Model 450 Dual Channel Subcarrier System

The 450 is a dual channel, frequency agile, synthesized FM subcarrier system for narrow band multi-channel applications above a video signal with low distortion and flat frequency response from 50 Hz to 15 kHz. Frequency from 1 MHz to 9.99 MHz, subcarrier "off", and compandor "in/out" settings appear on the front panel LCD display. The 450 uses a 3:1 compandor and provides >85 dB dynamic range. With companding disabled, the 450 is a standard subcarrier system with selectable 75 usec or J17 emphasis networks. Connection to video is via a passive directional coupler which does not load the video signal even when power is lost. The 450 demodulator’s threshold extension allows receiving signals under severe fades.

Model 450T Transmitter and Model 450R Receiver

**450 EQUIPMENT SPECIFICATIONS***

**System - Audio**
- Peak program level (PPL) +9 or +18 dBm, selectable
- Frequency response ± 0.25 dB from 50 Hz to 15 kHz
- Distortion < 0.2% at 1 kHz (De-emph, 30 kHz bandwidth)
- Compandor type 3:1 or none, front panel selectable
- Emphasis 75 usec or J17, selectable
- Dynamic Range > 85 dB from PPL

**System - Other**
- Frequency range 1.0 to 9.99 MHz in 10 kHz steps
- Channel spacing (min) 280 kHz
- Deviation (at PPL) ± 75 kHz, adjustable
- Connectors BNC, female, subcarrier in/out; terminal strip, audio and alarm
- Power 115/230 VAC (47-63 Hz) < 30 W
- Size 1.75" X H 19" W X 15" D, each

**Modulator Characteristics:**
- Subcarrier output level 25 to 100 mV P/P (adj.)
- Output impedance Bridging (>4 k ohms) to 75 ohm line
- Audio Impedance 600 Ω, balanced transformer coupled or high impedance (> 50KΩ)
- Alarms Synthesizer out of lock; Carrier frequency out of lock
- Indications Frequency, Alarm, Off

**Demodulator Characteristics**
- Subcarrier input level 25 mV to 100 mV P/P
- Input impedance Bridging ( >4 k ohms) to 75 ohm line
- Audio Impedance 600 Ω, balanced transformer coupled
- C/No for threshold 61 db - Hz
- Alarms AFC; Carrier below squelch level; Synthesizer out of lock
- Indications Frequency, Alarm, Off

*+10 to +40 degrees C; Specifications subject to change without notice

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