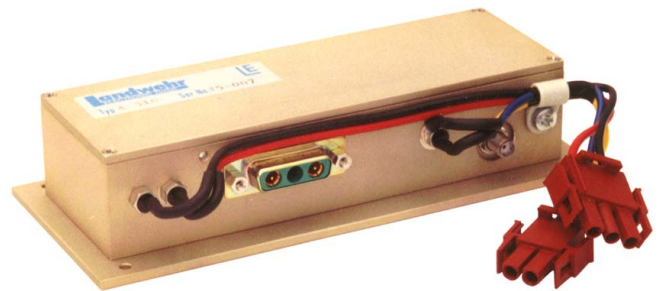


## AOM Driver

## A 310

With the A 310 Landwehr offers a SAW (surface acoustic wave) controlled oscillator driver for AOM (acousto-optic modulator) applications. The A 310 is one type of power driver of a completely new developed driver generation which allows e.g. dc-controlled power output or analogue modulation and digital modulation with a single AOM device. The oscillator frequency is generated directly so that frequency doubling is no longer necessary. Additionally the dc-ground is separated between the digital part and the radio frequency output stage to minimize unwanted radio frequency radiation..



High technical performance guarantees wide modulation bandwidth, excellent switching and unique on/off ratio. By providing two independent modulation techniques this driver can also be used to replace the variable density filter wheel in a laser system as well as providing conventional digital modulation.

## Technical Data

Oscillator frequency	350 MHz $\pm$ 0.03%, SAW controlled
Frequency drift	$\Delta f / ^\circ\text{C} < \pm 50$ ppm
Output frequency of driver	$f_0 = 350$ MHz
Spectral purity	$< -60$ dBc @ $f_0 \pm 300$ Mhz
Harmonics	$< -20$ dBc @ $2f_0, 3 f_0$
Digital logic specification (TTL)	logic $\uparrow 1 \uparrow$ • or open input $\Rightarrow$ rf power on logic $\downarrow 0 \downarrow$ $\Rightarrow$ rf power off optional: inverse logic
RF on-/off-ratio digital	$> 50$ dB at any output level
RF output power level	$< +27 \dots > +33$ dBm @ 50 $\Omega$ , amplifier is protected against load mismatch

RF switch-on/switch-off time	< 4 nsec @ $P_{RF}$ : 10...90 %
Analogue video control input	standard: 0 ... +5 volt into 600 $\Omega$ optional: 0 ... +1 volt into 50 $\Omega$
Analogue voltage = 0 V or open input Analogue voltage = 5 V (1 V)	rf power output $\Rightarrow$ off maximum rf power output $\Rightarrow$ on
RF on-/off-ratio analogue	> 30 dB at any output level @ 600 $\Omega$
Modulation bandwidth	dc ... 2 MHz @ 600 $\Omega$
RF output stability	after warm-up time (10 min) <math>\pm 1\%</math>
Supply voltage output stage Supply voltage digital stage	$U_S = 30\text{ V} \pm 0.5\text{ V}$ $U_D = 8\text{ V} \pm 0.5\text{ V}$
Supply current output stage Supply current digital stage	$I_S = 520\text{ mA} \pm 50\text{ mA}$ $I_D = 230\text{ mA} \pm 25\text{ mA}$

## Connectors and Mechanics

RF-Connector	SMA female		
2 pin cable connector for supply voltage output stage • AMP MATE-N-LOCK	Pin 1	GND	blue
	Pin 2	+30 V	yellow
3 pin cable connector for supply voltage digital stage • AMP MATE-N-LOCK	Pin 1	+ 8 V	red
	Pin 3	GND	black
Logic control connector	Cannon • D-Sub 3w3 female		
Housing	150 mm x 50 mm x 33 mm		
Mounting plate	165 mm x 70 mm x 3 mm		

## Absolute Maximum Ratings

Analogue video control input	-0.5 V up to +7 V @ 600 $\Omega$ -0.5 V up to +1.5 V @ 50 $\Omega$
Case temperature	+55 $^{\circ}\text{C}$ • the driver must be mounted on an adequate heatsink

## Quality Standards

EMC-standards	VDE 0871 - B FCC Rules Part 15 - B
Burn-in test	passive 2 h active $\frac{1}{2}$ h