TELETRONICS TECHNOLOGY CORPORATION

Model 2241-902 Datasheet

Diversity Branch Selector

Applications

- Telemetry
- Guidance
- Field training
- Simulation

Features

- Provides post-detection branch selection
- Automatic rate adaptation (30 Kbps to 60 Mbps)
- Hitless data path
- Transparent to framing
- SDI measure function
- Best source selector based on BER
- Remote programming
- Maintenance facility

Description

The TTC/RF Networks Model 2241-902 is a baseband signal processing unit that provides post detection diversity branch selection as an alternative to diversity branch combining (e.g., optimal ratio combining) in receiving stations used for point-to-point air-to-ground data telemetry. Two RF signals from uni-directional, dual feed receiving antenna (polarization diversity) or two separate directional receiving antennae (spatial diversity) are applied to independent receivers[1]. Each receiver produces a reconstructed serial NRZL digital data stream, a coherent bit rate clock (phase locked bit strobe for the NRZL line code), and a channel condition transmission quality) signal. This signal is referred to as the SDI, or System Degradation Indication signal. In all configurations, the role of the DBS is to continuously analyze the transmission quality signals from both receivers and systematically consolidate the pair of reconstructed data streams into one data stream that represents a best attempt to bypass bit decision errors that may have occurred in one channel while the other was error free.

1 For simplicity, the term “receiver” is defined as the aggregate of all signal processing functions required to translate modulated RF signals to a replica of the digital baseband data stream applied to the transmitter, i.e., amplifiers, downconverter, demodulator, and detector.

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