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Microwave Radio Communications
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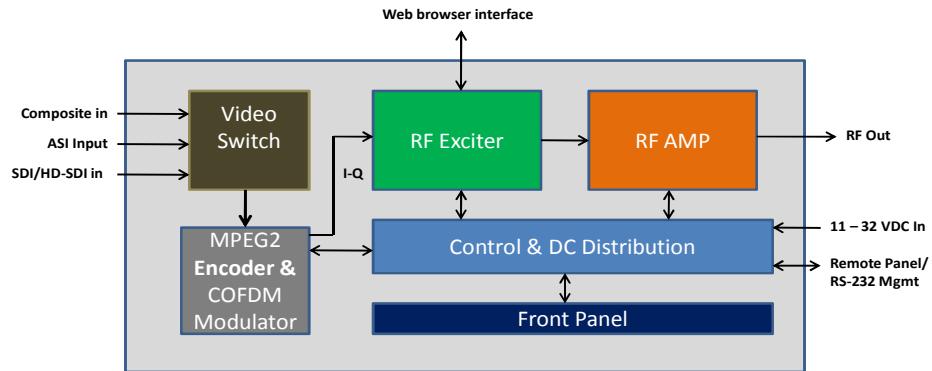
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Applicant: Microwave Radio Communication.
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FCC ID: FC3HDX2025D

Technical Description:

The HDX1100 FC3HDX2025D is a compact, mobile transmitter, designed to be adaptable to a wide range of field applications; particularly those requiring ruggedized, vehicular mounted equipment. The transmitter accepts a wide range of SMPTE based video input signals, including HD-SDI, SDI, ASI, and NTSC. Raw video, audio, and data are delivered to an integral MPEG-2 Encoder which feeds a COFDM-DVB-T modulator, operating in the 2K carrier mode, to produce a 1705 carrier spectrum. The I and Q outputs of the COFDM modulator are supplied directly to an RF generator and up-converted to the operating band from 2000 to 2500 MHz at an RF power level of +20dBm. A 20 dB gain RF amplifier follows the exciter to boost the final RF output power to + 40dBm (10Watt). The exciter RF drive level is factory set to limit the RF output from the PA to 10 Watt or less.



HDX1100 Functional Block Diagram



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The specific operating frequency is determined by a high stability wide band VCO. The VCO set-up voltage is controlled by a microprocessor that is factory programmed to provide channel plans in accordance with the rules as specified in §74.602(h)(4)(i)(2)&(3), §78.18(b)(5), and §90.

Digital modulation of the COFDM carriers changes between QPSK, 16QAM, and 64QAM as determined by user bit rate requirements. The symbol rate is set to maintain the occupied bandwidth mask to be in compliance with the ETSI EN 300 744 V1.51 standards for either a 6 or 8 MHz COFDM pedestal as shown in the chart above, and to be in compliance with the emission bandwidth limits as required in § 74.637(a)(2)(i), 78.103(e), and 90.

An LCD touch screen display located on the front panel of the transmitter is used to control basic transmission parameters and provide operational status of internal systems. The transmitter can also be operated from an external remote panel via hard wired RS-232 link.

Additional information may be found in the HDX-1100 User and Technical Manual, included with this application.