

MODEL DTD COLLINEAR¹ SERIES 2-AXIS ACOUSTO-OPTIC DEFLECTOR FOR 1064 NM

- LASER BEAM DEFLECTION
- COLLINEAR DESIGN¹
- OPTICAL TWEEZERS
- LINEAR SCANNING
- LOW RF DRIVE POWER
- RELIABLE OPERATION



SPECIFICATIONS		
Acousto-optic Material	Tellurium Dioxide (TeO ₂)	
Operating Mode	Slow shear / off axis	
Optical Wavelength (8)	1064 nm (nominal)	
Optical Insertion Loss	< 5%	
First Order Diffraction Efficiency	> 50% (total for both axes)	
Optical Intensity Variation	< 0.25 dB	
Optical Input and Output Polarization ²	Linear	
Active Aperture Height ³	4 mm	
RF Drive Power ^{4,5}	< 1 Watt	
Input Impedance	50 ohms (nominal)	
RF Connectors	SMA	
Size (less connectors) ⁶	1.50 D x 1.50 H x 2.0 W inches	
	38.1 D x 38.1 H x 50.8 W mm	
MODEL	DTD-274HD6	DTD-464RE6
Center RF Frequency (CF)	27 MHz	46 MHz
Deflection Bandwidth (BW at -1.5 dB)	16 MHz	28 MHz
Time-Bandwidth Product (4 mm)	100	165
Access time (per mm beam diameter)	1.58 μs	1.5 μs
Beam Separation (at CF)	45.4 mrad	73.8 mrad
Deflection Range	27 mrad	45 mrad

¹ The nominal center of the 2-axis deflection area is collinear with the input optical beam. (Eliminates typical AO off-axis alignment)

² Input and output polarizations are in the same direction. Orientation is indicated on the input face of the DTD.

³ 6 mm Active Aperture Height is also available.

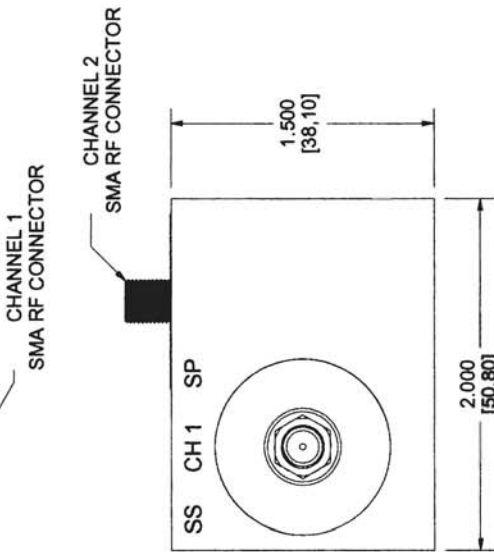
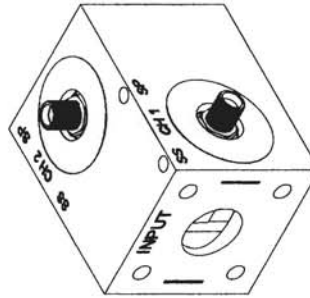
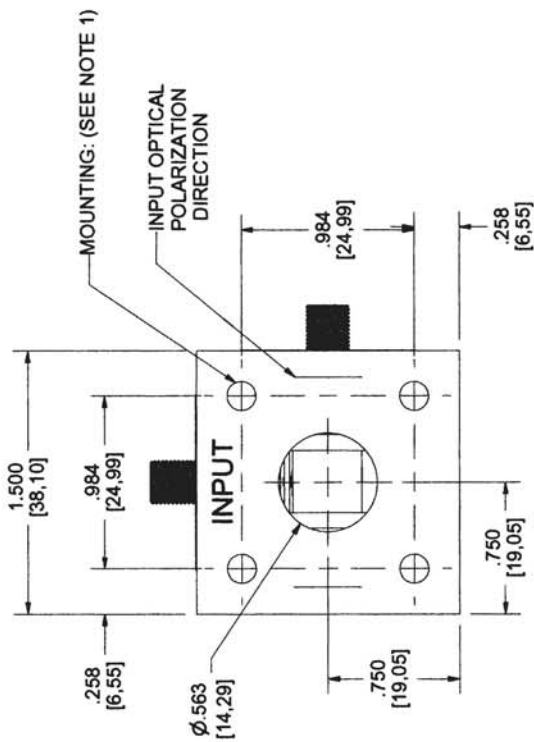
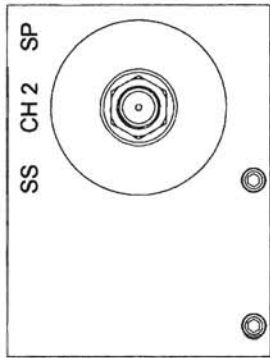
⁴ For Optical Tweezers applications: Model DVE-120 synthesized RF frequency PCI computer card and DPA series power amplifier.

⁵ For Linear Scanning applications: DE series Voltage Controlled Oscillator drivers.

⁶ Since both deflection angles can not originate at the same point, the origins are as close together as physically possible.

ISSUE	ORIGINAL	MFI	10-09-03	APPD/DATE	---
REVISION HISTORY		DESCRIPTION			

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



IntraAction Corp. PHONE (708) 3719 WARREN AVE. BELLWOOD, IL 60104 547-6644	
DTD-274HD6 DTD-274HD6M OUTLINE	
UNLESS OTHERWISE SPECIFIED TOLERANCES AND DIMENSIONS ARE IN INCHES LINEAR : .XX ± .01 .XXX ± .005 ANGULAR ± 1' / DIAMETERS ± .005 LIMITS MAY APPLY BEFORE FINISHING DO NOT SCALE THIS PRINT	APPROVED DATE CHECKED DATE MFI 10-09-03 DRAWN DATE MFI 10-09-03 FINISH
MATERIAL MFG. INSTR. Q. C. INSTR.	FCSM NO. B DWG. NO. DTD-HD6 / HD6M ISSUE SCALE 1.5 : 1 UNIT WEIGHT SHEET 1 OF 1

NOTES:
1. MOUNTING SCREW HOLES: (4X) DTD-274HD6: #8-32 X .275 MAX. DEEP. DTD-274HD6M: M4 X .7 X 6.5 MAX. DEEP.