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MODEL 3101
1- 1000 MHz DRIVERS

DATA SHEET 747

MODEL 3101-10W

The electro-optical modulator driver **MODEL 3101-10W** is a high bandwidth amplifier designed to drive electro-optic modulators produced by Quantum Technology, manufacturers of a complete wide range of E-O Modulation Systems, Pulse Picker Systems, and Q-Switching systems. The **Model 3101-10W** system driver will provide about 30-50% depth of modulation when used with the Model **TWAM 11** E-O amplitude modulator. When the driver is used with the **TWAP 11** E-O phase modulator, it produces total first order side band amplitudes of about 8-10%.

SPECIFICATIONS:

Bandwidth (BW):	1 MHz to 1000 MHz (-3dB)
Average Gain:	50 dB +/- 1.5 dB
Rise & Fall Times:	<0.5 nsec
Output Voltage	60Vpp (10 W RF with MODEL 3101-10W)
Impedance	50 ohms nominal
Input Signal Requirements	1 volt peak-peak, bipolar
DC Bias Voltage	+/- 300 volt, manual adjustment standard) as indicated by front panel DVM meter. Automatic Bias Control (ABC) - Model 33C optional.
Electrical Input Power	110/230 VAC, 250 watts, 50/60Hz
Size	3101 driver 20x6x22, 50x16x55cm Bias Chassis 14x6x14 in ³ . 36x17x36 cm ³
Weight	24 pounds Driver, 15 lbs Bias Chassis

Typical recommended modulators Model TWAM/TWAP series. Other varieties of modulators to 150 MHz, 200 MHz are available.

TABLE – 1

MODEL	DESCRIPTION
3101A-10W	Intended for intensity modulation with a Manual Bias of + / - 300VDC (included with system). The output capability is 60Vpp, 10W with a Manual Bias Control of + / - 300VDC (included with system).
3101A2-10W	Similar to 3101A with slightly higher bandwidth narrower bandwidth 20-500MHz and hence is more economical. The output is 60Vpp, 10W with a Manual Bias Control of + / - 300VDC (included with system).
3101P-10W	Intended for phase modulation supplied without manual Bias Control. The output capability is 60Vpp, 10W.
3101P2-10W	Intended for phase modulation Similar to 3101P with slightly narrower bandwidth 20-500MHz at 62Vpp, 10W output with a supplied without manual Bias Control.

Option Model 33C - Continuous Auto Bias option for maintaining the E-O bias at the 50% point, and providing automatic adjustment of the DC Bias required to compensate for thermal drift in the E-O modulator due to RF power and/or ambient thermal heating variations.

The Quantum Technology drivers are well suited for electro-optic modulation requiring high accuracy and performance. For many years Quantum Technology Inc has produced electro-optic drivers, assuring you of the highest workmanship and design. Please call Quantum Technology Engineers with any questions about E-O Modulation systems; we have the answers.