

GONSIN

TC-RF04/08/12/16

DSSS Simultaneous Interpretation System

*The world's first digital RF system for multi-channel language distribution
using advanced DSSS technology and unlicensed 2.4GHz band*



Gonsin Digital Conference Equipment Co., Ltd.

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TC-RF04/08/12/16

DSSS Simultaneous Interpretation System



GONSIN TC-RF04/08/12/16 digital DSSS simultaneous interpretation system utilizes the worldwide license-free 2.4GHz ISM frequency band and incorporates the state-of-the-art Direct Sequence Spread Spectrum (DSSS) technology to deliver CD quality sound, provide excellent immunity from both noise and interference, and insure high security against unauthorized listening.

The system is designed to offer distortion-free wireless communication for simultaneous interpretation and language distribution in 4/8/12/16 different channels, with operating range of 50 to 200 meters, ideally suited for use in business and government conferences, international conventions and other multilingual applications indoor or outdoor.

Typical Applications

- ★ Convention center
- ★ Boardroom
- ★ Auditorium
- ★ Parliament chamber
- ★ Council chamber
- ★ Theatre
- ★ Courtroom
- ★ Classroom
- ★ Church

TC-RFZ04

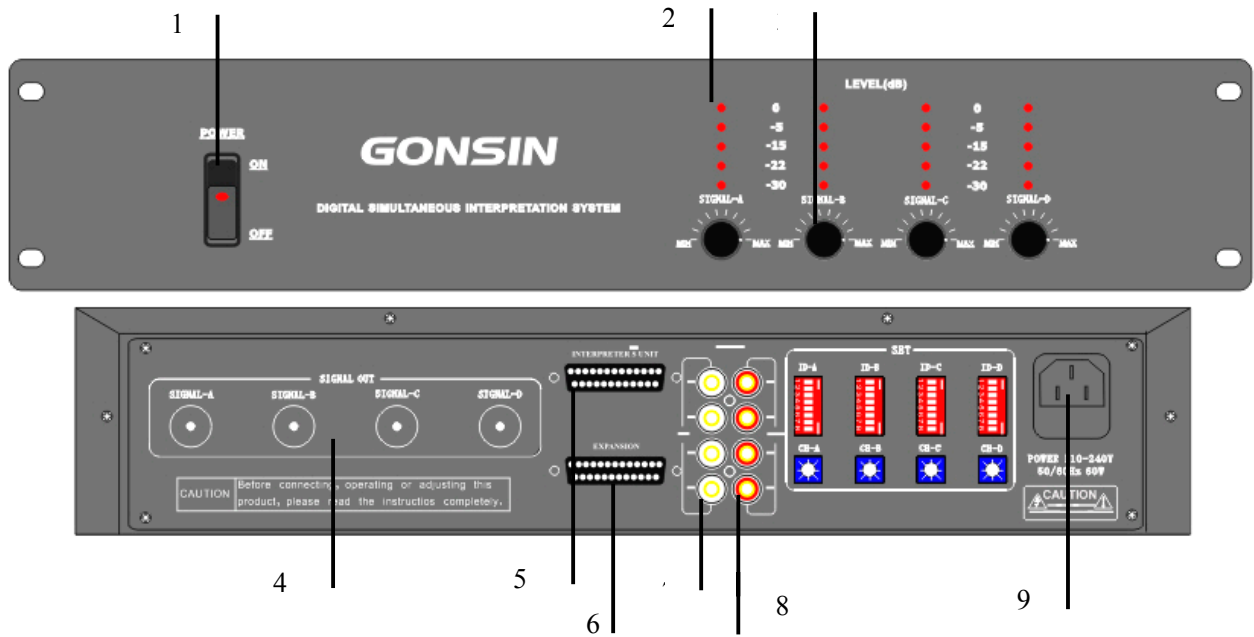
Control Unit



The microprocessor based TC-RFZ04 digital control unit is able to transmit 4 operating channels, featuring independent channel level control, channel output level indicators, and channel signal outputs for sound recording. Via a DB25 cable, multiple interpreter consoles can be connected to the control unit in a daisy-chain. Multiple control units can be cascaded together to transmit up to 16 signal channels in a system.

- RF modulation: DSSS technology
- Frequency range: 2400 MHz – 2500 MHz
- Frequency channel spacing: 5 MHz
- Frequency response: 20Hz-20kHz
- Distortion at 1 kHz: <0.5%
- Channel separation: >70dB
- RF output power level: 700mV
- RF output impedance: 50 ohms
- Input impedance: 18k ohms
- Max. input power level: 3.5V
- Signal-to-noise ratio: >75dB
- Power consumption: 60 watts
- Standby power consumption: 30 watts
- Power requirement: 110/240VAC, 50/60Hz
- Operating voltage: 110-240V
- RF outputs: 4 N-type connectors
- Audio inputs: 4 x RCA unbalanced
- Audio outputs: 4 x RCA unbalanced
- Interpreter connector: DB25 female
- Expansion port: DB25 connector
- Dimensions: 430×99×325 mm (W×H×D)
- Weight: 7.6 kg





FRONT PANEL		
1	Power	Power ON/OFF switch and indicator
2	Level Indicators	Output level LED indicators for each audio channel
3	Level Control	Independent channel level control
REAR PANEL		
4	Signal Out	RF output N-connectors
5	Interpreter Unit	DB25 port to connect interpreter units in a daisy chain, or connect the language distribution system port on the conference system control unit
6	Expansion	DB25 port to connect the next control unit for system expansion.
7	Audio In	Unbalanced RCA audio input sockets
8	Audio Out	Unbalanced RCA audio output sockets
9	Power Input	AC power input socket (110V/240V, 50/60Hz)

TC-RFJ04/08/12/16

RF Receiver



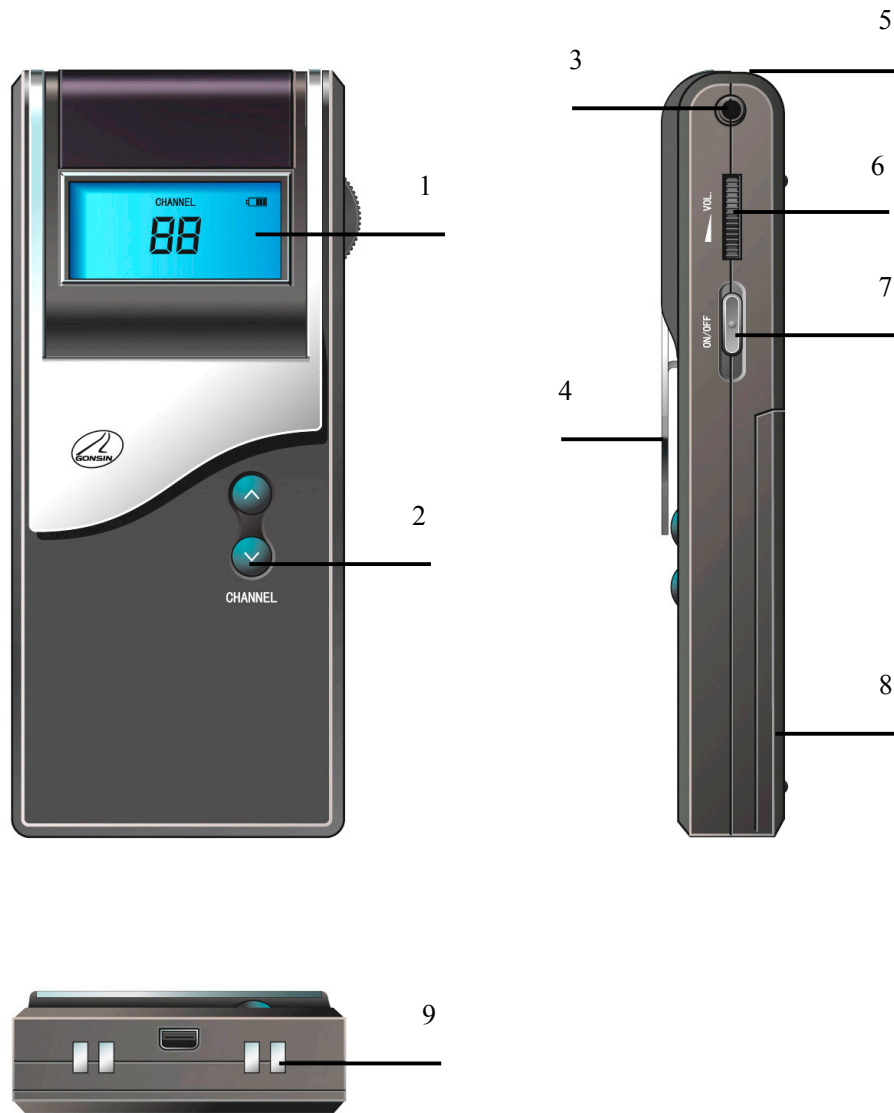
TC-RFJ04/08/12/16



TC-RFJ04S/08S/12S/16S

The portable TC-RFJ04/08/12/16 digital RF receiver is designed to support 4/8/12/16 operating channels, and each channel utilizes DSSS with a unique spreading code, offering CD-quality sound. The unit is powered by a rechargeable Lithium-ion battery pack. The selected channel number, battery level and RF signal strength are shown on LCD screen. Equipped with individual wireless RF receivers, participants can listen to any selected language channel on a personal earphone, monitor the battery status, check whether or not the unit is receiving the signal properly, and adjust volume level for comfortable listening. The floor language comes out of any channel when an interpreter is not talking. Any number of receivers can be used in an installation.

- Slide switch for power on/off
- Thumbwheel switch for volume control
- 3.5mm phone output jack
- Up/down push buttons for channel selection
- Pocket clip and lanyard for easy-wearing
- Integrated charging electronics and contacts
- Separate battery pack for simple changing
- Fully charged battery lasts up to 20 hours
- RF modulation: DSSS technology
- Encryption/decryption method: AES
- Frequency range: 2400 MHz – 2500 MHz
- Frequency channel spacing: 5 MHz
- Frequency response: 20Hz-20kHz
- Distortion at 1 kHz: < 1.0%
- RF output power level: 700mV
- RF output impedance: 50 ohms
- Input impedance: 18k ohms
- Max. input power level: 3.5V
- Signal-to-noise ratio: >55dB
- Power consumption: 0.2 W
- Battery: 4.2V rechargeable Lithium-ion
- LCD screen: 33 x17mm
- Dimensions: 133×57×23 mm (W×H×D)
- Weight: 0.15 kg



1	LCD shows channel number, battery level, signal strength.
2	Up/down push buttons for language channel selection
3	3.5mm headphone jack
4	Integrated pocket clip for easy-wearing
5	Lanyard hole
6	Thumbwheel switch for volume control
7	Slide switch for power on/off
8	Battery compartment cover for Li-ion battery pack
9	Battery charging contact with charging cabinet

TC-RFF01/02

RF Antenna Unit

TC-RFF01/02 high-gain directional antenna unit is designed for 1 or 2 operating channels, suitable for both indoor and outdoor applications. Equipped with channel selection and channel locking function, the unit is powered by the control unit via a coaxial feed cable. The antenna unit can be mounted on wall or tripod stand.

- Signal Type: DSSS
- Frequency range: 2400 MHz -2500 MHz
- Frequency channel spacing: 5 MHz
- Impedance: 50 Ohms
- Gain: 14 dBi
- Polarization: vertical or horizontal
- Feed cable: SYV 50-7 coaxial
- Cable connector: N-type socket
- Max. cable length: 20 meters
- Range: up to 200 meters
- Dimensions:
 - TC-RFF01 - 225×195×45mm (W×H×D)
 - TC-RFF02 - 450 × 211 × 82 mm (W×H×D)
- Weight:
 - TC-RFF01: 1.2 kg
 - TC-RFF02: 3.8 kg



TC-RFF01



TC-RFF02

TC-RFF02S/04S RF Antenna Unit



TC-RFF02S/04S antenna unit, designed to be used for 2 or 4 operating channels, is suitable for indoor use. Equipped with channel selection and channel locking function, the unit is powered by the control unit via a coaxial feed cable. The antenna unit can be installed on wall or tripod stand.

- Signal Type: DSSS
- Frequency range: 2400 MHz -2500 MHz
- Frequency channel spacing: 5 MHz
- Impedance: 50 ohms
- Gain: 3 dBi
- Polarization: vertical or horizontal
- Feed cable: SYV 50-3 coaxial
- Max. cable length: 5 meters
- Cable connector: SMA socket
- Range: up to 50 meters
- Dimensions:
 - 390×130×50mm (W×H×D)
 - TC-RFF02S - 190×130×50mm (W×H×D)
 - TC-RFF04S - 390×130×50mm (W×H×D)
- Weight:
 - 0.3 kg (TC-RFF02S)
 - 0.6 kg (TC-RFF04S)



TC-RFF02S



TC-RFF04S

TC-F16

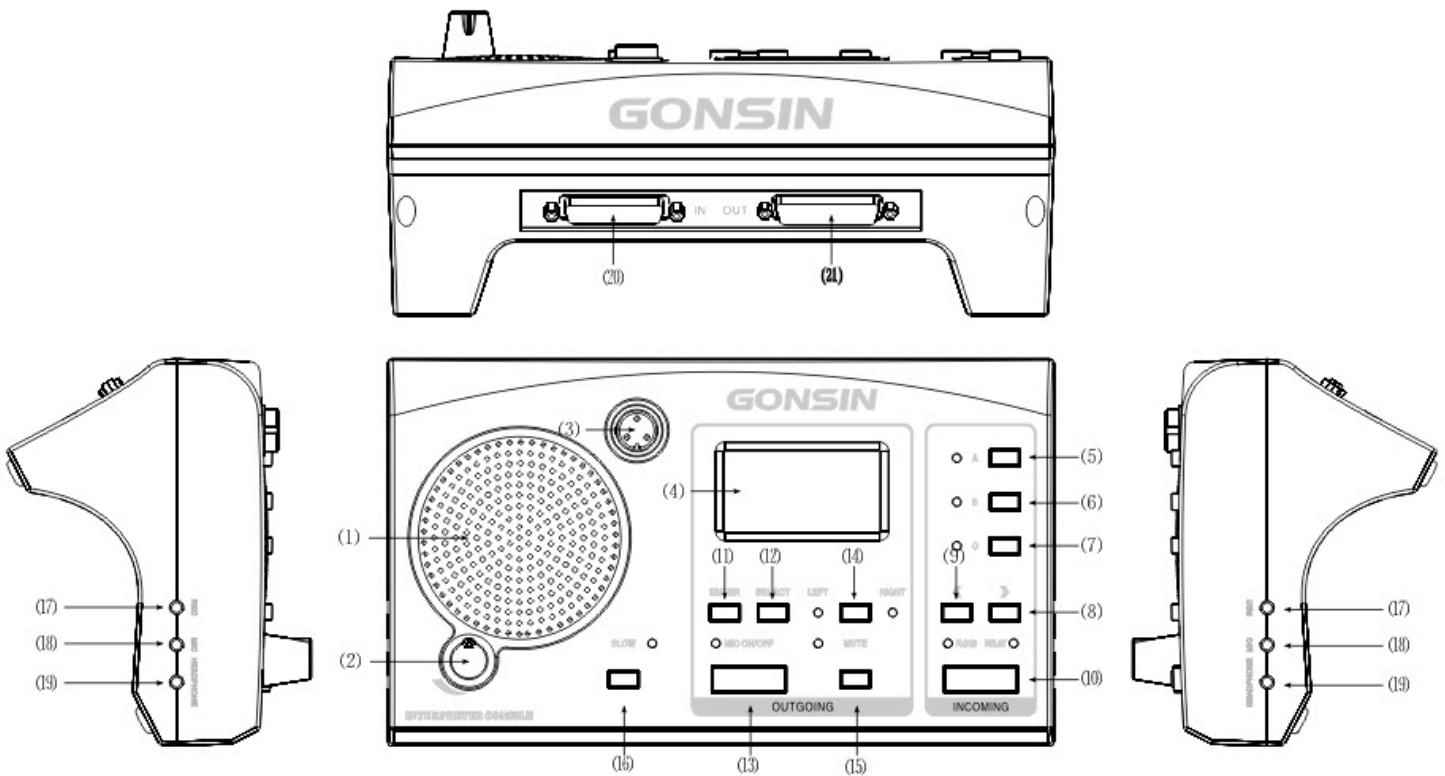
Interpreter Console

- Digitally-controlled workstation allows two interpreters to work in turn
- Handles simultaneous interpretation for up to 16 languages
- LCD screen to display the following information:
 - 1) specific settings for the interpreter unit
 - 2) incoming/outgoing language channel number
 - 3) all the occupied language channels
 - 4) the language channel occupied by the present unit
 - 5) interpretation time from the beginning to the end
- Two different types of microphone can be used:
 - 1) High quality cardioid electret condenser microphone, pluggable gooseneck stem with red ring luminant to identify the active unit
 - 2) Combined headset microphone which can be adjustable for comfortable wearing
- Built-in loudspeaker with volume level control. The floor language is heard when the microphone is switched off
- Loudspeaker is automatically switched off when MIC is on or headset is used
- 3.5mm jacks on both sides for MIC input and headphone/recording output
- 3 incoming languages can be preset, with pre-select A/B/C keys
- Automatic channel interlocking function prevents the interpreters from using the same outgoing channel
- MUTE key to enable a brief muting of the microphone for cough cut
- The floor signal automatically goes to the output channel after the microphone is turned off.
- Multiple interpreter consoles can be connected in a daisy-chain
- Designed to comply with all related international standards & requirements



Technical Data:

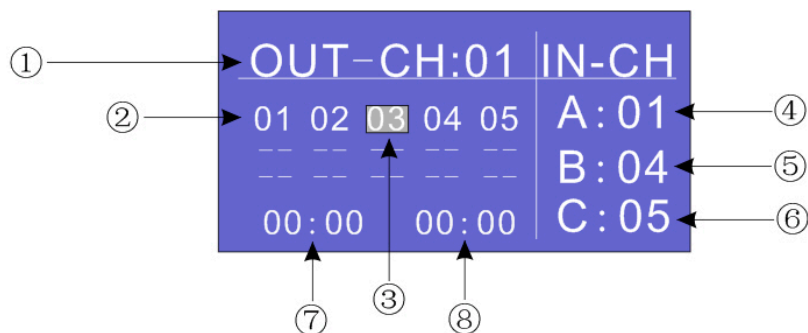
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|----------------------------------|---|
| ● Frequency response: 50-18kHz | ● Operating temperature: 0 °C – 50 °C |
| ● Distortion at 1 kHz: < 0.1% | ● Standard microphone stem length: 425 mm |
| ● Channel separation: > 85 dB | ● 128x64 backlit LCD screen |
| ● Signal-to-noise ratio: > 90 dB | ● 3/5/10m cable with DB25 connectors |
| ● Max. input power level: 7.5V | ● 3.5mm jacks for microphone, recorder, headphone |
| ● Operating voltage: 24V | ● ABS base dimensions: 247X145X95mm (WDH) |
| ● Power consumption: 2.5W | ● Weight: 1.2 kg |



- 1) Built-in loudspeaker 8Ω/2W
- 2) Rotary switch for loudspeaker volume level control
- 3) 3-pin connector for pluggable microphone
- 4) LCD screen for information display
- 5) Quick key (shortcut key) A for an incoming channel
- 6) Quick key (shortcut key) B for an incoming channel
- 7) Quick key (shortcut key) C for an incoming channel
- 8) Rightward key to pre-select an incoming channel
- 9) Leftward key to pre-select an incoming channel
- 10) FLOOR key. When the FLOOR indicator lights up, the incoming language is the original signal; when the RELAY indicator is on, it is in the relay interpretation where the language signal comes from the pre-select channel by pushing a quick key A/B/C.
- 11) ENTER key to confirm (lock) an outgoing language channel. The MIC can be activated when the outgoing channel is locked. The MIC must be switched off when the outgoing channel needs to be selected again.
- 12) SELECT key to set an outgoing language channel

- 13) MIC on/off key. The MIC can be switched on when the outgoing channel is confirmed or locked.
- 14) MIC input for headset. This key can be used when the MIC key is ON. The left LED indicator will light up when the left MIC jack is used, and the right LED indicator will light up when the right MIC jack is used.
- 15) MUTE key: hold down the key to enable a brief muting of the microphone which will be active again when the key is released.
- 16) SLOW key to alert the current speaker to speak slowly. When the key is pressed, the active speaker's MIC ring luminant will flash or a short message will be sent to the speaker and displayed on the LCD. This function can only be used with GONSIN digital conference system.
- 17) REC output jack (3.5mm) on both sides for recording the interpreted language.
- 18) Headset MIC input jack (3.5mm) on both sides
- 19) Headphone output jack (3.5mm) on both sides
- 20) INPUT connector. The first interpreter unit connects the control unit or transmitter, and the second unit links the output connector on the previous interpreter unit.
- 21) OUTPUT connector links the next interpreter unit.

LCD Screen for Interpreter Unit



- 1) Selected outgoing channel display.
- 2) Outgoing channel – unoccupied (unlocked) channel number.
- 3) Outgoing channel - occupied (locked) channel number.
- 4) The incoming channel quick key A (channel 01 as default)
- 5) The incoming channel quick key B (channel 02 as default)
- 6) The incoming channel quick key C (channel 03 as default)
- 7) The current interpretation time: 00:00 (hour:minute)
- 8) The previous interpretation time: 00:00 (hour:minute)

TC-D2 Interpreter Headset



- Closed-ear stereo headset with mic and vol control
- Connectors: 3.5mm stereo plugs
- Impedance: $60\Omega \pm 15\%$
- Frequency response: 20Hz to 20KHz
- Input power: 30-50mW
- Sensitivity (1 kHz): $-58 \pm 2\text{dB}$
- Microphone type: Omni-directional dynamic
- Microphone sensitivity (1 kHz): $-58 \pm 2\text{dB}$
- Cord length: 2 meters

TC-D1 Clip-on Earphone



- Type: dynamic 40mm
- 360° swivel clip-on hanger
- Full range enhance system
- Super bass frequency technology
- Frequency response: 7Hz to 24KHz
- Sensitivity: $102\text{dB} \pm 3\text{dB}$
- Impedance: $40\Omega \pm 10\%$
- Input power: 8-50mW
- 120cm cord with 3.5mm plug

GX-20 Charging Case



- Microprocessor-based unit w/ smart charging circuit
- Accommodates up to 20 receiver units with Li-ion battery
- DC 5V low voltage charging power
- LED indicator for charging status
- About 10 hours needed to fully recharge 20 receivers
- Receivers can be left in the case after the charge is complete
- AC/DC adaptor w/ power cord
- Power input AC100-240V 50/60Hz, output DC5V 8A
- Dimensions: 59x30x18 cm (WxDxH)

GX-48 Storage/Carrying case



- Handy locking aluminium/plastic suitcase
- Designed for carrying/storage of receiver units
- 48 positions with pre-cut foam
- Dimensions: 50 × 33 × 20cm (WxDxH)

RY-123 Receiver Lanyard

- Designed for easy wearing of receiver unit
- Length: 40 cm



UA-203 Antenna Bracket

- Swivel bracket for wall/ceiling mounting
- Adjustable angle



GX-315 Antenna Tripod

- Type: floor standing, foldable 3-way pan tripod
- Adjustable height: 60cm to 150cm



25PS-03/05/10 Interpreter Cable

- DB25 cable with male/female connectors
- Length: 3m/5m/10m



RF-05/10/20 Antenna Cable

- Type: SYV50-3 or SYV50-7 coaxial, 50 ohms
- Connector: N type or SMA type
- Length: 5/10/20 meters



System Configuration Diagram

