

**Joycall**

FRS TWO WAY RADIO



~~USER'S MANUAL~~



## ATTENTION

Joycall JF18 is a multitask FRS transceiver. Combining the latest technology in radio communication along with a sturdy mechanical frame, JF18 is the ideal and effective solution for the professionals who need to stay in touch with the working team (in construction sites, buildings, shows, trade fairs or hotels) or for leisure users that just want to keep up with friends and family. To help you ward off bodily injury or property loss that may arise from improper operation, please read all the information carefully before using our products.

### FCC RF EXPOSURE

**WARNING!** It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following:

Do not use the radio with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result.

Please contact your local dealer for a replacement antenna.

#### ■ Hand-Held Operation (Held-to-Face)

This device was evaluated for typical hand-held (held-to-face) operations with a 1 inch spacing from the front of the radio. For hand-held operation, the radio should be held 1 inch from the user's face in order to comply with FCC RF exposure requirements.

#### ■ Body-Worn Operation



This device was evaluated for body-worn operations with the supplied belt-clip accessory. (All necessary accessories are included in the package; any additional or optional accessories are not required for compliance with the guidelines.) Third party accessories (unless approved by the manufacturer) should be avoided as these might not comply with FCC RF exposure guidelines.

For body worn operation, this device has been tested and meets the Industry Canada RF exposure guidelines when used with Joycall accessories supplied or designated for this product. Use of other accessories may not ensure compliance with Industry Canada RF exposure guidelines.

Fonctionnement de l'appareil, lorsque porté sur le corps. Cet appareil a été testé et s'est avéré conforme aux normes d'Industrie Canada et approuvé pour le port sur le corps à l'aide des accessoires Joycall inclus et conçus pour cet appareil. L'utilisation d'accessoires ne respectant pas les exigences d'exposition RF d'Industrie Canada doit être évitée.

This radio complies with IEEE and ICNIRP exposure limits for general population/uncontrolled RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC/ISED for uncontrolled use only.

## **FCC PART 15 /IC COMPLIANCE**

### **■ FCC PART 15 COMPLIANCE**

This device complies with Part 15 of the FCC rules. Operation is subjected to the following two conditions: (1) this device may not cause harmful



interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

Avis de conformité à la FCC : Ce dispositif a été testé et s'avère conforme à l'article 15 des règlements de la Commission fédérale des communications (FCC). Ce dispositif est soumis aux conditions suivantes: 1) Ce dispositif ne doit pas causer d'interférences nuisibles et; 2) Il doit pouvoir supporter les parasites qu'il reçoit, incluant les parasites pouvant nuire à son fonctionnement.

Tout changement ou modification non approuvé expressément par la partie responsable pourrait annuler le droit à l'utilisateur de faire fonctionner cet équipement.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or



more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## ■ IC COMPLIANCE

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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

Cet appareil est conforme aux normes RSS exemptes de licences d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférences nuisibles et (2), il doit pouvoir accepter les interférences, incluant celles pouvant nuire à son fonctionnement normal.

Tout changement ou modification non approuvée expressément par la partie responsable pourrait annuler le droit à l'utilisateur de faire fonctionner cet équipement.



## PRECAUTIONS FOR BATTERIES

### ■ Charging Prohibitions

To protect you against any property loss, bodily injury or even death, be sure to observe the following safety instructions:

1. Do not charge or replace your battery in a location containing fuels, chemicals, explosive atmospheres and other flammable or explosive materials.
2. Do not charge your battery that is wet. Please dry it with a soft and clean cloth prior to charge.
3. Do not charge your battery suffering deformation, leakage and overheat.
4. Do not charge your battery with an unauthorized charger.
5. Do not charge your battery in a location where strong radiation is present.
6. Overcharge shall always be prohibited for it may shorten the life of your battery.

### ■ Maintenance Instructions

To help your battery work normally or prolong its life, be sure to observe the following instructions:

1. Accumulated dust on charging connector may affect normal charging. Please use a clean and dry cloth to wipe it on a regular basis.
2. It is recommended to charge the battery under 5°C~40°C. Violation of the said limit may cause battery life reduction or even battery leakage.



3. To charge a battery attached to the product, turn it off to ensure a full charge.
4. Do not remove the battery or unplug the power cord during charging to ensure a smooth charging process.
5. Do not dispose of the battery in fire.
6. Do not expose the battery to direct sunlight for a long time nor place it close to other heating sources.
7. Do not squeeze and penetrate the battery, nor remove its housing.

#### **■Transportation Instructions**

1. Damaged batteries must not be transported.
2. To avoid short circuit, separate the battery from metal parts or from each other if two or more batteries are transported in one packaging.
3. The radio must be switched off and secured against switch-on, if the battery is attached.

The content of the shipment must be declared in the shipping documents and by a Battery Shipping Label on the packaging. Contact your hauler for the local regulations and further information.

#### **■Precautions for Disposal**

Once the service life of our products (including but not limited to radios and batteries) has ended, they shall not be disposed as household garbage. Their recycling and disposal shall satisfy your local regulations.



## MAINTENANCE

To be safe and sure:

- Never open your radio's case.
- Never change or replace anything in your radio except the batteries.

### ■Care and Safety

Your JF18 was designed to fulfill any warranty obligations and to enjoy this product for many years.

As for all the electronically devices, we recommend you to follow this few suggestions:

- Do not attempt to open the unit. Non-expert handling of the unit may damage it and/or annul the warranty.
- When using regulated power supply, take notice of power voltage that must be 5V to avoid damages.
- High temperatures can shorten the life of electronic devices, and warp or melt certain plastics. Do not store the radio in dusty or dirty areas.
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.
- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off the charger or battery from the Radio.
- Do not transmit without antenna.



- To clean the radio, use a soft cloth dampened with water. Do not use cleaners or solvents because they can harm the body of the unit and leak inside, causing permanent damage.
- Use a dry, lint-free cloth to clean the battery contacts.

### ■Hazardous Environments

Do not operate the radio in hazardous environments. Explosion or fire may result. Do not operate the radio near unshielded electrical blasting caps.

Under certain conditions, radios can interfere with blasting operations and may cause an explosion. Turn your radio OFF to prevent accidental transmission when in a blasting area or in areas posted: "Turn off two-way radio." Construction crews often use remote control RF devices to set off explosives.

**WARNING!** Read this information before using the radio. In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters.

Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of the radio complies with the FCC guidelines and these international standards.



Never allow children to operate the radio without adult supervision and the knowledge of the following guidelines.

## **PACKAGE CONTENTS**

- 1 FRS Radios
- 1 1800mAh Li-ion battery pack
- 1 User manual
- 1 Belt clip
- 1 USB cable

*Note: The number of the above materials may be depending on the number of packages.*

## **MAIN FEATURES**

- FRS transceiver (No license required)
  - 22 Modifiable FRS two-way channels
  - Channel spacing: 12.5 KHz
  - Vocal tuning
  - Battery low alert
  - LED flashlight
  - 50 CTCSS & 210 DCS
  - Micro USB connector for charging
  - Channel monitor
  - Channel scan
  - Battery save
  - TOT (Time out timer)
  - 2pinKenwood jack
  - Li-Ion1800mAh battery pack
- Battery Life: up to 18 hours (under typical use conditions)

## **Programming software (optional)**

Thanks to Joycall Programming software CPS-JF18-FRS, it is possible to



increase the performance of your radio or to reduce its functionality by disabling some of the default features (CTCSS, DCS, TOT, VOX...)

For further information, please consult the Programming software manual.

Any attempt to change frequencies or output power of the radio invalidates the approval.

## **BATTERY RECHARGE**

JF18 is equipped for using a 3,7V Li-ion rechargeable battery pack which can be recharged by connecting the USB cable to the radio and to a USB-charger (5V-1A). It takes 5 hours to fully recharge the radio.

For maximum battery life, we recommend charging the battery pack when the BF-JF18 is off and the battery pack is fully discharged.

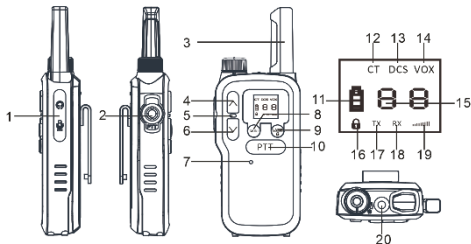
The Battery power saving feature enables a reduction in consumption of up to 50%. If it has been set, it automatically activates when the transceiver does not receive any signal for more than 5 seconds in order to save the battery life.

The Power saving function is activated by default and can be modified only by soft-ware.

**Note: Using a different battery charger other than the one specified can cause damage to your device or may even cause explosions and personal injuries.**

## **GETTING ACQUAINTED**





1. External Speaker/Microphone Jack
3. Antenna
5. Led indicator: RED: TX; GREEN: RX.
7. Microphones
11. Battery level indicator
13. DCS enabled
15. Channel (1-22)
17. Transmit Status
19. Transmit power indicator

2. PTT key
4. ▲UP key
6. ▼DOWN key
8. Monitor key
10. PTT Key
12. CTCSS enabled
14. VOX enabled
16. Keypad lock enabled
18. Receive Status
20. LED Flashlight

## OPERATIONS




### **Power on/off and volume adjustment**

Rotate the Power/Volume knob clockwise to turn the radio on. Rotate the control clockwise /counter-clockwise to adjust the volume level as you prefer. To turn the radio off, rotate the control counter-clockwise till hearing a mechanical “click”.

### **Channel selection**


In standby mode, directly press the ▲ / ▼ key to step down or down to select the channel. Press and hold the ▲ / ▼ key to quickly switch channels down or up. The corresponding channel is displayed digitally. When the voice prompt function is turned on, the corresponding channel is broadcast by voice.

### **Transmission**



To communicate, all radios in your group must be set to the same channel. Briefly press the **MONI**  key to enable the Monitor feature in order to make sure that the frequency is not busy, and then press the **[PTT]** key. Release the **[PTT]** key to receive. Only one user at a time can talk during radio communications. Therefore, it is important not to transmit when you are receiving a communication and use the transmission mode sparingly to allow other users to talk. Transmission consumes a significant amount of energy and should therefore be used sparingly to prolong the battery life. If you are unable to contact a station that you have no problems in receiving, the station may be using CTCSS tones or DCS codes.




## Monitor

The Monitor feature is for excluding (opening) the Squelch, in order to listen to signals that are too weak to keep the Squelch permanently opened. Hold down the **MONI**  key to enable such function.


## Scan

This function can only be activated by programming software. To enable the scan function, all 22 channels must be programmed. When the radio is turned on, press and hold the  and  keys at the same time, and scanning will start automatically. Whenever any signal is detected, the scan stops on a busy channel. If you press and hold PTT, you will send on the latest busy channel. Press any function key to exit the scanning state.

## Flashlight

With JF18 turned on, shortly press the **LAMP**  to turn on/off the flashlight at the top side of the radio.

## English/Chinese language switch

Press and hold the **PTT** and  key to turn on the radio and switch the prompt language between English and Chinese.

## VOX

The VOX feature enables hands free conversations without using PTT: just speak in the direction of the microphone and the communication will be automatically activated. The VOX sensitivity can be adjusted in 5 different levels (1...5) through the programming software:



Level 2 is set by default and has the lowest VOX sensitivity, 5 is the lowest one.

With the programming software you can enable/disable the VOX feature and select the sensitivity levels.

**CPS programming path: Edit > VOX > VOX Level**

### **Squelch**

The Squelch function suppresses noises on free channels and allows receiving even weak signals. JF18 has 10 different Squelch levels that can be set by programming software: 0 means that the Squelch is turned off; from level 1 to level 9 you will have different levels of noise reduction. The higher is the level, the louder will be the Squelch. By default, the Squelch level of JF18 is set on level 4. Make sure you do not set an excessively high squelch level because in this case you may not be able to receive weaker signals. On the other hand an excessively low Squelch value could enable the Squelch even when no signals are present. Squelch must always be adjusted when no signals are present. The Time Out timer is settable from 30 sec to 270 sec. only through the programming software. This feature is disabled by default.

### **CTCSS/DCS tones**

CTCSS and DCS tones are similar to access codes and enable the radio to communicate only with the users that are tuned on the same channel and have set the same code. For each channel, you can set up to 50 CTCSS tones and 210 DCS codes. The CTCSS/DCS tones are a sort of “access codes” and



enable the radio to communicate only with the other users set on the same frequency and on the same CTCSS/DCS tone. Undesired signals coming from other stations set on the same frequency but with different CTCSS/DCS tones won't be received.


### NOAA Weather Radio

Your radio can receive weather broadcasts from the NOAA National Weather Service.

While using the Weather Radio, you are not able to receive FRS communications.

1>To turn on the Weather Radio Broadcast mode, press **MONI** .

2> Press ▲ / ▼ to select the desired number of weather channels.

3>To exit the Weather Radio Broadcast mode, press **MONI** .

NOTE: There are 10 NOAA channel frequencies available and these frequencies are common between the US and Canada. You need to know what frequency is being transmitted in your location.

#### NOAA Weather Radio Frequency List:

Chan.	Freq. (MHz)	Chan.	Freq. (MHz)
WEATHER 1	162.550	WEATHER 6	162.500
WEATHER 2	162.400	WEATHER 7	162.525
WEATHER 3	162.475	WEATHER 8	161.650
WEATHER 4	162.425	WEATHER 9	161.775
WEATHER 5	162.450	WEATHER10	161.750



## Appendix A. – FRS Channels and Frequencies

CH.No	CH.Freq. (MHz)	CH.No	CH.Freq. (MHz)
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250



## Appendix B. – Technical Specifications

### General Part

Frequency Range	FRS
Working temperature	-30°C to +50 °C
Operation Voltage	DC 3.7 V form battery or DC 5V form adapter
Operation Mode	Simplex
Antenna Impedance	50ohm
Duty cycle	50%

### Transmitter Part

RF Output Power	31.02dBm (462MHz), 26.13dBm (467MHz)
FM Modulation	11K0F3E@12.5KHz
Adjacent Channel Power	60dB @ 12.5KHz
Transmission current	≤1000mA

### Receiver Part

Receive Sensitivity	0.25μV (12dB SINAD)
Adjacent Channel Selectivity	≥55dB@12.5KHz
Inter Modulation and Rejection	≥55dB@12.5KHz
Conducted Spurious Emission	≤-57dB@12.5KHz
Rated Audio Power Output	1W @8 ohms
Rated Audio Distortion	≤5%

**NOTE: All specifications may be modified without prior notice or liability.**



## Appendix C. – Trouble shooting guide

Phenomena	Analysis	Solution
You cannot turn on the radio.	The battery may be installed improperly.	Remove and reattach the battery.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirty or damaged battery contacts.	Clean the battery contacts or replace the battery.
During receiving, the voice is weak or intermittent.	The battery voltage maybe low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume.
	The antenna maybe loose or maybe installed incorrectly.	Turnoff the radio, and then remove and reattach the antenna.
	The speaker maybe blocked.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signaling type maybe inconsistent with that of other members.	Verify that your TX/RX frequency and signaling type are correct.
	You may be too far away from other members.	Move towards other members.
You hear unknown voices or noise.	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio in analog mode maybe set with no signaling.	Request your dealer to set signaling for the current channel to avoid interference
You are unable	You may be too far away from other	Move towards other



to hear anyone because of too much noise and hiss.	members.	members.
	You may be in an unfavorable position. For example, your communication may be blocked by high buildings or blocked in an underground area.	Move to an open and flat area, restart the radio, and try again.
	It may be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The radio keeps transmitting.	VOX may be turned on or the headset is not installed in place	Turn off the VOX function. Check that the headphones are in place.

**NOTE: If the above solutions cannot fix your problems, or you may have some other queries, please contact your dealer for more technical support.**



## Disclaimer

The accuracy and completeness of the contents are sought in the process of compilation, but we do not bear any responsibility for the possible errors or omissions. With the continuous development of technology, we reserve the right to change the design and specification of the product without notice. No copy, modification, translation and dissemination of this handbook may be made in any form without the prior written authorization of our department.



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