



# QUANTUM TECHNOLOGY, INC.

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**HIGH SPEED  
DIGITAL DRIVER  
MODEL 32180D  
DATA SHEET 743**



Model 32180D driver is a 100 ohm Digital Driver, designed to drive 100 Ohm Electro-optic Modulators of crystals ADP, KD\*P or LTA at repetition rates up to 30 MHz. Fast rise times (see below) can be obtained with Modulators KD\*P (model 327-100), LTA (model 12-100), or ADP (model 28-100). Model ADP is for visible (400-800 nm) range, KD\*P is for near IR (800-1100 nm) and LTA is for mid-IR (400-800 nm) range. Please refer to data sheets 719, 741 and 752. The fast rise and fall-times are due to the state-of-the-art GaAs MOS FET technology employed. There are many unique design features such as field replaceable plug-in cards for easy and quick upgrades for expanding functions that include pulse-picker timing, cavity dumping and regenerative seeding. Laser noise suppression and Auto bias Control modules are available.

The voltage to the modulator is provided by integral regulated power supplies and utilize a variable bias in series with the driver output to precisely adjust the modulator operating point. The bias voltage is regulated to better than 0.1 percent for line variations of +/- 10%. and is continuously adjustable from 0 to +/- 300VDC. ( For other Modulating Systems, please see Data Sheet 724 )

## Specifications:

**Repetition Rate ( DRIVER)** DC to 30 MHz (-3dB)

<b>Modulator Model</b>	<b>12-100:</b> Spectral range: 650~1700nm
	<b>14-100:</b> Spectral range: 650~850nm
	<b>22-100:</b> Spectral range: 400~750nm
	<b>28-100:</b> Spectral range: 350~450nm
	<b>327-100:</b> Spectral range: 350~650nm

**Modulation Depth** 100 % (633 nm) , 70% (1064 nm) Extinction Ratio ( 200:1 @488 nm, 500:1 @633 nm) typ with Model 22-100 and 327-100, depends on wavelength and EOM type.

**Transmission** 85% ( Modulator and Polarizer)

<b>Rise and Fall Times</b>	<b>12-100:</b> 10nsec
(Per Modulator Model)	<b>14-100:</b> 10nsec
	<b>22-100:</b> 14nsec

	<b>28-100:</b> 7nsec
	<b>327-100</b> 7nsec

**Input Voltage** TTL @ 50 ohms

**Impedance** 100 ohms (modulator)

**Output Connectors** 2-Triax for RF, and 1-Twinax for bias

**Output Voltage** 150 volts p-p

**Bias Supply** Continuously adjustable from 0 to +/-300 VDC

**Cable Length** 2 meters (*Driver to Modulator*)

**Input Power** 100 to 240 VAC, 60 Hz, 200 watts

**Dimensions (DRIVER)** 19" W x 7" H x 18" D, 60 lbs

**(MODULATOR)** See appropriate data sheets, DS719, 7DS741, DS752