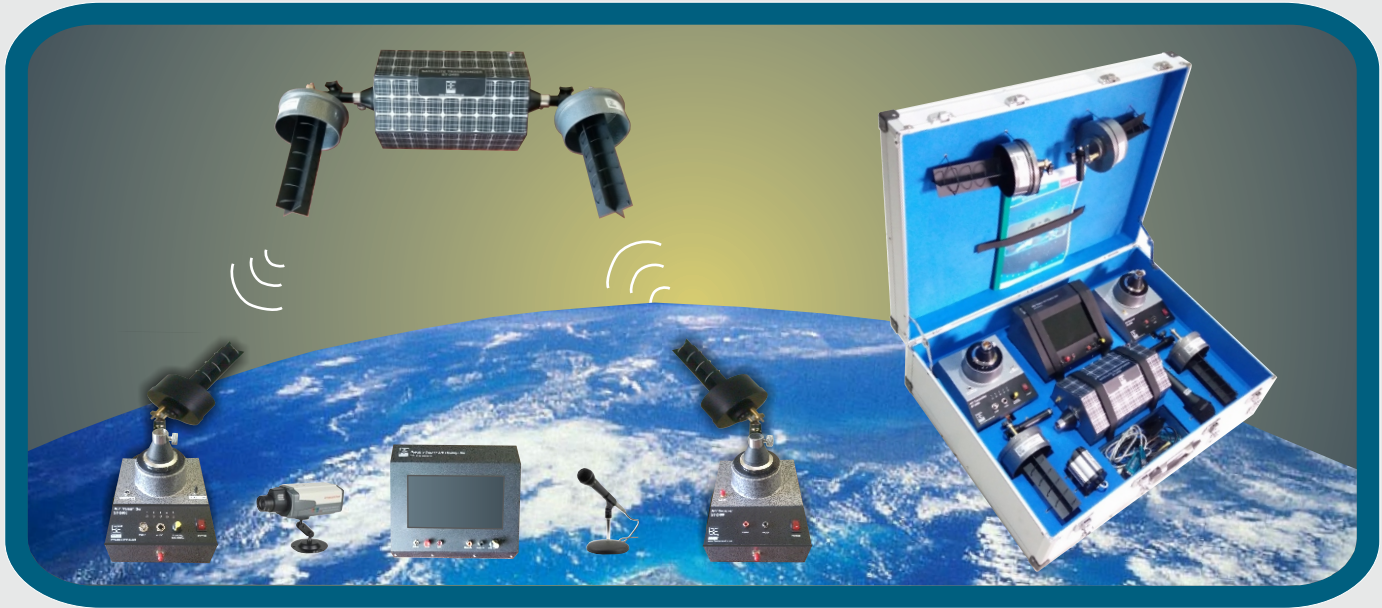


SATELLITE TRAINER ST-2400

**TECHNICAL
Bulletin**



Satellite Communication Trainer ST-2400 is a low cost high performance Satellite Communication training system. It is designed for teaching and demonstrating basic Satellite Communication techniques and concepts for Technical Colleges and Engineering Universities for undergraduate and graduate courses.

ST-2400 can be conveniently placed in the laboratory. It can be placed at an elevation position if needed. The Satellite Transponder receives signal from Uplink Transmitter and retransmit at different frequency to a Downlink Receiver. The Uplink and Downlink frequencies can carry three signals i.e. Video, Audio and Data simultaneously. Any broadband signal or Digital/Analog data or function generator waveforms can be transmitted through this Satellite link. A large number of experiments can be conducted very easily on this Trainer.

Features

- Stand alone, Low cost system
- ISM Band Synthesized Source
- 2412-2428MHz Selectable Frequency
- Safe low power output
- Link Budget Calculations
- Communicate Audio, Video, Digital data, Tone
- Microphone and Speaker provided for Audio Link
- Conveniently packed for inventory control
- Helical Antennas(LHCP and RHCP) provided for transmitter, receiver and transponder
- Camera and Video Interface Card provided for Video Link

**1 Year
Warranty**



List of Experiments

- Establishing a direct communication link between Uplink Transmitter and Downlink Receiver using tone signal.
- Setting up an Active Satellite link and demonstrate Link Fail Operation.
- Establish an AUDIO-VIDEO satellite link between Transmitter and Receiver.
- Transmit and receive three separate signals (Audio, Video, Tone) simultaneously through satellite Link.
- Communication Voice Signals through Satellite Link
- Transmitting and Receiving PC data through Satellite Link
- To Study Axial Ratio and Polarization mismatch effect on communication Link
- To study the Path Loss (effect of distance) between Transponder and Downlink Receiver
- To Study the fading margin of Satellite Link
- To measure the Link Carrier to Noise Ratio (C/N)

Accessories

- Uplink Transmitter
- Downlink Receiver
- Transponder
- Helical Antenna(3 LHCP, 2 RHCP)
- Video Camera
- Video interface card
- Microphone
- Speaker
- Audio/Video cables
- Data cable for RS232 Interface
- AC power cables
- PC Serial communication
- Cables SMA (m) to SMA (m)
- Audio/Video Display Unit
- Operational Manual
- Dielectric Sheets

Specifications

Uplink Transmitter

Center Frequency: 2420MHz
Output Power: +10 dBm
RF Source: Synthesized PLL

Downlink Receiver

Center Frequency: 2476MHz
Sensitivity: -85dBm
Path Loss: 10dB typical
Interface: RS232

Transponder

Uplink Frequency: 4 channels in 2.4 GHz Band ; PLL Synthesized
Downlink Frequency: 4 channels in 2.4 to 2.5 Ghz Band ;PLL Synthesized ISM Band
RF Input Impedance: 50 Ohms SMA
RF Output Impedance: 50 Ohms SMA
RF output level : 0 dBm nominal
Sensitivity : -85dBm
Spurious output : - 30 dB typical
Path Loss : 10 dB Typical
Band limiting : 16MHz fixed typical
Antennas : Helical (LHCP, RHCP)
Power Supply : 110/220VAC
Accessories : Camera, Video to VGA converter Card, Cables BNC-BNC X2
Signal fading: Variable 25dB

Camera

Camera: Colour CCD Type
Power Supply: From Tx
Resolution: 420 Lines
Size: 1/3" CCD
Video O/P: 1Vp-p

Monitor

Screen: 7" Colour LCD
AV input: Analog
Power Supply: Adapter
Display Mode: 16 : 9
Viewing Angle: Wide
Adjustable: Color Brightness, Contrast
Remote control: card style

Microphone and Speaker

Audio 1KHz Tone / Ext Mic
Mono Speaker

Dielectric sheet

Bakelite 12x12 in

Helical Antenna

AR: 1.1
Directivity: 14.6
HPBW: 37.5°
FNBW: 83°



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