

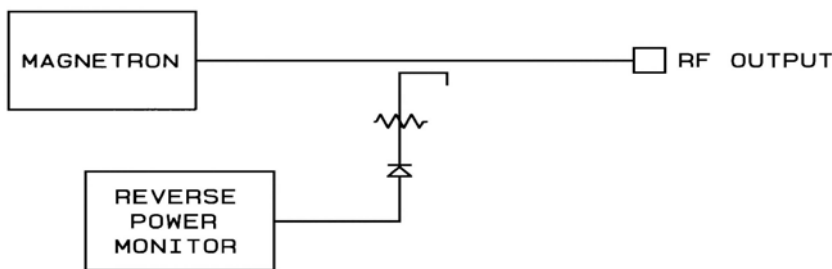
# Model 317 Magnetron Transmitter

0.001  
DUTY

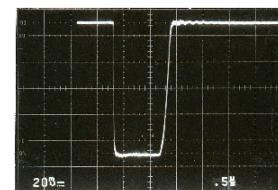
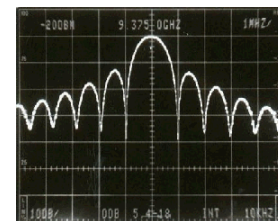


## FEATURES:

- Continuously Variable Pulse Width
- Magnetron Filament Program  
Regulated Filament Voltage
- Complete Magnetron Protection  
Arc Energy Limit  
Magnetron Over Duty  
Filament Voltage High / Low  
HVPS Over Current  
Input PRF, PW, and Duty Limit  
Output Reflected Power  
Over Temperature
- Custom Requirements
- Modular Construction
- Four Line Display  
Operating Mode  
HVPS Voltage and Current  
Magnetron Average Current  
Filament and Operate Time
- Front Panel Controls  
Power On / Off  
Operate  
Standby  
Fault Reset  
Local / Remote
- Peak Cathode Current Monitor



The Model 317 Power MOSFET Modulator, Magnetron Transmitter is designed to operate magnetrons up to 75 kW. The RF pulse is continuously variable, and the pulse width is determined by the magnetron capability. The Model 317 Modulator is not damaged by magnetron arcs. Arc energy to the magnetron is limited which actually helps to clean-up an arcing magnetron. The Model 317 Modulator is a proven, reliable design which fills a need for an inexpensive, versatile transmitter with excellent RF output fidelity. The modulator HVPS is a very efficient, duty cycle regulated DC to DC converter design. A higher power version of the Model 317 (designated Model 327) is available for operation of magnetrons up to 150 kW. Photographs of the output spectrum and detected RF are included.



0.5 us / Division



APPLIED SYSTEMS ENGINEERING, INC.

FORT WORTH, TEXAS

## Model 317 Magnetron XMTR SPECIFICATIONS

Frequency Range	.....	Determined by Magnetron
Output Power	.....	Up to 75 kW*
Duty Cycle	.....	0.001
Pulse Width Range	.....	0.15 to 1.0 $\mu$ s
PRF Range	.....	0 to 4 kHz
RF Rise Time	.....	50 ns, Nominal
RF Fall Time	.....	150 ns, Nominal
RF Pulse Droop	.....	0.5 dB, Maximum
Delay, Input to RF	.....	1.0 us, Maximum
Amplitude Variation	.....	0.1 dB, Maximum
		Pulse to Pulse
Input Pulse	.....	5 Volts into 50 ohms
Input Voltage	.....	120/220/240 VAC
		$\pm$ 10%, 50/60 Hz
Operating Temperature	..	-20° to +50°C
Weight	.....	95 lbs, Nominal
Dimensions	.....	8.75x19x26.5 (in.)
Cooling	.....	Internal Forced Air
		<i>*Power and performance determined by Magnetron</i>

## Standard Equipment

- Filament / Operate Time
- Ethernet Remote Control (TCP/IP or UDP/IP)
- Forward RF Sample Port
- Reverse Power Monitor

## Options

- Reverse RF Sample Port
- RS-232/422 Remote Control
- IEEE-488 or Discrete Remote Control
- Other Primary Power
- RF Connectors on Front or Rear Panel
- Output Isolator
- Servo Tuning
- Manual Tuning on Front Panel
- Rack Mount Slides
- Outdoor Enclosure
- Conformal Coated PC Boards

