

# MODEL LS110A-VIS-XY

## Dual Axis AO Deflector



0217

The LS110A-VIS-XY provides high speed simultaneous vertical and horizontal axis beam position control at visible wavelengths. It is comprised of two orthogonally-mounted single axis TeO<sub>2</sub> deflectors which sequentially diffract the input laser beam to generate up to a 750 x 750 spot combined matrix. The LS110-XY may be operated in raster (linear), random access and vector scanning modes from the same RF drive electronics. It is well suited for applications requiring accurate beam placement at high speed, such as laser range finding and laser pantography.

### FEATURES

- UNIFORM SCAN INTENSITY:** The LS110 series have been designed to maintain the Bragg relationship over the specified RF frequency bandwidth. This results in a uniform diffracted beam intensity across the full scan angles of both axes.
- CIRCULAR INPUT APERTURE:** Complex and costly anamorphic input beam shaping optics are not necessary to produce the high resolution scan. Any required beam shaping may be accomplished with simple spherical optics. There are no intervening refractive optics between the deflector cells
- HIGH THROUGHPUT EFFICIENCY:** More than 25% of the incident laser beam is diffracted to the XY image plane.
- HIGH OPTICAL POWER:** The LS110-XY may be operated with up to 8 Watts CW laser power (6mm or larger input beam diameter).

### RF DRIVE ELECTRONICS

VCO driver/amplifier:	2 off D323-BS / D333-BS
Fast tuning Synthesizer:	1 off iMS4-L (or -P) synthesizer plus iMPA4-1W amplifier
Amplifier only:	2 off DA134-p-xxx (with Integral Phase shifting)

### SPECIFICATIONS

Access Time $\tau$ :	15 $\mu$ s (Maximum)
Input Laser Polarization:	Linear
Output Laser Polarization:	Circular (nominal)
Throughput Efficiency:	>35%
Input Impedance:	50 $\Omega$ (nominal)

#### ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

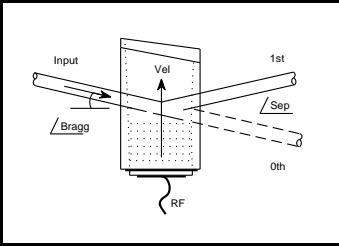
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#### Quality Assured.

In-house: Crystal Growth,  
Optical Polishing,  
A/R coating, Vacuum Bonding



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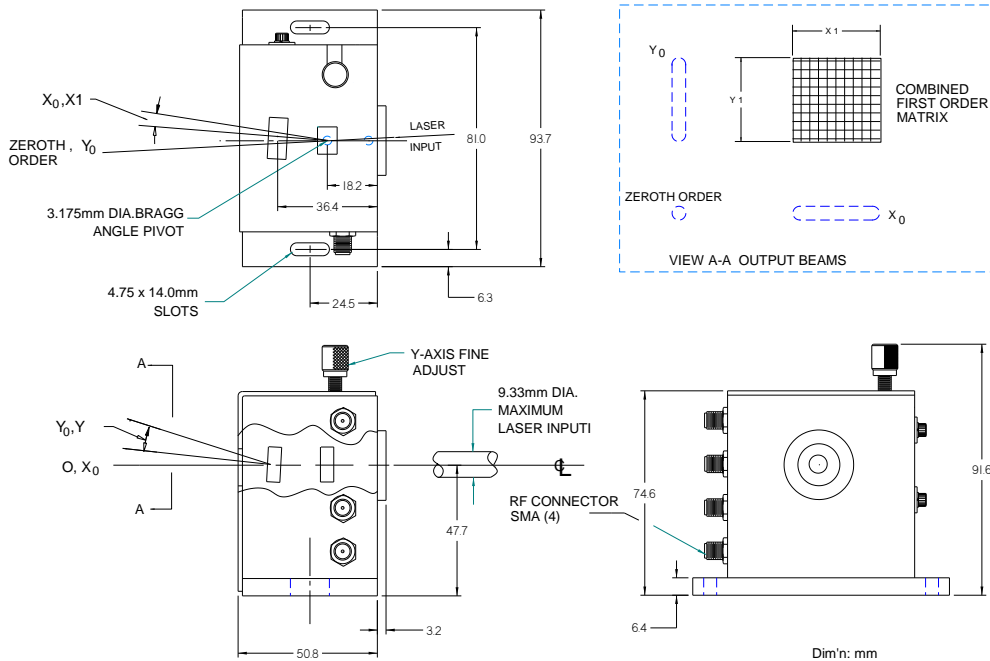


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### SPECIFICATIONS vs. WAVELENGTH

	<u>LS110A-442-XY</u>	<u>LS110A-500-XY</u>	<u>LS110A-532-XY</u>	<u>LS110A-633-XY</u>
Wavelength **:	442nm	488(515)nm	532nm	633nm
Centre Freq. (Nom)	120MHz	100MHz	100MHz	100MHz
Bandwidth Δf:	50MHz	50MHz	50MHz	50MHz
Scan Angle/Axis:	2.1°	2.3° (2.4°)	2.5°	2.9°
Separation Angle :	4.9°	4.5° (4.8°)	4.9°	5.9°
Aperture	9.3mm	9.3mm	9.3mm	9.3mm
Resolution	750x750	750x750	750x750	750x750

### OUTLINE DRAWING



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