



MINIATURIZED LASER RANGEFINDER RECEIVER WITH RANGE PROCESSOR

- HIGH SENSITIVITY DOWN TO 3 nW
- HIGH SPEED RANGE COUNTER
- DIGITALLY ADJUSTABLE APD BIAS, RANGE GATES and FALSE ALARM RATE
- DUAL RANGE TIME PROGRAMMED GAIN
- BUILT-IN HV BIAS SUPPLY FOR APD DETECTOR



DESCRIPTION:

The **7551A-04** Laser Rangefinder Receiver/Processor assembly comprises a high performance InGaAs APD receiver with compact support electronics to provide corrected range data to a host system. The serial range data output is calibrated using AMI's patented technology to mitigate the effects of range errors from various sources including walk due to return signal amplitude variations. Exceptional sensitivity allows the use of low power lasers, or alternatively, long range operation. The module provides high voltage bias, time programmed gain, first, last or strongest pulse selection, range gating as well as a number of user-controlled options via the serial interface. The compact layout allows positioning at the optics for minimum overall system size.

SPECIFICATIONS:

Detectors/Sensitivity

(50% Pd; 20ns pulse; 1550nm; 0.1% FAR)

Detector type: InGaAs APD

MODEL	DET DIA	TYP	MAX
7551A-04	200 μ m	3 nW	8 nW

Multiple Target Resolution <15 meters typical

Dynamic Range 10⁶:1
Min/Max Range 50 m to 65 km

Range Accuracy <1 m RMS typical, 2 m RMS max. – digitally corrects for fixed-threshold receiver range walk as a function of signal amplitude (single pulse)

Range Gate Digitally adjustable via serial interface

FAR False alarm rate adjustable via serial interface

APD Bias Detector bias adjustable via serial interface

* All measurements made at 20°C

Range Logic First, last, or strongest pulse range logic selection via serial interface

TPG Precursor sets receiver in low gain until start pulse detected, after which the receiver time programmed gain is initiated

Start Pulse Electrically or optically injected

Serial I/O LVTTTL

Power Operational: +5 V @ 125 mA typical
Low Power: +5 V @ <10 mA typical

Temperature Operating: -40° to +71°C
Storage: -40° to +85°C

Size 1.39" x 0.64" Receiver PCB
2.25" x 0.70" Processor PCB

Weight <7.7 g

In the event this commodity will be transferred to a "foreign person" as defined in 22 CFR 120.16, either outside or within the United States, a validated US State Department license is required.



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Model 7551A Outline Drawing

