CRX6

Central Receive 6-way MaxRC COFDM Receiver with Multi-Channel Option

The CRX6 Receiver is a ruggedized COFDM DVB-T compliant six-way diversity central receiver. It offers exceptional RF performance and IP-66 environmental durability for external use. The CRX6 is the new generation of receive systems. Unlike equipment at typical diversity receive sites, with multiple coaxial cables from the tower to the receiver/decoder, the CRX6 design reduces six coaxial runs to one Ethernet cable, thus decreasing the susceptibility to lightning and reducing overall system costs.

In contrast to the old single, highly directional antenna, the CRX6 employs multiple antenna elements arranged to cover 360° of azimuth in overlapping sectors. The improved operation efficiency in signal acquisition focuses on the integration and optimization of the antenna d adaptive digital signal processing (ADSP) and maximal ratio design, use of adaptive digital signal processing (ADSP), and maximal ratio combining (MRC) techniques.

Operational efficiency in signal acquisition is improved by a focused approach to integration and optimization of the antenna design, use of adaptive digital signal processing (ADSP) and maximal ratio combining (MRC) techniques. In the past, these three areas have been treated and controlled independently. By combining and optimizing these areas, a new class of fully autonomous Central Receiving Systems provide significant value and efficiency. The CRX6 system automatically optimizes the receive signal, virtually eliminating all human intervention.

A Web page controller is used to set up and monitor the CRX6. The controller features channel control, antenna receiver statistics, individual sector graphs, and can shut down specific directional antennas. An easy-to-use administration software package is supplied to set advanced functions, such as changing frequency plans, AES decryption keys, or unit naming.

The CRX6 is compatible with an eLink remote receiver interconnect, enabling an accessory controller/receiver to power, control, and de-code signals received by single or multiple remote receivers. The eLink-enabled controllers include the DR3, BCRx, and MMCR.

Applications

- Airborne down link
- Surveillance, firefighting, SWAT, public safety
- Homeland security

Options

- AES Decryption
- Fiber connection
- Multi-Channel Simultaneous Receive (2x or 4x)
- Application-specific antennas
- TSM-2020 StreamView Controller
- TSM-2020 Contribution grade decoder

Key Features

- Integrated 6-way diversity COFDM receiver
- High Dynamic Range
- Single cable coupling
- MPEG4/MPEG2 Auto Detect
- IP streaming of MPEG TS
- Software configurable settings
- Web page control
- Pole mounting kit
- All weather housing

RF Performance

Base Model Number	Frequency (GHz)	Power Use (W)	Base Model Number	Frequency (GHz)	Power Use (W)
23CRX6	2.025 to 2.500	22	70CRX6	6.425 to 7.150	26
23CRX6-2	2.025 to 2.500 2.025 to 2.500	48	70CRX6	6.425 to 7.150 6.425 to 7.150	55
23CRX6-4	2.025 to 2.500 2.025 to 2.500 2.025 to 2.500 2.025 to 2.500	70	70CRX6	6.425 to 7.150 6.425 to 7.150 6.425 to 7.150 6.425 to 7.150	100

Not all bands have been tested for FCC compliance; please consult your local representative.

Tuning Step Size
- 250 kHz step size standard
- 100 kHz step size optional

Demodulation Modes
- Auto detected within modulation format and bandwidth.

Modulation 1
- Modulation Formats:
  - COFDM (DVB-T)
- DVB-T:
  - Support all GI, CR, and Modulation
- Carriers:
  - 2K
- Bandwidth:
  - 5 MHz, 6 MHz, 7 MHz, and 8 MHz

System
- Decryption (optional):
  - AES 128 and 256-bit BCRYPT 1/2 (FIPS PUB 197)
- User Data:
  - Serial over Ethernet (UDP)
- Control:
  - Web interface
- Ethernet:
  - Stream TSoIP UDP/RTP RTSP Unicast and multicast

Standard Accessories
- PoE injector
- Lightning and grounding protection
- Mounting Kit with detailed instructions
- Web page browser for configuration and monitoring
- User manual

Environmental

Temperature
- Full specification:
  - −30° to +60° C (-22° to 140° F) Ambient
- Ingress
  - IP-65 (by design)

Frequency Stability
- ± 10 ppm

Diversity
- 6/2 Channel Maximum Ratio Combining

Modulation 2
- Modulation Formats:
  - COFDM-NB
- DVB-T:
  - Support all GI, CR, and Modulation
- Carriers:
  - 2K
- Bandwidth:
  - 2.5 MHz and 1.25 MHz (SR Scaled DVB-T)

Power Requirements
- Power Input:
  - Power over Ethernet (PoE) IEEE 802.3af
- Auxiliary Power:
  - MS style connector for use with Optional fiber-optic interconnect

Physical Characteristics
- Size & Weight:
  - Model Dependent
- Mount:
  - BlueSky Master
- Connectors:
  - Ethernet (RJ-45)
  - Fiber (Optional)

- Storage:
  - −40° to +80° C (104° to 176° F)
- Humidity:
  - 0 to 95% non-condensing