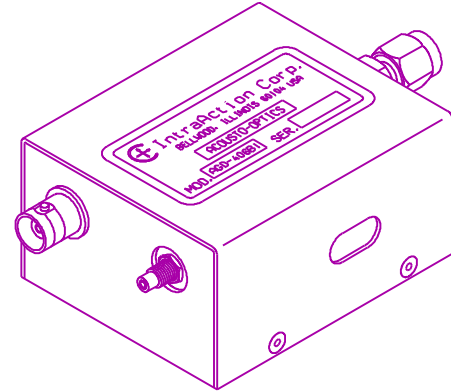


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**MODEL AGD-406B1  
INFRARED ACOUSTO-OPTIC DEFLECTOR**

- LASER BEAM DEFLECTION
- FLAT OPTICAL SCAN RESPONSE<sup>1</sup>
- OPTICAL FREQUENCY SHIFTING
- INTENSITY MODULATION
- HIGH OPTICAL POWER CAPABILITY
- EXCELLENT TEMP. STABILITY & RELIABILITY



**SPECIFICATIONS**

Design Optical Wavelength <sup>2</sup>	10.6 μm
Acousto-optic Material	Optical Single Crystal Germanium
Center RF Frequency	40 MHz
Deflection RF Bandwidth	20 MHz
Optical Frequency Shift Range	"(30 to 50) MHz
Beam Separation	77 mrad
Angular Deflection	38.5 mrad
Diffraction Efficiency	80 percent
RF Drive Power	30 watts (nominal)
Active Aperture Height	6 mm
Access Time	182 nsec / mm beam width
Time-Bandwidth Product	20 (5.5 mm beam width)
Intensity Modulation Bandwidth	750 KHz (5.5 mm beam diameter)
Optical Rise Time	117 nsec / mm optical beam width
Optical Polarization	Parallel to mounting surface
Static Optical Insertion Loss	<12 percent
RF Impedance	50 ohms (nominal)
RF Connector	BNC
Size (less connector)	2.97 D x 1.50 H x 2.42 W inches 75.4 D x 38.1 H x 61.5 W mm

<sup>1</sup> The Model AGD-406B1 incorporates an acoustic phased-array beam steering design which produces a relatively flat first order diffraction efficiency across the deflection bandwidth. Because of this design feature, the deflector requires a single RF power amplifier to drive the multiple transducer array.

<sup>2</sup> Deflectors can be designed to operate at other wavelengths in the range of 2.5 to 11 μm.

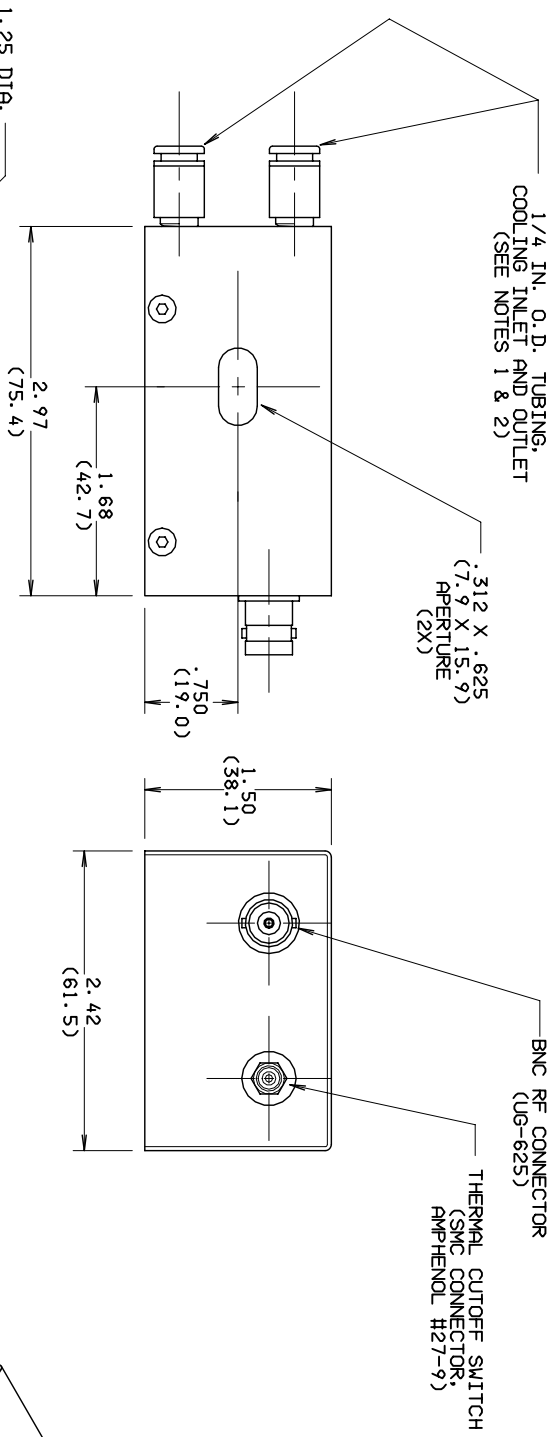
<sup>3</sup> Two deflectors can be cascaded for various frequency shift ranges to produce an angular nonvariant frequency shifted optical beam.

<sup>4</sup> A complete line of VCO, synthesized, and OEM drive electronics are available.

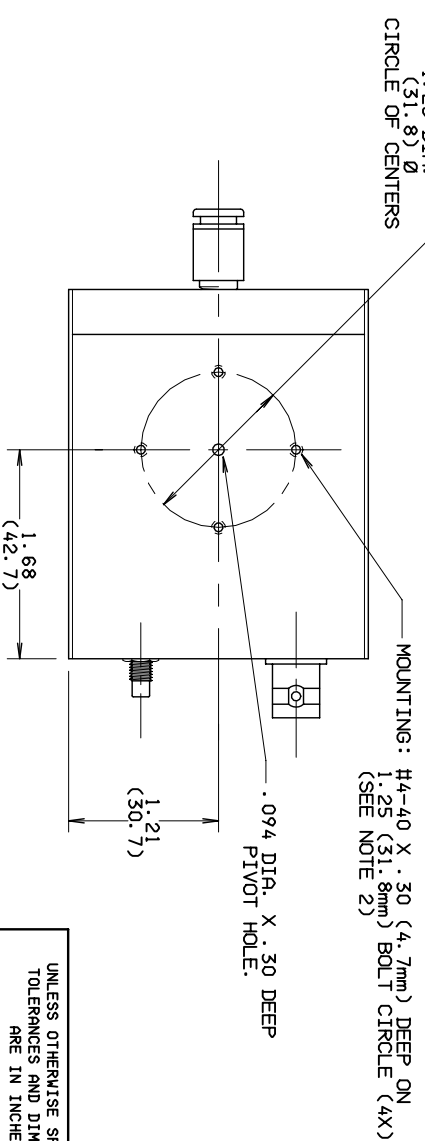
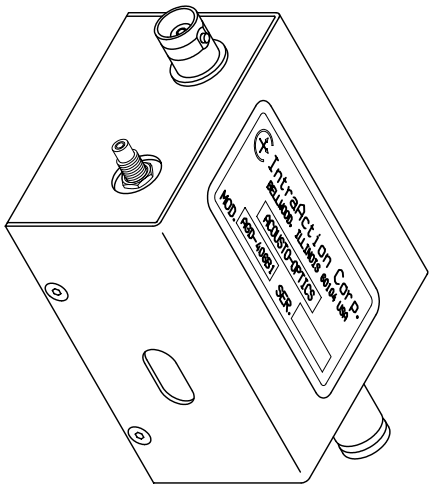
ENG210B

REVISIONS


ISSUE	DESCRIPTION	APPD./DATE
ORIGINAL	GJK 07-12-93	JL
A	THE 1/4" COOLANT CONNECTOR (2X) WAS 1/8" CONNECTOR (2X) ADDED NOTE: GJK 02-12-02 ECHM#4017	JL
B	ADDED NOTE 2. 01-24-03 ECHM# I	JL



ALL REVISIONS TO THIS DRAWING MUST BE MADE ON THE CAD SYSTEM



- NOTES:
1. PUSH TUBING INTO FITTING FOR AN INSTANT CONNECTION AND A 100% SEAL. TO REMOVE TUBING, PUSH IN ON COLLET AND PULL OUT ON TUBING.
  2. METRIC OPTION M:  
6mm TUBING REPLACES 1/4 IN. TUBING.  
M3 X .5 THREADED HOLE REPLACES #4-40.

UNLESS OTHERWISE SPECIFIED TOLERANCES AND DIMENSIONS ARE IN INCHES		APPROVED DATE	 Interaction Corp. 3719 WARREN AVE. BELLWOOD, IL 60104 PHONE (708) 547-6644
LINEAR : .005 (XX.X) = mm.		JL 07-12-93	
ANGULAR ± / DIAMETERS ± .005 LIMITS APPLY BEFORE FINISHING DO NOT SCALE THIS PRINT		CHECKED DATE	FSCM NO. _____ DWG. NO. AGD-406B1 TITLE <b>AGD-406B1</b> <b>OUTLINE</b>
MATERIAL _____		JL 07-12-93	
MFG. INSTR. _____		DRAWN DATE	SCALE _____ UNIT WEIGHT _____ SHEET 1 OF 1
D. C. INSTR. _____		GJK 07-12-93	
		FINISH _____	ISSUE
			B