



- Frequency 2 to 18 GHz
- Pulse and scan signal monitors
- 100W RF output
- Compact and rugged design
- Dish antennas with tripod

Radar Signal Generators

AWT(G) Radar Signal Generators MRS-Series generate a wide variety of Radar Signals. The Simulators are ideal for radar receiver testing and in training Radar Operators on object detection, recognition and Electronic Warfare (EW). The simulators offer variety of simulation capabilities; including Radar Warning Receivers (RWR), Missile Warning Receivers (MWR) and other Electronic Warfare (EW) Receivers. AWT's Radar Simulator can generate CW or Pulsed signals. An intuitive graphical user interface (GUI) makes it easy to program signal parameters. Geographic Information System (GIS) tools are also available (option).



Dish Antennas and 100W Amplifier

RF & Microwave Technology

AWT-Global provides advanced telecommunication technology products and analyzers for a variety of RF and Microwave applications.

AWT-Global

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Frequency bands can be developed to customer specifications from 0.5 to 40 GHz

Technical Specifications

Frequency Characteristics

High power RF output	2 to 18 GHz
Accuracy	+/- 3 MHz (with DTO)
Agile	Sine, Triangle, Rectangle, Saw
Hopping Frequency Number	16

Number of RF Signal

2-18 GHz	16 Pulse Signals
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Pulse Characteristics

Pulse Range	1- 1,000,000 us
PW Range	0.1- 225 us
Stagger	32 steps
Jitter Pattern	Sine, Triangle, Rectangle, Saw
Dwell & Switch	Programmable up to 32 steps
FMOP	Linear, Non Linear (FM BW is dependent on PW, 40 MHz Max.)

Scan Characteristics

Scan Type	Conical, Steady, Sector, Lobe-Switching, Circular, Box, Orthogonal, Helical, Spiral, Raster, Bi-Directional
Scan Rate	50 mS to 10Sec
Scan Depth	0 to 40 dB

Amplifier and Antenna Characteristics

Amplifier	100W 2-8 GHz and 8-18 GHz
Gain:	
2-8 GHz	31 dBi
8-18 GHz	38 dBi
Feed fitted with N connector	
0.6 m Aluminum reflector with a tripod	

Inputs/Outputs

Ethernet Interface ports	
USB x 3 interface Port	
VGA output (VGA compatible monitor)	
Video Out:	
Scan Monitor	BNC(f), 3.3VDC Max.
Pulse Monitor	BNC(f), 5VDC Max.
RF Ouput (2 - 18 GHz)	N-type (f)
RF Monitor Output (2-18 GHz)	SMA (f)

Environmental

Operating Temperature	-10°C to +40°C
Storage Temperature	-20°C to +70°C
Ingress Protection	IP66 (lid closed) IP20 (lid open)
Relative Humidity	5% to 85% (non condensing)
Mechanical Shock Rating	20G

Electrical

Power	110-240 VAC
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Other Features

An embedded PC or Laptop for remote control	
Built in test	
Accessories:	
- RF Cable (1 meter N(m) to N(m))	
- (2) RF Cable (3 meters, N(m) to N(m))	
- AC Power cable	
- BNC cable (1 meter)	
- Ethernet Cable	

Product Quality

AWT is committed to providing our customers with products meeting the highest quality standards. All AWT products undergo thorough quality checks and are ISO 9001 and ISO 14001 certified.

For more information on any of our products or services please visit our Web site:

www.awt-global.com

Order Information

Model	Description
MRS-020180-100	Radar Signal Generator, frequency range 2 to 18 GHz, 16 Simultaneous Signals, 100W RF output, dish antennas, tripod

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Simulator & Threat Software

RF Signal Parameter Management software runs on windows operating systems. RF signals are composed of frequency, pulse and SCAN characteristics. All parameters are editable in an easy to use and clearly laid out user interface.

The screenshot shows the 'Threat Simulator' application window. On the left is the 'Threat Set List' table:

No	Name	Comment
1	Threat Set 1	Own MSL-01
2	Threat Set 2	Own MSL-02
3	Threat Set 3	RADAR 001
4	Threat Set 4	STAR 001
5	Threat Set 5	RADAR-001
6		
7		
8		
9		
10		
11		
12		
13		
14		

The 'Detail Information' panel shows settings for 'Threat Set 4' (Comment: STAR 001). It includes a table for 'Common Info':

Seq	Name	Channel No	Reference Atten...	Radar type	Radar r
1	MSL-001	Auto	0.0		

Below this, there are sections for 'Threat Name' (MSL-001, Comment: Missile Type 001), 'Frequency' (Pattern: Stone wave, Minimum Freq: 8000 MHz, Reference Freq: 2000-18000 MHz, Maximum Freq: 2000-18000 MHz, Bandwidth: 10 000 MHz), 'Pulse' (Pulse Phase table), and 'Scan' (Type: Conical, Horizontal target location: 360 deg, Vertical target location: 180 deg, Scan period: 0.50 sec, Scan Depth: 1 dB).

The screenshot shows the 'Scenario' panel in the 'Threat Simulator' application. It includes a 'Scenario Name' (Scenario 4, Comment: STAR 001) and a 'Running Time' of 120 s. A timeline graph shows the duration of various threats from 0 to 20 seconds. A red vertical line indicates the current time at approximately 11 seconds.

The 'Active Threat List' table shows:

Name	Time
RADAR-3	11 s
SHIP-R-1	5 s
SHIP-R-2	1 s

The 'Detail Information' panel shows parameters for the active threat (Name: SAM):

Name	SAM
Time	1 s
Freq	1 GHz
PRI	100 us
PW	10 us
Scan	No Scan

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Radar Scan Types

SCAN Type	Antenna Motion	Receiver Signal Strength
Electronic	Agile Beam	
Conical		
TWS		
Steady		
Lobe Switching		
Circular		
Sector		
Helical		
Spiral		
Raster		
Bi-Directional		

A Representation of important radar scan types. All of which can be programmed individually with AWT Global's Radar Signal Generators and transmitted as a single signal or simultaneous multiple signals.

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