

Technical functional description of the MDR-8000 series radios. The descriptive information covers the radio's main functions only.

See figure 1-1. In the transmit direction the MDR-8000 uses a modulation structure where the I and Q baseband signals modulate the in-phase and quadrature phase components of the transmitter.

The I/O interface converts the format of the incoming data streams to I,Q, data, and clock. The I/O interface module uses the signals to generate 32 and 128 trellis code amplitude modulated (TCM) baseband signals. The transmitter processes the TCM baseband signals to generate the modulated TCM RF signal. The RF signal is then amplified and applied directly to the antenna branching or further amplified by a solid-state amplifier (optional) and applied to the antenna branching.

In the receive direction, the MDR-8000 uses a demodulation conversion structure. The received TCM signal is fed into a filter followed by a receiver module. The receiver module directly converts the RF signal to I and Q baseband signals and provides all of the acquisition loops. The receiver also provides countermeasures to dynamic path distortions. Clock and digital data are extracted from the analog channels and passed on to the I/O interface. The digital data is processed by the I/O interface module and converted to an DS1 format.

The MDR-8000 consists of I/O, transmit, receive, control and monitor, and power distribution subsystems.

