Manuals+ — User Manuals Simplified.

Surwave 2BEU3-FD2 FD2 Two-Way Radio

Surwave 2BEU3-FD2 FD2 Two-Way Radio Owner's Manual

Contents

Surwave

Surwave 2BEU3-FD2 FD2 Two-Way Radio

Specifications

- Model: FD-II Two-way radio
- Channels: 16 conventional channels
- Features: VOX operation, Bluetooth headset operation, Channel
  monitoring, Scanning

Product Usage Instructions

Turn On/Off the Radio
To turn on the radio, rotate the Power/Volume knob clockwise. To turn it off, rotate the knob counterclockwise until a click is heard.

Adjust the Volume
Rotate the Power/Volume knob to adjust the volume.

Select Channel
Rotate the Channel Selector knob to choose the desired channel.

- **Transmit:**
    1. Turn on the radio.
    2. Select the desired channel.
    3. Ensure no activity on the channel.
    4. Press the PTT button and speak into the microphone.
    5. Release the PTT button to finish transmission.
- **Receive:**
    1. Turn on the radio.
    2. Select the channel.
    3. Adjust the volume.

VOX Operation
To activate hands-free operation using VOX, connect a compatible headset, turn off the radio, then turn it on. Note that pressing the PTT button disables VOX.

Operation

1. Briefly press the Scan key to start scanning channels.

2. If activity is detected, it stops on that channel. Press PTT within 5 seconds to communicate.

Frequently Asked Questions (FAQ)
Q: How many channels does the radio provide?
A: The radio provides 16 conventional channels. However, some channels may not be programmed. Contact your dealer for more information.

The Module is applicable to the following model:
FD-II Two-way radio

Two-way radio section

General	
Frequency Range	450-470MHz
Channel Capacity	16
Channel Spacing	12.5KHz/6.25KHz
Operating Voltage	7.4V
Frequency Stability	±2.5ppm
Operating Temperature	-20℃~+50℃
Antenna Impedance	50Ω
Transmitter	
RF Power Output	4W @12.5K /1W@12.5K/6.26K
Modulation	11K00F3E(only for high Power) /6K00F3E
Spurious and Harmonics	≤7.5uW
FM Noise	45dB
Audio Distortion	≤5 %
Receiver	
Sensitivity	0.25uV
Selectivity	55dB
Intermodulation	55dB
S/N	45dB
Rated Audio power output	500mW
Rated Audio Distortion	≤5%

Basic Operations

Turn On/Off the Radio
To turn the radio on, rotate the "Power/Volume" knob clockwise. An alert tone indicates that the self-test of the radio completed successfully. The LED glows green during power-up.
To turn the radio off, rotate the "Power/Volume" knob counterclockwise until a click is heard.

Adjust the Volume
Rotate the "Power/Volume" knob to adjust the volume.

Select Channel
The radio provides 16 conventional channels. Some of the channels may be not programmed and, therefore, not used. Please contact your dealer for more details.

Rotate the "Channel Selector" knob to select the wanted channel.

Transmit

1. Turn on the radio.
2. Rotate the "Channel Selector" knob to select the wanted channel.
3. Make sure there is no activity on the channel.
4. Press the PTT button and speak into the microphone with your mouth 1- 2 inches away from the radio. The LED glows red during transmission.
5. Release the PTT button to finish transmission.

Receive

1. Turn on the radio.
2. Rotate the "Channel Selector" knob to select the wanted channel.
3. Adjust the volume.
4. When CTCSS/CDCSS or squelch tail elimination feature is set by your dealer:
    - No squelch tail will be heard at the end of a received transmission when the courtesy tone is disabled.
    - A beep tone sounds at the end of a received transmission when the courtesy tone is enabled.
    - Please contact your dealer for more details.

VOX Operation
When hands-free operation is desired, your radio can be activated by voice alone using the VOX feature when you speak through an accessory that is connected to your radio.

- Connecting a VOX Headset
    1. Turn off your radio.
    2. connect the VOX accessory to your radio and turn the radio on.

Note:
Pressing the PTT button disables VOX.

BLUETOOTH HEADSET OPERATION

- For using the Bluetooth function, you must make your radio to pair your headset firstly. Pairing

- Your headset enter the pairing state

- Note: See your headset operation manual for detail

- Press and hold "Side Key" to switch on the radio, After hearing channel voice and "di di di" tone , release the "Side Key", Press PTT key, then the blue LED indicator will quickly flash, the radio enter the pairing state.

- When the pairing is success, the radio will sound a prompt tone, and the blue LED will end the quickly flash and keep flashing every 3 seconds.

Connecting

- Once your radio had paired your blue headset, you do not need to pair again when you want to use the bluetooth operation next time. But you still need to connect your bluetooth headset with your radio.

- Press and hold "Side Key" to switch on the radio, after hearing channel voice and "di di di" tone, release the "Side Key". Then press side key again, the blue LED indicator will flash once every 6 seconds. the radio enter the connecting state.

- Turn on your bluetooth headset, the headset enter standby and connecting state.

- When the connecting is success, the radio will sound a prompt tone, and the blue LED will flash once every 3 seconds.

Make a call
Double-click the bluetooth headset Answer Key twice, the radio will enter transmit state, you can talk to the headset to make a call,
Also, you can press the radio PTT, speak to headset and make a call.

Disenable the Bluetooth headset connecting
Swith off your bluetooth headset and disconnect the bluetooth connecting.
Or Swith off your radio to disenable the bluetooth connecting.

Monitoring a Channel
Monitoring allows you to check for activity on a channel. AWR Advantage have three monitor mode. You can choice a mode according to your usage habit or scene.

- **Squelch Off**

  In this mode, the speaker is unmuted in any condition so as to receive any sound on the current channel. When audio signal is received on the channel, audio will be heard. Otherwise, background noise will be heard.

  Operation: Press and hold the Monitor key to enter this mode, and release the key to exit.

- **Monitor toggle**

  In this mode, the receiving party can receive incoming calls from the transmitting party regardless of CTCSS/CDCSS condition. If the carrier condition is not satisfied, the receiving party will fail to receive any incoming calls.

  Operation: Press the Monitor key to enter this mode, and press it again to exit.

- **Monitor Momentary**

  Refer to Monitor toggle.

  Operation: Hold down the programmed monitor key continuously to enter this mode, and release the key to exit.

- **Scanning**

You can scan up to 16 channels and frequencies. When the radio detects activity, it stops scanning and locks in on the active channel. This allows you to talk and listen to the person transmitting without changing channels.

1. To start scanning, briefly press the key programmed as "Scan". the radio begins to scan the channels. When the radio detects activity, it stops on that channel.
2. To talk to the person transmitting without switching channels, press PTT within 5 seconds. If no transmission occurs within 5 seconds, scanning resumes.
   Note: these timers can be changed by the programming software.
3. To stop scanning, briefly press "Scan" Key.
   If you press PTT while the radio is scanning, the radio transmits on the channel you were on before you started scanning.

Without Priority Channel
Providing that there is a scan list with 6 channels and all channels are non-prioritized, the normal scan operation would proceed in the following sequence, as shown in Figure 1.
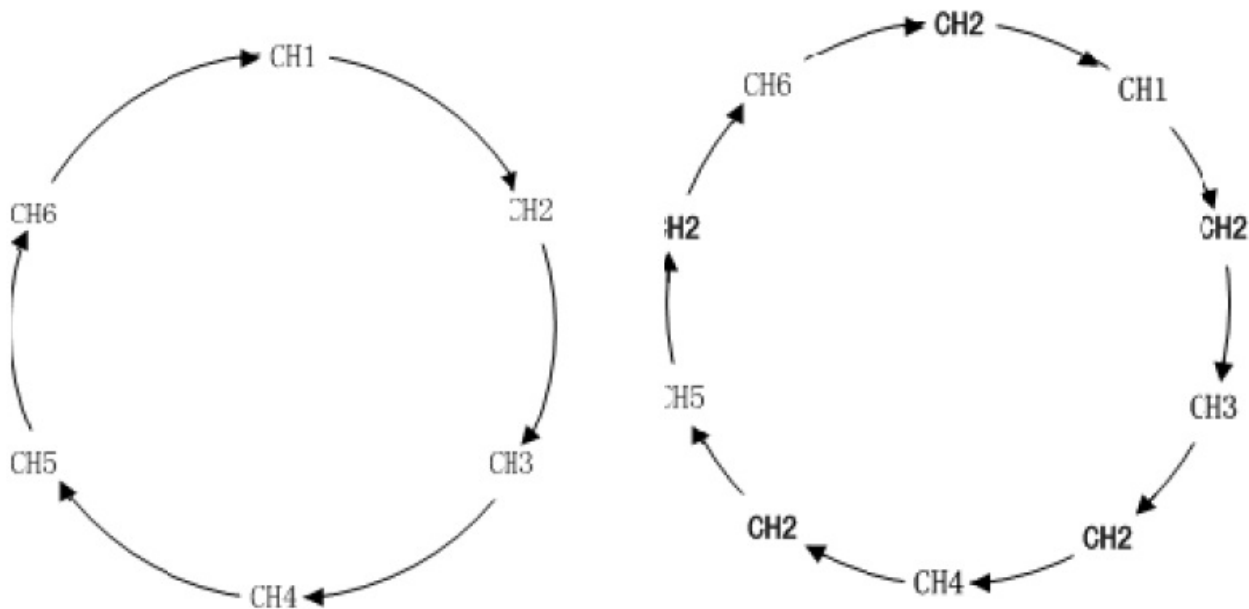

Figure 1 Normal Scan Sequence
Figure 2 Priority Scan Sequence

With Priority Channel
If you prioritize Channel 2 as Priority 1, the scan operation would proceed in the following sequence, as shown in Figure 2.
This function enables users to scan the most frequently used channel so that messages will not be missed. The priority channel is programmed by the dealer via programming software. Contact your dealer for details.
Note: Even though the radio remains on a non-priority channel, activities on the priority channel are still under monitoring. The radio will switch to the priority channel once any activity is detected.

Power-on Scan

If Power-on Scan is enabled by your dealer, the radio will automatically enter scan mode when it switch on.
The radio is always in scan mode until you switch off the radio.

WIRELESS CLONING

The AWR8000 is capable of Wireless Cloning. For details on this function, contact sureave at 0755-82409811.

Advanced features

Busy Channel Lockout (BCL)

When the BCL feature is enabled, you are prevented from transmitting on a channel that is already in use. Press the PTT on a channel that is already in use, the radio will sound alert tone and turn back to the receive mode.

Time-Out-Timer (TOT)

The Time-Out-Timer(TOT) is used to prevent someone from using the same channel for a long time and to prevent the radio from damage due to continuous transmission.

If the transmission exceeds the preset time, transmission will be inhibited and a beep tone will sound. To stop the beep tone, release the [PTT] key .Press the [PTT] key again to resume transmitting.

Shenzhen Surwave Technologies Co., LTD

Add: 4/F, Huolibao Building West, No31, Gaoxinbei Rd.6, Hi-Tech Industral Park, Nanshan
District, Shenzhen

Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01
List of applicable FCC rules

FCC Part 90 Subpart I

Specific operational use conditions

This transmitter/module and its antenna(s) must not be co-located or operating in conjunction with any transmitter. This information also extends to the host manufacturer's instruction manual.

Limited module procedures

This equipment is a limited module. The shielding is provided by the host device: FD-II Two-way radio. The compliance is demonstrated by the host manufacturer for a specific host device.
Trace antenna designs not applicable

RF exposure considerations

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This compliance to FCC radiation exposure limits for an uncontrolled environment, and minimum of 20cm separation between antenna and body.
The host product manufacturer would provide the above information to end users in their end-product manuals.

Antennas

Detachable Antenna; 0dBi; 450MHz to 470MHz

Label and compliance information

The end product must carry a physical label or shall use e-labeling followed KDB784748D01 and KDB 784748 stating "Contains Transmitter Module FCC ID: 2BEU3-FD2".

Information on test modes and additional testing requirements

For more information on testing, please contact the manufacturer.

Additional testing, Part 15 Subpart B disclaimer

The modular transmitter is only FCC authorized for the specific rule parts (FCC Part 90 Subpart I) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to

the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed when contains digital circuity.

FCC Statements

(OEM) Integrator has to assure compliance of the entire end-product incl. the integrated RF Module. For 15 B (§15.107 and if applicable §15.109) compliance, the host manufacturer is required to show compliance with 15 while the module is installed and operating.
Furthermore the module should be transmitting and the evaluation should confirm that the module's intentional emissions (15C) are compliant (fundamental / out-of-band). Finally the integrator has to apply the appropriate equipment authorization (e.g. Verification) for the new host device per definition in §15.101.

Integrator is reminded to assure that these installation instructions will not be made available to the end-user of the final host device.
The final host device, into which this RF Module is integrated has to be labeled with an auxiliary label stating the FCC ID of the RF Module, such as "Contains FCC ID: 2BEU3-FD2".
This device complies with part 15 of the FCC rules. Operation is subject 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 to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Module statement

The single-modular transmitter is a self-contained, physically delineated, component for which compliance can be demonstrated independent of the host operating conditions, and which complies with all eight requirements of § 15.212(a)(1) as summarized below.

1. The radio elements have the radio frequency circuitry shielded.
2. Module e has buffered modulation/data inputs to ens ure that the device will comply with Part 15requirements with any type of input signal.
3. The module contains power supply regulation on the module.
4. The module contains a permanently attached antenna.
5. The module demonstrates compliance in a stand stand-alone configuration.
6. The module is labeled with its permanently affixed FCC ID label label.
7. The module complies with all specific rules applicable to the transmitter, including all the conditions provided in the i ntegration instructions by the grantee.
8. The module complies with RF exposure requirements.

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.

Documents / Resources

Surwave FD-II Module Product manual	**Surwave 2BEU3-FD2 FD2 Two-Way Radio** [pdf] Owner's Manual 2BEU3-FD2 FD2 Two-Way Radio, 2BEU3-FD2, FD2 Two-Way Radio, Two-Way Radio, Way Radio, Radio

References

- **User Manual**