BF-TR900

Professional Repeater Module

- User-friendly Design
- Air Interface ID authentication
- IP Interconnection
- Rugged Design
- Repeater & Base Station Dual Mode

BelFone
Communications for Efficiency and Safety

OVERVIEW

BF-TR900 is a highly integrated DMR repeater in BelFone BMC system with ruggedness of IP54 and MIL-STD-810G Standard to tackle various harsh environments. This versatile repeater can function as a fixed base station; and it supports IP networking as well as simulcasting mode. Unlike traditional repeaters, BF-TR900 runs with self-inspection circuit and module redundancy to ensure steady and reliable operation.

HIGHLIGHTS AND BENEFITS

User-friendly Design

BF-TR 900 designed an excellent human-computer interaction user interface for faster and easier operation. Standard 2.8-inch display, built-in speaker for call monitor, and full keyboard facilitates direct operation without accessing the controller. Besides that, it also offers an optional hand-held microphone that could truly realize separate panel operation.

Note：Handheld microphone BF-TC981 is an optional accessory.

GPS Positioning

With GPS positioning BF-TR900 is able to locate and track accurate real –time vehicle location, move direction and track, check and store data information at any time, provide convenience for unified command and dispatching.

Note: GPS is a standard feature, and the GPS antenna is an optional accessory.

Air Interface ID authentication

Only ID-authenticated legitimate terminals can activate repeaters for voice and data service forwarding, thus avoiding illegal users from stealing and occupying channel resources and affecting normal communications.

Smart Interconnection Network(optional)

BF-TR900 offers custom system versions, accessing to interconnection network and remote configurable repeaters, providing visualized command and dispatching services.

Wireless Link(optional)

BF-TR900 use the handheld microphone as an IP link to access to dispatching center, safeguard communication between command center and terminals within repeater coverage, and provide efficient support for the temporary command station to stay connected with the outside world. Note: The handheld microphone BF-TC982 is optional accessory.

IP Interconnection

Use of IP networks can join multiple BF-TR900 repeaters to create a larger wireless communication network. Moreover, you can flexible deploy these repeaters, reallocate channel resource, and fulfill the demands of daily use and emergency use.

Note：Device with standard configuration supports maximum 4 sites centerless IP interconnection network.

Rugged Design

BF-TR900 features all cast aluminum construction, excellent cooling capacity, and support 100% loop work under 50W power. The aircraft-grade waterproof joint, and IP54 water make it suitable for field erection and car mounted.

Repeater & Base Station Dual Mode

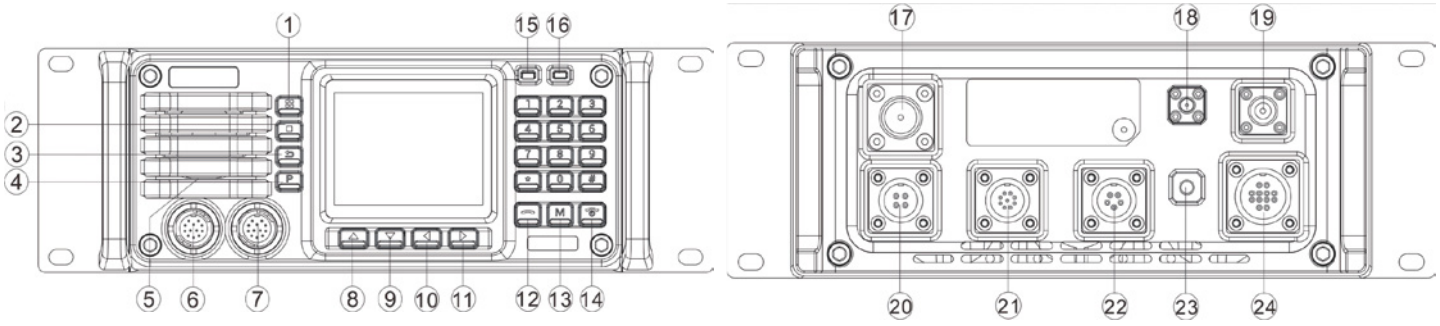
BF-TR900 supports base station and repeater dual mode. Using wired IP network to interconnect several repeaters of varying frequencies, and is able to initiate calls to any device under interconnection state.

Simulcast (optional)

BF-TR900 featured simulcast function, serves as a simulcast base station can achieve cross-region single frequency communication. Through a basic set of transmission and receiving frequencies, it can readily achieve larger co-frequency coverage and efficiently avoids existence of wireless communication blind zones.

FEATURES AND DETAILS

- Exceptional noise-canceling design for the loudest, clearest audio available.
- 5-50W output power (continuous), extending communication range and coverage.
- Digital and analog dual modes.
- 2.8” large format displays and full keypad.
- IP54 water and dust resistance.
- IP connectivity (support 4 repeaters to realize no-centralized IP Multi-sites, and smart IP Connect which fit for BelFone BMC and SDC system).
- Grid network design (3 level zones), meet multi-level command and control for radio communications.
- Inter-network communication (work as a gateway).
- Remote setting.
- Monitor, transmit interrupt.
- Advanced privacy with AES256/ARC4 digital encryption, ensure information security.
- Self-destructing function to turn data to dust on command in case of information leakage.
- Power-on password to ensure information security.



1	Menu button	7	Microphone/frequency programming port 2	13	M button	19	RX RF input port
2	Mode button	8	Right arrow button	14	Hang up	20	DC power input port
3	Back button	9	Down arrow button	15	A indicator	21	Satellite attachment unit port
4	programming button	10	Left arrow button	16	B indicator	22	Network port
5	Loudspeaker	11	Right arrow button	17	TX RF output port	23	Groung terminal
6	Microphone/frequency programming port 1	12	Call	18	GPS antenna port	24	ACC attachment unit port

STANDARD ACCESSORIES

Power Cable

OPTIONAL ACCESSORIES

Handheld Microphone

Power Supply

Duplexer

GPS Antenna

SPECIFICATON

General	
Frequency range	VHF: 136-174MHz / UHF: 350-400MHz / 400-480MHz
Region	TR900L：128　TR900M：First-level regions: 4 / Second-level regions: 3000 / Third-level regions: 3000
Number of channels	TR900L：2048 / TR900M：3776
Channel spacing	12.5KHz /25KHz
Antenna impedance	50Ω
Operating voltage	DC13.8V(±15%), negative grounded
Current consumption	< 9A
Volume	330mm(L)*218mm(W)*88mm(H)
Weight	≤6kg
Emission	
RF power	5-50W (continuous emission)
Frequency stability	≤±0.5ppm (without positioning)　≤±0.02ppm (with positioning)
4FSK digital modulation	12.5KHz only data: 7K60FXD　12.5KHz data and voice: 7K60FXW
Power of adjacent channel	≤60dB
Spurious emission	-36dBm<1GHz　-30dBm>1GHz
Digital voice encoder	AMBE
Receiving	
Sensitivity	3%BER≤0.35uV
Frequency stability	≤±0.5ppm (without positioning)　≤±0.02ppm (with positioning)
Adjacent channel selectivity	≥60dB
Intermodulation immunity	≥70dB
Spurious response	≥70dB
Blocking	≥95dB
Rated audio output power	2W(8Ω)
Environmental Specifications	
Working Temperature	-30°C~+70°C
Storage Temperature	-40°C~+85°C
Vibration & Shock	MIL-STD-810G Standard
Humidity	MIL-STD-810G Standard
Dustproof & waterproof	IP54

APPLICATION

Armed Foece/Army

Forest Fire Defense

Emergency Rescue

Public Security

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