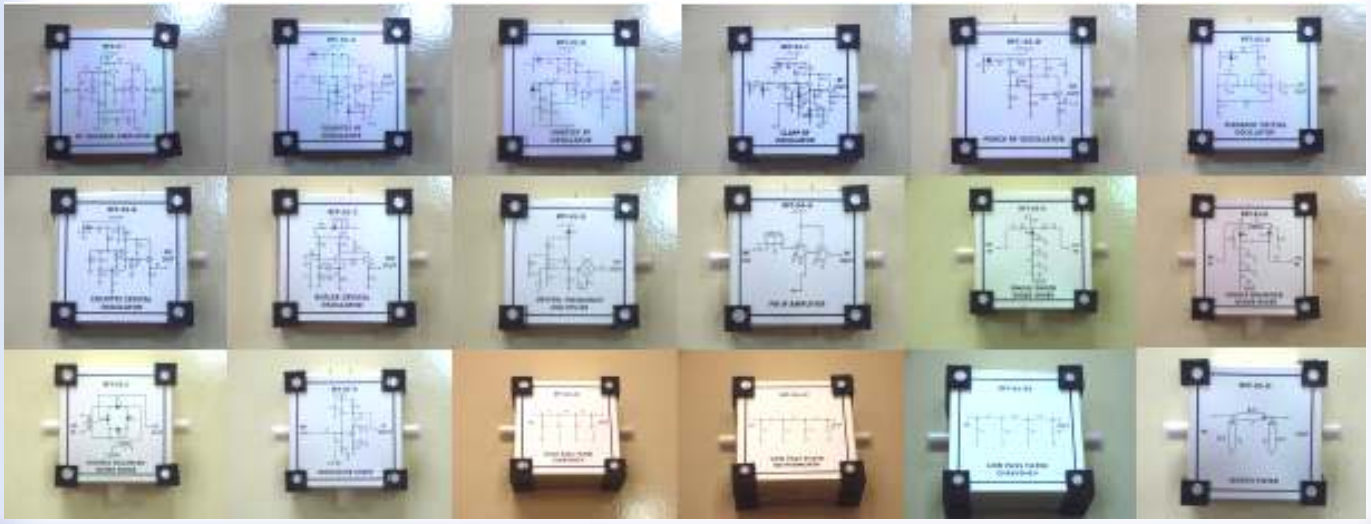
RF TRAINING LAB RFT10



Amitec RF Training Lab RFT10

Amitec Model RFT10 RF Training Lab is designed to initiate the students in RF environment. The modulation products and sidebands of waveforms can be studied. The frequency range and high sensitivity is suited to wide range of RF experiments. A tracking signal source along with directional coupler can be used to measure S parameters of any two port network. Different training modules are provided for study and experimentation.

Amitec RFT10 Features:

* 0.15 MHz to 1000MHz measurement range
* Tracking signal source for network analysis
* Directional Coupler for Impedance Measurement
* Inbuilt frequency counter
* Wide input range -100dBm to+13dBm
* RF modules for experimentation

Technical Specifications:

1. RF Tuned Amplifier Module:
Center frequency : 100-150 MHz typ. varactor tuned

2. RF Oscillators:

a. RFT-02-A Colpitts RF Oscillator Module:
Frequency : >100 MHz typical
b. RFT-02-B Hartley RF Oscillator Module:
Frequency : >100 MHz varactor tunable
c. RFT-02-C Clapp RF Oscillator Module:
Frequency : >100 MHz varactor tunable
d. RFT-02-D Pierce RF Oscillator Module:
Frequency : 48.25 MHz

3. RF Crystal Oscillators:

a. RFT-03-A Feedback Crystal Oscillator Mod.:
Frequency : 10 MHz typical
b. RFT-03-B Colpitts Crystal Oscillator module:
Frequency : 38.9 MHz typical
c. RFT-03-C Butler Crystal oscillator module:
Frequency : above 80 MHz
d. RFT-03-D Crystal frequency multiplier mod.:
2nd harmonic : >10dB fundamental

4. IF Amplifiers:

a. RFT-04-A FM IF amplifier module:
Center frequency : 10.7 MHz
b. RFT-04-B TV VIF amplifier module:
Center frequency : 36.15 MHz
c. RFT-04-C Satellite IF amplifier module:
Center frequency : 479.5MHz typical

5. RF Mixers:

a. RFT-05-A Single ended Diode Mixer:
LO /RF frequency: 500-1000 MHz typical
b. RFT-05-B Single Balanced Diode mixer:
LO/RF frequency : 25-500 MHz typical
c. RFT-05-C Double balanced diode mixer:
RF / LO frequency: 500-1000 MHz typical
d. RFT-05-D Transistor Mixer Module:
LO input typical : 400-600 MHz
Conversion gain : +3dB

6. RF Filters:

a. RFT-06-A1 High Pass Filter Module:
Filter type : Butterworth 7th order
Cut off frequency : 350 MHz typical
b. RFT-06-A2 High Pass Filter Module:
Filter type : Chebyshev 7th order
Cut off frequency : 350 MHz typical
c. RFT-06-B1 Low Pass Filter Module:
Filter type : Butterworth 7th order
Cut off frequency : 350 MHz typical
D. RFT-06-B2 Low Pass Filter Module:
Filter type : Chebyshev 7th order
Cut off frequency : 350 MHz typical
e. RFT-06-C1 Band Pass Filter Module:
Filter type : Butterworth 5th order
F1 & F2 : 100 & 350 MHz typical
F. RFT-06-C2 Band Pass Filter Module:
Filter type : Chebyshev 5th order
F1 & F2 : 100 & 350 MHz typical
g. RFT-06-D Notch Filter Module:
Center frequency : 350 MHz nominal

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ISO 9001:2000
Quality Management System
Cert. No. 2919

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Amitec RFT10 Technical Specifications

Spectrum Analyser

Frequency Range	0.15 –1000 MHz -3dB
Center frequency	4 digit LED display .
Resolution	100KHz
Accuracy	200KHz +1digit
Input Impedance	50 Ohms
Horizontal scan	0.1/ 0.2/ 0.5/ 1/ 2/ 5/ 10/ 20/ 50/ 100 MHz/div
Center freq.	Variable control Coarse & Fine
IF Bandwidth	400KHz/20KHz
Input Range	-100dBm to +13dBm
Reference Level	-27dBm to +13dBm in 10dB steps
Display	CRT 8X10 graticules
Input Attenuator	4X10dB steps
Video Filter	Switchable on 4KHz IF

Tracking Generator

Output Frequency	0.15-100MHz
Output Level	-50dBm to +1dBm
Attenuator	4X10dB steps
Impedance	50 Ohms
Power Supply	100-240V AC; 47-63 Hz
Accessories	Mains Lead, SMA-SMA Cables

Directional coupler

Frequency Range	5-2000 MHz
Coupling	15dB
Directivity	>20dB
Connector	SMA
Usage	S Parameter measurement.

E-Manual: Installation Video for ease of Learning

List of experiments:

1. To measure the center frequency of RF tuned amplifier.
2. To measure the gain of RF tuned amplifier module.
3. To measure the bandwidth of RF tuned amplifier.
4. To measure the variation of center frequency with tuning
5. To measure the 1dB compression of RF amp.
6. To measure the frequency of RF oscillator.
7. To measure the output power level of RF oscillator.
8. To measure the frequency and level of various harmonics
9. To observe the effect of capacitive feedback ratio
10. To observe the effect of voltage on frequency, level, harmonics
11. To measure the frequency of RF crystal oscillator.
12. To measure the level of RF crystal oscillator.
13. To measure the harmonics of RF crystal oscillator
14. To measure the frequency pulling characteristic of RF crystal osc
15. To measure the phase noise of RF oscillator.
16. To measure the center frequency of IF amplifier.
17. To measure the gain of IF amplifier modules.
18. To measure the bandwidth of IF amplifier modules.
19. To measure the 1dB compression of IF amplifier
20. To measure conversion gain/loss for mixer.
21. To measure the 1dB compression level for mixer.
22. To measure the LO/RF, LO/IF isolation for mixer.
23. To measure the optimum LO drive level for minimum distortion/conversion loss for mixer.
24. To measure the dynamic range for mixer modules.
25. To measure VSWR of mixer RF /LO /IF ports.
26. To measure the LO/RF frequency range of mixer.
27. To measure the IF frequency range of mixer.
28. To measure the insertion loss of RF filter.
29. To measure the pass band and stop band frequency
30. To measure the cut off frequency of RF filters.

Dimensions: 56X46X36 cm Weight:17 kg. Warranty: 3 yrs.

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