

EOX Series 6000 Altimeter Test Set



Product Summary

Description

The EOX Series 6000 Altimeter Test Set is designed to test and calibrate radar altimeter systems. The Series 6000 provides multiple, programmable delays with front panel and/or remote computer control. It features ultra wide bandwidth, low loss, high isolation, and high dynamic range. Able to simulate altitudes up to 50,000 feet, the test set operates from 4.2 to 4.4 GHz and offers altitude accuracy up to 0.1 %. Tests all Radar Altimeter models and technologies.

Technology

EOX 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

Features

- Easy, repeatable operation
- Up to 8 switchable altitude cells
- Altitude cells may be ordered in progressive or discrete configurations (See Page 5)
- Accurate amplitude balance
- External delay option
- Stable and repeatable performance
- Pulse and CW Operation

Applications

- Altimeter calibration and testing

Reliability

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



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DS-0006 REV 4

Product Details

Parameter	Specification	Notes
Frequency Range	4.2 — 4.4 GHz	Pulse and CW Operation
Altitude Accuracy	1 %	Optional 0.1%
Altitude Repeatability	0.01%	At constant Temperature
System RF Gain *	6 dB (0.1 dB/us delay loss)	Typical, 8000 ft, 4.3 GHz
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

* Contact Factory for More Details

Feature	Options / Description
Number of Delays	2 to 8 (See System Detail Worksheet)
Altitude Values	50 — 50,000 ft (Round-trip delay)
Delay Configuration	Discrete (Individually, selectable cells), or Progressive. (2 ⁿ possible combinations of user selectable cells (See Page 5))
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. (Bypasses optical path)
Amplitude Control	Yes (< 0.5 dB total) / No (< 0.06 dB/μsec for the longest delay), (Delay to delay amplitude variation, contact factory for control options)
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, (Remote control delay switching speed)
Power Option	120 VAC (60 Hz) or 230 VAC (50 Hz) (Alternates Available)

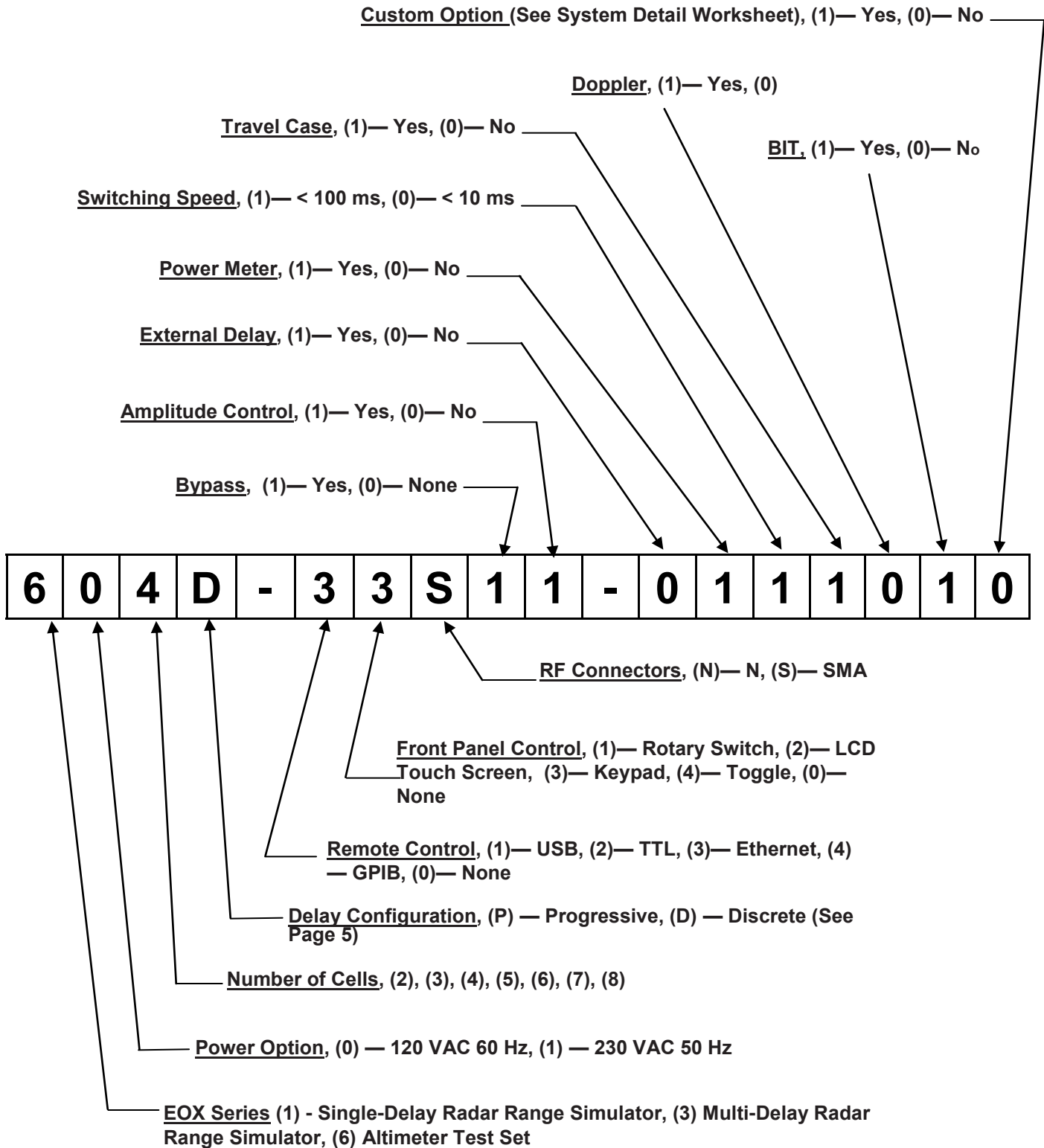


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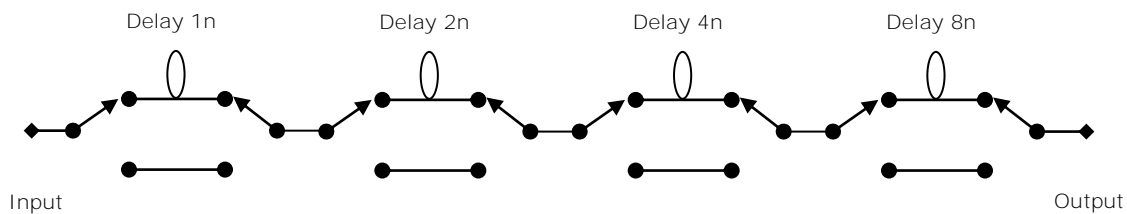
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Part Number Description

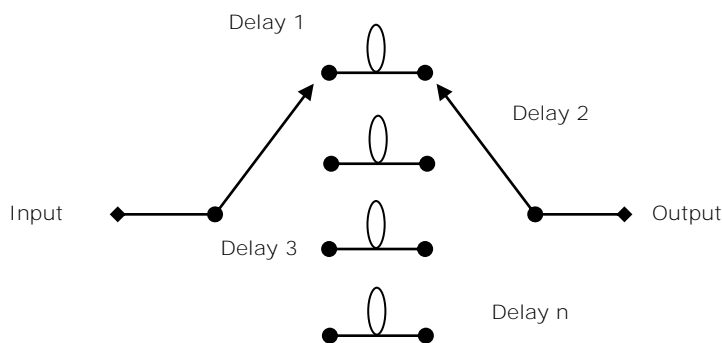


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Delay Configuration



Progressive Delay Configuration



Discrete Delay Configuration

Progressive:

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

Discrete:

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



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