BelFone

Communications for Efficiency and Safety

BF-TD931

Digital Two-Way Radio



- SFR
- Man Down
- Lone Worker *
- One-Key Call
- One-Key SOS
- IP68 Protection
- Advanced Voice Encryption
- Positioning/ Recording/ Roaming*

OVERVIEW

Built with a rugged industrial design for durability and clear audio. Thanks to its superior RF performance, it delivers reliable communication range and call quality even in challenging environments—from dense city streets to open fields with weak signals. Blending practical features with advanced communication technology, it meets the demands of various industries, ensuring stable, efficient operation and seamless team coordination.

Hi-Fi Acoustic Chamber Design

The BF-TD931 features a tough, rugged body that delivers a sleek industrial look without compromising structural strength. Its audio system uses a unique acoustic chamber design, guaranteeing voice calls remain clear and loud even in noisy environments or over long distances—providing reliable voice communication for all kinds of complex work scenarios.



Rich Functional Applications

The BF-TD931 offers a wide range of features to meet user needs across different scenarios. Hidden mode prevents exposure during special missions. One-key call allows quick and convenient calling of target contacts. Optional 24-hour or 6-hour recording solutions make it easy to capture voice in real time. Optional roaming enables automatic signal handover between base stations, ensuring uninterrupted communication and effectively avoiding signal dead zones.

IP68 Protection

Built to MIL-STD-810G standards, the BF-TD931 features a rugged, impact-resistant design with excellent drop and shock resistance. With an IP68 protection, it is fully sealed against dust and waterproof—withstanding prolonged submersion as well as dust, sand, and mud. It operates reliably even in extreme environments, making it well suited for the most demanding work scenarios.



Advanced Voice Encryption

The BF-TD931 supports standard encryption as well as advanced ARC4 and AES256 algorithms, providing comprehensive protection for both voice and data signals. It effectively prevents signal interception and eavesdropping, significantly enhancing communication privacy and information security.





GNSS Positioning

The BF-TD931 offers optional GNSS positioning. When used with a dispatch management system, it allows supervisors to track personnel in real time and review movement history. This not only improves daily dispatch management but also enables rapid search and rescue in emergencies, significantly enhancing operational safety and control efficiency.

Single Frequency Repeater (SFR)

The BF-TD931 can relay and amplify signals using just a single frequency point, making deployment easier. It effectively extends communication coverage, easily solving weak signal and dropped call issues in buildings, mountainous areas, large factories, and campuses. It builds a stable wide-area communication network at lower cost, providing broader coverage.

Triple Safety Alerts

The BF-TD931 digital two-way radio provides three safety features: one-key emergency alert, Lone Worker, and Man Down. Press SOS in an emergency—location is instantly sent to the dispatch center. If a worker goes offline or exceeds a set boundary, the system automatically reports. In case of an accidental fall, Man Down alert is triggered without any action required. These features ensure all-round protection for workers, enabling the dispatch center to quickly locate and provide nearby support for the fastest rescue, minimizing safety risks. (Lone Worker is optional.)

OTHER FUNCTIONS

- Preset SMS
- Preset Channel
- Priority Interrupt
- Digital/Analog Compatible
- Channel Lock
- Low Battery Alert
- Vibration Alert
- Repeater/ Talk Around
- Monitor/ Permanent Monitor
- Private Call/ Group Call/ All Call

SPECIFICATION

General	
Frequency Range (Optional)	VHF：136-174MHz UHF3：350-400MHz　UHF：400-480MHz
Channel Capacity	1024
Zones	64
Channel Spacing	25 KHz/12.5KHz
Working Voltage	DC 7.4V (±20%)
Battery Capacity	2500mAh
Battery AverageWorking Time (5/5/90)	Digital：25Hours Analog：18Hours
Frequency Stability	±0.5ppm
Antenna Impedance	50Ω
Dimensions	57（L）*38（W）*130（H）mm
Weight	295g（battery included）
Voice Recording (Optional)	<30Hours

Transmission	
Output Power	≤5W
4FSK Modulation	12.5kHz(data only):7K60FXD 12.5kHz(data and voice):7K60FXE
FM Modulation	12.5 kHz：8K50F3E 25 kHz：16K0F3E；
Modulation Limitation	±2.5kHz@12.5kHz ±5.0kHz@25kHz
FM Noise	40dB@12.5kHz/45dB@25kHz
Spurious Emission	-36dBm<1GHz/-30dBm>1GHz
Adjacent Channel Power	≤-60dB
Frequency Response	+1/-3 dB
Audio Distortion	≤3%
Digital Vocoder	AMBE

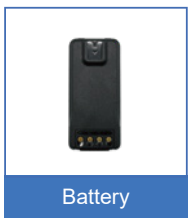
Receiver	
Digital Sensitivity	0.22μV /BER5%
Analog Sensitivity	0.22uV (12dB SINAD)
Intermodulation	65dB@12.5/25kHz
Adjacent Channel Selection	60dB@12.5kHz/70dB@25kHz
Spurious Suppression	70dB@12.5/25kHz
FM Noise	40dB @ 12.5kHz； 45dB @ 25kHz
Frequency Response	+1/-3 dB
Rated Audio Power	0.5W
Maximum Audio Power	1.5W
Rated Audio Distortion	5% (Typical)
Conduction Radiation	-57dBm

Environmental Specifications	
Operational Temperature	-30°C～+70°C
Storage Temperature	-40°C—+85°C
Dust& Water Proof	IP68

Positioning Systems	
Satellite Positioning Precision	<-10m (CEP50,with good signal)
TTFF(first location) Cold Boot	≤1min(with good signal)
TTFF(first location) Hot Boot	≤10s(with good signal)

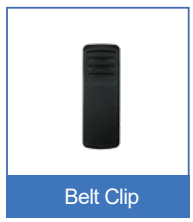
Note: The above specification is tested by the trial standard. Due to the continuous development of technology, the data provided are for reference only.

STANDARD ACCESSORIES


Battery


Antenna

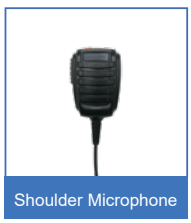

Charger

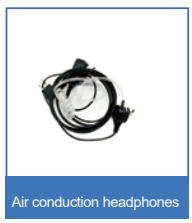

Belt Clip

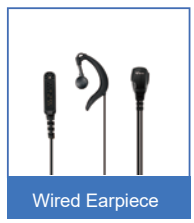

Hand Strap

OPTIONAL ACCESSORIES


Programming Cable


Shoulder Microphone


Air conduction headphones


Wired Earpiece

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