Truck-Coder II (TCII)
COFDM Digital/Analog
ENG/OB Van Microwave System

Applications:
► ENG News Vehicles
► Law Enforcement Command Posts

Key Features:
► HD Ready
► Digital and Analog Transmission
► 6 MHz Occupied Bandwidth Feature
► Simple Set-up and Operation
► 100 User Defined Presets
► Ethernet Port for Upgrades and Configuration
► Field-Proven Design
► Intuitive Operator Controls
► Fully Standards-Compliant
► Optional Dual Band Capability

Companion Systems & Accessories:
► BMA-20/30, Quad Polarity Offset Fed Antenna
► BMA-6-0, Omni Antenna, 6dBi

The Truck-Coder II (TCII) blends field proven technology with the rich feature set and simple operation you told us you need for ENG/OB operations.

Truck-Coder II is designed to meet the challenging environmental needs of ENG news vehicles. Ease of use and reliability are integral to the BMS COFDM product line. While specifically designed for superior digital transmission performance, an FM modulator is included to ensure compatibility with older analog systems.

The TCII is a two-unit system with a rack-mounted controller and an antenna-mounted RF unit configured to operate in the 2 GHz frequency band. An optional second RF unit can be added to support dual band operation at either 2 GHz or 7 GHz. The system also features superior 6 MHz RF bandwidth performance. Spectral regrowth is tightly controlled which greatly reduces the chance of interference between closely spaced signals.

Expansion to HD ENG transmission has been field proven through the TCII ASI interface using an external HD encoder.

No other product is as easy to use and flexible as the TCII. All operator controls are made with a few key strokes on the innovative Bright Selector™ Panel. Up to 100 adjustable presets are available for ease of setup. The front panel mounted Ethernet port allows a simple and convenient way to upload factory supplied software upgrades, install preset configurations, adjust channel plans and clone units for identical configurations. All are supported by internal web pages viewable on any IP based browser.

Ask about our selection of customized service and upgrade plans designed to meet your specific requirements.

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Truck-Coder II (TCII) System

Frequency Range (250 KHz Resolution)	1.99-2.5 GHz 2.3-2.7 GHz	Dual Band: 1.99-2.5 GHz/6.8-7.2 GHz
Power Output Digital (All Mod Modes)	1.99-2.7 GHz (6 W HI, 1 W LO)	
Power Output Analog	1.99-2.7 GHz (10 W Max)	
Channel Plans	User Selectable & Configurable (Pre-programmed for 12 & 17 MHz)	
Spurious	Below -65 dBc	

System Power Requirements

Power Input	105-260 VAC 50/60 Hz Standard
Consumption	175 W Max.

Environmental Characteristics

Temperature	-20 to +55°C (Oper.); -30 to +70°C (Stor.)
Relative Humidity	98% NC
Altitude	15,000' ASL (Oper.); 50,000' ASL (Stor.)

Control Unit Physical Characteristics

Dimension/Weight	2 RU: 3.5" x 19" x 16" deep / < 12 lbs.

MPEG Encoder

MPEG-2 4:2:0 SP@ML	1.5-15 Mb/s; 0.1 Mb/s Resolution
MPEG-2 4:2:2 MP@ML	1.5-32 Mb/s; 0.1 Mb/s Resolution
Audio Sampling Rates	32, 64, 128, or 192 kb/s per Channel
GOP Structure	Variable GOP
System Delay	80-100mS (Lowest end-to-end delay)
Programmable	Audio/Video PID's

Video Performance

Return Loss	26 dB (10 Hz to 5 MHz)
VSNR (FM Analog Operation at 12 MHz)	2 GHz 63 dB Typical (60 dB Min.) 7 GHz 63 dB Typical (61 dB Min.)
VSNR (COFDM Digital at 8 MHz)	2 or 7 GHz; 67 dB Typical

Outdoor RF Unit

RF Output Connector	50 ohm, N(f)
Operating Voltage	48 VDC (Supplied by IDU or Ext.)
Cooling	Integral Heat Sink
Temperature	-20 to +55°C (Oper.); -40 to +80°C (Stor.)
Relative Humidity	100% Weatherproof Housing
Dimension/Weight	14" x 9" x 3.5" / 16.5 lbs.
Altitude	15,000' ASL (Oper.)

Options

Dual Band Mount	Mount for up to 2 ODU's

Control Unit Interface

Digital Video In	SDI with Embedded Audio (SMPTE 259C CCIR 601)
Analog Composite Video In	NTSC
Analog Component Video In	YUV (Optional)
Audio (Analog) In	2 Channels, +9 dBm into 600 ohm Bal.
ASI In	75 ohm (HD Capable)
ASI Out	Encoder Output, 75 ohm, BNC (f)
RS-232 Side Data CH.	1200, 4800, 9600 Baud Selectable
IF In	70 MHz, 0 dBm, 75 ohm
Main Out to RF Head	70 MHz IF Output w/ Control & Power
70 MHz Aux. Out	IF Output, 0 dBm, 75 ohm, BNC (f)
Serial Port	RS-232 for External Control
Ethernet (Front & Rear)	Internal Web Pages Allow Configuration & Software Upgrades

COFDM Modulator

Bandwidth	6, 7, 8 MHz Selectable
Constellation	QPSK 16 QAM, 64 QAM
Parameters	Selectable Data Rate, Guard Interval, and FEC Rate
Carriers	2k Per DVB-T (ETSI EN 300 744)
Scrambling	Proprietary 6 Digit PIN Code
FEC	Reed-Soloman, Viterbi

FM Modulator

Video Deviation (MHz)	4.0/17 MHz Ch.; 3.5/12 MHz Ch.
Video Pre-Emphasis	Per CCIR Recommendation 405
Audio Pre-Emphasis (FM Only)	75 Micro-seconds
Audio Subcarriers (NTSC)	Menu Selectable: 17 MHz = 4.83, 5.8, 6.2, 6.8, 7.5 MHz 12 MHz = 4.83, 5.5 MHz
Audio Deviation	± 75 kHzp (Typical)

Channelization

Channel Plan	30 Ch. per BAS Relocation Plan User Selectable & Programmable Pre-Loaded w/both BAS 17 & BAS 12 Plans
Source	Digital Frequency Synthesizer
Freq. Stability	± 0.0005%

All Data Subject to Change Without Notice
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