**OPERATION MANUAL T330 LUPAX**

① [PTT] PTT Switch
Push and hold to transmit; release to receive.
In menu operation, press [PTT] to quit the setting and return to the standby mode.


② [SCAN], [MONI] Key
Short press: enter / exit the scan;
Long press: enter / exit the monitor.


③ [POWER] Key
Press and hold to turn the power ON or OFF.

④ [▲] / [▼] UP / DOWN Keys
In standby mode, press[▲] / [▼] or rotate the channel selector to select the operating channel or frequency.
In menu mode, press[▲] / [▼] or rotate the channel selector to select the menu item or change the item value.

⑤ [MENU】Key
Short press:
(1) In standby mode, press to enter into the menu mode;
(2) In menu mode, press to enter into the menu selection or confirm the menu item.
    Long press: lock or unlock the keypad.

⑥ EXT DC Jack
Connect the adaptor for charging.

⑦ LED Indicator
The LED lights red while transmitting; lights green while receiving.
While transmitting, the LED flashes red for low battery power.

⑧ Channel Selector
In standby mode, rotate it to select the operating channel or frequency.
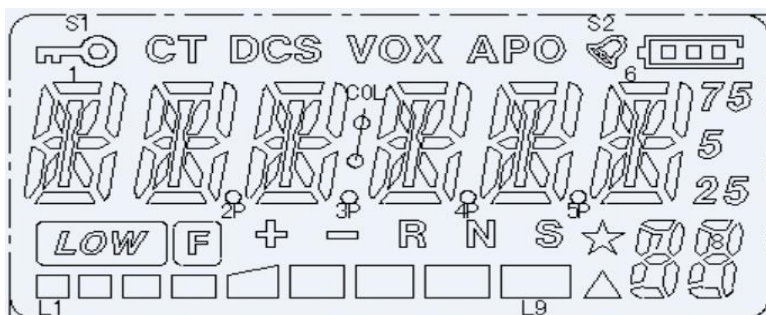In menu mode, rotate it to select the menu item or change the item value.

⑨ VOL Switch
Rotate to adjust the volume level.

⑩ SP/MIC Jack
Connect an external SP/MIC.


◆ Function Display

| | |
|---|---|
| LOW | Appear when low power is selected. |
| CT | Appear when using CTCSS. |
| DCS | Appear when using DCS. |
| ✚ | Appear when pus duplex. |
| ▬ | Appear when minus duplex. |
| R | Appear when reverse function is activated. |
| ☆ | Appear when a channel number is locked out. |
| S | Appear when battery save function is ON. |
| APO | Appear when auto power-off function is ON. |
| ▯▯▯▯◣▯▯▯▯ | Shows receiving signal strength or the output power level. |
| ▯▯▯:▯▯▯ | Display the operating frequency, menu item etc. |
| N | Appear when using narrow band. |
| 88 | Display channel number. |
| ▭▭▭ | Indicate remaining battery power. |
| ⚿ | Appear when lock function is activated. |

## ■ BASIC OPERATION
### ◆ Power ON / OFF
Press and hold [POWER] to turn the power ON / OFF.

### ◆ Adjusting Audio Output Level
While pressing and holding [MONI], rotate the VOL switch to set the desired audio level.

### ◆ Channel Selecting
In channel mode, press [▲] \ [▼] or rotate the channel selector to select the desired channel.

### ◆ Transmit and Receive
Press and hold [PTT] to transmit, then speak into the microphone; release to receive.

### ◆ Key Lock Function
In standby mode, press and hold [MENU] for 2 seconds to lock or unlock the keypad.

## ■ MENU OPERATION

### ◆ Menu Mode

① Press [MENU] to enter into the menu mode;

② Press [▲] \ [▼] or rotate the channel selector to select the desired menu item, then press [MENU], the menu item number flashes;

① Press [▲] \ [▼] or rotate the channel selector to select the desired item value;

② Press [MENU] to keep the setting and return to the previous menu; press [PTT], [MONI], or [POWER] to return to the standby mode.

### Menu Items:

| No. | Menu Item | Function | Option | Default Setting | Page |
|-----|-----------|----------|--------|-----------------|------|
| 1 | STP. | Step | 5/6.25/10/12.5/15/20/25/30/50/100KHz | 25 KHz | |
| 2 | RT. | RX CTCSS | OFF/67.0~254.1Hz | OFF | |
| | | RX DCS | OFF/023~754(N/I) | OFF | |
| 3 | TT. | TX CTCSS | OFF/67.0~254.1Hz | OFF | |
| | | TX DCS | OFF/023~754(N/I) | OFF | |
| 4 | SFT. | Offset frequency direction | OFF/ +/ - | OFF | |
| 5 | OFFSET | Offset frequency | 0~99.995MHz | 5 MHz | |
| 6 | REV. | Reverse | OFF/ON | OFF | |
| 7 | TXP. | TX Power | L（low）；H（high） | H | |
| 8 | SQL. | Squelch level | 0~9 level | 5 level | |
| 9 | LED. | LED control | OFF/ON/AUT | AUT | |
| 10 | BP. | Beep | OFF/ON | ON | |
| 11 | ROG. | Roger | OFF/ON | OFF | |
| 12 | TOT. | Time-out timer | OFF/60/120/240S | 60S (second) | |
| 13 | SAV. | Battery save | OFF/1~32 level | 8 level | |
| 14 | APO. | Auto power-off | OFF/1~24 hours | OFF | |
| 15 | TX. | TX mute | OFF/ON | ON | |
| 16 | KY. | Key lock | MANU；AUTO | MANU | |
| 17 | BCL. | Busy channel lockout | OFF/BSY/RPT | OFF | |
| 18 | SCAN. | Scan mode | TO/CO/SE | TO | |
| 19 | DIS. | Power-on display | OFF/DC/MSG | DC（display voltage） | |
| 20 | MDF. | Memory name / frequency display | MN/FRQ | MN | |
| 21 | CHL. | Channel lockout | OFF/ON | OFF | |
| 22 | V/M. | Display mode | VFO/MR/CH | VFO | |
| 23 | MCH. | Channel memory | 01~99CH | 01CH | |
| 24 | VOX. | VOX | OFF/ON | OFF | |
| 25 | VXL. | VOX level | OFF/1~10 level | 5 levels | |

### ◆ Step

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "STP", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the desired step from 5/6.25/10/12.5/15/20/25/30/50/100 KHz.

◆ CTCSS / DCS

In the same channel, communication is available among the radios which have been set the same CTCSS / DCS tone.

Set the RX CTCSS / DCS:

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "RT", then press [MENU], the menu item value flashes;



② Press [▲] \ [▼] or rotate the channel selector to select the desired RX CTCSS / DCS.

Set the TX CTCSS / DCS:

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "TT", then press [MENU], the menu item value flashes;



② Press [▲] \ [▼] or rotate the channel selector to select the desired TX CTCSS / DCS.

Note:

In CTCSS/DCS setting menu mode,

· Rotate the channel selector to select the signal code type below,

    no signal code   CTCSS    norm DCS     invert DCS   no signal code

    OFF  ->  CTCSS ->  DCS N    ->  DCS I   ->  OFF



· While setting CTCSS, "CT" appears; while setting DCS, "DCS" appears.

| Available CTCSS Tone Frequency（Hz）(50 Groups) | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67.0 | 85.4 | 107.2 | 136.5 | 165.5 | 186.2 | 210.7 | 254.1 |
| 69.3 | 88.5 | 110.9 | 141.3 | 167.9 | 189.9 | 218.1 | |
| 71.9 | 91.5 | 114.8 | 146.2 | 171.3 | 192.8 | 225.7 | |
| 74.4 | 94.8 | 118.8 | 151.4 | 173.8 | 196.6 | 229.1 | |
| 77.0 | 97.4 | 123.0 | 156.7 | 177.3 | 199.5 | 233.6 | |
| 79.7 | 100.0 | 127.3 | 159.8 | 179.9 | 203.5 | 241.8 | |
| 82.5 | 103.5 | 131.8 | 162.2 | 183.5 | 206.5 | 250.3 | |

| Available DCS Codes (105 Groups) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 023 | 065 | 132 | 205 | 255 | 331 | 413 | 465 | 612 | 723 |
| 025 | 071 | 134 | 212 | 261 | 332 | 423 | 466 | 624 | 731 |
| 026 | 072 | 143 | 223 | 263 | 343 | 431 | 503 | 627 | 732 |
| 031 | 073 | 145 | 225 | 265 | 346 | 432 | 506 | 631 | 734 |
| 032 | 074 | 152 | 226 | 266 | 351 | 445 | 516 | 632 | 743 |
| 036 | 114 | 155 | 243 | 271 | 356 | 446 | 523 | 645 | 754 |
| 043 | 115 | 156 | 244 | 274 | 364 | 452 | 526 | 654 | |
| 047 | 116 | 162 | 245 | 306 | 365 | 454 | 532 | 662 | |
| 051 | 122 | 165 | 246 | 311 | 371 | 455 | 546 | 664 | |
| 053 | 125 | 172 | 251 | 315 | 411 | 462 | 565 | 703 | |
| 054 | 131 | 174 | 252 | 325 | 412 | 464 | 606 | 712 | |

◆ **Offset Frequency**

In VFO mode, offset frequency is available.

### Set An Offset Direction:

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "SFT", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the desired offset direction.

    "+" is higher than RX frequency,

    "-" is lower than RX frequency,

    "OFF" is no offset frequency.
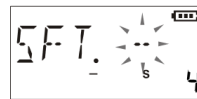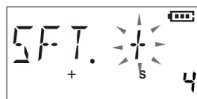
### Set An Offset Frequency:

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "OFFSET", then press [MENU] to enter into offset frequency setting;
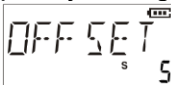
② Press [▲] \ [▼] or rotate the channel selector to select the desired offset frequency from 0–99.995MHz.

## ◆ Reverse Function

While the reverse function is activated, the TX frequency and RX frequency are interchanged, that is, use RX frequency to TX and TX frequency to RX. The CTCSS and DCS are also interchanged.

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "REV", then press [MENU], the menu item value flashes;

REV.OFF
5

② Press [▲] \ [▼] or rotate the channel selector to select the the reverse function ON or OFF.

Note:

・While changing channel or scanning, the reverse function will be auto-off.

・"R" appears while the reverse function is ON.

REV. ON
R  S       5

## ◆ TX Power

High or low power are selectable, for short distance communciation, user may select low power to save the battery power.

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "TXP", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the the TX power "H" (high) or "L" (low).

・"LOW" appears while low power is selected.

TXP. H
S       7

TXP. L
LOW       S       7
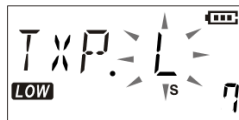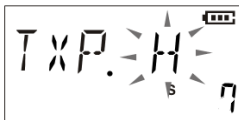
## ◆ Squelch Level

The squelch is to mute the speaker when no signal is present. While opening the squelch, you will hear the background noise from the speaker; while closing, you won't hear it.

The selected squelch level determines how strong the signal must be for opening and closing the squelch. If the selected squelch level is too high, you won't hear weak signal; if too low, signal will appear in the background noise.

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "SQL", then press [MENU], the menu item value flashes;

SQL. 5
S       8

② Press [▲] \ [▼] or rotate the channel selector to select the desired squelch level from 0-9 level.

## ◆ LED Backlight

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "LED", then press [MENU],

the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the LED backlight ON, OFF or AUT.

"OFF": never lights.

"ON": lights continuously while the radio is powered ON.

"AUTO": lights for 10 seconds when any keys except [PTT] or [MONI] is pressed.

LE Ⅱ. ON
S  9

◆ Beep

Keypad Beep:

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "BP", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the keypad beep ON or OFF.

BP.  ON
S  10

Roger Beep:

It is TX end beep which can be heard by both transmitter and receiver.

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "ROG", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the roger beep ON or OFF.

ROG.OFF
S  11

◆ TOT

To prevent accidental prolonged transmission, the radio has a time-out timer. This function cuts a transmission OFF after continuous transmission with a beep.

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "TOT.", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the desired TOT time from OFF/60/120/240 seconds (OFF: TOT function is OFF).
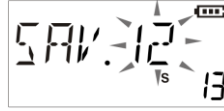
TOT. 60
S  12
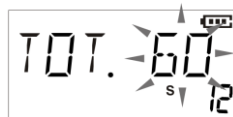
◆ Battery Save

In menu mode,

① Press [▲] \ [▼] or rotate the channel selector to select the menu item "SAV.", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the battery save OFF or battery save level from 1-32 level. "S" appears while the battery save function is ON.

```
SAV.12
        S    13
```

#### ◆ Auto Power-off

The radio can be set to automatically turn OFF after a specified period with a beep when no key operations are performed.

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "APO..", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the APO OFF or APO time 1-24 hours. "APO" appears while the APO function is activated.

```
APO.OFF          APO.12
        S    14         S    14
```
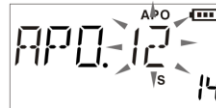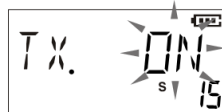
#### ◆ TX ON / OFF

When TX Mute function is activated, the radio can't transmit, but receive to save the battery power.

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "TX.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the TX ON or OFF.

```
TX.  ON
        S    15
```

#### ◆ Key Lock Function

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "KY.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select to the key lock MANU or AUTO.

```
KY.MANU
        S    16
```

- MANU: press and hold [MENU] for 2 seconds to lock or unlock the keypad.
- AUTO: auto-key lock when not any operation within 30 seconds. Press and hold [MENU] for 2 seconds to unlock.
- "⚿" appears when key lock, all the others keys are not available besides [PTT], [MONI] and the channel selector.

```
450.000
        S
```

#### ◆ Busy Channel Lockout

This function can prevent user from interfering the communcation of other radios. When the channel is busy, the radio will cut the transmission with a beep "di".

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "BCL.", then press [MENU], the menu item value flashes;



② Press [▲] \ [▼] or rotate the channel selector to select the BCL OFF, BSY or RPT.
OFF: BCL OFF
BSY: when channel busy
RPT: when channel busy and incorrect CTCSS / DCS

◆  Scan Mode
Before scanning, please decide how to continue scanning after detecting and stopping for a signal.

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "SCAN.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the desired scan mode.

There are the following three modes selectable.
・Time-operated Mode（TO）
 The radio stops scanning when detecting a signal, remains there for 5 seconds, and then continues to scan even if the signal is still present.
・Carrier-operated Mode（CO）
 The radio stops scanning when detecting a signal and remains there until the signal disappears. There is a 5 seconds delay between signal disappearing and scan resumption unless the radio detects a new signal during this time.
・Search-operated Mode（SE）
 The radio stops scanning and pauses on the channel when detecting a signal, and remains there even if the signals has disappeared.



◆  Display Information When Power ON
In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "DIS.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the desired display information OFF, DC or MSG.
OFF: display information OFF
DC: display battery voltage
DIS: display information ON
・While select MSG, the display information is PC programmable.

DIS.DC
S 19

◆ Memory Name
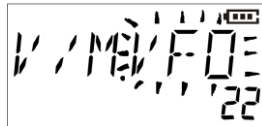Channel number or memory name display in CH mode is available.

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "MDF.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the desired display MN or FRQ.
・MN: display memory name; FRQ: display channel number.
・The memory name is PC programmable.

MDF.MN
S 20

◆ Memory Channel Lockout
This function is to avoid accidental deletion.

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "CHL.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the memory channel lockour ON or OFF.
・"☆" appears when this function is activated.

CHL.OFF
S 21

◆ Standby Display Mode
In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "V/M.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the desired display mode.
・There are three standby display modes:
 VFO mode: full-frequency mode
 MR mode: frequency memory mode
 CH mode: channel mode

V/M.VFO
22

◆ Channel Memory
In VFO mode, the parameters setting like frequency, CTCSS/DCS, power etc. are available.

In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "MCH.", then press [MENU], the menu item value flashes;

② Press [▲] \ [▼] or rotate the channel selector to select the desired memory channel number.
③ Press [menu] to confirm the memory.

MCH. 99
23
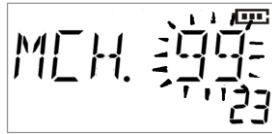
#### ◆ VOX
When VOX function is activated, user can transmit by voice without press and hold [PTT].
In menu mode,

#### VOX ON/OFF:
In menu mode,
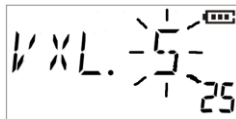① Press [▲] \ [▼] or rotate the channel selector to select the menu item "VOX.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the VOX ON or OFF.
 • "VOX" appears while VOX ON.

VOX OFF
24

#### VOX Level:
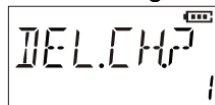In menu mode,
① Press [▲] \ [▼] or rotate the channel selector to select the menu item "VOL.", then press [MENU], the menu item value flashes;
② Press [▲] \ [▼] or rotate the channel selector to select the desired VOX level from OFF/1-10 level.

VXL. 5
25

#### ■ RESETTING FUNCTION
While pressing and holding [MONI], [UP], turn power on to enter into the initial set mode, "DEL.CH?" appears; In the initial set mode, press [▲] \ [▼] or rotate the channel selector to select the desired menu item, then press [MENU] to enter into the setting.

DEL.CH?

#### ◆ Delete Memory Channel
Delete a memory channel, "DEL.CH?"appears.
① Press [▲] \ [▼] or rotate the channel selector to select the desired memory channel;
② Press [MENU], "SURE?" appears;
③ Press [MENU] to confirm the deleting;
③ After deleting, it turns to the next memory channel which is waiting for deleting, if all channels have been deleted, it returns to the previous menu;
 • If there is no memory channel, it is not available for entering into this menu.

```
DEL.CHP
         1
```

#### ◆ VFO Reset
VFO reset, "VF.RST?" appears.
① Press [MENU], "SURE?" appears;
② Press [MENU] again, "WAIT" appears, the radio auto-power on after VFO reset.

```
VF.RST?
      s   2
```

#### ◆ Full Reset
Full reset, "FL.RST?" appears.
① Press [MENU], "SURE?" appears;
② Press [MENU] again, "WAIT" appears, the radio auto-power on after full reset.

```
FL.RST?
      s   3
```

#### ◆ Cloning
① Connect the cloning cable to the SP/MIC jack of the master and sub-radio.
② The master radio enters cloning mode, "CLONE?" appears, then press [MENU] to confirm;

```
CLONE?
      s   4
```

③ After cloning, "OK" appears, the radio auto-returns to the cloning mode for next cloning after 1 second; "ERROR" appears if fail to clone.

#### ◆ VFO Frequency Range Setting
VFO frequency range setting, "P.VFO?" appears.
To limit the operation frequency range, user can set the upper limit and lower limit frequencies for the VFO parameter.
The lower limit frequency appears in the left of display screen, the upper limit frequency appears in the right.
For expamle, the lower limit frequency is 450MHz, the upper limit freueqncy is 470MHz, then the frequency range is 450-470MHz.

① Press [▲] \ [▼] or rotate the channel selector to select the lower limit or upper limit frequency;
② Press [MENU[ to switch to the upper limit frequency;
④  Press [MENU] again to keep the setting and return to the previous menu.

```
400.470
        s   5
```