



**Sciencetech 2201 DSB/SSB AM Transmitter** is a comprehensive learning solution specifically designed to study basic operation as well as to provide conceptual and step by step understanding of DSB/SSB Amplitude modulation and transmission system through measurement of voltages and observation of waveforms at various test points. Block wise modular organization of circuit function with supporting technical information makes it easy to understand the process of AM generation and transmission. The exercises conceived to provide a practical approach to the subjects enable a deep analysis of the subjects and will guide the students to understand each function.

## Features

- Easy to operate & understand
- Functional blocks with self explanatory waveforms and technical details indicated on board
- Oscillator controlled carrier frequency
- LED indication for signal flow and selection
- More than 25 nos. Test points for waveform observation and analysis
- 8 Switched faults for troubleshooting at different functional blocks
- Telescopic antenna for transmission of AM signal
- On board audio jacks provided for Microphone and Earphone connection
- On board Speaker provided for audio communication
- Online Product Tutorial

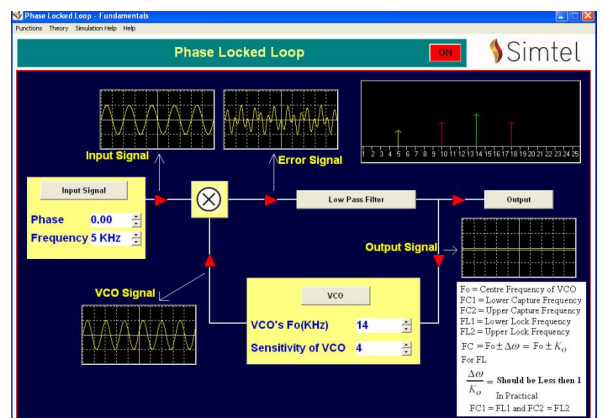
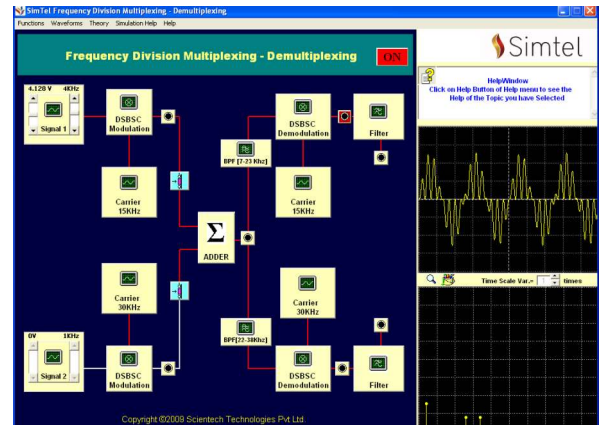
### Scope of Learning

- Study of Balance modulator and Band pass filter for DSB AM generation
- Study and calculation of Modulation index using trapezoidal method
- Study of Balance modulator and Ceramic band pass filter for SSB AM generation
- Study of tuned Amplifier for AM transmission

### Technical Specifications

<b>Audio Oscillator</b>	: With adjustable Amplitude & Frequency (300 Hz - 3.4 KHz)
<b>Audio Output</b>	: Amplifier with speaker
<b>Modulators</b>	: Balanced Modulator with Band pass Filter (1 MHz) - 2 nos.
<b>Balanced Modulator</b>	: 1 no. (455 KHz)
<b>Ceramic Bandpass Filter</b>	: 1 no. (455 KHz)
<b>Carrier Frequency</b>	: 1 MHz (Oscillator controlled)
<b>Transmitter Amplifier Output</b>	: (Gain adjustable) DSB (1 MHz), SSB (1.445 MHz) connected to Antenna/cable
<b>Switched Faults</b>	: 8 nos.
<b>Interconnections</b>	: 2mm socket
<b>Test Points</b>	: 27 nos.
<b>Power Supply</b>	: 110-220 V AC $\pm 10\%$ , 50/60Hz
<b>Power Consumption</b>	: 4 VA approximately
<b>Dimensions (mm)</b>	: W 326 $\times$ D 252 $\times$ H 52
<b>Weight</b>	: 2 Kg. approximately
<b>Operating Conditions</b>	: 0-40°C, 80% RH
<b>Package Contains</b>	: Patch Cord 16" 2 nos. Mains Cord: 1no. Microphone Earphone: 1 no.

### Simtel 10 - Analog Communication Interactive Software (optional)



### Topics

- Fourier analysis
- Amplitude Modulation: Standard Amplitude Modulation, DSBS Modulation, SSB Modulation
- Frequency Division Multiplexing
- Frequency Modulation: Direct Modulation, Indirect Modulation
- Pulse Modulation: Pulse Amplitude Modulation, Pulse Width Modulation, Pulse Position Modulation
- Phase Locked Loop
- Super Heterodyne Receiver

For more details refer Simtel 10 Catalog