



# TR850

## DMR REPEATER



A DMR product with ergonomic design and all-round digital functions, TR850 helps to improve management efficiency and responsiveness in emergency situations.

The Kirisun DMR series is a cost effective migration solution from analog to digital which you can do at your own pace.

# TR850 DMR REPEATER

## KEY FEATURES AND BENEFITS

### Professional 3U Design

Professional 3U design leaves enough space for an added duplexer and is suitable for desk-top, cabinet and rack installations.

### Outstanding Heat Dissipation

The unique cooling design combines a built-in heat pipe and an intelligent control fan, ensuring very efficient heat dissipation, preventing the repeater from over-heating in high output power mode.

### Smart Digital-Analog Auto Detection

TR850 can be configured to analog, digital or mixed mode. When configured to mixed mode, the repeater can dynamically switch between analog and digital depending on the type of call it receives.

### Accessory Expansion

TR850 supports third party development via a rear port on the repeater. This is achieved via the pin control through the repeater rear ports.

### IP Site Link Connection

TR850 repeater can be connected via TCP/IP network to expand the coverage area, working in digital or analog mode.

### Contiguous Wave Identification(CWID)

TR850 supports analog transmission of the repeater identification in Morse code format.

### AIS/SIP Interface

It provides AIS/SIP second development interface, allowing dispatch, telephone system and other facilities to be developed by the third party.

### LED Indicator

TR850 has 9 LEDs to indicate different status such as power-on, analogue repeating, digital repeating, transmitting, receiving, alarm, etc.



1. LED Indicator



- |                 |                                         |
|-----------------|-----------------------------------------|
| 1. AC Power     | 5. RX Connector                         |
| 2. TX Connector | 6. IP In-put                            |
| 3. GPS          | 7. 26 Pin the 2nd Development Connector |
| 4. Fan          | 8. DC Power Connector                   |



**Kirisun Communication Co.,Ltd.**

3rd Floor, Building A, Tongfang Information Harbour, No. 11 Langshan Road, Nanshan District, Shenzhen 518057, P.R. China

Tel: +86-755-86106898 | Email: [marketing.os@kirisun.com](mailto:marketing.os@kirisun.com) | [www.kirisun.com](http://www.kirisun.com)

## TR850 SPECIFICATIONS

### General

|                     |                                                |
|---------------------|------------------------------------------------|
| Frequency Range     | 136-174MHz, 350-400MHz, 400-470MHz, 450-520MHz |
| Channel Capacity    | 64                                             |
| Channel Spacing     | 25kHz/20kHz/12.5kHz                            |
| Operating Voltage   | DC: 13.6V±15%, AC: 100~250V 50/60Hz            |
| Current Drain       | Standby <1.0A                                  |
|                     | Transmit <12A                                  |
| Frequency Stability | 0.5 ppm                                        |
| Antenna Impedance   | 50Ω                                            |
| Duty Cycle          | 100%                                           |
| Dimensions(H·W·D)   | 482.6mm×338.5mm×132.5mm                        |
| Weight              | 11.5Kg                                         |

### Transmitter

|                         |                                                                                                                 |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| RF Power Output         | High Power: 40W(UHF)/45W(VHF)                                                                                   |
| FM Modulation           | 11K0F3E@12.5kHz, 14K0F3E@20kHz, 16K0F3E@25kHz                                                                   |
| 4FSK Digital Modulation | 12.5kHz Data: 7K60F1D&7K60FXD, 12.5kHz Voice: 7K60F1E&7K60FXE<br>Combination of 12.5kHz Voice and Data: 7K60F1W |
| Modulation Limiting     | ±2.5kHz@12.5kHz, ±4.0kHz@20kHz, ±5.0kHz@25kHz                                                                   |
| FM Hum & Noise          | 40dB@12.5kHz, 45dB@20kHz/25kHz                                                                                  |
| Adjacent Channel Power  | 60dB@12.5kHz, 70dB@20kHz/25kHz                                                                                  |
| Audio Response          | +1~-3dB                                                                                                         |
| Audio Distortion        | 3%                                                                                                              |
| Digital Vocoder Type    | ABME+2™                                                                                                         |
| Digital Protocol        | ETSI-TS102 361-1,-2,-3,-4                                                                                       |

### Receiver

|                             |                                                                           |
|-----------------------------|---------------------------------------------------------------------------|
| Sensitivity Analog          | 0.3μV(12dB SINAD)                                                         |
| Sensitivity Digital         | 0.3μV/BER5%                                                               |
| Selectivity                 | 70dB@12.5kHz, 75dB@20/25kHz(TIA-603)<br>70dB@12.5kHz, 75dB@20/25kHz(ETSI) |
| Spurious Response Rejection | 75dB@12.5/20/25kHz(TIA-603)<br>70dB@12.5/20/25kHz(ETSI)                   |
| Inter-modulation            | 70dB@12.5kHz/25kHz(TIA-603)<br>65dB@12.5kHz/25kHz(ETSI)                   |
| Hum and Noise               | 40dB@12.5kHz, 45dB@20/25kHz                                               |
| Rated Audio Power Output    | 0.5W                                                                      |
| Rated Audio Distortion      | 3%(Typical)                                                               |
| Audio Response              | +1~-3dB                                                                   |
| Conducted Spurious Emission | -57dBm@ < 1GHz, -47dBm @ > 1GHz                                           |

### Environment Specifications

|                       |                                                 |
|-----------------------|-------------------------------------------------|
| Operating Temperature | -30℃ ~ +60℃                                     |
| Storage Temperature   | -40℃ ~ +85℃                                     |
| ESD                   | IEC61000-4-2(Level4)<br>±4kV(Contact) ±8kV(air) |
| Humidity              | Per MIL-STD-810 C/D/E/F/G Standard              |
| Shock & Vibration     | Per MIL-STD-810 C/D/E/F/G Standard              |

All specifications are tested according to applicable standards, and subject to change without notice due to continuous development.