

## OPERATIONAL DESCRIPTION

The R & S model TMU91 transmitter is composed of an exciter, an optional touch-screen controller, a single power amplifier module, emission mask filter, and harmonic filter.

The exciter unit accepts the transport stream input signal and converts this to an ATSC RF modulated signal. The exciter includes signal processing to improve transmitter linearity performance and frequency response as well as compensating for frequency response issues in the transmission system beyond the transmitter before it reaches the antenna. If dual exciters are used, an exciter switcher is used to select which exciter is routed to the rest of the transmitter.

After the exciter, the signal is directed to one power amplifier. Then the signal is routed to a harmonic filter and an emission mask filter to reduce harmonic energy and to ensure adjacent channel emission is compliant with FCC rules.

The control unit interfaces with each subsystem within the transmitter and provides monitoring of each function, implements automatic power control, communicates with any remote control system, and provides fault protection for the transmitter. An optional touchscreen display is available.

The power amplifier contains the cooling system fans necessary to properly cool all components within the transmitter.