



Features:

- * Emulation of path loss at uplink and downlink
- * Emulation of frequency translation
- * High RF output power and low noise
- * PLL synthesizer in Transmitter, Receiver and Satellite
- * Condenser microphone and speaker for audio link
- * Camera and Monitor for video link
- * 4 Dish for linear polarization study
- * C/N and S/N measurement facility
- * Transmit Audio, Video, Digital/Analog data, Tone, Voice, function generator waveforms etc.
- * Receives & demodulates 3 Signals Simultaneously

Technical Specifications

Satellite Uplinking Transmitter

- Frequency : 4 channels in 5.8 Ghz band ; PLL with frequency selection switch & LED indication
- RF output level : +3 dBm nominal with wideband RF amplifier with no manual matching required
- Audio 1 : Int. 1KHz sine wave / Ext Mic Ext. Function Generator waveform
- Audio 2 : Int. 1KHz sine wave / Ext Mic Ext. Function Generator waveform
- Video : Analog Camera/VCD compatible
- Waveform : upto 5MHz Function Generator
- Digital : Max rate 100KHz typical
- Baseband : Transmits 3 signals simultaneously at each uplink frequency
- Processor : PIC16F4 - 8 bit RISC processor based PLL with 4 Mhz clock
- Bandwidth : 16 Mhz
- Modulation : 5/ 5.5MHz Audio FM Modulation 8 Mhz Video FM Modulation
- Antenna : Detachable Parabolic dish with mount
- Inputs : separate terminals for different inputs
- Power Supply : 100-240V AC 47-63Hz

Satellite Downlink Receiver

- Frequency : 4 channels in 5.8 Ghz band PLL Controlled ISM Band
- Sensitivity : -80dBm
- Audio 1out : Speaker inbuilt/output
- Audio 2 out : Speaker inbuilt/output
- Video Out : 5MHz, 1V p/p
- Digital : Max rate 100KHz typical TTL

- RSSI Out : Received signal strength output for C/N measurement
- Antenna : Detachable Parabolic dish with mount
- Demodulation : Receives & demodulates 3 signals simultaneously
- Power Supply : 100-240V AC 47-63Hz

Satellite Link Emulator

Transponder Uplink

- Frequency : 4 channels in 5.8 GHz band ; PLL Synthesized ISM Band with select switch
- Sensitivity : -80dBm

Transponder Downlink

- Frequency : 4 channels in 5.8 Ghz band; PLL Synthesized ISM Band
- RF output level : 0 dBm nominal
- Path Loss : Variable attenuation
- Band limiting : 16MHz fixed typical
- Antennas : Detachable Parabolic Dish
- Power Supply : 100-240V AC 47-63Hz

Area and Scope of Experimentation:

- * To set up a passive satellite communication link and study their difference. To study the communication satellite link design: process of transmitting a signal to a satellite (UPLINKING), reception of same signal via satellite (DOWN LINKING) and functioning of transponder of a satellite
- * To measure the baseband analog signal parameters in a satellite link
- * To measure the signal parameters in an analog FM/FDM/TV Satellite link
- * To study the functionality of a satellite MODEM
- * To study the phenomenon of Linear polarization
- * To measure the C/N ratio
- * To measure the S/N ratio
- * To study the effect of fading and measure the fading margin of a received signal
- * To measure the digital baseband signal parameters in a satcom link

Accessories:

- * Camera
- * Monitor
- * Cables BNC-BNC 2Nos
- * Serial Communication Software

Note: Specifications are subject to change.

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