

Experiments of AT3000

Exp.No	Title of Exp.	Purposes of Exp.	Remarks
Exp.1	Microwave Test System understanding and debugging	Understanding the overall concept of Microwave Test System, understanding and the effects to output signal source by changing the power supply and cavity length	Basic Experiment
Exp.2	Slotted line adjusting and crystal calibration	Learn how to correctly adjust and use of slotted line. be familiar with methods of Crystal calibration and Detector Law, the measurement of frequency wavelength in the waveguide.	Basic Experiment
Exp.3	Measurement of voltage standing wave ratio	Learn how to correctly adjust and use of slotted line. be familiar with methods of Crystal calibration and detector Law, the measurement of frequency wavelength in the waveguide.	Basic Experiment
Exp.4	Technology of Impedance measurement and deployment	Be familiar with the principle and method of the measurement of the standing wave ratio and impedance. Learning matching technology, be familiar with the Smith Chart	Basic Experiment
Exp.5	Measurement and application of Directional coupling	Be familiar with the main features of the directional coupler. Master the main parameters and measuring method of directional coupler. the basic principles and measuring methods of attenuation	Basic Experiment
Exp.6	Hybrid tee matching test	Be familiar with characteristics and the corresponding measuring method of hybrid tee	Basic Experiment
Exp.7	Crystal detector calibration	Understanding Theory and Application of crystal detector.	Basic Experiment
Exp.8	Horn antenna gain and the vertical direction measuring	Understanding the principle, gain, principle of direction chart. Concept and the measuring methods of horn antenna.	Basic Experiment
Exp.9	The measurement of two ports microwave network parameters	The arbitrary two-port network scattering parameters measurement	Basic Experiment
Exp.10	Measuring attenuation and phase shift	Understanding the characteristics and applications of attenuation and phase shifter	Add phase shifter
Exp.11	8.2~12.4GHz Time-domain waveform measurement	Understanding the concept of time-domain microwave spectrum. Square wave of microwave spectrum. the impact of the Repetition frequency and pulse width to the wave	Add AT8073 frequency mixer and 8.2-12.4GHz signal generator

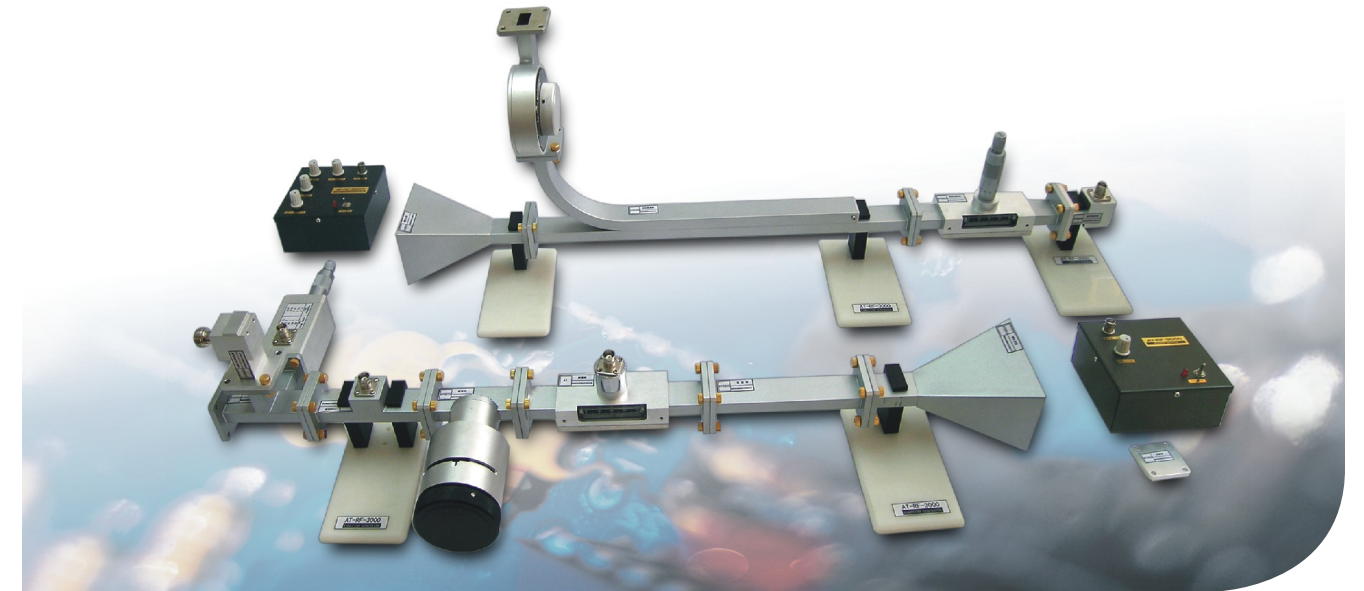
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AT 3000 WAVEGUIDE TRAINING SYSTEM



AT3000 Three Centimeters Waveguide Training System to provide users an in-depth training on microwave waveguide device. This training kit can be used in understanding the transmission characteristics of the frequency and all-round understanding of the way in the use of universal frequency bandwidth in the X series. This experimental demonstration of frequency can be done in most simple method using this kit. Microwave radio communication network is very important in our daily life. For example, high-quality long-distance calls, sometimes through satellite, radio communication system can be used. A special performance of the microwave system is based on the high frequency microwave propagation direction; this feature is very similar to light. In addition, The immune function which reduces the High-intensity microwave frequency noise is an important aspect of microwave communication during long-distance transmission.

AT3000 Three Centimeters Waveguide Training System is a very effective learning tool: The speciality of the following waveguide transmission is providing a wide variety of functional Demonstration Experiment, also related to the applications of spectrum, horn antenna transmitting and receiving. The modular structure practical experiments is in a very simple and flexible installation component, which can be incorporated in an equipment box, easy to carry and transport.



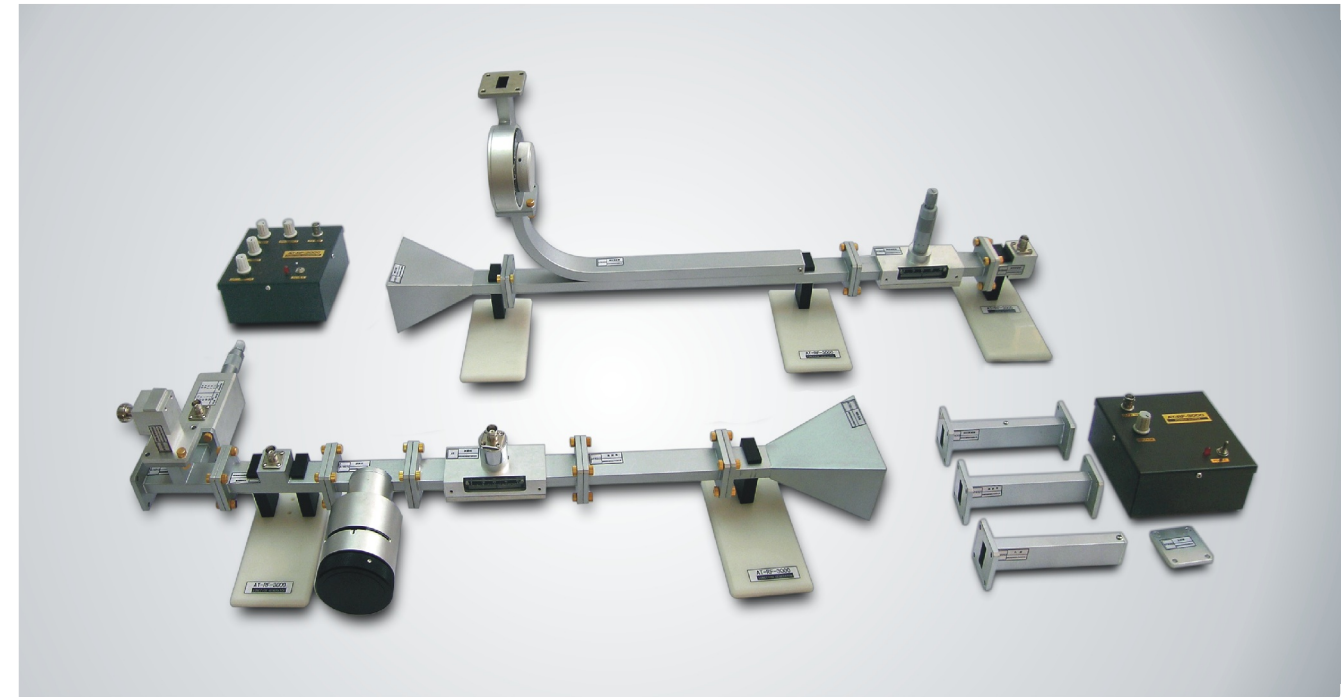
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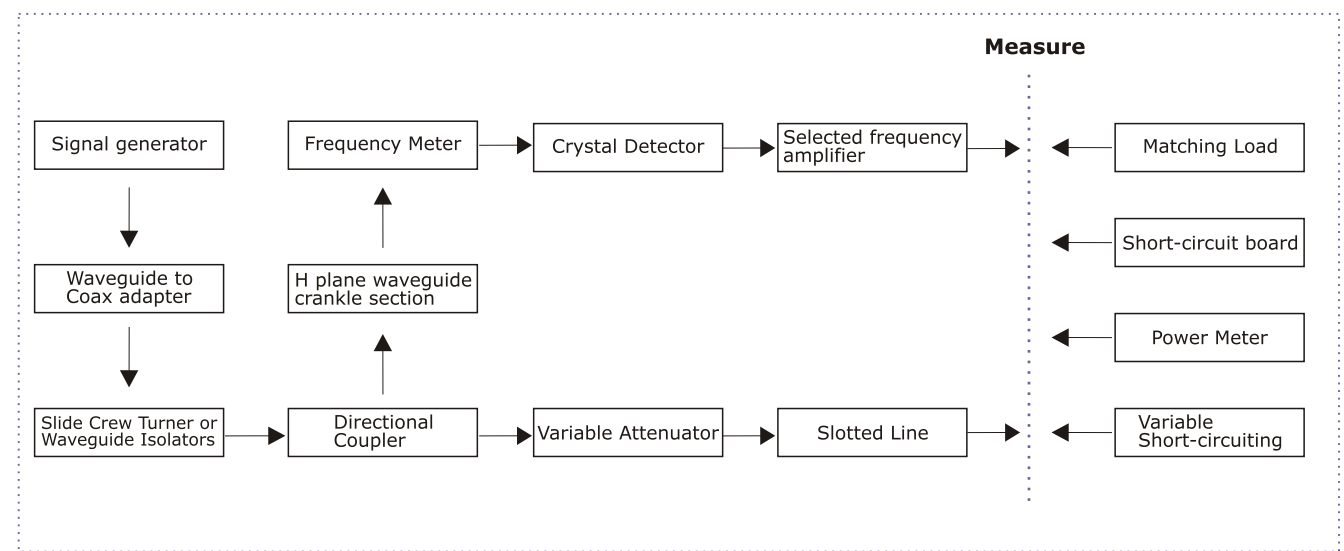
The Parts and Specifications of AT3000 kit

Model.No	Name	Technical performance	Remarks
AT1125	Gunn Oscillator	9-11GHz , P=15Mw	Standard
AT8222	Slide Crew Turner	Coefficient of adjustable voltage standing wave:20~1.06	Standard
AT3632	Slotted Line	Range Of Working Frequency:8.2ghz~12.4ghz Coefficient Of VSWR:≤1.05 Depth Of Probe Into Waveguide:3mm Moving Distance Of Probe:40mm	Standard
AT8341	PIN Modulator	Square wave、Pulse	Standard
AT8232	Crystal Detector	Range of frequency:8.2 GHz~12.4GHz Coefficient adjustable voltage standing wave:<1.05	Standard
AT8272	Frequency Meter	Frequency range:8.2GHz~12.4GHz;Calibration Error: =0.3%(9.5、10、10.5、11four frequency points)	Standard
AT8352	Variable Attenuator	Frequency range:8.2 GHz~12.4GHz;attenuation range: 0~20dB;Measurement Accuracy: ±4 dB (with angle-attenuation comparison Table) VSWR coefficient:=1.25	Standard
AT8353	Fixed Attenuator	20dB±5dB S<1.15	Standard
AT8252	Terminator	Coefficient of standing wave:=1.05	Standard
AT8392	Wave to Coax adapter	Coefficient of standing wave:=1.50	Standard
AT8321	Wave Guide (2 EA)	10.16*22.86*100mm BJ100	Standard
AT8301	Metal Stand(8 pcs)	Fixed height:63mm	Standard
AT8201	Power Supply	12V	Standard
AT8311	Hybird Tee	S<2	Standard
AT8261	Directional Coupler	Center frequency coupling:10dB±2dB; directional: =20dB; VSWR coefficient:main、auxiliary line <1.25	Standard
AT8912	Horn antenna(2 EA)	Gain:>14dB; VSWR:<1.30	Standard
AT8202	1KHz Square Generator	1K±5%	Standard
	Coaxial cable with connector(2 EA)		Standard
	Bolt (50 pairs)		Standard
AT3892	Selected frequency amplifier	Working Frequency:1000Hz, Tuning Range More Than40hz; Passed Bandwidth:16Hz~40Hz Continuously Tunable; Sensitivity; The Impedance200kω; Full Deflection Of The Meter, 16Hz Passed Bandwidth, More Than 0.5mv; Calibration On The Meter: Calibration 0~1000mv; Decibel 0~10db; VSWR1~4, 3~10 Nonlinear Error:Less Than 5% Of Full Range; Amplifier Range:0~60db. Pre10db±0.5db Step-Step 0~5db±0.2db 0~5db Continuously Tunable; Input Impedance: 200kω	Optional accessories
AT2421	Power Meter	Frequency range:50MHz~12.4GHz, Power measurement range:0.1uW~100mW, Measurement Accuracy:working erro±8%. VSWR:S≤1.4, Power base: 50MHz, 1.00mW±1.5%	Optional accessories
AT8322	Waveguide Crankle Section	90° , VSWR≤1.15	Optional accessories

AT3000 Connecting Real Photo



AT3000 Connecting Blueprint



Slide Crew Turner Frequency Meter Hybrid Tee Directional Coupler Gunn Oscillator