

Not Recommended for New Designs (NRND) See Model 755A-04.1

MODEL 758.1 HYBRID EYESAFE LASER ANALOG MODULES, INC.

RANGEFINDER RECEIVER

HIGH PERFORMANCE HYBRID EYESAFE LASER RANGEFINDER RECEIVER

- SUPER HIGH SENSITIVITY DOWN TO 3 nW
- **OPTIMIZED FOR NARROW 10 ns PULSES** -
- **HYBRID CONSTRUCTION**
- **HIGH RESOLUTION OF MULTIPLE TARGETS**
- THERMO-ELECTRICALLY COOLED DETECTOR
- TIME PROGRAMMED GAIN
- NOISE TRACKING THRESHOLD
- **28 PIN DIL HERMETIC PACKAGE**
- NO NEGATIVE SUPPLY NEEDED



DESCRIPTION:

The *Model* 758.1 is an eyesafe laser rangefinder receiver optimized for ultra high sensitivity and narrow pulses. Pulse widths from 1 to 40 ns are processed over seven orders of magnitude dynamic range, and operation is possible from 1.0 to 1.6 µm. The detector and critical pre-amplifier components are thermoelectrically-cooled to minimize noise using a built-in temperature sensor and controller. A choice of different sizes of InGaAs APD detectors is available to achieve optimum performance in different rangefinders. Time-programmed gain is triggered at T₀ to eliminate false echoes at short ranges. TTL/CMOS compatible output is provided for a range counter. The Model 758.1 is designed to meet the demanding requirements of military applications and offers among the highest sensitivities of our family of rangefinder receivers. The small size and PCB mounting make it ideal for compact systems requiring high target fidelity and maximum performance. An evaluation PCB is available.

SPECIFICATIONS:

Detectors/Sensitivity

(50% detectio Detector type	n; 6 ns pulse; 0. : InGaAs APD	1% FAR; TEC set fo	or 15°C)
MODEL	<u>DET ∅</u>	<u>TYP.</u>	<u>MAX.</u>
758-03.1 758-04.1	80 μm 200 μm	3 nW 6 nW	6 nW 9 nW
At 1.06µm, mul	tiply sensitivity va	alue by 2.	
Multiple Targe Small Signal Large Signal	t Resolution (50 nW) (1 mW)	10 meters typical 20 meters typical	
Dynamic Range		10 ⁷ :1	
Package	28 pin DIL-0.6" spacing, 0.1" pin spacing Ni plated, Kovar finish. Sapphire window, AR coated for <1% loss at 1.55μ m. Base heatsink required		
Weight	0.5 oz (14 g)		
Time Programı Range	med Gain >100:1 via exte programmable	rnal start signal, ad	ustable,
See application no	otes for more infor	mation.	

Output TTL logic, inverting and non-inverting 30ns pulsewidth minimum +12 VDC ±0.2 V at 65 mA typical Power 0.9 V at 0.7 A maximum for TEC TEC cool down rate: 10°C/s HV bias ≥100 V, 10 μA Built-in temperature-corrected shunt regulator and TEC controller to drive an external power transistor. Size 1.47" x 0.77" x 0.27" (0.3 cu. in.) (37.3 mm) x (19.6 mm) x (6.9 mm) Pin length: 0.375" (9.5 mm) typ. Optical >0.24" (6.1 mm) dia. clear aperture. Detector <0.040" (1mm) below .020" (0.5 mm) thick window. Temperature -40°C to +71°C Operating: Storage: -55°C to +85°C



Specifications subject to change without notice.

APPLICATIONS:

Laser Rangefinder Systems, Target Detection Systems

"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."

126 BAYWOOD AVENUE + LONGWOOD, FLORIDA 32750-3426 + USA (407) 339-4355 + FAX (407) 834-3806 + E-mail: ami@analogmodules.com www.analogmodules.com





NOTE:

CLEARANCE TO CENTER TOP SURFACE OF DETECTOR IS 0.020 ± 0.020 , AND DETECTOR CENTER POINT IS LOCATED WITHIN 0.050 INCHES RADIALLY WITH REFERENCE TO ITS NOMINAL POSITION.

DIMENSIONS AND PACKAGE DETAIL