

# Gooch & Housego



**8 Channel Digital Frequency Synthesizer:  
Driver for Acousto-optic Deflector  
or Acousto-optic Tunable Filter**

**MSD040-150-0.8ADS2-A5H-8X1**

**FORMER MODEL NUMBER:**

**(64040-150-0.8ADSDFS-8X1-A)**

## Description:

The **MSD040-150-0.8ADS2-A5H-8X1** is an 8 channel Digital Frequency Synthesizer driver with the output signals combined into one output for use with an Acousto-Optic Deflector (AOD) allowing up to 8 simultaneous optical beams to be output from the AOD or up to 8 wavelengths output from an Acousto-Optic Tunable Filter (AOTF). The driver allows independent analog (intensity) and digital (blanking) control of up to eight beams of light. The frequency, phase and maximum power for each channel can be setup through software\* interfaced through the USB port. The driver is supplied as an air cooled, turnkey, rack mountable system box.

The product delivered will be manufactured to be compliant with EU Directive 2002/95/EC for Reduction of Hazardous Substance. The product will be manufactured to other standards upon customer request.

## Key Features:

- 40 to 150 MHz
- Up to 8 Frequencies Simultaneously Output
- 0.8 watts Power Output per Channel
- Analogue (intensity) Modulation
- TTL Digital (Blanking) Modulation
- Random Access to any Frequency
- Frequency Settling Time: 250 ns
- Operates on 100 to 240 VAC, 50/60 Hz
- Turnkey Rack Mountable System Box

## Applications:

- RF Driver for an Acousto-Optic Deflector or Tunable Filter used in the following applications:
  - Beam shaping in AODs
  - Multiple beam deflection in AODs
  - Filter band pass shaping in AOTFs
  - Wavelength selection in fluorescence microscopy applications and laser displays using AOTFs
- Super-continuum light sources using AOTFs
- Line selection in Agile Light Sources
- Hyperspectral Imaging
- Real-time online monitoring of processes
- Used in industrial, medical, or military applications



光技術をサポートする

**株式会社オプトサイエンス**

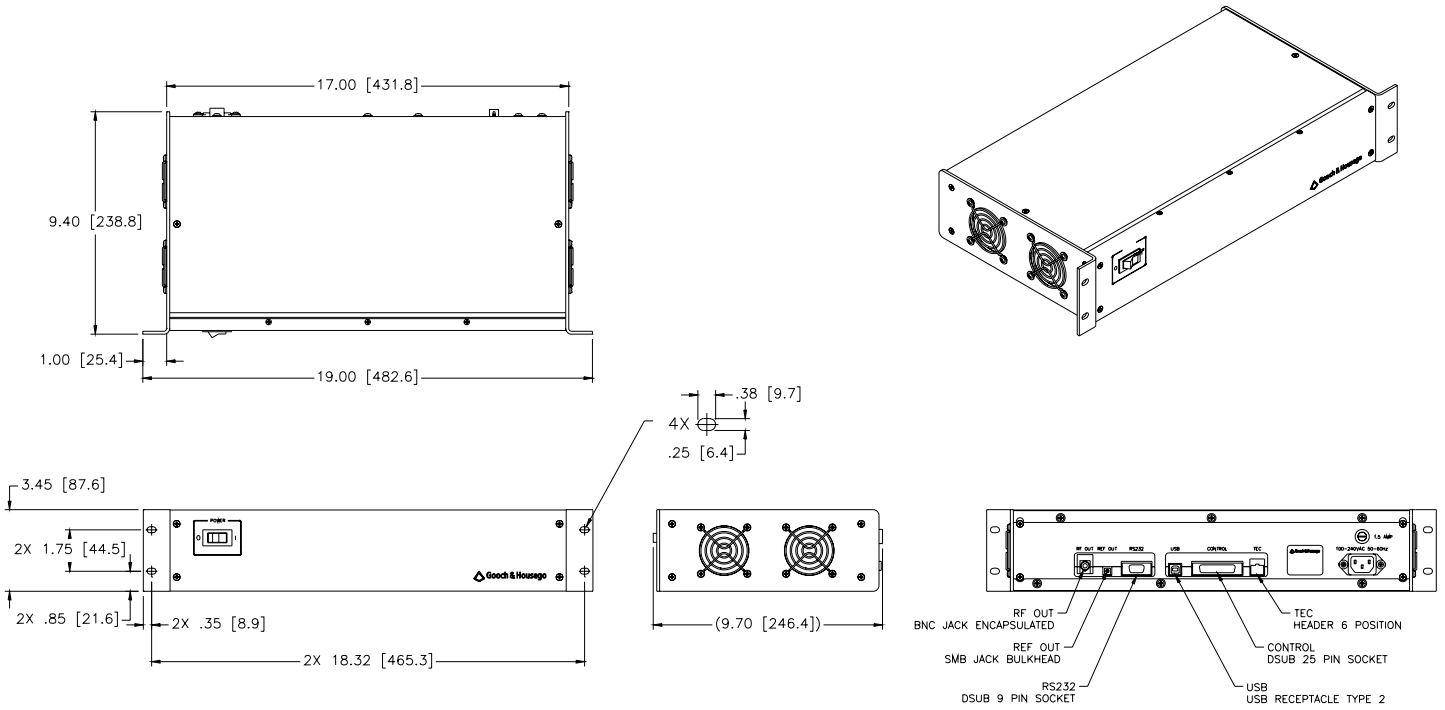
<http://www.optoscience.com>

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**MSD040-150-0.8ADS2-A5H-8X1**
**SPECIFICATIONS**

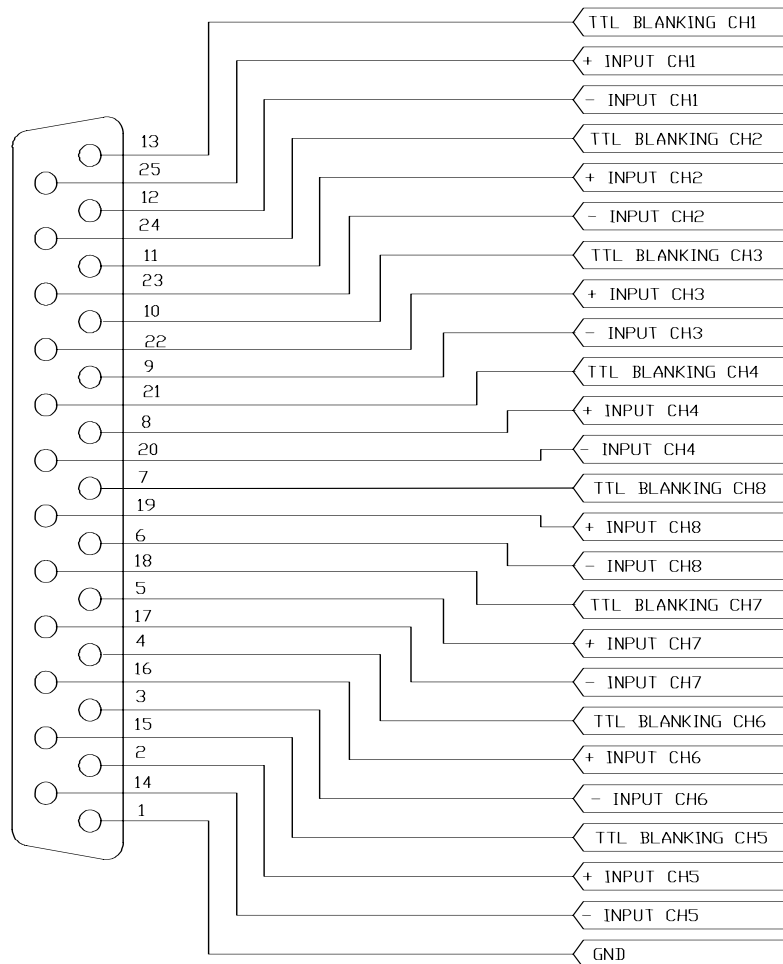
<b><u>PARAMETER</u></b>	<b><u>SPECIFICATION</u></b>	
Number of Channels:	8	
Frequency Stability:	± .01%	
Power Out:	50 – 800 mW per channel	
Tuning Range:	40 to 150 MHz in 1 kHz Steps	
Analog Inputs (8):	0-5 volts into 10 k ohms	
Blanking Inputs (8):	TTL with 4.7 k ohms pull up	
	TTL HIGH or open	= full output (not blanked)
	TTL LOW	= minimum output (blanked)
Rise/Fall Time:	150 ns maximum	
Extinction Ratio:	70 dB minimum	
Intermodulation Distortion	-30 dBc maximum with 8 equally spaced frequencies of 250 mW each. With $4\pi$ phase mask.	
Thermoelectric Cooler Controller:	On board controller available for AO devices that have TECs for thermal stability. Available if specified as: (R)64040-150-0.8ADSDFS-8X1-A-TEC	
Applied Power:	100-240 VAC, 50-60Hz, 1.5A maximum	
Connectors:		Part no.
RF out:	BNC Female	1-1478035-0
Modulation in:	25 Pin D-Sub Female	RDM25SA5
Reference Out:	SMB Male	1060464-1
RS-232 interface:	9 Pin D	RDM9SA5
USB interface:	USB B style receptacle	61729-0010BLF
TEC	6 pin	1-794448-1
Outline Drawing:	53D5024	

As part of our policy of continuous product improvement we reserve the right to change specifications at any time.

**Mechanical Dimensions:**
**Dimensions in inches and [mm]**
**53D5024**


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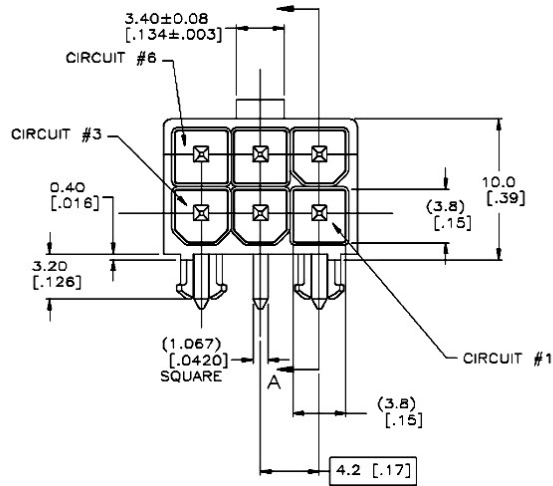
Figure 2  
Pinout 25 pin D-sub control connector



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Figure 3  
Pinout of TEC connector

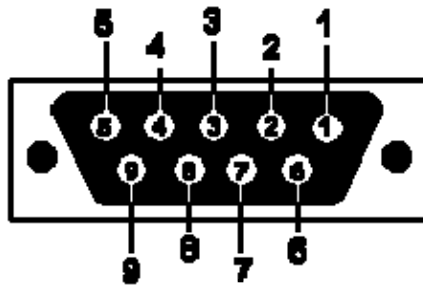
Pin No.	Name
1	No Connection
2	GND (Thermistor)
3	No Connection
4	Thermistor
5	TECP
6	TECN



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Figure 5  
RS 232 connector

Pin No.	Name	Dir	Notes / Description
1	DCD	IN	No Connection
2	RD	IN	Receive Data (a.k.a RxD, Rx). Arriving data from DCE.
3	TD	OUT	Transmit Data (a.k.a TxD, Tx). Sending data from DTE.
4	DTR	OUT	No Connection
5	SGND	-	Ground
6	DSR	IN	No Connection
7	RTS	OUT	No Connection
8	CTS	IN	No Connection
9	RI	IN	No Connection

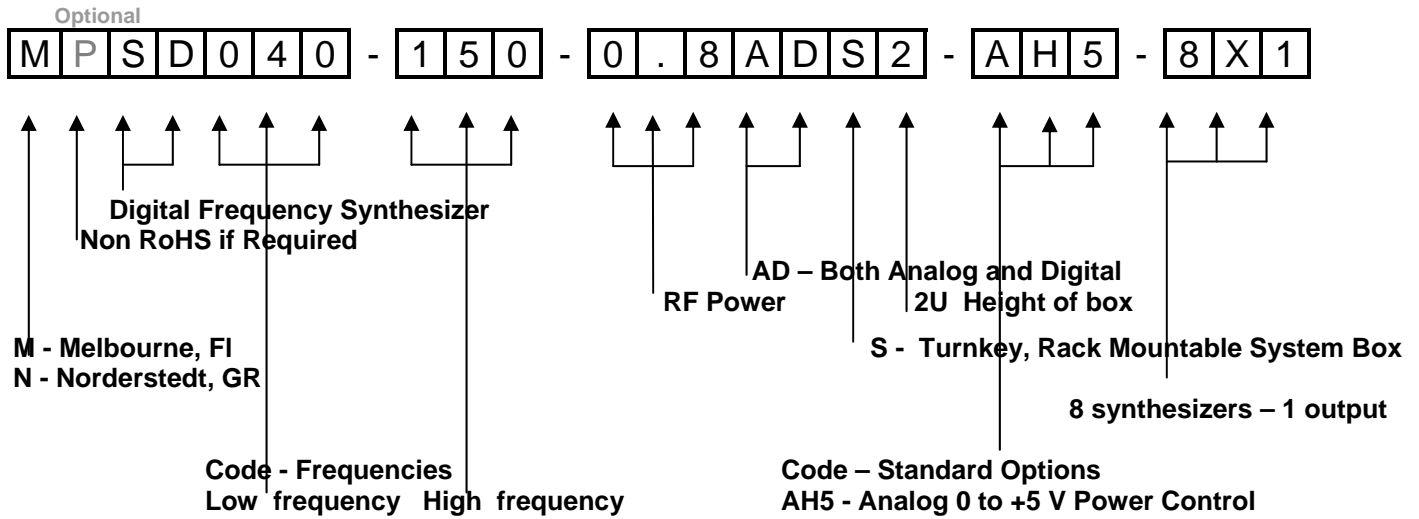


DB9: View looking into female connector

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**Ordering Codes:**
**Example: MSD040-150-0.8ADS2-A5H-8X1**

An 8 Channel, 0.8 watt per channel, 40 to 150 MHz, Digitally Frequency Synthesized RF Driver with TTL Digital and 0 to 5 volt Analog Modulation. Delivered as an, RoHS compliant, turnkey, rack mountable system box. Typically used for an AOD or AOTF Device needing random access and multiple drive frequencies at the same time.


*Technical Assistance & Customization*

**Our Engineering and Sales team are available to discuss your requirements and will assist you in selecting the most appropriate AOD or AOTF/ Diver combination for your Application.**

**For More Information, Contact: [sales@goochandhousego.com](mailto:sales@goochandhousego.com) [www.goochandhousego.com](http://www.goochandhousego.com)**

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