ADI

AF-16/46

ADI COMMUNICATIONS

VHF/UHF
FM/Transceiver

USER'S MANUAL

Dear users,
We are grateful you choose ADI for your land mobile radio applications. We believe this easy-to-use transceiver will provide dependable and reliable communication to personnel operation at peak effcency.

ADI transceivers incorporate the latest advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product!

For you to understand the operation and mainte-nance of this transceiver, please read carefully the user's manual.

This manual is applicable to the following models:
AF-16：VHF frequency modulation wireless transceiver.
AF-46：UHF frequency modulation wireless transceiver.

Please read the following rules before use. Failure to comply with them may cause danger or violate laws. This manual provides with detailed safety information.

SWITCH ON SAFELY
Do not switch the device on when transceiver use is prohibited or when it may cause interfer _ence or danger.

ROAD SAFETY COMES FIRST
Obey all traffic rules. Always keep your hands free to operate the vehicle while driving. Your first consideration while driving should be road safety.

INTERFERENCE
All wireless devices may be susceptible to interference, which could affect performance.

SWITCH OFF IN HOSPITALS
Follow any restrictions. Switch the device off near medical equipment.

SWITCH OFF IN AIRCRAFT
Follow any restrictions. Wireless devices can cause interference to aircraft communication.

SWITCH OFF WHEN REFUELING
Do not use the transceiver at gas stations. Do not use fuel or chemicals.

SWITCH OFF NEAR EXPLOSIVE PLACES
Follow any restrictions. Do not use the trans-ceiver in the explosive places.

USE SENSIBLY
Use only in the normal position as explained in the product documentation. Do not touch the antenna unnecessarily.

QUALIFIED SERVICE
Only qualified personnel may disassemble or repair the transceiver.

ACCESSORIES AND BATTERIES
Use only approved accessories and batteries. Do not connect incompatible products.

WATER-RESISTANCE
Your transceiver provides with simple design for rain resisrance only. Please keep it dry as possibly as you can.

BACK-UP COPIES
Remember to make back-up copies or keep a written record of all important information.

CONNECTING TO OTHER DEVICES
When connecting to other device, read the relevant user guide for detailed safety instruc _tions. Do not connect incompatible products.

Weleecome to use ADI wireless transceiver, we suggest to take the following steps before use:

· Please check the packing box to see if there is any damage.

· Please carefully unpack the packing, and identify the items listed below. If any items are missing or damaged, please contact the dealer.

SUPPLIED ACCESSORIES

ITEM	QUANTITY
Wireless Transceiver	1
Antenna	1
Lithium Battery Pack	1
Desk Top Charger	1
Adapter	1
Belt Clip	1
User's Manual	1
Warranty Card	1

PREPARATION

CHARGING THE BATTERY PACK

The battery pack is not fully charged at the factory, please charge it before use. Initially charging the battery pack after purchase or extended storage (greater than 2 months) will not bring the battery pack to its normal operating capacity. After repeating the charge/discharge cycle two or three times, the operating capacity will increase to normal.
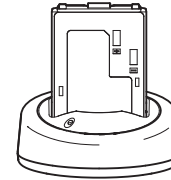
Please charge according to the following steps:
1. Plug the adapter into a 110V socket.
2. Plug the DC plug into the DC jacket located on the back of the charger.
3. The charging LED lights green when the charger is to be charged.
4. Slide the battery pack or transceiver with the battery pack into the desktop charger.
5. Make sure the battery pack contacts are in contact with the charging terminals. The charging LED lights red and charging begins.
6. Afrer charging about 3 hours, when the light turns to green, it means the battery pack is fully charged. Then you can take off the battery pack or transceiver with the battery pack and use it.

Note:
1. Do not short the battery terminals or dispose of the battery by fire. Never attempt to remove the casing from the battery pack.
2. Keep the charging temperature always between 0℃ and 40℃. Charging outside the temperature range may affect the right charging.
3. Do not use the transceiver while charging is taking place.
4. Do not plug or unplug power supply or battery pack, in order not to interrupt charging porgram.
5. When even if charged correctly, the battery pack still cannot return back to its normal operating capacity. If this occurs, it means the life of the battery pack has nearly come to an end, please replace by a new one.
6. Do not charge when the battery or transceiver are wet. Use a dry cloth to clean them before charging in order to avoid danger.

INSTALLING/REMOVING THE ANTENNA

Hold the base of the antenna, then screw clockwise the antenna into the connector on the top of the transceiver until secure. To remove the antenna, turn counterclockwise until loosen.
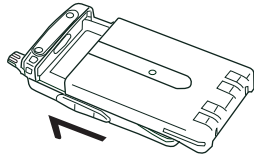
Installing the antenna   Removing the antenna

INSTALLING/REMOVING THE LI-ION BATTERY PACK

To install the battery pack, align the two bulges on the top of the battery pack with the two grooves at corresponding positions on the aluminum frame of the back of the trans-ceiver, then press it into the transceiver until a ''click'' sound is heard.

To remove the battery pack, turn off the transceiver first, push the release latch on the top of the transceiver, and then slide it down.
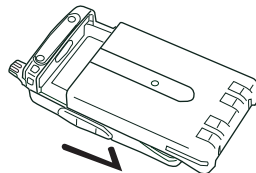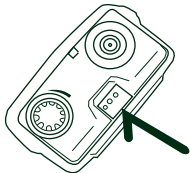
INSTALLING THE BELT CLIP

1. If necessary, install the supplied belt clip by tightening the two screws to the holes at the back of the battery pack for easy carrying.
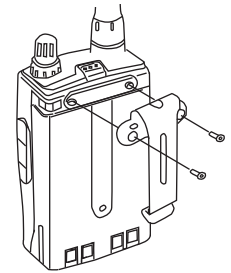
2. To remove the belt clip, just loosen the two screws and take out.

INSTALLING THE HAND STRAP

If necessary, thread the hand strap through the loop on the top of the body to facilitate carrying.
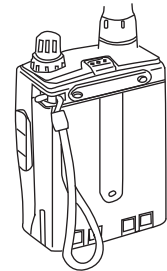
INSTALLING THE OPTIONAL EARPHONE

Open the dust cover of the earphone, insert the earphone plug into the earphone jack.

ORIENTATION

Antenna

TX/RX Indicator

UP Key
Down Key

Keypad

Release Latch
Power/Volume Knob
LCD Display
Speaker

Microphone

Push To Talk(PTT)
Lamp
Monitor

Strap Hook
Earphone,
Microphone/
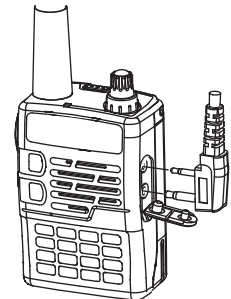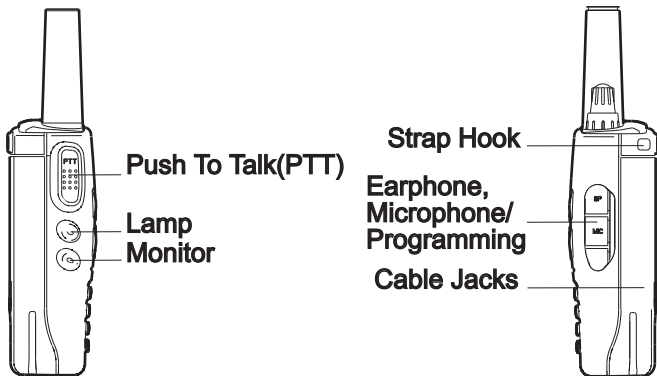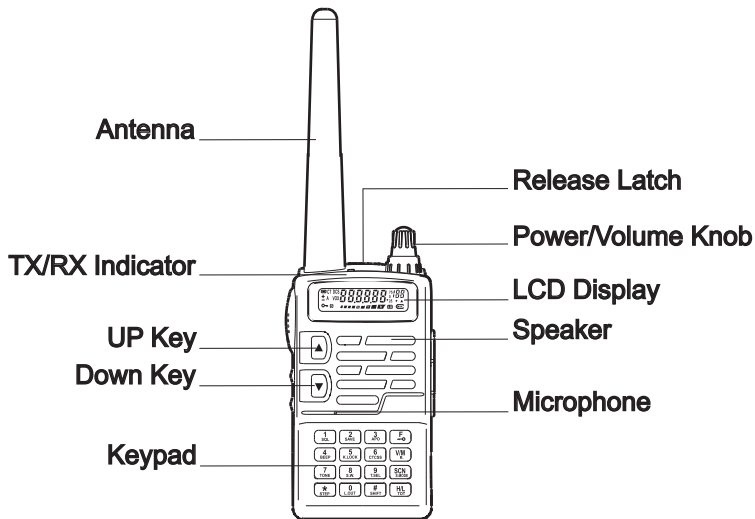Programming
Cable Jacks

Antenna
Used for receiving or transmitting a signal.

LCD Display
Show the operation state of the transceiver.

UP/DOWN Key
Adjust the displayed frequency or function upwards or downwards.

Microphone
Input the audio signal.

Power/Volume Knob
Ratate clockwise to switch power on or to increase the volume. Rotate counterclockwise to switch power off or to reduce the volume.

Speaker
Output the audio.

TX/RX Indicator
Light red while transmitting, light green while receiving a signal.

Keypad
Used for inputting frequency and function.

Push To Talk(PTT)
Push to enter into transmitting state, and release to return to receiving state.

Lamp Key
Push to light the LCD backlight and keypad lights.

Monitor Key
Push to hear the signal or noise on the channel you select in receiving state.

Earphone,Microphone / Programming Cable Jacks
Connect an earphone, microphone, or programming cable for PC software programming.

Li-ion Battery Pack
Used as power supply for the transceiver.

Battery Release Latch
Used to lock / unlock the battery pack.

KEYPAD OPERATION

Indicator	Function Operation
F	1.Press [F] key for 3 seconds under VFO/MR/CH mode to unlock/lock the keypad. 2.Press [F] key under VFO/MR/CH mode, **F** will appear for 7 seconds, press other keys during the period to enter into the second function selection mode. 3.Press [F] + ''Power On'' to proceed with initialization and all data clearance, and restore to the default state.
V/M R.	1.Press [V/M R.] to switch between VFO/MR modes under VFO /MR mode. 2.Press [F] + [V/M R.] keys under VFO mode to store memory channels. 3.Press [V/M R.] +''Power On'' to switch between MR/CH modes.
SCN S.MODE	1.Press [SCN S.MODE] key under VFO/MR/CH mode to turn on / off scan function. 2.Press [F] + [SCN S.MODE] keys under VFO/MR/CH mode to select scan method.
H/L TOT	1.Press [H/L TOT] key under VFO/MR/CH mode to select Hi/Lo Power. 2.Press [F] + [H/L TOT] keys under VFO/MR/CH mode to select Time-out Timer.
1 SQL	Press [F] + [1 SQL] keys under VFO/MR/CH mode to adjust squelch level.
2 SAVE	Press [F] + [2 SAVE] keys under VFO/MR/CH mode to turn on / off battery saver.
3 APO	Press [F] + [3 APO] keys under VFO/MR/CH mode to turn on / off Automatic Power Off.
4 BEEP	Press [F] + [4 BEEP] keys under VFO/MR/CH mode to turn on / off Keypad Beeper.
5 LOCK	Press [F] + [5 LOCK] keys under VFO/MR/CH mode to turn on / off Transceiver Lock Mode.
6 RSQT	Press [F] + [6 RSQT] keys under VFO/MR mode to select Receive with CTCSS/DCS or not.
7 TSQT	Press [F] + [7 TSQT] keys under VFO/MR mode to select Transmit with CTCSS/DCS or not.
8 REV	Press [F] + [8 REV] keys under VFO mode to turn on/ off Offset Direction / Frequency.
9 SCR	Press [F] + [9 SCR] keys under VFO mode to turn on/ off Voice Compander / Scrambler.
* STEP	Press [F] + [* STEP] keys under VFO mode to set Frequency Step Setting.
0 SA/D	Press [F] + [0 SA/D] keys under MR mode to select Scan Lock / Unlock.
# W/N	Press [F] + [# W/N] keys under VFO mode to select Broad / Narrow Band.
LAMP KEY	Press [F] + LAMP keys under VFO/MR/CH mode to turn on / off Background Lamp.

LCD DISPLAY
You can see various indicators with different functions. Whenever you forget or don't know their meanings, or how to cancel the present setting, you will find the following list useful.

Indicator	Function Description	Operation
🔒	Keypad Lock	Press [F] for 3 seconds.
S	Battery Saver	Press [F] + [2 SAVE].
F	Press [F] to enter into the second function selection	Slightly press [F] for 1 second.
▌▌▌8▌▌9	Indicate transmitting power output under transmitting state: ▌▌▌▌8▌▌9 : High power ▌▌▌▌8 : Low power And indicate receiving signal strength under receiving state.	
LO	Low power state	Slightly press [H/L TOT] for 1 second.
🔋	Battery power consumption indicator	

Indicator	Function Description	Operation
★	Appears when memory channel scan is locked.	Press [F] + [0 SA/D].
▲	Appears when memory channel contains data.	
188	Display the current memory channel number under Memory Recall Mode.	
888888	Display VFO frequency or CH channel number or various alphanumeric information.	
DCS	Appears when DCS function is activated.	Press [F] + [6 RSQT] to transmit. Press [F] + [7 TSQT] to receive.
CT	Appears when CTCSS function is activated.	Press [F] + [6 RSQT] to transmit. Press [F] + [7 TSQT] to receive.
▣	Show Narrow Band.	Press [F] + [# W/N].
✚	Positive offset direction.	Press [F] + [8 REV].
▬▬	Negative offset direction.	Press [F] + [8 REV].
A	Appears when Auto Power Off function is activated.	Press [F] + [3 APO].

## BASIC MODES

There are 3 basic modes available for selection：

■ VFO MODE(FREQUENCY DISPLAY MODE)

Press [V/M R.] key to proceed with selection. You can use [▲] / [▼] to change the frequency, or use keypad to input the frequency required directly.

```
145.000
```

■ MR MODE (MEMORY RECALL MODE)

Press [V/M R.] key to proceed with selection. You can use [▲] / [▼] or input the frequency required directly, or change the frequency (freauency and relative data saved). You have to save at least one memory channel or you cannot enter into the mode.

```
145.000  01
```
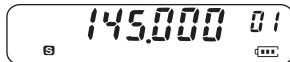
■ CH MODE (CHANNEL DISPLAY MODE)

Press [V/M R.] key to proceed with selection. You can use [▲] / [▼] or keypad to input the frequency required directly, change the frequency (freauency and relative data saved). You have to save at least one memory channel or you cannot enter into the mode.

```
CH-001
```
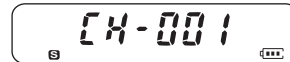
SWITCH POWER ON/OFF

1.Turn the Power/Volume Knob clockwise to turn on the transceiver.
 ・A music tone sounds.
2.To turn it off, turn the Power/Volume Knob counterclockwise.

ADJUST THE VOLUME

1.Rotate the Power/Volume knob clockwise to increase the volume.
2.Rotate it counterclockwise to decrease the volume.
 ・If you cannot hear clearly due to squelch function, press and hold [MONI] and rotate the power/volume knob, then you can hear the background noise.

SELECT A FREQUENCY

Use [▲] key to increase the frequency, and [▼] key to decrease it.
 ・If you cannot select a specific frequency, the frequency step size needs to be changed. See ''CHANGING FREQUENCY STEP SIZE''.
 ・You can also input the frequency required directly with the keypad.

SELECT AN OUPPUT POWER

Press [H/L TOT] to select Hi/Lo output power .
 ・If ▣ appears on LCD display, it shows the output power is low.

Note: If voice receiving is clear within communication range, please select low output power to reduce battery consumption and extend its life.

TRANSMIT

1.When ready to transmit, press the [PTT] switch and speak into the microphone in your normal speaking voice.
 ・The lamp lights red when transmit.
 ・If you are too close to microphone or spead too loudm the distortion may increase and the clarity of your signal to the receiving party may reduce.
2.Release the [PTT] switch to receive.

ADJUST SQUELCH (SQL)

The purpose of the Squelch is to mute the speaker when no signals are present (squelch circuit closed). With the squelch level correctly set, you will hear sound only when actually receiving a signal (squelch circuit open).

1. Press [F] + [1 SQL] keys.
   - The present squelch level appears.
2. Use [▲] / [▼] to select the squelch level within the range of 0-9 (default value :2).
   - Select a level at which the background noise is just eliminated when no signal is present.
   - The larger the level number you select, the stronger the signal you need to receive, and the smaller the receiving range.
3. Press any key other than [LAMP], [▲] ,and [▼] to complete the setting.

```
59L 2
```
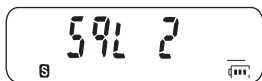
BATTERY SAVER (SAVE)

The battery saver function decreases the power consumption by reducing circuit when a signal is not being received, so as to extend the battery life. When squelch level is 0 or Battery Saver key is pressed again, battery saver will be disabled. You can switch this function ON or OFF by pressing [F] + [2 SAVE] . When it is ON, ⑤ will appear.

```
145.000
```

AUTOMATIC POWER OFF (APO)

Automatic Power Off is a background function that monitors whether any keys have been pressed, or whether any knobs have been turned. If no operation within one hour, APO will automatically turn off the power. However, 1 minute before the power turns off, A will flash and a warning beep sounds.

1. Press [F] + [3 APO] .
   - Turn on/off APO.
2. Use [▲] / [▼] to select the setting time within the range of 0-15 (Default value : 00).
   - If the squelch opens or any settings are changed during the setting time period while APO is ON, the timer resets. When the squelch closes or you stop changing the settings, the timer begins counting again from 0.

```
APo 00
```
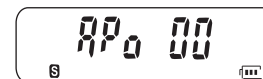
KEYPAD BEEPER (BEEP)

The transceiver beeps each time if you press a key on the keypad. You can use the following to turn on or off the beeper (Default : on).

1. Press [F] + [4 BEEP] to enter into the beeper setting.
2. Use [▲] / [▼] to select on (bP on)/off(bP off).

```
bP on
```
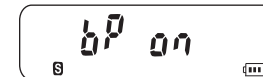
KEYPAD LOCK (LOCK)

Press and hold [F] key for 3 seconds to lock keys. There are 4 lock modes for you to control the lock way for your transceiver .
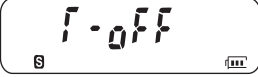
Press [F] + [5 LOCK] keys to enter into setting, there are 4 lock ways lock ways available.

1. Loc S : Keypad and [▲] / [▼] keys re locked.
2. Loc P : Only lock the [PTT] switch to prevent the transceiver from being wrongly transmitted by yourself or others.
3. Loc n : Only lock the keypad to prevent the setting from being changed incidentally.
4. Loc A : Except [F] , [LAMP] keys, the remaining keys are all locked.

RECEIVE WITH CTCSS/DCS

Sometimes you may only need to receive calls from specific persons. CTCSS/DCS allows you not to hear unwanted calls from other persons who are using the same frequency. You can select the set required from 51 sets of CTCSS and 107 sets of DCS.

Note : It cannot be guaranteed to keep your private talk secret, it only ensures that you will not receive the calls from other group persons using the same frequency.

1.Under VFO/MR mode, press [F] + [6 RSQT] to enter into ''Receive with CTCSS/DCS''.
2.Use [▲] / [▼] to select the following 4 modes:
 · r-oFF   : Receive without CTCSS/DCS.
 · r-ctc   : Receive with CTCSS.
 · r-ndcS : Receive with normal DCS.
 · r-idcS : Receive with inverted DCS.
3.Select the mode required and press [F] key to confirm your setting and enter into the next setting selection.
 · If select r-oFF, exit "Receive with CTCSS/DCS" mode directly, the transceiver will return back to the present operation mode.
 · If select r-ctc, the LCD display show 63.0 , that is the first CTCSS frequency, you can use [▲] / [▼] keys to select the audio frequency required, then press [F] key to confirm your setting. "Receive with CTCSS" function will be activated, and the transceiver will return back to the present operation mode.
 · If select r-ndcS , the LCD display shows 0 17, that is the first normal DCS frequency, you can use [▲] / [▼] keys to select the normal DCS frequency required, then press [F] key to confirm your setting. "Receive with normal DCS" function will be activated, and thetrans- ceiver will return back to the present operation mode.
 · If select r-idcS , the LCD display shows 0 17, that is the first inverted DCS frequency, you can use [▲] / [▼] keys to select the inverted DCS frequency required, then press [F] key to confirm your setting. "Receive with inverted DCS" function will be activated, and the transceiver will return back to the present operation mode.

TRANSMIT WITH CTCSS/DCS

1.Under VFO/MR mode, press [F] + [7 TSQT] to enter into "Transmit with CTCSS/DCS".
2.Use [▲]/[▼] to select the following 4 modes:
 · t-oFF   : Transmit without CTCSS/DCS.
 · t-ctc   : Transmit with CTCSS.
 · t-ndcS : Transmit with normal DCS.
 · t-idcS : Transmit with inverted DCS.
3.Select the mode required and press [F] key to confirm your setting and enter into the next setting selection.
 · If select t-oFF, exit "Transmit with CTCSS/DCS" mode directly, the transceiver will return back to the present operation mode.
 · If select t-ctc, the LCD display shows 63.0 , that is the first CTCSS frequency, you can use [▲]/[▼] keys to select the audio frequency required, then press [F] key to confirm your setting. "Transmit with CTCSS" function will be activated, and the transceiver will return back to the present operation mode.
 · If select t-ndcS, the LCD display shows 0 17 ,that is the first normal DCS frequency, you can use [▲]/[▼] keys to select the normal DCS frequency required, then press [F] key to confirm your setting. "Transmit with normal DCS" function will be activated, and the transceiver will return back to the present operation mode.
 · If select t-idcS,the LCD display shows 0 17 , that is the first inverted DCS frequency, you can use [▲]/[▼] keys to select the inverted DCS frequency required, then press [F] key to confirm your setting. "Transmit with inverted DCS" function will be activated, and the transceiver will erturn back to the present operation mode.

Note :
1.CTCSS/DCS functions cannot be activated under CH mode.
2.When you have set CTCSS/DCS during transmitting or receiving, LCD display will show the corresponding "CT", " DCS " or " CT DCS ".
3.When selecting modes and numeric values, you have to finish delection within 10 seconds, or the transceiver will return back to the present operation mode, and you have to operate according to the above steps from the beginning.

CTCSS STANDARD FREQUENCY TABLE

1 – 63.0	14 - 100.0	27 - 156.7	40 - 196.6
2 - 67.0	15 - 103.5	28 - 159.8	41 - 199.5
3 - 69.3	16 - 107.2	29 - 162.2	42 - 203.5
4 - 71.9	17 - 110.9	30 - 165.5	43 - 206.5
5 - 74.4	18 - 114.8	31 - 167.9	44 - 210.7
6 - 77.0	19 - 118.8	32 - 171.3	45 - 218.1
7 - 79.7	20 - 123.0	33 - 173.8	46 - 225.7
8 - 82.5	21 - 127.3	34 - 177.3	47 - 229.1
9 - 85.4	22 - 131.8	35 - 179.9	48 - 233.6
10 - 88.5	23 - 136.5	36 - 183.5	49 - 241.8
11 - 91.5	24 - 141.3	37 - 186.2	50 - 250.3
12 - 94.8	25 - 146.2	38 - 189.9	51 - 254.1
13 - 97.4	26 - 151.4	39 - 192.8	

DCS STANDARD SETS

017	054	132	212	263	346	445	523	654
023	065	134	223	265	351	446	526	662
025	071	143	225	266	356	452	532	664
026	072	145	226	271	364	454	546	703
031	073	152	243	274	365	455	565	712
032	074	155	244	306	371	462	606	723
036	114	156	245	311	411	464	612	731
043	115	162	146	315	412	465	624	732
047	116	165	251	325	413	466	627	734
050	122	172	252	331	423	503	631	743
051	125	174	255	332	431	506	632	754
053	131	205	261	343	432	516	645	

SETTING OFFSET DIRECTION AND OFFSET FREQUENCY (ASY)

Comparing with simplex communication, repeater communication can trasmit signals further. Repeaters are often located on a mountain top or other elevated location. They often operate at higher ERP (Effective Radiated Power) than general stations. The combination of elevation and high EPR allows considerable communication distance. Most repeaters use separate receiving and transmitting frequencies. You can select the receiving and transmitting frequencies required when programming the channel (Depended on the repeater frequency you are accessing).

1.Press ⟨F⟩ + ⟨8 REV⟩ keys to enter into offset direction setting . LCD display shows " ASY no ".
2.Use ⟨▲⟩ / ⟨▼⟩ to select one among the following 3 modes:
 · ASY no : without offset frequency.
 · ASY uP : positive offset frequency.
 · ASY do : negative offset frequency.
3.Press ⟨F⟩ key again to confirm offset direction, and enter into the next setting selection.
 · If select ASY no, "without offset frequency" is selected, and the transceiver will exit the setting mode directly, and return back to VFO mode.
 · If select ASY uP, "positive offset frequency" is selected, and the LCD display shows 01.000. At the meantime, you can input the positive offset frequency required through the keypad (input range : 00.000 - 99.995).
 · If select ASY do, "negative offset frequency" is selected, and the LCD display shows 01.000.At the meantime, you can input the negative offset frequency required through the keypad (input range : 00.000 - 99.995).

Note：The combined frequency value of the offset frequency input and the present frequency, must be within the frequency range of the transceiver, or offset frequency and offset direction settings will be invalid.

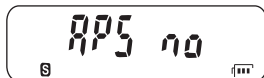4.Press ⟨F⟩ again to complete the setting, the transceiver will return back to VFO operation mode.

VOICE COMPANDER/SCRAMBLER (APS)

APS offers 3 modes for selection, default setting is OFF.

1. Press `F` + `9 SCR` to enter into APS.
2. Use `▲` / `▼` keys to select.

  · `APS no` : Without compander/scrambler function.
  · `APS co` : Voice Compander.
  · `APS Sc` : Voice Scrambler.

`APS no`

-Voice Compander (Co)
Voice Compander is an advanced audio frequency technique to suppress noise and enhance voice quality. This technique can bring more clear and melodious voice for you to keep smooth communication in noisy environment.
-Voice Scrambler (Sc)
Voice Scrambler can keep your conversation fully private. The transceiver recombines audio frequency and then transmits, making only communication group members with the same voice scrambler can receive your calls, otherwise the other transceivers cannot understand your conversation.

MEMORY CHANNEL SCAN LOCK/UNLOCK (S.A/D)

Sometimes you may hope some memory channels not to be scanned under scan mode. In the meantime, you can lock/unlock the memory channel monitored under scan (Default : On).

1. Press `V/M R` key to enter into memory recall mode under VFO mode.
2. Press `▲` / `▼` keys to select the Memory Channel you need to lock/unlock.
3. Press `F` + `0 SA/D` keys to complete lock/unlock.
  · If LCD displays " ★ " in the right, it means the channel has been locked; if it doesn't display, the channel has not been locked.

`145.000 01`

FREQUENCY STEP SETTING

If you cannot find the specific frequency, you have to change frequency intervals. It is the basic condition of selecting accurate receiving frequency to select an accurate frequency interval. Default value:10 KHz.

1. Press `F` + `* STEP` to enter into Frequency Step Setting under VFO mode.
2. Use `▲` / `▼` keys to select a frequency interval.
  · The frequency intervals available are 5,6.25,10,12.5,25 KHz.

`St 10`
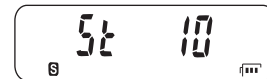
BROAD/NARROW BAND (W/N)

You can enter into Broad/Narrow band with `F` + `# W/N` keys, and use `▲` / `▼` keys to select the band width you need. Default value : Broad.

  · `bAdbɾo` : Broad band, 25KHz.
  · `bAdnAɾ` : Narrow band, 12.5KHz.

`bAdbɾo`

TIME OUT TIMER (TOT)

Uncertain continuous transmissions will do harm to a transceiver. In order to protect it from thermal damage, before the transmission time limit is over, a warning beep sounds. The default setting is 3 Min.

1. Press `F` + `H/L TOT` to enter into Time out timer setting.
2. Use `▲` / `▼` keys to select the time limit.
  · The time limits available : 1-8 minutes and OFF.
  · If your continuous transmissions exceeded the time limit, the transceiver will stop transmission and a "beep" sounds. If you want to stop the "beep" sound, release PTT key to restore to normal situation.

`tot. 3`
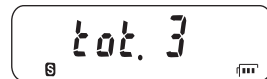
SCAN (SCAN)

It allows you to monitor the frequencies you want without the necessity of operating manually. After being familiar with various scan modes, you will increase your efficiency from flexibility of monitoring.
The transceiver provides with the following scan modes :
　・VFO frequency scan : All frequencies in the entire band.
　・Memory channel scan : Channels stored in the internal memory channel.

SCAN METHOD

Before using scan, it's necessary to decide under what condition you want your transceiver to continue scanning after detecting and stopping for a signal. You can select one of the following modes :
　・Time-Operated Mode (TO)
　　The transceiver stops scanning when detecting a signal, remaining for about 5 seconds, and then continues to scan even if the signal is still present.
　・Carrier-Operated Mode (CO)
　　The transceiver stops scanning when detecting a signal, remaining on the same channel until the signal disappears. There is a 2 seconds delay between signal disappearance and scan resumption to allow time for any responding stations to begin transmitting.

Note : Press any key other than LAMP, [▲] / [▼] will make the transceiver stop scanning.

SELECTING SCAN METHOD

1.Press [F] + [SCN] to enter into Scan method selection.
2.Use [▲] / [▼] keys to select :
　・5cn co : Carrier - Operated Mode.
　・5cn to : Time - Operated Mode.

VFO SCAN

VFO scan allows you to scan all frequencies from the lowest to the highest frequency in the entire band.
1.Press [SCN] key to begin scanning under VFO mode.
　・The scan will begin from the present frequency displayed on the LCD.
　・To control scan direction, press [▲] key to scan forward, or [▼] key to scan backward.
2.To cancel VFO scan, press any key other than LAMP, [▲] / [▼] .

MEMORY CHANNEL SCAN

Memory channel scan allows all stored memory channnles to be scanned.
1.Press [V/M] key to enter into Memory channel scan.
2.Press [SCN] key to begin scanning.
　・Scan starts with the channel last recalled.
　・To control scan direction, press [▲] key to scan forward, or [▼] key to scan backward.
3.To cancel Memory channel scan, press any key other than LAMP, [▲] / [▼] .

Note:
1.You have to store at least 2 memory channels without being locked so that you can proceed with memory channel scan.
2.The squelch function must be closed for scan to function.
3.You can proceed with memory channel scan under channel display mode.

You can store frequencies and common settings under memory channel so that you do not need to reset these data from the beginning every time. Just a simple operation can call the frequency you need. There are 199 memory channels available, you can store channels by frequency-writing software at dealers.

STORING MEMORY CHANNEL
1. Input the frequency you need under VFO mode.
2. Press [F] key, and **F** will flash on the LCD display.
   - The memory channel number will appear in the upper right corner.
3. Use [▲] / [▼] key to select the channel number where you want to store the frequency.
4. Press [V/M] key to confirm the setting and return back to VFO mode.
   - The frequency selected and the related data will be stored in the memory channel.
   - If the memory channel selected in Step 3 has data in it, the new data will replace the old one.

```
 144.500  02
S F            ▲
```

Note : Before storing the memory channel, please confirm if the receiving / transmitting squelch numbers and the related settings have fully been set.

USING MEMORY CHANNEL
1. Press [V/M] key to enter into memory recall mode.
   - The memory channel used last appears in the LCD display. If this is the first time you use, then the least channel number will appear.
2. Use [▲] / [▼] keys to select the memory channel you would like to use.
   - If you want to resume to VFO mode, press [V/M] key to switch.

Note : The memory channel must have data stored or it cannot be used.

```
 145.500  03
S              ▲
```

INITIALIZING MEMORY
If your transceiver seems to be malfunctioning, initializing the transceiver may resolve the problem. Remember that you have to reprogram memory channels after initizlization. On the other hand, initialization is a quick way to clear alll memory channels.
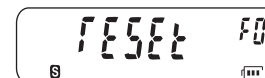
FULL RESET INITALIZATION (MEMORY MODE)
Used to initialize all settings.
1. Press [F] key and hold, and turn on the power switch.
   - Release [F] key after turning on the power switch.
   - The LCD display will show a menu for selection.

```
 ALLISt  F0
S             
```

2. Press [F] key, reset will appear for you to confirm if all settings will be reset.
   - The LCD display appears a menu for selection.

```
 rESEt   F0
S             
```

3. Press [F] key to finish setting.

PARTIAL RESET INITIALIZATION (VFO MODE)
Used to initialize all settings except memory channel / memory channel lock.
1. Press [F] key and hold, and turn on the power seitch.
   - Release [F] key after turning on the power switch.
   - The LCD display will show a menu for selection.

```
 ALLISt  F0
S             
```

2. Use [▲] / [▼] to select " SEtrSt ".
   - The LCD display appears a menu for selection.

```
 SEtrSt  F1
S             
```
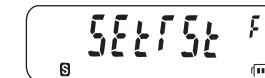
3. Press [F] key to finish confirmation and return back to VFO mode.

CHANNEL RESET INITIALIZATION (MR MODE)

Used to initalize memory recall mode.
1. Confirm the channel mode is under MR mode, and select the memory channel you would like to delete.
2. Press [F] key and hold, and turn on the power switch.
   - Release [F] key after turning on the power switch.
   - The LCD display will show a menu for selection.

```
ALLrSt  F0
```

3. Then use [▲]/[▼] key and select "cHArSt".
   - The LCD display will show a menu for selection.

```
cHArSt  F2
```

4. Press [F] key to finish confirmation, and the LCD display will show the memory channel next to the deleted one.

USAGE AND MAINTENANCE INSTRUCTION

- Keep the transceiver dry. Rain, moisture, all kinds of liquid and water may lead to circuit corrosion. If it is wet, remove the battery. Please don't install the battery until the transceiver is fully dry.
- Don't keep the transceiver in dusty or dirty places, which will damage the detachable parts and electronics components.
- Don't keep the transceiver in overheated places. High temperature will shorten the life of electronics equipments, destroy batteries, and deform or melt some plastic parts.
- Do not place the transceiver in over cooling places. Otherwise when it reaches the normal temperature, internally generated moisture will destroy printing circuit boards.
- Turn on the transceiver according to the instruction of the manual, never try other methods.
- Never drop, knock, or shake the transceiver. Treat it rudely will damage internal printing circuit boards and precision structures.
- Never use strong chemicals, cleaning agents, or detergents to clean the transceiver.
- Do not paint the transceiver with pigments. The painting may form a clog in the detachable parts and affect normal operation.
- Don't hold the antenna directly or have an external microphone connection.
- When replacing an antenna, use only the one accompanied with the kit or an approved one. An unapproved, refitted one may damage the transceiver.
- Please charge indoors.
- Cover with the earphone plug when the transceiver is not in use.
- Please backup the necessary data (such as frequencies and channels) before you send your transceiver to an authorized repair station for service.

The above suggestions equally apply to your transceiver, battery, charger, and every accessory. If any equipment cannot operate properly, pleae forward to an authorized repair station for service.

For accuracy, the information contained in the manual has been checked carefully. If there are still any possible printing mistakes or translation errors, please feel free to point out. ADI reserves the right to change the product setting and specification without prior notice.