YAESU
AIR BAND TRANSCEIVER
FTA-450
Operating Manual
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**IMPORTANT NOTICE!**

**FCC RF Exposure Compliance Requirements for Occupational Use Only:**

The **FTA-450** have been tested and comply with the Federal Communications Commission (FCC) RF exposure limits for Occupational Use/Controlled Exposure Environment. In addition, both radios comply with the following Standards and Guidelines:


- This radio is NOT approved for use by the general population in an uncontrolled environment. This radio is restricted to occupational use, work related operations only where the radio operator must have the knowledge to control its RF exposure conditions.
- When transmitting, hold the radio in a vertical position with its microphone 1 to 2 inches (2.5 to 5 cm) away from your mouth and keep the antenna at least 1 inch (2.5 cm) away from your head and body.
- The radio must be used with a maximum operating duty cycle not exceeding 50%, in typical Push-to-Talk configurations. DO NOT transmit for more than 50% of total radio use time (50% duty cycle). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded.
- The radio is transmitting when the “TX” icon is displayed on the upper left corner of the screen of the radio. You can cause the radio to transmit by pressing the PTT button.
- Always use YAESU authorized accessories.

**NOTICE**

There are no user-serviceable points inside this transceiver.
All service jobs must be referred to your Authorized Service Center.
INTRODUCTION

The YAESU **FTA-450** are compact, stylish, solid hand-held transceivers providing communication (transmit and receive) capability on the International Aircraft Communication Band ("COM" band: 118 to 136.975 MHz).

The **FTA-450** boast a 1.7” x 1.7” (43.2 x 43.2 mm) full dot matrix LCD displaying a plenty of information in a row. The **FTA-450** include NOAA weather band monitoring and 200 memory channels. The channel configurations can be easily reprogrammed in minutes using the optional PC Programming Software and your PC.

We recommend that you read this manual in its entirety, so as to understand the many features of the **FTA-450** completely. Keep this manual handy, so you may use it for reference.

**Congratulations!**

You now have at your fingertips a valuable communications tool, a YAESU two-way radio! Rugged, reliable and easy to use, your YAESU radio will keep you in constant touch with your friends and colleagues for years to come, with negligible maintenance or down-time.

Please take a few minutes to read this manual carefully. The information presented here will allow you to derive maximum performance from your radio, in case questions arise later on.

We’re glad you joined the YAESU team. YAESU products cover the entire spectrum of radio communications applications, and our worldwide support network is here to serve you. Let us help you get your message across.
### Supplied Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium-ion Battery Pack (7.4V)</td>
<td>SBR-12LI</td>
</tr>
<tr>
<td>AC Charger</td>
<td>SAD-11</td>
</tr>
<tr>
<td>Charger Cradle</td>
<td>SBH-11</td>
</tr>
<tr>
<td>Cigarette Lighter DC/DC Converter</td>
<td>SDD-12</td>
</tr>
<tr>
<td>Helical Antenna</td>
<td>SRA-13A*1</td>
</tr>
<tr>
<td>Belt Clip</td>
<td>SHB-11</td>
</tr>
<tr>
<td>Headset Adapter Cable</td>
<td>SCU-15</td>
</tr>
<tr>
<td>Alkaline Battery Tray</td>
<td>SBT-12</td>
</tr>
<tr>
<td>USB Cable</td>
<td>T9101606</td>
</tr>
<tr>
<td>Ferrite Core</td>
<td>L9190192</td>
</tr>
</tbody>
</table>

*1 Antenna gain: 2.15 dBi
Impedance: 50 ohms

### Available Options

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker Microphone</td>
<td>SSM-10A</td>
</tr>
<tr>
<td>Earphone (available only with the SSM-10A)</td>
<td>SEP-10A</td>
</tr>
<tr>
<td>Earphone</td>
<td>SEP-11A</td>
</tr>
<tr>
<td>PC Programming Software</td>
<td>YCE01</td>
</tr>
</tbody>
</table>

(Download the YCE01 PC Programming Software from the YAESU website.)

Availability of accessories may vary. Some accessories are supplied as standard per local requirements, while others may be unavailable in some regions. Consult your YAESU Dealer for details regarding these and any newly-available options.

Connection of any non-YAESU-approved accessory, should it cause damage, may void the Limited Warranty on this apparatus.
Controls & Connectors (Top Panel)

1. **Antenna Jack**
   This BNC connector accepts the supplied flexible antenna, or an external antenna designed to provide 50 Ω impedance on the Aircraft Communication Band.

2. **VOLUME** (Inner) Knob
   Turn this (inner) control clockwise to increase the volume.

3. **DIAL** Selector (Outer) Knob
   This (outer) 20-position detented rotary switch tunes the operating frequency or selects the memory channels.
1 LCD (Liquid Crystal Display)
   The display shows selected operating conditions, as indicated on page 8.

2 Microphone
   Speak into this opening in a normal voice level, while pressing the PTT switch, to transmit.

3 Cursor Keys and ENT Key
   The cursor keys [◄] and [►] are used to select an item displayed on the LCD.
   Press the ENT key to determine the selection or entered values.

4 Control Keys
   Press the MENU key to display the MENU screen.
   Press the BACK key to return the display to the previous screen.
   Press the SAVE key to store the current channel information to the memory.
   Press and hold the lock key [ ] to enable the lock feature. Controls and keys will be disabled.
   Press and hold again to disable the lock feature.

5 COMM Key
   Press this key to enter the COMM mode instantly.

6 Numeric Keypad
   The keypad is used when setting frequencies.

7 121.5 Key
   Press and hold this key to access the emergency frequency (121.5 MHz) instantly.

8 Loudspeaker
   The internal speaker is located in this position.
1 **POWER** Switch
Press and hold this button to turn the radio on and off.

2 **PTT** (Push To Talk) Switch
Press and hold this button to transmit when you are operating in the COM band. Release this button to return to the “Receive” mode. See page 18 for details.

3 **SQL** (Squelch) Switch
This button may be pressed to “open” the squelch manually, allowing you to listen for very weak signals. Press and hold this button for 2 seconds to “open” the squelch continuously. Press this button again to resume normal (quiet) monitoring. See page 16 for details.
① MIC/SP Jack
You may connect the supplied SCU-15 Headset Adapter Cable, the optional SSM-10A Speaker/Microphone or the optional SEP-11A Earphone to this jack. To use this jack, you must first remove the cover from the transceiver body.

*Do not allow the FTA-450 to get wet while the cover over the MIC/SP jack is removed.*

② DATA Jack
You may connect the optional USB cable to this jack. To use this jack, you must first lift the rubber cover away from the transceiver body.

*Do not allow the FTA-450 to get wet while the rubber cover is removed.*

③ EXT DC Jack
When an external 9.5- to 10.5-Volt DC power source is available, you may connect the SDD-12 Cigarette Lighter DC/DC Converter here. To use this jack, you must first lift the rubber cover away from the transceiver body.

1) *Do not allow the FTA-450 to get wet while the rubber cover is removed.*
2) *Do not connect any accessory unapproved by YAESU to supply DC power.*
“BUSY” icon appears during audio reception, or “TX” during transmission.

This field displays the operation modes.

This field displays the icons indicating various statuses of the transceiver, such as “Timer on”, “Battery full”, etc.

This field displays the operating frequency.

This field displays the operation modes.

This field displays the icons indicating various statuses of functions, such as “VOX on”, “Split on”, etc.

This field displays the tag name of the current channel.

“MEM” icon appears if the selected channel is programmed into the Scan Memory.

This field displays the level of the audio volume or the squelch.

This field displays the channels you have previously used.

“MEM” icon appears if the selected channel is programmed into the Scan Memory.

“BUSY” icon appears during audio reception, or “TX” during transmission.

This field displays the icons indicating various statuses of the transceiver, such as “Timer on”, “Battery full”, etc.

This field displays the operating frequency.

This field displays the operation modes.

This field displays the icons indicating various statuses of functions, such as “VOX on”, “Split on”, etc.

This field displays the tag name of the current channel.

This field displays the level of the audio volume or the squelch.

This field displays the channels you have previously used.
Before You Begin

Battery Installation and Removal

To install the battery, insert the battery pack SBR-12LI into the battery compartment on the back of the transceiver, press the end of the battery pack while pressing the battery pack latch on the bottom of the transceiver, then lock the pack by sliding the locking plate beside the latch until the entire “LOCK” appears.

Note:
Be sure that the rubber gasket on the SBR-12LI is not loose when inserting.

To remove the battery, turn the transceiver off, slide the locking plate until the “UNLOCK” appears entirely, lift up the end of the battery pack by pressing the battery pack latch, then pull out the battery from the radio.

Note:
Do not attempt to open any of the rechargeable Lithium-ion packs, as personal injury or damage to the Lithium-ion pack could occur if a cell or cells become accidentally short-circuited.

Note:
To remove the battery pack after the belt clip SHB-11 is mounted (see page 12), lift up the clip before you press the battery pack latch.
Battery Charging
It is necessary to charge the Lithium-ion battery fully before its first use. Follow the procedure below:

1. Install the Lithium-ion battery pack onto the transceiver. Ensure that the transceiver is switched off.
2. Insert the cable plug of the SAD-11 Battery Charger into the jack located on the back of the SBH-11 Charging Cradle, then plug the SAD-11 into the AC line outlet.
3. Insert the transceiver into the SBH-11; the antenna jack should be at the left side when viewing the cradle from the front.
   - You may insert the cable plug of the SAD-11 into the EXT DC jack located on the right side of the transceiver directly. In this case, the “🔋” icon will appear in the top right corner of the LCD display.
4. If the transceiver is inserted correctly, the RED indicator on the SBH-11 will glow.
   - A fully-discharged pack will be charged completely in 4 hours, and then the GREEN indicator on the SBH-11 will glow.
   - It takes 8 hours for full charge with the SAD-11 connected to the transceiver directly.

Important Notes:
- The SAD-11 is not designed to power the transceiver for operation (transmission).
- Do not leave the charger connected to the transceiver for continuous periods in excess of 24 hours. Long term overcharging can degrade the Lithium-ion battery pack and significantly shorten its useful life.
- If using a charger other than the SAD-11, SBH-11, or if using a battery pack other than the SBR-12LI, follow the appropriate instructions provided with the charger/battery. Contact your Dealer if you have any doubts about the appropriateness of the particular charger or battery pack you intend to use.
Alkaline Battery Tray Installation
The supplied SBT-12 Battery Tray allows operation of the FTA-450 using six “AA” size alkaline battery cells.

- When installing a cell, insert the (–) end first, then press in the (+) end so the cell snaps into place. Pay attention to the polarity indicated inside the case.

- The SBT-12 must not be used with rechargeable cells. The SBT-12 does not contain the thermal and over-current protection circuits required when utilizing Ni-Cd and Ni-MH cells.

Note: Replace all six cells at the same time in case of low battery.

- To install the SBT-12, remove the Lithium-ion battery pack first from the transceiver, turn the open side of the SBT-12 down, then insert it into the battery compartment.

Note: Be sure that the rubber gasket on the SBT-12 is not loose when inserting.

Low Battery Indication
As your battery discharges during use, the voltage will gradually become lower. When the battery voltage reaches 6.0 Volts, the “□” icon will blink on the LCD display, indicating that the battery pack must be recharged or the alkaline battery cells must be replaced before further use.

- Avoid recharging Lithium-ion batteries before the “Low Battery” indicator is observed, as this can degrade the charge capacity of your Lithium-ion battery pack. YAESU recommends that you carry an extra, fully-charged pack with you so you will not lose communications capability due to a depleted Lithium-ion battery.

- The fully-charged battery lasts for 13.5 hours on the FTA-450 under the conditions below:
  Battery saver ... OFF
  Operation ratio ... TX:RX:Standby = 6:6:48 (sec)
**Before You Begin**

**External DC Power Supply Connection**
You may insert the cable plug of the optional **SDD-12** Cigarette Lighter DC/DC Converter into the **EXT DC** jack located on the right side of the transceiver. In this case, the “قيد” icon will appear in the top right corner of the LCD display.

When making DC connections via the **SDD-12**, be absolutely certain to observe the proper voltage level and polarity guidelines.

- The **SDD-12** can be connected to 12 to 24 Volt DC power sources.

![SDD-12 Cigarette Lighter DC/DC Converter (12 to 24 Volts)](image)

- For noise reduction from exogenous noise, wind one turn of the **SDD-12** cable around the ferrite core, and snap its two halves together, per the illustration above. Attach the ferrite core as close as possible to the **SDD-12** body, as shown.

![Ferrite Core](image)

**Do not connect any accessory unapproved by YAESU to supply DC power; otherwise the FTA-450 may be damaged.**

**Antenna Installation**
- To attach the supplied antenna to the **FTA-450**, grasp the base of the antenna firmly, and exert a moderate “pinching” pressure on the base as you press the antenna onto the radio’s antenna connector. While exerting this pressure, rotate the antenna clockwise 1/4 turn to lock the antenna in place.

![Antenna Installation](image)

**Belt Clip Installation**
- You may mount the clip to the rear of the **FTA-450** using the supplied screws.
**Headset Connection**

You may use an optional headset through the supplied **SCU-15 Headset Adapter Cable** (see also page 59).

1. Remove the cover and two screws of the **MIC/SP** jack located on the right side of the transceiver.
2. Insert the plug of the **SCU-15** to the **MIC/SP** jack.
3. Fix the plug with two screws attached to the **SCU-15**.
   - Either of the plug directions are acceptable as long as the both screws fit the screw holes.
4. Insert the plugs of the headset to the sockets of the **SCU-15**.

---

**Precautions**

- The **FTA-450** are capable of two-way communication on channels used for critical aviation safety communications. Therefore, it is important that this radio be kept away from children or other unauthorized users at all times.
- Do not dispose of the Lithium-ion battery pack in a fire. Do not carry a Lithium-ion battery pack in your pocket, where keys or coins could short the terminals. This could create a serious fire/burn danger, and possibly cause damage to the Lithium-ion pack.
- The **FTA-450** are designed to have the waterproof capability equivalent to IPX5. Do not allow the radio to become submerged, and do not subject it to water spray under pressure.
Reception (COM Band)

Turning the radio on and off

- **To turn the radio on**, press and hold the **POWER** switch.

- If you agree with the warning message, press the **[ENT]** key.

- A channel frequency will appear on the display. If not, press the **[COMM]** key.

- The “**BUSY**” icon appears on the display when the audio signal is received on the current frequency.

- **To turn the radio off**, press and hold the **POWER** switch.
Basic Operation

Adjusting the frequency

- You may turn the **DIAL** selector (outer) knob on the top panel to choose the desired operating frequency. The channel frequency will appear on the LCD.

- Directly entering frequencies from the keypad is the easiest method if you know the frequency on which you wish to operate. Just enter the five digits of the frequency to move to that frequency.

  For example, to set 134.35 MHz, press \[1\] → \[3\] → \[4\] → \[3\] → \[5\].

  To set 118.275 MHz, you do not need to press the final “5” in the frequency as below: \[1\] → \[1\] → \[8\] → \[2\] → \[7\].

- You may recall the operating frequency that you have used by pressing the **[ENT]** key. A list of frequencies you have used will appear below the **VOL** meter on the display.

  Select the desired frequency by pressing the [◄] or [►] key, then press the **[ENT]** key.
Adjusting the volume

- Rotate the VOL (inner) knob to set the volume level. If no signal is present, press the SQL switch; background noise will now be heard, and you may use this noise to set the VOL knob for the desired audio level. Press and hold the SQL switch to silence the noise and resume normal (quiet) monitoring.

Adjusting the squelch

- Press the SQL switch, then rotate the DIAL selector knob to set the squelch threshold (0 to 15) so that the receiver is just silenced. A higher number indicates that a higher signal level is required in order to open the squelch.

- Press and hold the SQL switch to set the squelch threshold to 0 (off).

- Your new setting will be saved each time you perform either of the operations above.
Basic Operation

Monitor Switch
When listening to a very weak signal from an aircraft or ground station, you may observe the signal disappearing periodically as the incoming signal strength becomes too weak to override the squelch threshold setting.

To disable the squelch temporarily, press and hold the SQL switch for 2 seconds. The squelch will remain open and you should have a better chance of hearing weak signals.

To return to normal operation, press the SQL momentarily.

Accessing the 121.5 MHz Emergency Frequency
The FTA-450 can quickly access the 121.500 MHz emergency frequency. This function can be activated even when the keypad lock function (described on page 33) is in use.

To access the emergency frequency, press and hold the [121.5] key. After four beeps, the transceiver enters the emergency mode and the frequency is automatically tuned to 121.500 MHz.

To exit the emergency mode, press the [COMM] key. The message confirming the cancelation of the emergency mode will appear. Press the [◄] or [►] key to select “YES”, then press the [ENT] key.
**Basic Operation**

**Transmission (COM Band)**

- To transmit, press and hold the PTT switch. Speak into the microphone area of the front panel grille in a normal voice level. The “TX” icon, which indicates that the FTA-450 are in the transmit mode, appears on the display.

- To return to the receive mode, release the PTT switch.

---

**Operating Advice: Use of Internal Microphone**

Your FTA-450 are sealed against water ingress, which includes waterproof seals around the microphone and speaker enclosure. This requires that you focus your speech in the direction of the microphone’s location, so as to ensure sufficient voice input to the radio. Refer to the illustration and observe the location of the internal microphone.

If you find it difficult to utilize the FTA-450 conveniently and safely while speaking directly into the microphone, we recommend the use of the SSM-10A Speaker/Microphone (option), or an aftermarket aviation headset with boom microphone.
Operation Modes

The FTA-450 operate in either of the modes below. You can switch the modes via the MENU screen displayed by pressing the [MENU] key on the front panel.

- **COMM**
  The basic operating mode for communication.

- **MR (MEMORY)**
  This mode provides you with the ability to store and recall as many as 200 channels in the radio’s main memory bank.

- **WX (WEATHER) (USA/Canada Only)**
  The receive mode for the VHF weather channel broadcasts. 10 weather channels are pre-programmed at the factory.

- **SETUP**
  This mode allows certain aspects of your radio’s configuration to be customized for your personal operating conditions.

When turning on the FTA-450, the last mode you have used before turning off will automatically be entered.
Convenient menu items
The MENU screen also includes the following items which provide advanced and convenient usage of the FTA-450.

- **TIMER**
  You may use the FTA-450 as a countdown timer or a stopwatch through this menu.

- **FUNCTION**
  Enables and disables various functions such as scan and dual watch features through this menu.

**Resetting the Radio**
To clear all memories and other settings to factory defaults:

1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “CONFIGURATION” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Select “RESET” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

5. Select “FACTORY” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

6. Select “OK?” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

The initialization will start and then “COMPLETED!” will be displayed after the radio returns to factory default.
Reception of Weather Channel Broadcasts

- Weather Channels for USA/Canada only -

The FTA-450 can receive VHF weather channel broadcasts, which may assist your flight planning. The FTA-450 includes a special bank capable of storing 10 weather channels, which simplifies access when you are in an unfamiliar location.

To receive weather channels, press the [MENU] key, select “WEATHER” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key. The last channel you have tuned will be received.

You can also select a weather channel from the pre-programmed list with the DIAL selector knob.

To confirm the weather channel frequency selection, press the [ENT] key.

To exit the WX mode, press the [MENU] key, select the mode other than “WEATHER” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
Weather alert reception
In the event of extreme weather disturbances, such as storms and hurricanes, the NOAA (National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and subsequent weather report on one of the NOAA weather channels. When the radio receives the weather alert on the operating frequency, it displays a warning as below on the screen and continues to make alarm sounds until either of the keys is pressed.

![Weather Alert Screen](image)

You may enable or disable the alarm function when receiving the weather alert signal via the COMM SETUP menu, if desired. See page 49 for details.

Dual Watch Operation
The dual watch feature automatically checks for activity on the P-ch (priority channel) set via the COMM SETUP menu while you are operating on another channel. During the dual watch operation, the current channel and the P-ch will be polled alternately for a 200 ms interval.

Setting the P-ch
1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “COMM SET-UP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

4. Select “DUAL WATCH FREQ.” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

5. Enter the frequency you want to poll, with the keypad.

6. Select “FINISH” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
   The frequency will be determined and the display will return to the COMM SETUP menu.
## ADVANCED OPERATION

### Starting the dual watch

1. Press the [MENU] key to display the MENU screen.
2. Select “FUNC” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “DUAL WATCH” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

#### Instructions:
- When the radio encounters a signal in the current channel, it still polls both channels alternately with longer staying time on the current channel.
- When the radio encounters a signal in the P-ch, the radio stays on the P-ch until the signal disappears, and the frequency indication on the display blinks. After the signal disappears, the dual watch resumes.
- To stop the dual watch, select “DUAL WATCH” and press the [ENT] key in the FUNCTION menu.

If “ON” is displayed in the right hand of “DUAL WATCH”, the FTA-450 are performing the dual watch.

The display will return to the previous screen and the “DW” icon, which indicates that the FTA-450 are performing the dual watch, will appear on the display.
Timer Mode Operation
The FTA-450 both provide a “Stopwatch” timer and a “Countdown” timer. These can be used for a variety of time-keeping purposes.

Even while the timer is in operation, you can move to the other operation modes to receive, transmit, scan, etc.

Using the stopwatch timer
1. Press the [MENU] key to display the MENU screen.
2. Select “TIMER” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “STOPWATCH” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. To start the counting, select “START” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key. The displayed time will increase and “START” changes to “STOP”. The “BUSY” icon appears on the top right of the display while counting.

5. To stop the counting, select “STOP” and press the [ENT] key. To resume the counting, select “START” changed from “STOP” and press the [ENT] key again.

6. To clear the count, select “RESET” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

If “RESET” is selected while counting, the timer will continue to count from “00:00:00”. If “RESET” is selected while stopping, the displayed time will be changed to “00:00:00” and the timer will keep stopping.

Note:
You may change the receive frequency while counting. Select the tag name field with the [◄] or [►] key, then press the [ENT] key to display the recall screen listing the frequencies you have used temporarily on the display, so that you may select a frequency from the list with the [◄] or [►] key or change the frequency with the DIAL selector knob.
ADVANCED OPERATION

Using the countdown timer
1. Press the [MENU] key to display the MENU screen.
2. Select “TIMER” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “COUNTDOWN” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Input the time with the keypad or the DIAL selector knob, and then press the [ENT] key. Press the [◄] or [►] key to move the cursor to hour, minute, or second. Press the [BACK] key to cancel the input time.
5. To start the counting, select “START” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key. The displayed time will decrease and “START” changes to “STOP”. The “∅” icon appears on the top right of the display while counting.
6. To stop the counting, select “STOP” and press the [ENT] key. To resume the counting, select “START” changed from “STOP” and press the [ENT] key again.
7. To clear the count, select “RESET” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key. The displayed time will be changed to “00:00:00” and the timer will stop.

**Note:**
You may change the receive frequency while counting. Select the tag name field with the [◄] or [►] key, then press the [ENT] key to display the recall screen listing the frequencies you have used temporarily on the display, so that you may select a frequency from the list with the [◄] or [►] key or change the frequency with the DIAL selector knob.

- **When the countdown timer reaches “00:00:00”,** the beeps will continuously sound and “Timer Alarm!” will be displayed on the screen. Press any key to stop the beeps.

- **You can set the timer to alarm without beeps.** Select “OFF” on the item “TIMER ALARM” of the CONFIGURATION menu in the SETUP mode.
**Advanced Operation**

**TOT Feature**
The TOT (time-out timer) shuts off the transceiver after continuous transmission exceeds the programmed time. This feature prevents unintended transmission by mistake and reduces battery consumption.

To select the TOT, select either of “1min”, “2min”, “3min”, “4min”, “5min” on the item “TX TOT” of the COMM SETUP menu in the SETUP mode.

**Saving the Battery during Reception**
One of the important features of the FTA-450 are its battery saver, which “puts the radio to sleep” for a time interval, periodically “waking it up” to check for activity. If somebody is talking on the channel, the FTA-450 will remain in the “awake” mode, then resume its “sleep” cycles. This feature significantly reduces quiescent battery drain.

To activate the battery saver, select one of the following interval time ratios on the item “BATTERY SAVE” of the CONFIGURATION menu in the SETUP mode.

- 50% ... Sleeps for 100 ms after 100 ms awake
- 70% ... Sleeps for 250 ms after 100 ms awake
- 80% ... Sleeps for 450 ms after 100 ms awake
- 90% ... Sleeps for 900 ms after 100 ms awake
### ADVANCED OPERATION

#### Using the Headset Microphone

If you want to use the microphone of an aviation headset prepared by yourself, change the assignment of microphone controlled with the **PTT** switch.

To assign the headset microphone, select “**EXT MIC**” on the item “**MIC SELECT**” of the **COMM SETUP** menu in the **SETUP** mode.

When an optional aviation headset is connected, the **PTT** switch on the radio will activate the headset microphone for transmission.

**Note:**
If you find it difficult to use the **PTT** switch of the radio, we recommend to use an aftermarket external PTT switch. See also page 59 for details.

#### VOX Operation

If you want to have both hands free, use a headset and activate the VOX (voice-actuated transmit/receive switching) system.

**Notes:**
- The VOX system does not function when using just the internal microphone; an external headset must be used.
- Do not activate the VOX system when connecting the optional microphone **SSM-10A**.
- To activate the VOX system, select “**ON**” on the item “**VOX**” of the **COMM SETUP** menu in the **SETUP** mode.

The “**V**” icon, which indicates that the VOX system is active, will appear at the right side of the channel frequency when the display returns to the COM band screen.
To adjust the VOX gain, select one of the following gain levels on the item “VOX LEVEL” of the COMM SETUP menu in the SETUP mode.
MIN / LEVEL1 / LEVEL2 / LEVEL3 / MAX

To set the VOX delay, select one of the following times on the item “VOX DELAY” of the COMM SETUP menu in the SETUP mode.
0.5sec / 1.0sec / 1.5sec / 2.0sec / 3.0sec

Side Tone Control
When utilizing an external headset, you may monitor your own voice talking to the microphone through the headphone.

Note:
Do not activate the side tone function when connecting the optional microphone SSM-10A.

To activate the monitoring of your voice (side tone), select one of the following side tone level on the item “SIDE TONE” of the COMM SETUP menu in the SETUP mode.
MIN / LEVEL1 / LEVEL2 / MAX

To change the side tone level temporarily during the monitoring, rotate the DIAL selector knob when pressing and holding the PTT switch.
ADVANCED OPERATION

Lock Function
This function prevents accidental changes to the frequency setting and the keypad controls.

Setting the lockout configuration
You may choose the controls to be locked.

1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “CONFIGURATION” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Select “LOCK SELECT” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
5. Select one of the following lock configuration by pressing the [◄] or [►] key, and then press the [ENT] key.
   KEY LOCK / DIAL LOCK / ALL LOCK

The setting will be determined and the display will return to the CONFIGURATION menu.
ADVANCED OPERATION

Activating the lock feature

- Press and hold the [ ] key.
  According to the setting of the lockout configuration, either of “KEY LOCK”, “DIAL LOCK”, or “ALL LOCK” will appear on the screen for 2 seconds and then the display will return to the previous screen.

- While the FTA-450 are locked, the controls with the DIAL selector knob and/or the keys except the PTT switch, the POWER switch, and the [121.5] key are disabled.
  If the DIAL selector knob is rotated or any of the keys is pressed, either of “DIAL LOCK”, “KEY LOCK”, or “ALL LOCK” will appear on the screen for 2 seconds and then the display will return to the previous screen.

- To turn the lock feature off, press and hold the [ ] key again.
  “UNLOCK” will appear on the screen for 2 seconds and then the display will return to the previous screen.
ADVANCED OPERATION

PTT Lock Function
This function prevents accidental transmissions by locking or disabling the PTT switch.

Turning lock/unlock the PTT lock function
You may select enable or disable the PTT lock function.
1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [ ►] key, and then press the [ENT] key.
3. Select “CONFIGURATION” on the screen by pressing the [◄] or [ ►] key, and then press the [ENT] key.
4. Select “PTT LOCK” on the screen by pressing the [◄] or [ ►] key, and then press the [ENT] key.
5. Select "UNLOCK" or "LOCK" by pressing the [◄] or [ ►] key, and then press the [ENT] key.

Changing the Channel Steps
The synthesizer of the FTA-450 provides the option of utilizing channel steps of 8.33/25 kHz per step.

The FTA-450 are set up with default channel steps of 25 kHz. If you need to change the channel step increments, select “8.33kHz” on the item “FREQUENCY STEP” of the COMM SETUP menu in the SETUP mode.

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMMER</td>
</tr>
<tr>
<td>LAMP</td>
</tr>
<tr>
<td>CONTRAST</td>
</tr>
<tr>
<td>KEY BEEP</td>
</tr>
<tr>
<td>TIMER ALARM</td>
</tr>
<tr>
<td>BATTERY SAVE</td>
</tr>
<tr>
<td>LOCK SELECT</td>
</tr>
<tr>
<td>PTT LOCK</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
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</thead>
<tbody>
<tr>
<td>PTT LOCK</td>
</tr>
<tr>
<td>UNLOCK</td>
</tr>
<tr>
<td>LOCK</td>
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</tbody>
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<table>
<thead>
<tr>
<th>COMM SETUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQUENCY STEP</td>
</tr>
<tr>
<td>TX TOT</td>
</tr>
<tr>
<td>MIC SELECT</td>
</tr>
<tr>
<td>SIDE TONE</td>
</tr>
<tr>
<td>AF PITCH CONT.</td>
</tr>
<tr>
<td>VOX</td>
</tr>
<tr>
<td>VOX LEVEL</td>
</tr>
<tr>
<td>VOX DELAY</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>COMM SETUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQUENCY STEP</td>
</tr>
<tr>
<td>25kHz</td>
</tr>
<tr>
<td>8.33kHz</td>
</tr>
</tbody>
</table>
ADVANCED OPERATION

Notes:
○ The 8.33 kHz steps are available in the COM Band only.
○ When you set the channel step to 8.33 kHz, the channel display differs from actual operating frequency; see the chart below. However, the operator (pilot, tower, control, etc.) will call out the frequency according to what the display indicates.

<table>
<thead>
<tr>
<th>Operating Frequency</th>
<th>Display</th>
<th>8.33 kHz Step</th>
<th>25 kHz Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>1**.0000 MHz</td>
<td></td>
<td>1**.005</td>
<td>1**.000</td>
</tr>
<tr>
<td>1**.0083 MHz</td>
<td></td>
<td>1**.010</td>
<td></td>
</tr>
<tr>
<td>1**.0166 MHz</td>
<td></td>
<td>1**.015</td>
<td></td>
</tr>
<tr>
<td>1**.0250 MHz</td>
<td></td>
<td>1**.030</td>
<td>1**.025</td>
</tr>
<tr>
<td>1**.0333 MHz</td>
<td></td>
<td>1**.035</td>
<td></td>
</tr>
<tr>
<td>1**.0416 MHz</td>
<td></td>
<td>1**.040</td>
<td></td>
</tr>
<tr>
<td>1**.0500 MHz</td>
<td></td>
<td>1**.055</td>
<td>1**.050</td>
</tr>
<tr>
<td>1**.0583 MHz</td>
<td></td>
<td>1**.060</td>
<td></td>
</tr>
<tr>
<td>1**.0666 MHz</td>
<td></td>
<td>1**.065</td>
<td></td>
</tr>
<tr>
<td>1**.0750 MHz</td>
<td></td>
<td>1**.080</td>
<td>1**.075</td>
</tr>
<tr>
<td>1**.0833 MHz</td>
<td></td>
<td>1**.085</td>
<td></td>
</tr>
<tr>
<td>1**.0916 MHz</td>
<td></td>
<td>1**.090</td>
<td></td>
</tr>
</tbody>
</table>

○ The adjacent channel selectivity will be slightly degraded while receiving using 8.33 kHz channel steps.

ANL Feature
For reduction of impulse noise, such as that produced by an engine’s ignition system, the ANL (automatic noise limiter) feature may prove helpful.

To activate the ANL, select “ON” on the item “ANL” of the COMM SETUP menu in the SETUP mode.

COMM SETUP

EMERGENCY CALL [ON]
ANL OFF
WEATHER ALERT
PTT SCAN STOP
SCAN RESUME
SCAN STOP TYPE
DUAL WATCH FREQ.
FREQUENCY STEP [ON]
MEMORY OPERATION

The **FTA-450** provide 200 user-programmable memories which can hold sets of information about channels such as its channel frequency, position information, channel tag (name) up to 15 characters, and flag (marking for search refinement).

The stored channels can be assigned to ALL, FLAG or GP1-GP8, which can be named with up to 10 characters.

The **FTA-450**’s memory system allows you to store, label, and recall channel frequencies you may use frequently.

**Recalling the Memories**
1. Press the [MENU] key to display the MENU screen.
2. Select “MEMORY” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select a group that the desired channel belongs to, by pressing the [◄] or [►] key followed by the [ENT] key.

○ The memory channels belong to either of the following groups.
  - **ALL**...Group including all the memory channels
  - **FLAG**...Group of memory channels you have set the item “Flag” when storing
  - **GP1 to GP8**...Groups of memory channels that you can set “GP1” to “GP8” when storing.
MEMORY OPERATION

The frequency and tag name of the channel listed first, “MR” which indicates that the FTA-450 are in the MR (memory recall) mode, and the group name selected in step 3 will appear on the upper field of the display.

- If the channel has the setting of flag or groups, the “◄” or “G” group icon will appear at the left side of its tag name.
- The list of memory channels will also appear below the VOL meter on the display. You may move to the list by pressing the [ENT] key, then select and tune to one of the channels in the list by pressing the [◄] or [ ►] key followed by the [ENT] key.

- If you have not yet stored any memory channel, a dialog box titled “No Address” will appear, which asks whether you want to make an entry. Select “YES” and press the [ENT] key to add memory channel entries.
- To exit the MR mode, press the [COMM] key.

See page 40 for the detailed procedure of storing channel information.
MEMORY OPERATION

Instant Storage

Select a desired frequency in the COMM mode, then press the [SAVE] key. The frequency will be stored and a tag name automatically assigned will appear on the display.

If you want to customize the information to be stored, press and hold the [SAVE] key. The MEMORY BOOK form appears on the display, with the channel name (tag), frequency, flag, and position information (if exists) already filled.

Press the [◄] or [►] key to select the item, then press the [ENT] key.
Input letters and/or numerics with the keypad or the DIAL selector knob, or select a setting with the [◄] or [►] key, then press the [ENT] key. After all the inputs or changes have been done, select “PRESS [SAVE] KEY” at the bottom of the display with the [◄] or [►] key, then press the [ENT] key to store them into the memory.
MEMORY OPERATION

Press the [BACK] key to cancel the changes or inputs.

Press the [BACK] key to cancel the changes or inputs.

Note:
You cannot store weather channels to the memory by pressing the [SAVE] key during the WX mode.

Maintenance of the Memory
Adding new addresses, editing the stored information, and deleting the stored addresses are allowed through the SETUP mode.

Adding entries
1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “MEMORY BOOK” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Select “ADD” by pressing the [◄] or [►] key, and then press the [ENT] key.
5. Select the item, input letters and/or numerics, select a setting, and store the changes in the same way as the instant storage described previously.
MEMORY OPERATION

Notes:
- You cannot skip the input of “Name” (channel tag).
- You must input either of “Freq.” (channel frequency) or “LAT” and “LON” (position information of the channel).

Editing the information
1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “MEMORY BOOK” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Select “EDIT” by pressing the [◄] or [►] key, and then press the [ENT] key.
5. Press the [◄] or [►] key to select the group including the entry you want to edit, then press the [ENT] key.
6. Press the [◄] or [►] key to select the entry you want to edit, then press the [ENT] key.
7. Select the item, input letters and/or numerics, select a setting, and then store the changes in the same way as the instant storage described previously.
Deleting the memory
1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “MEMORY BOOK” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Select “DELETE” by pressing the [◄] or [►] key, and then press the [ENT] key.

5. Press the [◄] or [►] key to select the group including the entry you want to delete, then press the [ENT] key.

6. Press the [◄] or [►] key to select the entry you want to delete, and then press the [ENT] key.

7. Select “OK?” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.

The display will return to the previous screen after the deletion of the entry from the memory.
Setting the group name
1. Press the [MENU] key to display the MENU screen.
2. Select “SETUP” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
3. Select “MEMORY BOOK” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Select “GROUP NAME” by pressing the [◄] or [►] key, and then press the [ENT] key.

5. Press the [◄] or [►] key to select the group including the entry you want to change, and then press the [ENT] key.

6. Use the keypad or dial to edit the letters and/or numerics of the group name, then press the [ENT] key. The cursor will move to the next digit of the group name.

7. Select “FINISH” by pressing the [◄] or [►] key, and then press the [ENT] key.
**Scanning Operation**

The **FTA-450** allow you to scan active channels automatically in the COMM (COM band), MR, and WX modes. It pauses on signals encountered, so you can talk to the station(s) on that frequency if you like.

**Scanning Channels**

1. Set the radio to the COMM mode.
2. Press the [**MENU**] key to display the **MENU** screen.
3. Select “**FUNC**” on the screen by pressing the [◄] or [►] key, and then press the [**ENT**] key.
4. Select “**SCAN**” on the screen by pressing the [◄] or [►] key, and then press the [**ENT**] key.

The scanning starts and the display returns to the COMM mode screen.

- The scanner searches signals from the lower frequency to higher.
- When the scanner encounters a signal, the scanning pauses and the radio remains on that channel until the signal disappears, and the frequency indication on the display blinks.
- After the signal disappears, the scanning resumes.
- To stop the scanning, press the **PTT** switch, or select “**SCAN**” again in the **FUNCTION** menu.

Next time the scanning is activated, the search will start from the frequency at which the scanning was stopped last time.
SCANNING OPERATION

Note:
When you enable the alarm function at reception of the weather alert signal via the COMM SETUP menu in the SETUP mode, the last weather channel will be watched as the every second frequency during a scan.

Example: when the last weather channel is 162.4 MHz, the radio scans in the following order.

118.000 → 162.400 → 118.025 → 162.400 → 118.050 → 162.400 ...

The frequency of the last weather channel, however, will not be displayed until the scanner encounters the weather alert signal.
**SCANNING OPERATION**

**Scanning the Specified Channels**
Among the memory and weather channels, you may scan only those on which you want to see if a signal exists.

**Marking the channels**

1. Set the radio to the MR or WX mode and tune to the channel that you want to be scanned.
2. Press the [MENU] key to display the MENU screen.
3. Select “FUNC” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
4. Select “SCAN MEM” on the screen by pressing the [◄] or [►] key, and then press the [ENT] key.
5. Repeat steps 1 to 4 above to mark other channels as well.

The current channel is marked to be scanned and the “MEM” icon, which indicates that the channel is the target of scanning, will appear at the right side of the channel frequency when the display returns to the MR or WX mode screen.
**Scanning Operation**

Scanning the marked channels

- Set the radio to the MR or WX mode, then perform steps 2 to 4 of the section “Scanning All Channels” in the previous page.
  
  The scanning starts and the display returns to the MR or WX mode screen.

- The **FTA-450** operate in the same way as that when scanning all channels described in the previous page, except that it searches a signal on the marked frequencies only.

**Note:**

When you enable the alarm function at reception of the weather alert signal via the COMM SETUP menu in the SETUP mode, the last weather channel will be watched as the every second channel during a scan.

**Example:** when the last weather channel is WX03, the radio scans in the following order.

MEM001 → WX03 → MEM002 → WX03 → MEM003 → WX03 ...

The frequency of the last weather channel, however, will not be displayed until the scanner encounters the weather alert signal.
**Note:**
We do not recommend that any of the default settings be changed until you are thoroughly familiar with the operation of the FTA-450.

**Basic Operation**
1. Press the [MENU] key to display the MENU screen.

2. Select “SETUP” on the MENU screen by pressing the [◄] or [►] key, and then press the [ENT] key.

3. Select the item on the SETUP menu by pressing the [◄] or [►] key, and then press the [ENT] key.

4. Select the item you wish to view and/or change the settings by pressing the [◄] or [►] key, and then press the [ENT] key.

5. Enter or select settings on the screen dedicated to each item, and then press the [ENT] key to determine the new settings.
Menu items

- **MEMORY BOOK**
  You may store the frequencies or positions with a tag name to the memory of the radio, and maintain the stored entries.

- **COMM SETUP**
  You may set and adjust the operations of the radio in the COMM mode.

- **CONFIGURATION**
  You may set and adjust the various conditions of the radio.

- **ABOUT...**
  You may confirm the version of the software currently operating on the radio.

**Maintenance of the Memory**

See pages 40 to 43 for details.

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**Setting of the COMM Mode Operation**

- **Turning on/off the emergency call**
  You may enable or disable the quick access to the 121.500 MHz emergency frequency (see also page 17).

- **Turning on/off the automatic noise limiter**
  See page 36 for details.
**SETUP MODE**

**Turning on/off the weather alert**
You may enable or disable the alarm function when receiving the weather alert signal (see also page 23).

**Setting the scan resume time**
You may select a waiting time till the resuming of scan after the encountered signal disappears (see also page 44).

**Turning on/off the scan stop with the PTT**
You may lock out the PTT switch during the scan operation (see also page 44).
**SETUP Mode**

Setting the operation after stopping a scan
You may select either of the operations below when encountering a signal during a scan (see also page 44).

- **BUSY STOP** ... Stays at the frequency and will not resume the scan
- **5sec STOP** ... Stays at the frequency for 5 seconds and then resume the scan
- **10sec STOP** ... Stays at the frequency for 10 seconds and then resume the scan

Setting the polled frequency for dual watch
See page 23 for details.

Setting the frequency step for tuning
See page 35 for details.

Setting the time-out timer for transmission
See page 30 for details.

Setting the audio filter of the receiver
You may select the operation of the audio filter from the following 4 types.

- **NORMAL** ... No filtering
- **LOW CUT** ... Cuts off the lower range of sound
- **HIGH CUT** ... Cuts off the higher range of sound
- **HIGH AND LOW CUT** ... Cuts off the higher and lower ranges of sound


**SETUP MODE**

Setting the microphone configuration
See page 31 for details.

Setting the side tone operation
See page 32 for details.

Turning on/off the VOX operation
See page 31 for details.

Setting the sensitivity of the VOX system
See page 32 for details.

Setting the sensing time of the VOX system
See page 32 for details.

Setting of the Operation and Configuration of the Radio

Setting the brightness of the display
You may adjust the dimmer in 5 levels.
**SETUP MODE**

Setting the lamp of the display
You may select the operation of the display lighting from the following 4 types.

- OFF ....................... No lighting at any time
- CONTINUOUS ... Lights at all time
- 5sec / 10sec / 30sec / 60sec / 120sec / 300sec
  Lights for selected time when any key is pressed
- EXT PO/KEY ...........Lights for 5 seconds only when any key is pressed, or lights at all time when the power is supplied through the **EXT DC** jack

Setting the contrast of the display
You may adjust the contrast in 30 levels.

Setting the loudness of key beeps
You may adjust the loudness in 5 levels.


## SETUP MODE

**Turning on/off the timer alarm**  
See page 29 for details.

**Setting the power save operation**  
See page 30 for details.

**Setting the lockout configuration**  
See page 33 for details.

---

**Resetting the radio**  
You may initialize the memories and settings of the menu categories independently or all at once (see also page 20).

- **FUNCTION** ... Initializes the on/off settings in the FUNCTION menu
- **MEMORY** ... Clears the entries in the memory
- **COMM & GPS** ... Initializes the settings in the COMM SETUP and GPS SETUP menus
- **CONFIGURATION** ... Initializes the settings in the CONFIGURATION menu
- **FACTORY** ... Resets the radio to factory default

---

**Lamp**  
**Contrast**  
**Key Bleep**  
**Timer Alarm**  
**Battery Save**  
**Lock Select**  
**PTT Lock**  
**Reset**  

**Factory**
About the Radio
You may confirm the version of the software currently operating on the radio.

Summary of the SETUP Menu

MEMORY BOOK

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD</td>
<td>Adding new channels or destinations</td>
<td>-</td>
</tr>
<tr>
<td>EDIT</td>
<td>Editing the stored information</td>
<td>-</td>
</tr>
<tr>
<td>DELETE</td>
<td>Deleting the stored channel or dest</td>
<td>-</td>
</tr>
<tr>
<td>GROUP NAME</td>
<td>Editing the group name</td>
<td>GP1:GROUP 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP2:GROUP 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP3:GROUP 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP4:GROUP 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP5:GROUP 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP6:GROUP 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP7:GROUP 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GP8:GROUP 8</td>
</tr>
</tbody>
</table>
## SETUP Mode

### COMM SETUP

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMERGENCY CALL</td>
<td>Turning on/off the emergency call</td>
<td>ON</td>
</tr>
<tr>
<td>ANL</td>
<td>Turning on/off the automatic noise limiter</td>
<td>OFF</td>
</tr>
<tr>
<td>WEATHER ALERT</td>
<td>Turning on/off the weather alert</td>
<td>OFF</td>
</tr>
<tr>
<td>PTT SCAN STOP</td>
<td>Turning on/off the scan stop with the PTT</td>
<td>ON</td>
</tr>
<tr>
<td>SCAN RESUME</td>
<td>Setting the scan resume time</td>
<td>3 sec</td>
</tr>
<tr>
<td>SCAN STOP TYPE</td>
<td>Setting the operation after stopping a scan</td>
<td>BUSY STOP</td>
</tr>
<tr>
<td>DUAL WATCH FREQ.</td>
<td>Setting the polled frequency for dual watch</td>
<td>–</td>
</tr>
<tr>
<td>FREQUENCY STEP</td>
<td>Setting the frequency step for tuning</td>
<td>25 kHz</td>
</tr>
<tr>
<td>TX TOT</td>
<td>Setting the time-out timer for transmission</td>
<td>5 min</td>
</tr>
<tr>
<td>MIC SELECT</td>
<td>Setting the microphone configuration</td>
<td>INT MIC</td>
</tr>
<tr>
<td>SIDE TONE</td>
<td>Setting the side tone operation</td>
<td>OFF</td>
</tr>
<tr>
<td>AF PITCH CONT.</td>
<td>Setting the audio filter of the receiver</td>
<td>NORMAL</td>
</tr>
<tr>
<td>VOX</td>
<td>Turning on/off the VOX operation</td>
<td>OFF</td>
</tr>
<tr>
<td>VOX LEVEL</td>
<td>Setting the sensitivity of the VOX system</td>
<td>LEVEL 2</td>
</tr>
<tr>
<td>VOX DELAY</td>
<td>Setting the sensing time of the VOX system</td>
<td>1.5 sec</td>
</tr>
</tbody>
</table>

### CONFIGURATION

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMMER</td>
<td>Setting the brightness of the display</td>
<td>5</td>
</tr>
<tr>
<td>LAMP</td>
<td>Setting the lamp of the display</td>
<td>EXT PO/KEY</td>
</tr>
<tr>
<td>CONTRAST</td>
<td>Setting the contrast of the display</td>
<td>15</td>
</tr>
<tr>
<td>KEY BEEP</td>
<td>Setting the loudness of key beeps</td>
<td>3</td>
</tr>
<tr>
<td>TIMER ALARM</td>
<td>Turning on/off the timer alarm</td>
<td>ON</td>
</tr>
<tr>
<td>BATTERY SAVER</td>
<td>Setting the power save operation</td>
<td>50%</td>
</tr>
<tr>
<td>LOCK SELECT</td>
<td>Setting the lockout configuration</td>
<td>ALL LOCK</td>
</tr>
<tr>
<td>PTT LOCK</td>
<td>Turning enable or disable the PTT Lock function</td>
<td>UNLOCK</td>
</tr>
<tr>
<td>RESET</td>
<td>Resetting the radio</td>
<td>–</td>
</tr>
</tbody>
</table>

### ABOUT...

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>Confirming the version of the software</td>
<td>–</td>
</tr>
</tbody>
</table>
### SPECIFICATIONS

**General**

**Frequency Range:**
- TX: 118.000 to 136.975 MHz
- RX: 118.000 to 136.975 MHz
- 161.650 to 163.275 MHz (Weather Channels; USA/Canada only)

**Channel Spacing:** 25 kHz/8.33 kHz

**Emission Type:**
- TX: AM
- RX: AM & FM (FM: for receiving the Weather Channels)

**Supply Voltage:** 6.0 to 9.5 VDC

**Current Consumption (approx.):**
- 300 µA (power off),
- 70 mA (battery saver on, saver ratio 50%),
- 80 mA (squelch on),
- 300 mA (receive),
- 0.9 A (transmit 1.5 W Carrier)

**Temperature Range:** +14 °F to +140 °F (–10 °C to +60 °C)

**Case Size (W x H x D):** 2.4 x 5.2 x 1.3 inches (62 x 133 x 34 mm) with SBR-12LI

**Weight (approx.):** 14.5 oz (410 g) with SBR-12LI, antenna and belt clip

**Receiver**

**Circuit Type:** Double-conversion superheterodyne

**IFs:** 47.25 MHz & 450 kHz

**Sensitivity:** Better than 0.8 µV (for 6 dB S/N with 1 kHz, 30 % modulation)

**Selectivity:** >8 kHz/~6 dB

**Adjacent CH. Selectivity:** <25 kHz/~60 dB

**AF Output (@7.4 V):** 0.8 W @ 16 Ohms, 10 % THD
# SPECIFICATIONS

**Transmitter**

- **Power Output (@ 7.4 V):** 5.0 W (PEP), 1.5 W (Carrier Power)
- **Frequency Stability:** Better than ±1 ppm (+14 ºF to +140 ºF [–10 ºC to +60 ºC])
- **Modulation System:** Low Level Amplitude Modulation
- **Spurious Emission:** >70 dB below carrier
- **Int. Microphone Type:** Condenser
- **Ext. Mic. Impedance:** 150 Ohms

*Specifications are subject to change without notice or obligation.*
# Troubleshooting for Headset Connection

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>When connecting the <strong>SCU-15</strong> headset adapter cable between the radio and a headset, the “<strong>TX</strong>” icon appears on the display and the radio cannot be operated.</td>
<td>This happens when the plug on the <strong>SCU-15</strong> headset adapter cable is simply inserted into the <strong>MIC/SP</strong> jack. To make proper contacts within the radio, the plug must be pushed all the way in the <strong>MIC/SP</strong> jack and be fixed with the two screws.</td>
</tr>
<tr>
<td>Can I purchase the optional PTT Switch from Yaesu?</td>
<td>Contact your Aviation dealer for details on purchasing an aftermarket Push-To-Talk switch.</td>
</tr>
<tr>
<td>Will my headset work with this radio?</td>
<td>The <strong>SCU-15</strong> headset adapter cable is made to operate with most headsets; however to be concretely sure to check with the headset manufacturer providing the wiring shown below. Please confirm the connections and connector sizes are correct.</td>
</tr>
</tbody>
</table>

### Headset specification requirements for SCU-15
- Earphone (speaker) impedance: 8 Ω or above
- Microphone impedance: 150 Ω ±20%
- PTT pressed: Ground
- PTT not pressed: Open
Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d’Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d’un type et d’un gain maximal (ou inférieur) approuvé pour l’émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l’intention des autres utilisateurs, il faut choisir le type d’antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l’intensité nécessaire à l’établissement d’une communication satisfaisante.

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s’il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d’antenne énumérés ci-dessous et ayant un gain admissible maximal et l’impédance requise pour chaque type d’antenne. Les types d’antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l’exploitation de l’émetteur.

Part 15.21: Changes or modifications to this device not expressly approved by YAESU MUSEN could void the user’s authorization to operate this device.

Attention in case of use

This transceiver works on frequencies which are not generally permitted. For frequency allocation, apply for a licence at your local spectrum management authority. For actual usage contact your dealer or sales shop in order to get your transceiver adjusted to the allocated frequency range.

Disposal of your Electronic and Electric Equipment

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.

Electronic and Electric Equipment should be recycled at a facility capable of handling these items and their waste by products. In EU countries, please contact your local equipment supplier representative or service center for information about the waste collection system in your country.
Quick Reference

Recalling the Previous Frequencies
1. In the COMM mode screen, press the [ENT] key.
2. Press the [◄] or [►] key to select the desired channel from the list, then press the [ENT] key.

Recalling the Memory Channels
1. Press the [MENU] key to display the MENU screen.
2. Press the [◄] or [►] key to select “MEMORY”, then press the [ENT] key.
3. Press the [◄] or [►] key to select a group including the desired channel from the list, then press the [ENT] key.
4. After switching to the MR mode screen, press the [ENT] key.
5. Press the [◄] or [►] key to select the desired channel from the list, then press the [ENT] key.

Saving the Frequency to Memory
1. In the COMM mode screen, set the frequency to be stored with the DIAL selector knob or the key-pad.
2. Press the [SAVE] key.
3. To save the data with a specific name or attribute, press and hold the [SAVE] key.

Receiving the Weather Channels
1. Press the [MENU] key to display the MENU screen.
2. Press the [◄] or [►] key to select “WEATHER”, then press the [ENT] key.
3. Press the [◄] or [►] key to select the desired channel from the list.
4. Press the [ENT] key.

Locking the Dial and Keys

Selecting the Operation Mode
1. Press the [MENU] key to display the MENU screen.
2. Press the [◄] or [►] key to select the mode, then press the [ENT] key.
3. To return to the screen displayed before pressing the [MENU] key, press the [BACK] key several times.
Entering and Editing Characters

1. Rotate the DIAL selector knob to select letters and/or numerics, then press the [ENT] key to set the character.
2. Press the appropriate keys on the keypad to enter numbers.
3. Press the [◄] or [►] key to move the cursor.
4. Press the [BACK] key to delete one character.
5. Press and hold the [BACK] key to delete all the characters in the input field.
**Declaration of Conformity**

Nr YUK-DQC-1201-16

We, Yaesu UK Ltd. certify and declare under our sole responsibility that the following equipment complies with the essential requirements of the Directive 1999/5/EC and 2011/65/EU.

<table>
<thead>
<tr>
<th>Type of Equipment</th>
<th>Airtac Transceiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Name</td>
<td>YAESU</td>
</tr>
<tr>
<td>Model Number</td>
<td>FTA-450</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>YAESU MUSEN CO., LTD.</td>
</tr>
<tr>
<td>Address of Manufacturer</td>
<td>Tanhozu Parkside Building, 2-5-8 Higashi-Shinsugawa, Shinagawa-ku, Tokyo, 140-0022 Japan</td>
</tr>
</tbody>
</table>

**Applicable Standards:**
This equipment is tested to and conforms to the essential requirements of directive, as included in following standards:

|----------|-----------------|-----------------|---------------------------|----------------------|----------------------|----------------------|---------------|

The technical documentation as required by the Conformity Assessment procedures is kept at the following address:

**Company**
Yaesu UK Ltd

**Address**
Unit 12, Sun Valley Business Park, Winnall Close
Winchester, Hampshire UK SO23 0LB

**Technical Construction file**
Issued by: Yaesu Musen Co. Ltd, Tokyo Japan
File No: YETA00425
Drawn up in: Winchester, Hampshire UK
Date: 05 Dec 2016

Signed for and on behalf of Yaesu UK Ltd

**Name & Position:**
PCJ Bigwood
Technical Sales Manager