency. Pressing the microphone's [**UP**] or [**DWN**] button will cause frequency change in 5 kHz steps.

3. Press the microphone's **PTT** switch (or press the front panel [**MOX**] button) to transmit. Speak into the microphone in a normal voice level. Release the **PTT** or [**MOX**] switch to return to receive.

4. Adjustment of the microphone gain may be accomplished in two ways. At the factory, a default level has been programmed that should be satisfactory for most situations. However, using Menu item "086 FM MIC GAIN", you may set a different fixed value, or choose the "MCVR" option, which then lets you use the front panel [**MIC/SPEED**] knob to set the microphone gain in the FM mode.

[MODE] Button

[MIC/SPEED] Knob   Main Tuning Dial Knob

[MOX] Button
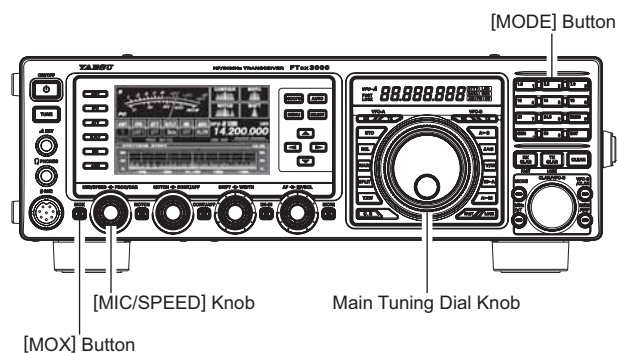
ADVICE:

❒ You may change the tuning step of the Main Tuning Dial knob via the Menu item "156 FM DIAL STEP".

❒ You may change the tuning step of the microphone's [**UP**]/[**DWN**] button via the Menu item "155 FM CH STEP".

❒ The Transmit Monitor is another helpful way to verify proper adjustment of the FM MIC Gain. By pressing the [**MONI**] button, then adjusting the [**MONI**] knob for a comfortable listening level while you are transmitting, you will be able to hear the difference in deviation as you make adjustments.

❒ FM is only used in the 28 MHz and 50 MHz Amateur bands covered by the **FT DX 3000**. Please do not use FM on any other bands.

FM MODE OPERATION

REPEATER OPERATION

The **FT DX 3000** may be utilized on 29 MHz and 50 MHz repeaters.

1. Rotate the Main Tuning Dial knob to the output frequency (downlink) from the repeater.
2. If CTCSS Tone operation is desired/needed, press the ▲/▼/◀/▶ button to select "TONE", then press the [**SELECT**] button to engage the CTCSS mode.
3. Press the [**SELECT**] button to select the desired CTCSS mode. If you just need to send the uplink encoding tone, select "ENC." For encode/decode operation, choose "T.SQL" instead. The available choices are

    "OFF" → "ENC (Tone Encoder)"
    → "T.SQL (Tone Squelch)" → "OFF"
4. Press and hold in the [**SELECT**] button to enter the Menu item "089 TONE FREQ".
5. Rotate the [**CLAR/VFO-B**] knob or press the ▲/▼ button to select the desired CTCSS Tone to be used. A total of 50 standard CTCSS tones are provided (see the CTCSS Tone Chart).
6. Press the [**SELECT**] button to exit from the CTCSS Tone setup mode.
7. Press the ▲/▼/◀/▶ button to select "RPT", then press the [**SELECT**] button to select the desired repeater shift direction. The selections are:
    "SIMP" → "+" → "−" → "SIMP"
    where "SIMP" represents "Simplex" operation (not used on a repeater).
8. Close the microphone's **PTT** switch (or press the [**MOX**] button) to begin transmission. You will observe that the frequency has shifted to correspond to the programming you set up in the previous steps, and a "T" notation will appear on the "10 Hz" frequency digit while transmitting. Speak into the microphone in a normal voice level. Release the **PTT** switch or [**MOX**] button to return to the receive mode.

ADVICE:

❒ The Repeater operation will be memorized independently on each VFO stack of the VFO-A and VFO-B.
❒ The conventional repeater shift used on 29 MHz is 100 kHz, while on the 50 MHz band the shift may vary between 500 kHz and 1.7 MHz (or more). To program the proper repeater shift, use Menu items "087 RPT SHIFT (28MHz)" (28 MHz) and "088 RPT SHIFT (50MHz)" (50 MHz), as appropriate.

[SELECT] Button

[MOX] Button   [MENU] Button   [CLAR/VFO-B] Knob
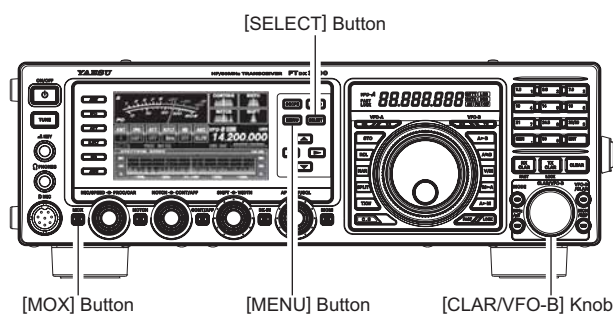
CTCSS TONE FREQUENCY (Hz)							
67.0	69.3	71.9	74.4	77.0	79.7	82.5	85.4
88.5	91.5	94.8	97.4	100.0	103.5	107.2	110.9
114.8	118.8	123.0	127.3	131.8	136.5	141.3	146.2
151.4	156.7	159.8	162.2	165.5	167.9	171.3	173.8
177.3	179.9	183.5	186.2	189.9	192.8	196.6	199.5
203.5	206.5	210.7	218.1	225.7	229.1	233.6	241.8
250.3	251.4	–	–	–	–	–	–

TONE SQUELCH OPERATION

You may also use "Tone Squelch" whereby your receiver will be kept silent until an incoming signal modulated with a matching CTCSS tone is received. Your receiver's squelch will then open in response to the reception of the required tone.

1. Rotate the Main tuning Dial to the output frequency (downlink) from the repeater.

2. If CTCSS Tone operation is desired/needed, press the ▲/▼/◄/► button to select "TONE", then press the [**SELECT**] button to engage the CTCSS mode.

3. Press the [**SELECT**] button to choose "T.SQL" from the available choices of
   "OFF" → "ENC (Tone Encoder)"
   → "T.SQL (Tone Squelch)" → "OFF"

4. Press and hold in the [**SELECT**] button to enter the Menu item "089 TONE FREQ".

5. Rotate the [**CLAR/VFO-B**] knob or press the ▲/▼ button to select the desired CTCSS Tone to be used. Fifty standard CTCSS tones are provided (see the CTCSS Tone Chart).

6. Press the [**SELECT**] button exit from the CTCSS Tone setup mode.

7. A "d" notation on the "1 Hz" frequency digit in the display will indicate that the Tone Decoder is engaged. A "T" notation on the "1 Hz" frequency digit while transmitting will indicate that the Tone Squelch is engaged.

[SELECT] Button

[MOX] Button   [MENU] Button   [CLAR/VFO-B] Knob
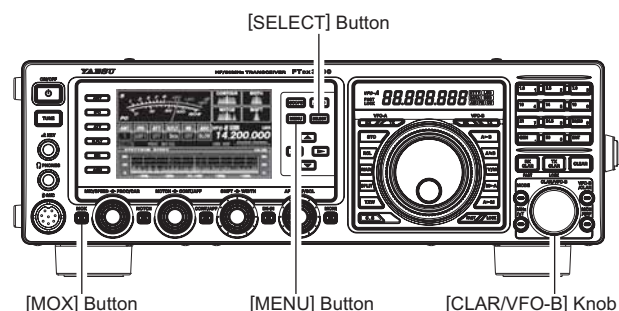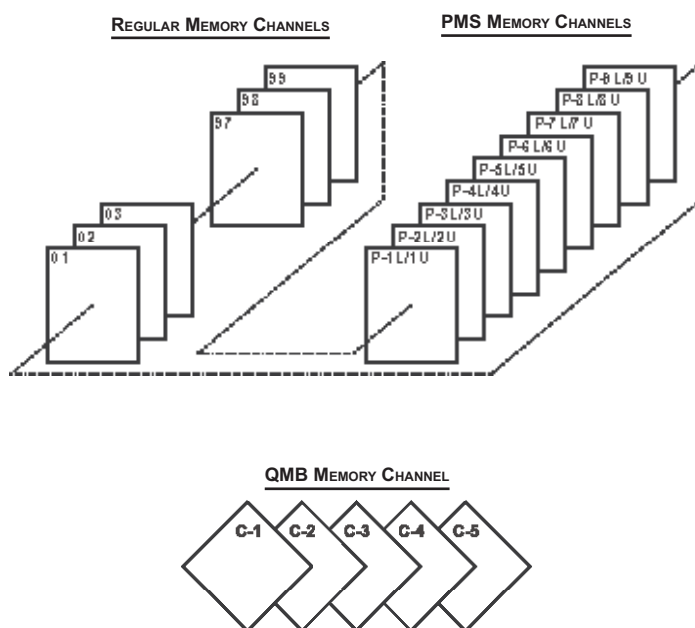
MEMORY OPERATION

CONVENIENT MEMORY FUNCTIONS

The **FT DX 3000** contains ninety-nine regular memories, labeled "01" through "99", nine special programmed limit memory pairs, labeled "P-1L/P-1U" through "P-9L/P-9U", and five QMB (Quick Memory Bank) memories, labeled "C-1" through "C-5". Each stores various settings, in addition to the VFO-A frequency and mode (See below). By default, the 99 regular memories are contained in one group; however, they can be arranged in up to six separate groups, if desired.

QUICK POINT:

The **FT DX 3000**'s memory channels store the following data (not just the operating frequency):

- ❐ VFO-A Frequency
- ❐ VFO-A Mode
- ❐ Clarifier status and its Offset Frequency
- ❐ ANT status
- ❐ IPO status
- ❐ Roofing filter status and its Bandwidth
- ❐ Attenuator status
- ❐ Noise Blanker status
- ❐ IF SHIFT and WIDTH status
- ❐ CONTOUR status and its Peak Frequency
- ❐ DSP Noise Reduction (DNR) status and its Reduction algorithm selection.
- ❐ DSP Notch filter (NOTCH) status
- ❐ NAR bandwidth status
- ❐ DSP Auto Notch filter (DNF) status
- ❐ Repeater Shift Direction and CTCSS Tone Frequency

REGULAR MEMORY CHANNELS

PMS MEMORY CHANNELS

QMB MEMORY CHANNEL

QMB (QUICK MEMORY BANK)

The Quick Memory Bank consists of five memories (labeled "Q-1" through "Q-5.") independent from the regular and PMS memories. These can quickly store operating parameters for later recall.

QMB Channel Storage

1. Tune to the desired frequency on the VFO-A.
2. Press the blue [**STO**] button. The "beep" will confirm that the VFO-A contents have been written to the currently available QMB memory.

If you repeatedly press the [**STO**] button, the QMB memories will be written in the following order:

Q-2 → Q-3 → Q-4 → Q-5 → Q-1.

Once all five QMB memories have data on them, previous data (starting with channel Q-1) will be over-written on a first-in, first-out basis.

[STO] Button
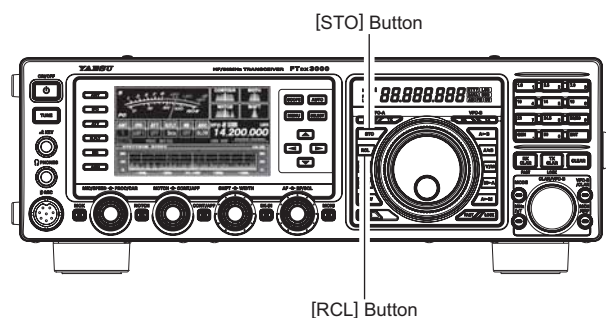
[RCL] Button

QMB Channel Recall

1. Press the [**RCL**] button. The current QMB channel's data will be shown on the frequency display field and the QMB memory channel number will be shown in the Multi-Display Window.
2. Repeatedly pressing the [**RCL**] button will toggle you through the QMB channels:
   Q-2 → Q-3 → Q-4 → Q-5 → Q-1.
3. Press the [**V/M**] button to return to the VFO or Memory mode.

ADVICE:

Rotating the Main Tuning Dial knob, or changing the operating mode, will place the transceiver in the "Memory Tune" mode, which is a temporary "pseudo-VFO" method of tuning off of a stored memory channel. If you do not over-write the contents of the current memory channel, the original contents will not be disturbed by the initiation of Memory Tune operation.