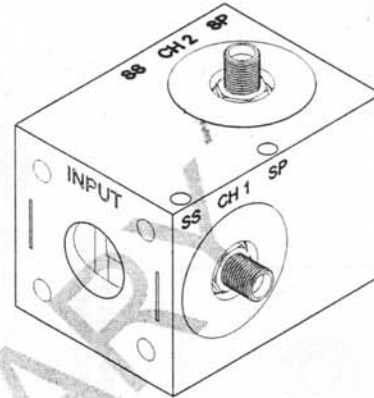




**MODEL DTD COLLINEAR¹ R SERIES
2-AXIS ACOUSTO-OPTIC DEFLECTOR FOR VIS AND NIR**

- 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 Insertion Loss	< 5 percent
First Order Diffraction Efficiency	>50 percent
Optical Intensity Variation	<1 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	<u>DTD-564RC15</u>	<u>DTD-604RC25</u>	<u>DTD-804RC17</u>
Optical Wavelength (λ)	830-850 nm	780-785 nm	630-660 nm
Center RF Frequency (CF)	56 MHz	60 MHz	80 MHz
Deflection Bandwidth (BW at -1 dB)	34 MHz	36 MHz	50 MHz
Time-Bandwidth Product (4 mm)	200	215	300
Access time (/mm beam diameter)	1.5 :sec	1.5 :sec	1.5 :sec
Beam Separation (at CF)	70 mrad	71 mrad	76.6 mrad
Deflection Range (λ , BW)	42.5 mrad	42.4 mrad	47.5 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.

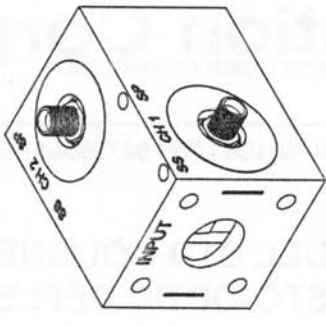
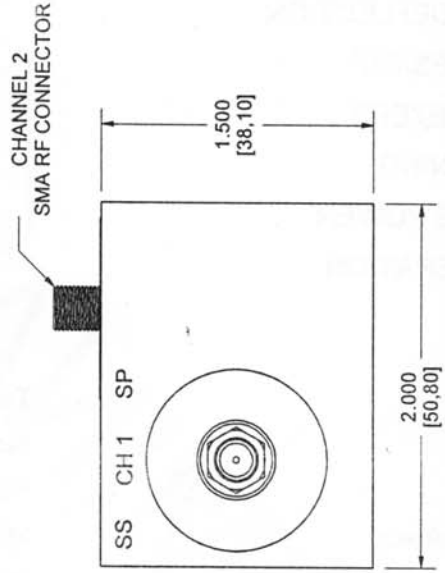
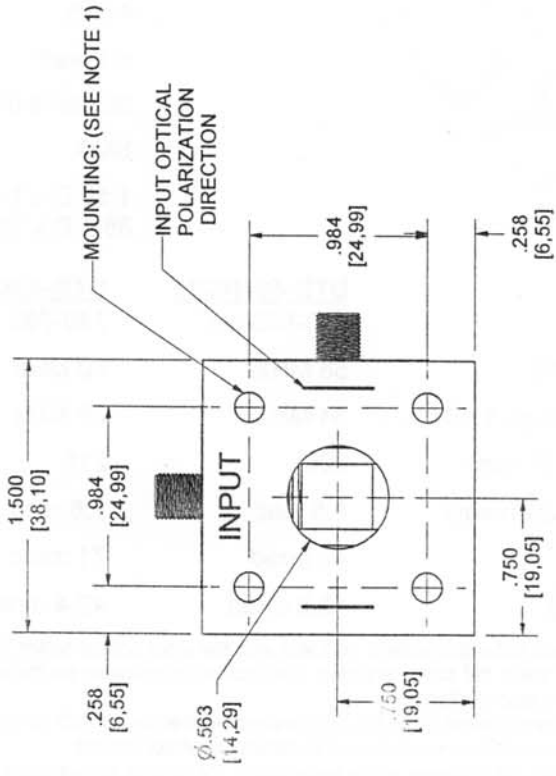
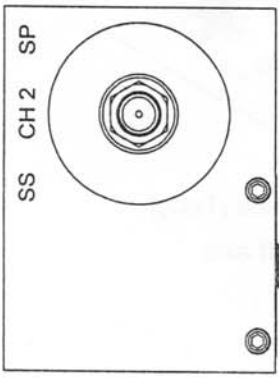
⁴ For Optical Tweezers applications: Model DVE-120 synthesized RF frequency PCI computer card and DPA series power amplifier.

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.

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

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



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