Controls & Connections (Side Panel)
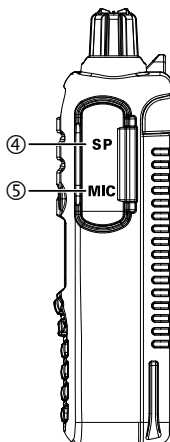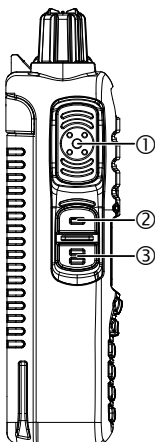
① **PTT (Push To Talk) Switch ....** 📖 **21**
  • Press this switch to transmit, and release it (to receive) after your transmission is completed.
  • In the Set mode, press the PTT switch to save the new setting and return to normal operation.

② **MONI/T.CALL Key (Function is selectable from Set mode)**

  ... 📖 **28**

  •*USA/Asian Version:*
  Press this switch to open the squelch, and listen for very weak signals near the background noise level.

  •*European Version:*
  Pressing this switch activates the T-CALL (1750 Hz) for repeater access.

③ **F key ....** 📖 **22**
  Press and hold this key to enter the Set Mode.

④ **SP Jack**
  This three-conductor miniature jack provides connection for an external speaker.

⑤ **MIC Jack**
  This three-conductor miniature jack provides connections for microphone audio, earphone audio, PTT, and ground.

Controls & Connections (LCD)

Normal operation display
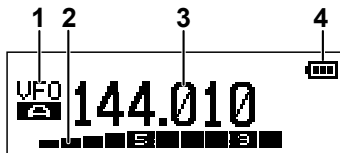
1 VFO-A / VFO-B .... □ 23	**3** Operating Frequency .... □ 20
2 S & PO Meter..................... □ 21	**4** Battery Indicator………… □ 18

The Set Mode and Preference Mode display

Set Mode   **Preferred Operating Mode**

5 Set Mode Menu .... □ 22	**6** Preferred Operating Mode .... □ 23

Control & Connections (LCD)

Display of features and settings
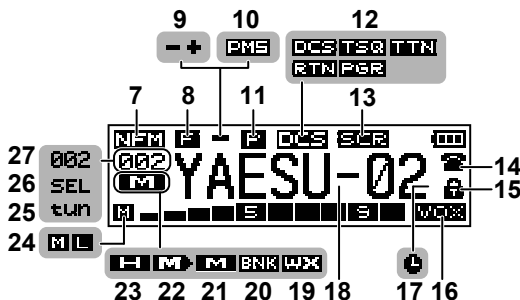
| **7** | **Operating Mode** | **18** | **Memory Tag Name.....................**
.... 📖 **30,31** |
|---|---|---|---|
| **8** | **Secondary Keypad Active ....**
.... 📖 **14** | **19** | **Weather Channel*.....................**
.. 📖 **34** |
| **9** | **Repeater Shift Direction.............**
.. 📖 **27** | **20** | **Memory Bank ....**
.. 📖 **29** |
| **10** | **Programmable Memory (Mode (VFO)) Scan.....................** 📖 **36** | **21** | **Memory Mode ....** 📖 **29** |
| **11** | **Priority Channel..............** 📖 **14** | **22** | **Skipped Memory Channel** |
| **12** | **Squelch Operation.........** 📖 **39** | **23** | **Home Channel ....** 📖 **32** |
| **13** | **Scramble Feature*..........** 📖 **39** | **24** | **TX Power Level Indicator........**
.. 📖 **21** |
| **14** | **DTMF Mode ....** 📖 **39** | **25** | **Memory Offset Tuning..............**
.. 📖 **32** |
| **15** | **Keypad Lock ....** 📖 **24** | **26** | **Selecting ICON indicator** |
| **16** | **VOX Feature....................** 📖 **39** | **27** | **Memory (BANK) Channel Number** |
| **17** | **Automatic Power-Off Feature..**
... 📖 **39** | | |

* This feature is displayed depending on the transceiver version.

Controls & Connections (Keypad)

| Key	Primary Function (PRESS Key)	Secondary Function (PRESS F + Key)	Third Function (Press and Hold Key)
1	Frequency entry digit "1"	—	Recalls the "Weather" broadcast channel bank
2 ABC	Frequency entry digit "2"	—	Activates the ARTS feature
3 DEF	Frequency entry digit "3"	—	—
4 GHI	Frequency entry digit "4"	—	—
5 JKL	Frequency entry digit "5"	—	—
6 MNO	Frequency entry digit "6"	—	Key Lock feature
7 PQRS	Frequency entry digit "7"	—	—
8 TUV	Frequency entry digit "8"	—	—
9 WXYZ	Frequency entry digit "9"	—	—
0 SET	Frequency entry digit "0"	—	—*1
P1	recalls the stored or assigned setting	HOME (Fixed setting)	store or assign a setting to the key
P2		TX PWR (Fixed setting)	
P3		FM radio	
P4		REV (Fixed setting)	
✱ MR	recalls the Memory Mode and activates the "Memory "Tune" Mode while in the Memory Mode.	Activates the Priority function	Memory write mode
# VFO	Switches VFO-A and VFO-B	PMS(Program Memory (Mode) Scan)	Program Scan Setting

*1 : When entering a frequency from the keypad, there is a short-cut for frequencies ending in zero - after the last non-zero digit, press and hold the [**0/SET**] key to enter all the zeros at once.

Installation of Accessories

Antenna Installation

The supplied antenna provides good results over the entire frequency range of the transceiver. However, for enhanced reception on certain non-Amateur

frequencies, you may wish to connect an antenna designed specifically for that frequency range, as the supplied antenna is necessarily a compromise outside the Amateur bands, and cannot be expected to provide high performance at all frequencies.

To install the supplied antenna, hold the bottom end of the antenna, then screw it onto the mating connector on the transceiver until it is snug. Do not over-tighten by using of extreme force.
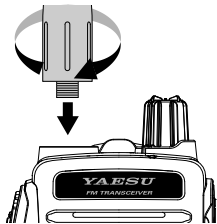
⚠	• Never transmit without having an antenna connected.
	• When installing the supplied antenna, never hold the upper part of the antenna while screwing it onto the mating connector on the transceiver.
	• If using an external antenna for transmission, ensure that the SWR presented to the transceiver is 1.5:1 or lower, to avoid excessive feedline loss.

Preparation of SBR-25LI Battery Pack

The **SBR-25LI** is a high-performance Li-Ion battery providing long operating time in a compact package. Under normal use, the **SBR-25LI** may be used for approximately 300 charge cycles, after which operating time may be expected to decrease. When an old battery pack exhibits diminished capacity, replace the pack with a new one.
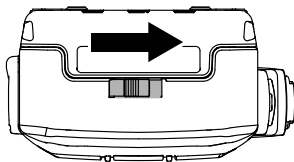
Installing the Battery Pack

1. Insert the battery pack into the battery compartment on the back of the transceiver(①).
2. Push the battery in until the battery latch on the lower back side of the transceiver clicks securely(②).

FT-25R/FT-25E Operating Manual   15
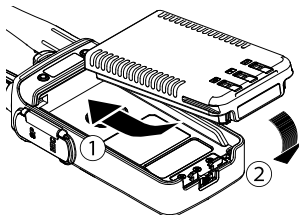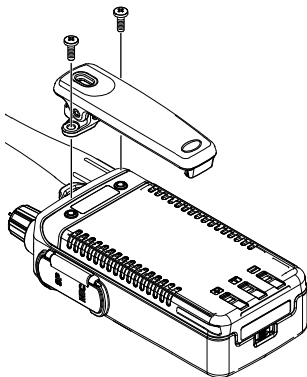
Installation of Accessories

Removing the Battery Pack

To remove the battery, turn the transceiver OFF. While sliding the latch in the direction of the arrow, as shown in the illustration, slide the battery pack downward and out of the transceiver.
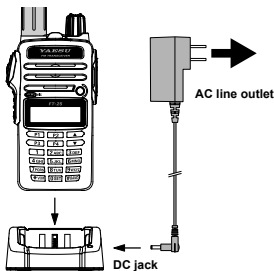
Attaching the Belt Clip

Attach the belt clip on the back of transceiver using the supplied screws (two).

Charging the Battery Pack

If the battery has never been used, or its charge is depleted, it may be charged by placing the **FT-25R/E** in the **SBH-22** Rapid Charger desktop cradle, connected with the **SAD-20B/C/U/G** AC adapter.

AC line outlet

DC jack

FT-25R/E / SBH-22 with SAD-20B
(Example of USA model)

A fully-discharged **SBR-25LI** Battery Pack will be charged completely in about *2.5 hours* (depending on the battery being charged). Disconnect the **SAD-20B/C/U/G** from the DC jack and the AC line outlet.

> • The **SAD-20B/C/U/G** is not designed to power the transceiver for operation (reception or transmission).
> • Please be advised that the **SAD-20B/C/U/G** may contribute noise to TV and radio reception in the immediate vicinity, so we do not recommend its use adjacent to such devices.

About Desktop charger lamp

The battery charging status is indicated by the desktop charger lamp, as shown in the below table:

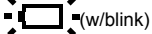| Lamp Status	Description
Red lighting	Charging
Green lighting	Charge Complete
Red blinking	Charge Error
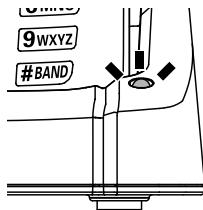
Charging the Battery Pack

Low Battery Indication

• As the battery discharges during use, the voltage will gradually become lower. When the battery voltage is too low for reliable operation, the "▭" icon will blink on the LCD display, indicating that the battery pack must be recharged before further use.

```
144.000
■■■■■    ■
```

• Avoid recharging Li-Ion batteries before the "▭" indicator is observed, as this can degrade the charge capacity of your Li-Ion battery pack.
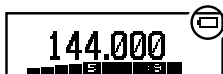
About Battery Indicator Icons

Battery charge indicator icons are shown below:

Icons	Description
▥▥▥	Full battery power
▥▥	Enough battery power
▥	Low battery power
▭(w/blink)	charge (or replace) the battery

Approximate Operating Time and Remaining Charge Level Indication

Approximate operating time for the transceiver with the fully charged battery pack is as follows.

Frequency Band		SBR-25LI	SBR-26LI
Amateur Band	144 MHz band	Approx. 10.0 hours	Approx. 12.5 hours
FM Broadcast Band		Approx. 11.0 hours	Approx. 15.0 hours

Transmit 6 seconds; Receive 6 seconds; Stand by 48 seconds.

Turn the Power ON and OFF

• Be sure the Battery Pack is installed, and is fully charged. Connect the antenna to the top panel Antenna jack.

• Rotate the **PWR/VOL** knob out of the click-stop to turn the transceiver ON. The current DC supply voltage will be shown on the display for two seconds. After the two second interval, the display will commence the normal operating frequency indication.

• To turn the transceiver OFF, turn the PWR/VOL knob fully counter-clock-wise into the click-stop position.
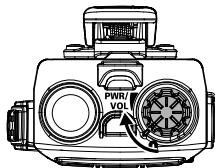
Adjust the Audio Volume Level and Squelch Setting

Rotate the PWR/VOL knob to adjust the receiver volume. Listen to the open squelch background noise to adjust the audio to a comfortable level.

1. To set the squelch level, press the **F** key and then press the **MONI/T.CALL** key, to open the SQ LEVEL set mode.

2. Press the [▲] or [▼] key to adjust to a level at which the background noise is muted.

3. Press the **PTT** switch to save the squelch setting and return to normal operation.
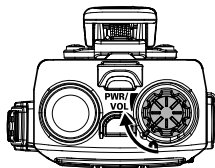
Changing between VFO-A and VFO-B

• Press the [**#VFO**] key repeatedly to toggle the frequency control between the VFO mode and the Memory mode.

• Frequency ranges are shown in the table.

Frequency Range		
	RX	**TX**
USA model	137-174 MHz	144-148 MHz
European model	137-174 MHz	144-146 MHz
Asian model	137-174 MHz	136-174 MHz

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Basic Operation

Frequency Navigation

The **FT-25R/E** will initially be operating in the "VFO" mode. The VFO permits free tuning throughout the currently-selected operating band in designated frequency steps (operating channels).

Three basic frequency navigation methods are provided on the **FT-25R/E**:

1) Tuning Frequency

Pressing the [▲] key tunes the **FT-25R/E** toward a higher frequency, while pressing the [▼] key will lower the operating frequency, in steps prepro- grammed for the current operating band.

2) Direct Keypad Frequency Entry

The operating frequency may be entered directly from the keypad by press- ing the numbered digits on the keypad in the proper sequence.

Examples:

> To enter 145.560 MHz, press [**1**] → [**4**] → [**5**] → [**5**] → [**6**] → [**0**]
> To enter 145.000 MHz*, press [**1**] → [**4**] → [**5**] → [**0**] → [**0**] → [**0**]
> *There is a short-cut to enter frequencies ending in zeros - after the last non-zero digit, press and hold the [**0/SET**] key to enter the remaining zeros.

3) Scanning

Manual VFO Scan:
To manually initiate VFO scanning, press and hold either the [▲] or [▼] key to begin upward or downward scanning, respectively.

Programmed Mode VFO Scan:
To begin scanning within a limited sub-band range from the VFO mode, press and hold the [**#VFO**] key to select the bandwidth for the Pro- grammed Mode (VFO) scanner. Then press the **F** key and the [**#VFO**] key to start scanning.

(Manual VFO Scan)

(Programmed Mode VFO Scan)
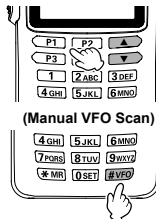
The scanner will stop when it receives a signal strong enough to open the Squelch threshold.

The **FT-25R/E** will then hold on that frequency in accordance with the "RE- SUME" mode setting (Set Mode Item "**25 RESUME**").

Press the **PTT** switch momentarily to cancel the scanning (this only stops the scan; it does not cause a transmission to occur).

![info]	The direction of the scan may not reverse while **FT-25R/E** is scanning.

📖	For more details on the scanning, see page 35.

Transmission

• To transmit, press the **PTT** switch, and speak into the front panel microphone (located in the lower left-hand corner of the speaker grille) in a normal voice level. The TX/BUSY indicator will glow red during transmission.

• To return to the receive mode, release the **PTT** switch.

• During transmit, the power level will be indicated relatively on the bar graph at the bottom of the LCD. Full scale deflection confirms "High Power" operation. Five bars indicate "Medium Power" operation, while one bar indicates "Low Power" operation. Additionally, while operating on the "Low Power" or "Medium Power" setting, the "▁" icon or "▩" icon will appear at the bottom-left of the display.

Changing the Transmit Power Level

To change the power level:

1. Press the **F** key and then press the [**P2**] key.
   • The present TX power output level will appear on the display.
   • To adjust the TX power in the Set Mode, press and hold the **F** key. Then repeatedly press the [▲] or [▼] key to select Set Mode item "**32 TX PWR**" and then press the **F** key.

2. Press the [▲] or [▼] key to select the desired power output level. Available selections are "**HI** " (5 W), "**MID**" (2.5 W), and "**LOW**" (0.5 W).

3. Press the **PTT** switch to save the new setting and return to normal operation.

Basic Operation

Activating the Set Mode

Use the following procedure to activate the Set Mode and configure the transceiver parameters.

1. Press and hold the **F** key to enter the Set Mode.
2. Repeatedly press the [▲] or [▼] key to select the Set Mode Item to be adjusted.
3. Press the **F** key momentarily to enable adjustment of the Set Mode Item.
4. Press the [▲] or [▼] key to adjust the level, or choose the parameter, of the selected Set Mode Item.
5. After completing the selection and adjustment, press the **PTT** switch to save the new setting and exit to normal operation.

Setting the Quick Recall Keys

The four keys (P1, P2, P3 & P4), are user programmable. The four keys are assigned as shown in the table:
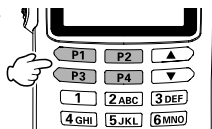
Quick Recall Key	Press	Press after pressing F key	Press and hold
P1	recall the stored or assigned setting	HOME (Fixed setting)	store or assign a setting to the key
P2		TX PWR (Fixed setting)	
P3		SQL TYPE (Fixed setting)	
P4		REV (Fixed setting)	

Assigning Set Mode Items to the Quick Recall Keys (Set Mode Recall feature)

1. Press and hold the **F** key to enter the Set Mode.
2. Press the [▲] or [▼] key to select the Set Mode Item to be assigned to the quick recall key as a recalled Menu item.

> The quick recall keys can store and recall favorite frequency settings, and are also short-cut keys to the Set Mode menu items.

3. Press and hold the [**P1**], [**P2**], [**P3**] or [**P4**] key to assign the Set Mode Item to the quick recall key.
4. Press the [**P1**], [**P2**], [**P3**] or [**P4**] key to recall the assigned Set Mode Item.

Storing the displayed Frequency and Settings to a Quick Recall Key (Quick Memory feature)

1. While operating in the VFO mode or the Memory mode, set the desired frequency and associated settings.
2. Press and hold the [**P1**], [**P2**], [**P3**] or [**P4**] key to store the frequency and settings to a Programmable key.
3. Press the [**P1**], [**P2**], [**P3**] or [**P4**] key to recall the stored settings.

> $\boxed{i}$ A Quick recall key may also store the frequency and associated settings in the Memory Mode.

Setting the Preferred Operating Mode

The following reset or preferred operating modes may be selected.

Display	Description
F1:SET RESET	Reset the Set Mode settings to factory defaults.
F2:MEM RESET	Clear the Memory settings to factory defaults.
F3:BANK RESET	Clear the Memory Bank assignments.
F4:ALL RESET	Clear the All memories and other settings to factory defaults.
F5:MEM-ONLY	Operation on the Memory mode only.
F6:VHF-ONLY	Operation on the VHF Band only.
F7:FM-ONLY	Operation on the FM Band only.
F8 CLONE	Clone mode.

1. Turn the transceiver OFF.
2. Press and hold the **MONI/T.CALL** key and the **PTT** switch simultaneously, while turning the radio ON.
3. When the LCD backlight comes on, release the **MONI/T.CALL** key and **PTT** switch.
4. Referring to the above table, press the [▲] or [▼] key to select the desired operating mode.

                                                                             `F1:SET RESET`
                                                                           `F2:MEM RESET`
                                                                           `F3:BANK RESET`
  `F4:ALL RESET`

5. Press the **F** key momentarily to activate the selected operating mode.

Advanced Operation

After becoming familiar with the basic operations of the **FT-25R/E**, you will want to learn about some of the really handy operating and convenience features.

Turning the Keylock Feature ON and OFF

The **FT-25R/E** keypad may be locked to prevent accidental frequency change or inadvertent transmissions,

1. Press and hold the [**6**] key to lock the keys and switches.

   •The 🔒 icon will appear on the LCD display.
   •To unlock, press and hold the [**6**] key again.

   ```
   144.000 🔒
   ```

Change the key locking scheme

The following locking schemes may be selected.

Display	Description
KEY(default setting)	Just the front panel keypad is locked out.
PTT	The **PTT** switch is locked out (TX not possible).
P+K	Both the **PTT** switch and the keypad are locked out.

1. Press and hold the **F** key to enter the Set Mode.
2. Press the [▲] or [▼] key to select Set Mode Item "**15 KEY LOCK**".
3. Press the **F** key momentarily to enable adjustment of this Item.
4. Press the [▲] or [▼] key to choose one of the above listed locking schemes.

   ```
   15 KEY LOCK
        →KEY
   ```

5. Press the **PTT** switch to save the new setting and return to normal operation.

Change the LCD and keypad back light setting

Display	Description
5secKEY (default setting)	Keypad and LCD Lamp lights for 5sec.
10secKEY	Keypad and LCD Lamp lights for 10sec.
30secKEY	Keypad and LCD Lamp lights for 30sec.
CONT	Keypad and LCD Lamp lights continually.
OFF	Disable the Keypad and LCD Lamp function.

1. Press and hold the **F** key to enter the Set Mode.
2. Press the [▲] or [▼] key to select Set Mode item "**16 LAMP**"
3. Press the **F** key to enable adjustment of this Item.

4. Press the [▲] or [▼] key to select one of the modes described above.

```
16 LAMP
  → 5secKEY
```

5. Press the **PTT** switch to save the new setting and return to normal operation.

Disabling the Keypad and Scan Stop Beeper

An audible beep tone will sound when a keypad button is pressed, and also when the receiver scanning stops. The beep tone operation may be changed as shown in the below table:

Display	Description
KEY	The beeper sounds when a keypad button is pressed.
KEY+SC(default setting)	The beeper sounds when a keypad button is pressed, or when the receiver scanning stops.
OFF	The beeper does not sound.

1. Press and hold the **F** key to enter the Set Mode.
2. Press the [▲] or [▼] key to select Set Mode item "**5 BEEP**"
3. Press the **F** key to enable adjustment of this Item.
4. Press the [▲] or [▼] key to select "**OFF**"
5. Press the [▲] or [▼] key to select one of the modes described above.

```
5 BEEP
  →OFF
```

6. Press the **PTT** switch to save the new setting and return to normal operation.
7. To turn the beep back on again, select "**KEY**" or "**KEY+SC** (Default setting)" in step 4 above.

Repeater Operation

Repeater stations are often located on mountaintops or other high locations, and provide a dramatic extension of the communication range for low-powered hand-held or mobile transceivers. The **FT-25R/E** includes a number of features that make repeater operation simple and enjoyable.

Repeater Shifts

The transceiver has been configured at the factory for the repeater shifts customary in the sales destination country. For the 144 MHz band the repeater shift will be 0.6 MHz.

Automatic Repeater Shift (ARS)

The **FT-25R/E** provides a convenient Automatic Repeater Shift feature, which automatically applies the appropriate repeater frequency shift when tuning in the repeater sub-bands of the designated country. The ARS setting options are listed below:

Display	Description
ARS : ON (default setting)	Enable the Automatic Repeater Shift function.
ARS : OFF	Disable the Automatic Repeater Shift function.

1. Press and hold the **F** key to enter the Set Mode.
2. Press the [▲] or [▼] key to select Set Mode item "**24 REPEATER**"
3. Press the **F** key to enable adjustment of this Item.
4. Press the **F** key to enable **ARS**.
5. Press the [▲] or [▼] key to select "**ON**" or "**OFF**".
6. Press the **PTT** switch to save the new setting and return to normal operation.

```
 24 REPEATER
→ARS   :ON
 MODE  :SIMPLEX
 SHIFT: 0.60M
```

Manual Repeater Shift Setting

If the ARS feature has been deactivated, or if a repeater shift direction other than the established ARS setting is desired, the repeater shift direction may be set manually.

1. Press and hold the **F** key to enter the Set Mode.
2. Press the [▲] or [▼] key to select Set Mode item "**24 REPEATER**", then press the **F** key to enable this item.
3. Press the [▲] or [▼] key to select **MODE**, and press **F** key to enable this item.

4. Press the [▲] or [▼] key to select the Shift Mode, and press the **F** key to enable adjustment of this Item.

```
24 REPEATER
ARS  :ON
→MODE :SIMPLEX
 SHIFT: 0.60M
```

Display	Description
MODE : SIMPLEX (default setting)	Disable the Manual Repeater Shift function.
MODE : +REP	Enable the Manual Repeater Shift + direction.
MODE : -REP	Enable the Manual Repeater Shift - direction.

5. To change the repeater shift magnitude, press the [▲] or [▼] key to select **SHIFT.**
6. Press the **F** key to enable adjustment of this Item.
7. Press the [▲] or [▼] key to select the repeater shift magnitude (0.05 MHz ~ 99.95 MHz).
8. Press the **PTT** switch to save the new setting and return to normal operation.

Repeater Operation

Tone Calling (1750 HZ)

For operation in counties that require a 1750-Hz burst tone for repeater access (typically in Europe), the **MONI/T.CALL** key may be programmed to serve as a "Tone Call" key instead. Use Set Mode item "**19 MON/T-CL**", to change the configuration of this key.

Display	Description
MONITOR (default setting (USA and Asian version))	Pressing the **MONI/T.CALL** key opens the receiver noise squelch.
T-CALL1750 (default setting (European version))	Pressing the **MONI/T.CALL** key activates the 1750 Hz burst tone.
T-CALL2100	Pressing the **MONI/T.CALL** key activates the 2100 Hz burst tone.
T-CALL1000	Pressing the **MONI/T.CALL** key activates the 1000 Hz burst tone.
T-CALL1450	Pressing the **MONI/T.CALL** key activates the 1450 Hz burst tone.

1. Press and hold the **F** key to enter the Set mode.
2. Press the [▲] or [▼] key to select Set Mode item "**19 MON/T-CL**".
3. Press the **F** key to enable adjustment of this Item.
4. Press the [▲] or [▼] key to select a Tone Calling feature.
5. Press the **PTT** switch to save the new setting and return to normal operation.

```
19 MON/T-CALL
→MONITOR
```

To access a tone burst controlled repeater, press and hold in the **MONI/T.CALL** key for the time duration specified by the repeater owner/operator. The transmitter will automatically be activated, and the 1750-Hz audio tone will be superimposed on the carrier. Once the repeater is accessed, release the **MONI/T.CALL** key and use the **PTT** switch to activate the transmitter thereafter.

The **FT-25R/E** provides a wide variety of memory system resources. These include:

- 200 "Standard" memory channels, numbered "001" through "200".
- 2 "Home" channels, providing storage and quick recall of one prime frequency on each operating band.
- 10 sets of band-edge memories, also known as "Programmable Memory Scan" channels, labeled "L01/U01" through "L10/U10"
- 10 Memory Banks, labeled "BANK 1" through "BANK10" Each Memory Bank can be assigned up to 200 channels from the "standard" and "PMS" memory channels.
- 10 "Weather Broadcast" Channels.

Standard Memory Channels
(200 channels)

PMS Memory Channels
(10 Sets)

Memory Banks
(10 banks)

Weather Broadcast Channels
(10 channels)

HOME Channels
(2 channels)
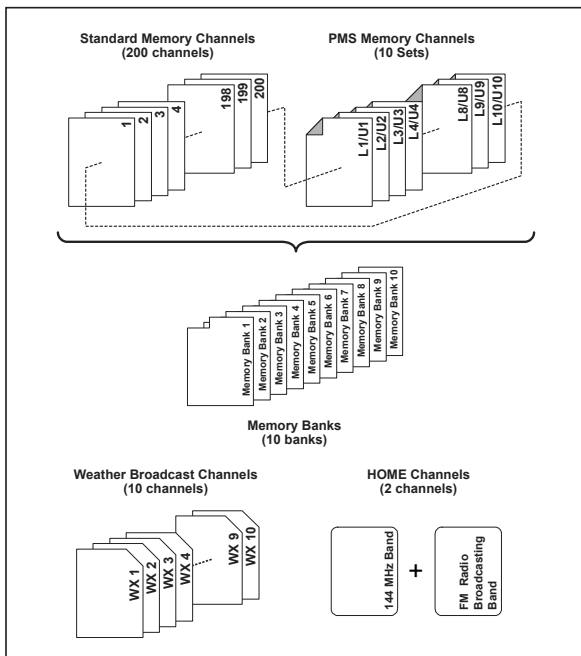
Memory Mode

Memory Storage

1. Select the desired frequency, while operating in the VFO mode.
   Be sure to set up any desired CTCSS or DCS tones, as well as any desired repeater offset. The power level may also be set at this time, if you wish to store it.

2. Press and hold the [✱**MR**] key.
   A blank memory channel will be displayed automatically.

3. If it is desired to change to another channel number, press the [▲] or [▼] key.

4. Press the Alphabet / Numeric keys to input characters and create a "Tag" (label) for the memory channel.

   If not inputting a "Tag" (label), proceed to step 5.

   > ℹ️ • To move the cursor to the next character, press the **F** key.
   > • To correct a mistake, press the **F** key repeatedly until the cursor returns to the character position.

   > 📖 For more details on the character/symbol, see page 38.

5. Press and hold the [✱**MR**] key to store the frequency and settings into the selected memory channel.
   "**MEM-IN**" on the display will blink twice and the tone will sound to complete the memory setting.