

Series 8000 Remote Radar Target Repeater is a portable variable delay and propagation loss system designed for radar testing and alignment.

Features

- Easy, reliable operation
- Available for L, S, C, X and Ku radar bands (0.1 to 18 GHz)
- Stable and repeatable performance



Series 8000 Remote Radar Target Repeater

The Eastern OptX Series 8000 Radar Target Repeater is a portable, variable delay and propagation loss system designed for radar testing and alignment. The repeater may be remotely programmed in the field for dynamic operation. When connected to a user specified antenna the repeater can provide delays of up to 500 μ sec with a fixed delay, multiple discrete delays, or a progressive variable delay with amplitude control (see page 6). The Series 8000 features ultra wide bandwidth, low loss, high isolation, low noise figure, and high dynamic range.

Standard System Features

Eastern OptX Series 8000 fiber-optic technology overcomes the shortcomings of conventional schemes such as acoustic, digital, and coaxial transmission line delays including

- Quantization Errors
- Triple Transit Time
- Dispersion

Radar Applications

- Alignment
- Development Testing
- Calibration
- Qualification Testing
- Multipath and Clutter Simulation
- Interferer Injection (Jammer)

Reliability

- > 140,000 hours of operation in field environments
- Systems in continuous operation for more than 4 years

Configure Now





Series 8000 Remote Radar Target Repeater



Custom Options: (1) Yes or (0) No

Switching Speed: (1) <10 ms or (0) <10 μ s

Power meter: (1) Yes or (0) None

External Delay: (1) Yes or (0) No

Amplitude Control: (1) Yes or (0) No

Bypass: (1) Yes or (0) None

RF Connectors: (N) N or (S) SMA

Part Number

8	3	0	4	-	D	3	3	S	1	-	1	0	1	1	0
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Front Panel Delay Control: (1) Rotary Switch (4) Toggle (2) Touchscreen (0) None (3) Keypad

Remote Control: (1) USB (2) TTL (3) Ethernet (4) GPIB (0) None

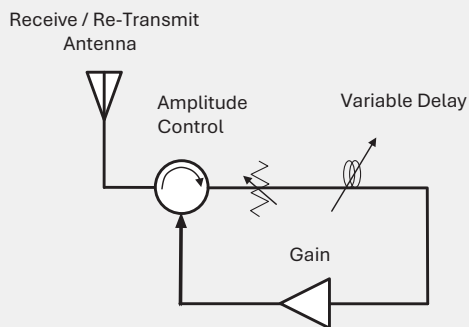
Delay Configuration: (P) Progressive or (D) Discrete

Number of Cells: (2), (3), (4), (5), (6), (7), (8)

Power Option: (0) 120 VAC 60Hz (1) 230 VAC 50Hz or (3) 24VDC

Frequency Range: (0) 0.1 to 0.2 GHz (6) 7 to 12 GHz (1) 0.25 to 0.5 GHz (7) 7 to 17 GHz (2) 0.5 to 1.0 GHz (8) 10 to 15 GHz (3) 1 to 2 GHz (9) 11 to 18 GHz (4) 2 to 4 GHz (10) Other (5) 4 to 8 GHz

Series: (8) Radar Target Simulator



Series 8000 Repeater Block Diagram





Series 8000 Remote Radar Target Repeater



Series 8000 Specifications

Parameter	Specifications	Notes
Delay Accuracy	1 %	Optional 0.1%
Delay Repeatability	0.01%	At constant Temperature
VSWR	2 : 1	Maximum
Spurious Free Dynamic Range	100 dB/Hz ^{2/3}	Minimum
1 dB Input Compression	-15 dBm	Minimum
Noise Figure	25 dB	Maximum (Lower NF optional)
Input/Output Impedance	50 Ω	Nominal
Dimensions	19" Rack Per EIA-310-D	2U - 5U, 18" - 22" depending on design

Available Options

Feature	Options / Description
Frequency Range	Octave Bandwidths from 0.1 to 18 (GHz)
Number of Delays	1 to 8
Delay Values	0.1 to 500 μsec
Delay Configuration	Discrete (Individually, selectable cells), or Progressive. (2n possible combinations of user selectable cells)
Remote Control	Ethernet, TTL, USB, GPIB, None
Front Panel Control	Rotary Switch, LCD Touch Screen, Keypad, Toggle, None
RF connector	Type N or SMA (Jack (F), Other connector types available
Bypass	Yes / No. (Zero Delay Position)
Amplitude Control	Manual (Rotary Attenuator) and programmable amplitude control, 0 to 120 dB. Fixed attenuator option is available
External Delay	Yes / No (Optical ports provided for user connected, external fiber optic delay line)
Power Meter	Yes / No (Built-in, average RF power meter)
Switching Speed	< 10 ms, < 10 s (Remote control delay switching speed)
Power Option	120 VAC (60 Hz) or 230 VAC (50 Hz), 12 VDC, 24 VDC





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Delay Configuration Options

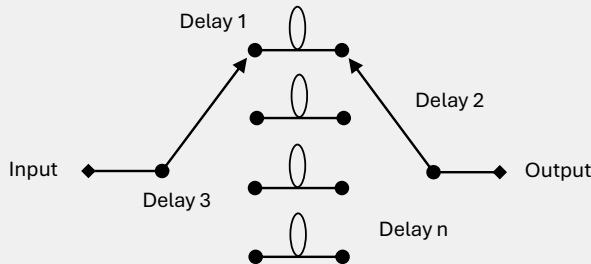
Progressive Delay

- Best solution for equally spaced delay step sizes
- Numerous possible delay combinations (Binary: 1, 2, 4, 8 etc.)
- More delays in a smaller package
- 1% overall accuracy

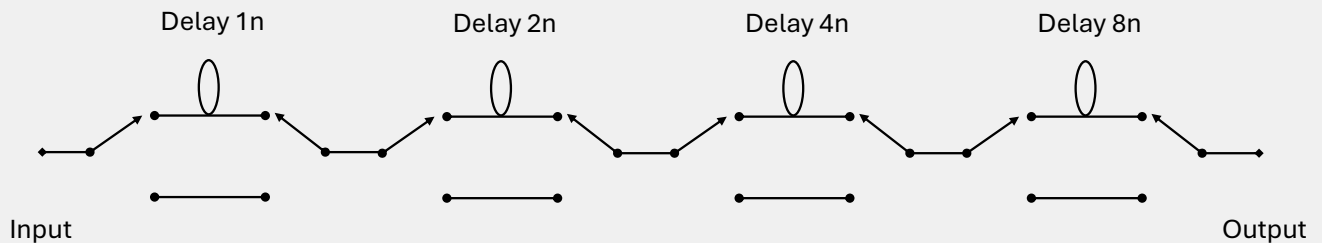
Discrete Delay

- Best solution for few delays or unequal delay steps sizes
- One to eight delays typical
- Better than 0.1% accuracy possible

Discrete Delay



Progressive Delay



Cell Delay Feature

- Up to eight (8) switchable delays can be configured separately
 - When ordering, let the Eastern OptX salesperson know the desired total round-trip delay for each cell (in μsec)
- Example: Delay 1 (5 μsec), Delay 2 (8 μsec)...

