SFE®

——Rugged-reliable Two-way Communications

ST30
License Free Radio

USER MANUAL

成品尺寸：7x10.5cm

Introduction

Thanks for your purchasing this SFE two-way radio, a truly versatile, professional and durable radio that will provide reliable, high quality communication, even under harsh and demanding conditions, before operation and to obtain the best performance, please read this manual carefully to become familiar with the radio's features and uses.

Contents

Contents

Safety Information

Please read the following information carefully to become familiar with your new SFE two-way radio ST30:
- Do not attempt to repair, disassemble or re-assemble the radio. Repair should only be carried out by a qualified Radio Engineer.
- In order to avoid electromagnetic interference, please turn off the radio in any areas where radio transmissions are not permitted e.g. Hospitals, Aircraft, etc.
- Do not place a radio in any area over, or in the deployment area of an Air Bag within a vehicle.
- Never operate the radio in potentially flammable and explosive atmospheres.
- Never replace or charge batteries in potentially flammable and explosive atmospheres.
- Do not operate the radio if its antenna is damaged.
- Do not expose the radio too long periods of direct sunlight, for example on the dashboard of a vehicle or close to heating appliances.
- When using your radio, try to keep it vertical and at a distance of 5~10cm from your mouth.
- Keep a distance of at least 2.5cm between the antenna and your head and body when transmitting.
- Do not place a radio in any area,such as in dusty,wet places or uneven surfaces.

1

Supplied Accessories

Please open the box carefully and check that the following items are included.If you find any items are missing or have been damaged during shipment, please contact your SFE dealer immediately.
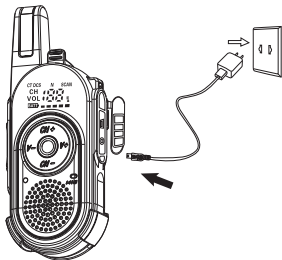
ST30 Two-way Radio	x1
Li-Ion Battery	x1
AC Adaptor	x1
Wrist Strap	x1
Belt Clip	x1
User Manual	x1

2

⚠ Caution:

Li-ion battery packs and flammable objects. Mishandling may cause the battery to rupture producing flames or extreme heat. Please take note of the following precautions.

- In order to avoid damage to the battery, only use the charger provided. The supplied charger is an intelligent charger and has automatic overload-protect functions built in.
- The optimal charging temperature is between 10°C and 35°C. When charging in temperatures below 10°C there may be a leakage of electrolyte which will damage the battery. If charging above 35°C, battery performance will be reduced.
- Do not recharge the battery pack if it is already fully charged as this will cause damage and shorten the life of the battery.
- Do not short-circuit the battery pack or dispose of in a fire.
- Please do not assemble the battery pack.
  Never attempt to remove the casing from the battery pack.
- Do not immerse the battery in water or allow it to get wet by other means.

3

Battery Charging

If the RED LED flashes and the radio sound a beep every 30s after install the battery into radio, that means the battery is low. Please use the supplied AC Adaptor to charge the battery.
Connect the AC Adaptor to the USB Jack(see Figure 1).
The LED begin to flash RED-indicating that charging is in progress.
The LED will turn GREEN when the battery is fully charged.
Note: When radio is in charging status, TX is inhibited.

IMPORTANT: Changes or modifications to this unit not expressly approved by **SFE ST30 two way radio.** could void your right to operate this unit. Your radio is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the settings inside the COMMUNICATOR to exceed those limitations. Any adjustment to your radio must be made by qualified technicians.

4

Internal Antenna

LCD

Channel CH±

Volume V±

Status Indicator

Charging Indicator

MIC Microphone
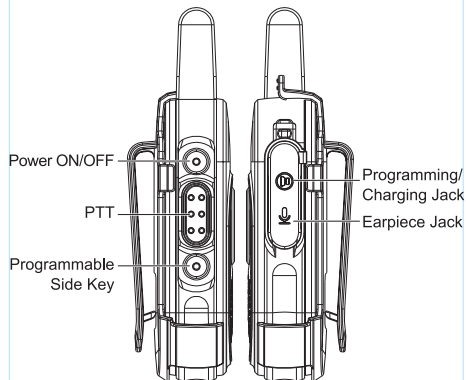
SP Speaker

LCD Display

CT: CTCSS Code   DCS: DCS Code
N: Narrow Bandwidth   Scan: Scan Function
CH: Channel   VOL: Volume Level
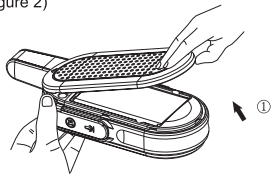188: Channel Number/Volume Level/CTCSS/DCS Code

Key Lock   BATT   Battery Indicator

5

Power ON/OFF

Programming/ Charging Jack
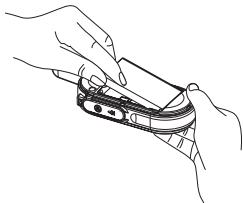
PTT

Earpiece Jack

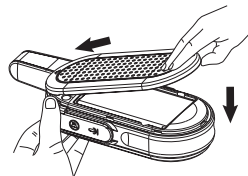Programmable Side Key

6

■ Installing/Removing the Battery Pack

(1) Make sure the radio is turned off. Hold the top of radio body, push the battery button with finger along with the direction shown as, lift the battery cover, and remove it from behind. (See Figure 2)
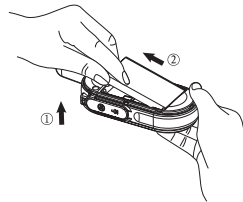
①

(2) Place the rechargeable battery pack onto the back of the radio making sure the tabs are located correctly in the bottom of the radio and the battery retention catch is fully open (It will only fit in one way). Press the battery pack firmly against the radio body and close the battery retention catch clicking it firmly into place. (See Figure 3)

(3) Snap the battery pack into place until you heard a click. Check that the battery pack fits tightly in place against the body of the radio. (See Figure 4)
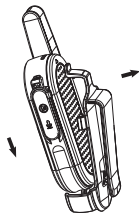
(4) To remove the battery pack, pull open the battery retention catch and lift the battery pack from the body of the radio along with the shown direction. (See Figure 5)
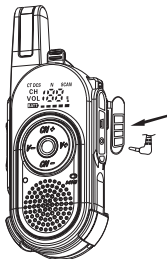
②

①

■ Installing/Removing the Belt Clip

When installing the embracing back clip, align the three clamping positions of the belt clip with the battery back shell and gently press the bottom belt clip. When removing the back clip, buckle along the top and carefully remove the belt clip as the shown direction. (See Figure 6)

■ Installing an Earpiece

Turn the radio OFF. Open the Speaker/ microphone plastic cover with your fingernail, and then insert the speaker/ microphone plug into the SP/MIC jacks making sure it is all the way home, then turn the radio on. Remember to turn off the radio before removing the Earpiece. (See Figure 7)
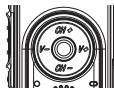
■ Power ON/PFF

Please long press the ON/OFF button for 3 seconds, the radio device will POWER ON. Long press again for 3seconds, the radio device will POWER OFF.(See Figure 8)

■ Volume Adjustment

When Radio power on, press the V+ or V- button to adjust the volume level between Level 1~Level 8.

■ Channels Selection

When Radio power on, press the CH+ or CH- button to select the desired talking channel between CH1~CH32.

■ Receiving

When radios receive any signal, the LED indicator will turn green, you can hear the calling.
Note: If the transceivers has set at higher squelch level, it may fail to heard the calling.If the LED indicator turns green but can not hear the calling, that means the signal is with matching carrier but dis-matching CTCSS/DCS.

■ Transmitting

Hold PTT to start transmitting. Please hold the microphone approximately 2.5~5.0cm from your mouth, and the speak into microphone in your normal voice to get the best timbre.
Note: The LED indicator will turn red when transmitting, release PTT to standby or receive callings.

The side key can be re-assigned to any of the following functions by programming software and you can select "short press" or "long press" (with long press duration 0.5-2.5 seconds) as per your request. -None -Squelch OFF -Channel Scan -Key Lock -Signaling Set Functional Description:

None: No Functions

Squelch OFF:
Please press the pre-programmed "Squelch OFF"
function key to activate squelch off function, press again to exit.

Channel Scan:
Please press the pre-programmed "channel scan" function key, the LED GREEN light will start flashing, the transceiver will start to scan all channels one by one from setup scan list. Once received any signals with matching signaling on one channel, the LED will always light GREEN and the radio will stop on current channel, users can press PTT to communicate on this channel. Press again to exit.

Key Lock:
Please press the pre-programmed "key lock" function key, the transceiver will be locked on current channel and current volume level. In this status, it's invalid to press CH+, CH-, V+, V- buttons. The radio will sounds alert tone "Du~" if press any buttons.

Signaling Set:
Please long press the pre-programmed " signaling set" function key to enter into signaling setup. Long press again to save the setting signaling, the transceiver will auto re-power on again.

11

1. Make sure the transceiver power ON, long press function key, enter into signaling setup, the LCD will display [ ] (The green diamond inside red circle will be flashing), please press CH+ or CH- button to select the desired channel.

2. Press V+ or V- button to switch setup signals on receiving or on transmitting. when the LCD display [ ] (The green diamond inside red circle is flashing), it means selected signaling setup on receiving; when the LCD display [ ] (The green diamond inside red circle is flashing), it means selected signaling setup on transmitting.

3. Please short press the power on button to select signaling types: None [ ] , CTCSS [ ] , DCS [ ] .

4. Please press CH+ or CH- button to switch the signaling No. (please refer to the sub-tone table)

5. Repeat step1~ step4 to setup signaling on other channels.

6. After finished setup on all channels, long press the pre-programmed "signaling set" function key again, the transceiver will save the setting signaling successfully and automatic re-power on again.

12

■ CTCSS/DCS

Allow the user to select a specific CTCSS/DCS code per channel via programming software.

If CTCSS/DCS has been set on the current channel, CTCSS/DCS match is required for radio to unmute to an incoming signal.

If CTCSS/DCS is not set, the radio can receive calls from all users operating on the same frequency.

Your dealer may program the current channel with CTCSS/DCS, to prevent unwanted conversation on the same frequency.

This feature does not mean that your conversation will not be heard by others. Radios with the same CTCSS/DCS can receive calls from you.

■ Time-out Timer(TOT)

The purpose of the time-out timer is to prevent any caller from using a channel for an extended period and avoid any damage caused by long time transmission.Once a continuous transmission exceeds the preset time(Programmable by dealer), the transceiver will automatically stop transmitting and emit a warning tone until the PTT is released. Time-out timer range: 30-240s, steps: 30s, default: 180s.

■ TOT Pre-Alert Time

The radio will sound the Pre-Alert Tone at the programmed TOT Pre-Alert time.
Range: 0~10S
Default: 0

■ TOT Re-Key Time

When this function is activated, transmission will be prohibited until TOT Re-Key Time expires, even if you have pressed the PTT key.
Range: 0~60S.
Default: 0

■ TOT Reset Time

If the time interval between two transmissions is less than the TOT Reset Time, they will be deemed as a continuous transmission. When this function is activated, the TOT continuous even after PTT is released unless the TOT Reset Time has expired.

■ Busy Channels Lockout(BCL)

When the BCL function is enabled, the transceiver will not transmit on a channel that is already in use, to avoid disturbing other transceiver using the same frequency, Press the PTT on the busy channels, the radio will sound an alert tone and turn back to the receive mode.

Carrier: If BCL is set on the current channel, press the PTT key while the channel is already in use, and the radio will sound beeps without transmission.

CTCSS/DCS: If CTCSS/DCS and BCL are set on the current channel, press the PTT key while the channel is already in use, and the radio will sound beeps without transmission.

Function and Operation

■ Battery Save

If this function is programmed by your dealer, the transceiver will automatically switch to battery save mode when there is no receiving and no operation for more than 10 seconds. When the transceiver receives an incoming signal or is used to transmit, the battery save mode switch off automatically.Battery save can be programmed ON/ OFF by PC software programming.

■ Low Battery Alert

The RED LED flashes and the radio sounds "Please change the battery" every 30seconds, to alert the user to recharge the battery or replace it with a fresh one when the battery power runs low.

Troubleshooting and Maintenance

Troubleshooting

Problem	Solution
The transceiver does not work when switched on.	The battery is low.Please recharge the battery pack and make sure the battery pack is properly fitted or insert a fresh battery, refit it if necessary. Swap the battery onto another radio to check if one is available.
The battery runs out in a short time.	The battery is no longer in good condition and needs to be replaced with a new one.
The radio can not communicate with other units in the same user group.	The radio is out of usable range, is not on the same channel, is not of the same model type, or the CTCSS/ DCS/CC Code/Group ID settings and/or frequencies are incorrect and do not match. Please reset it.
The radio receives unwanted transmissions.	Change the channel of all radios in the required group to a quiet channel, or change CTCSS/DCS of all the radio in the required group.

Maintenance and Cleaning

Do not carry the transceiver by the antenna or attached audio accessories. Always turn the transceiver OFF when attaching or detaching audio accessories. Clean the button,control knob and radio body with a dry cloth when it has been unused for a long time or became dirty.

General	
Frequency range	PMR446 / FRS
Channel capacity	22CH(FRS) 16CH(PMR446)
Channel spacing	12.5Hz
Channel step	2.5/5/6.25/10/12.5/15/20/25KHz
Operating voltage	3.7V DC
Battery capacity	Li-Ion battery 1200mAh 11 hours according to 5-5-90
Operating temperature	-20°C to + 40°C
Frequency stability	±2.5ppm(-20°C to + 60°C)
Antenna impedance	50 Ω
Dimensions	94x45x24mm(exclude projection)
Weight	About 99g(including battery and antenna)

Transmitting	
Frequency Error	$\leqslant 5\times10^{-6}$
RF power output	FRS$\leqslant$2W PMR$\leqslant$0.5W
Modulation Limit	$\leqslant$5KHz
Audio distortion	$\leqslant$5%
Modulation	± 3dB
Adjacent channel power	$\geqslant$65dB
Spurious RF sponderance	$\leqslant$7.5μW
Used bandwidth	$\leqslant$11KHz

Receiving	
Frequency sensitivity	12dB(SINAD) 0.18uV
Audio distortion	$\leqslant$5%
Audio sponderance	+2dB~−10dB
Common-channel restraint	$\geqslant$−8dB
Adjacent-channel selectivity	$\geqslant$55dB
Inter-modulation distortion	$\geqslant$55dB
Spurious response	$\geqslant$55dB
Jam-up	$\geqslant$85dB

50 Groups CTCSS

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	

110 Groups DCS(N/I)

017	053	122	165	246	311	371	455	546	664
023	054	125	172	251	315	411	462	565	703
025	065	131	174	252	325	412	464	606	712
026	071	132	205	255	331	413	465	612	723
031	072	134	212	261	332	423	466	624	731
032	073	143	223	263	343	431	503	627	732
036	074	145	225	265	346	432	506	631	734
043	077	152	226	266	351	445	516	632	743
047	114	155	243	271	356	446	523	645	754
050	115	156	244	274	364	452	526	654	760
051	116	162	245	306	365	454	532	662	765

Quanzhou SFE Electronic Technology Co.,Ltd warrants against defects in material or workmanship, for a period of 18 months for radio body, and for a period of 6 months for batteries and accessories, from the date of original purchase. This warranty is limited to repair or replacement of defective parts only and is not valid if the equipment has been tampered with, misused or damaged.

This manual is special for transceiver ST30 series.

Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Device operation up to maximum duty cycle 50% and compliance with the public environment RF Exposure.

To obtain a license or ask questions about the license application, contact the FCC at 1-888-CALL FCC or go to the FCC's website: **http://www.fcc.gov** and request form **605**.

Use this ST30 TWO WAY RADIO in the environment with the temperature between -10°C and 40°C, otherwise, it may damage your TWO WAY RADIO. It can be operating under 2000m.

Hereby, QUANZHOU SFE ELECTRONIC TECHNOLOGY CO.,LTD declare that the radio equipment type ST30 TWO WAY RADIO is compliance with Directive 2014/53/EU.

CE

Operation Frequency: 446.00625-446.19375MHz

Rated Output Power: 0.5W

For safe operating, the antenna for the product shall be least 25mm away from your face and 0mm from your body with belt clip.

The product supplied by Li-ion battery and charged from approved Travel Charger.

21

LIMITED WARRANTY