Dynon Instruments

ELAB-080 Specifications

Digital Storage Oscilloscope and Logic Analyzer Specifications:

Number of Analog Channels:	2
Number of Digital Channels:	16
Maximum Sample Rate:	80 MS/s
Available Sample Rates:	(1, 2, 5, 10, 20, 50, 100, 200, 500)KHz (1, 2, 5, 10, 20, 40, 80)MHz (1) 1KHz-80Mhz arbitrary sample rates DSO and LA sample synchronously
Maximum Memory Depth:	32K samples
Available Capture Depths:	1K, 2K, 4K, 8K, 16K, or 32K samples (6)
Horizontal Range:	2 nS/div to 5 S/div in 1, 2, 5 steps
Trigger Types:	Analog Rising, Analog Falling, Bits 0-3 of Logic Analyzer
Trigger Delay Range:	+/- 100% of full capture length

Analog Channels:

Vertical Resolution:	8 bits
Input Impedance:	1 M Ω || 11pF
Maximum Input (no damage):	130 V_{rms} at BNC connector
Maximum Measureable Signal:	5V peak-peak (5)
-3dB analog BW:	DC coupled: DC to 60MHz AC coupled: 1Hz to 60MHz
Vertical Range:	1X probe: 5mV/div to 500mV/div (2) 10X probe: 20mV/div to 10V/div (2)
Offset Range:	+/- 4 divisions (Full screen)
Trigger Range:	+/- 4 divisions (Full screen)

Digital Channels:

Vertical Resolution:	1 bit
Input Impedance:	100K Ω || typically 4.5pF, max 6pF
Input Threshold:	V_{high} = 2.0V, V_{low} = 0.8V
Maximum Input:	-0.5 to +7.0V
Virtual Bus Display:	Binary, Decimal, Hex, Octal

Arbitrary Waveform Generator Specifications:

Number of Analog Channels:	1
Number of Digital Channels:	5
Max Sample Rate:	100MHz (1)
Available Sample Rates:	1KHz to 100MHz, Arbitrary, ~.036% steps
Max number of samples:	64Ksamples
Available Playback Depths:	10 - 65,536 Samples, inclusive
Playback types:	Single Shot, Repeating, Triggered
Trigger Voltage:	2.6V
Maximum Trigger Input:	-0.5V to +6.5V
Trigger Delay:	typically 7 sample clock cycles
Arbitrary Waveform Input:	Built-in, GUI, or File

ELAB-080 AWG Specifications (continued)

Analog Channel:

Vertical Resolution:	10 bits
Maximum Output Voltage:	+/- 3V (waveform + DC offset) [3]
Maximum Waveform Amplitude:	+/- 1.1V (1x mode) [3] +/- 3.0V (4x mode)
Minimum Output Step Size:	2.5mV typ. (1x mode) 10mV typ. (4x mode)
DC Offset Range:	+/- 3V [3]
Output Impedance:	50 Ω
-3dB Analog Bandwidth:	20 MHz
Internal Waveform Generation:	Sine, Triangle, Square, Sawtooth

Digital Channels:

Vertical Resolution:	1 bit
Output Voltages:	0V, 3.3V
Maximum Output Current:	+/- 24mA (per channel)

Clock Generator Specifications:

Number of Digital Channels:	2
Maximum Clock Frequency:	150MHz [1]
Available Clock Frequencies:	1KHz to 150MHz, Arbitrary, ~.036% steps
Output Voltage:	0V, 3.3V
Maximum Output Current:	+/- 24mA (per clock)

Programmable Power Supply Specifications:

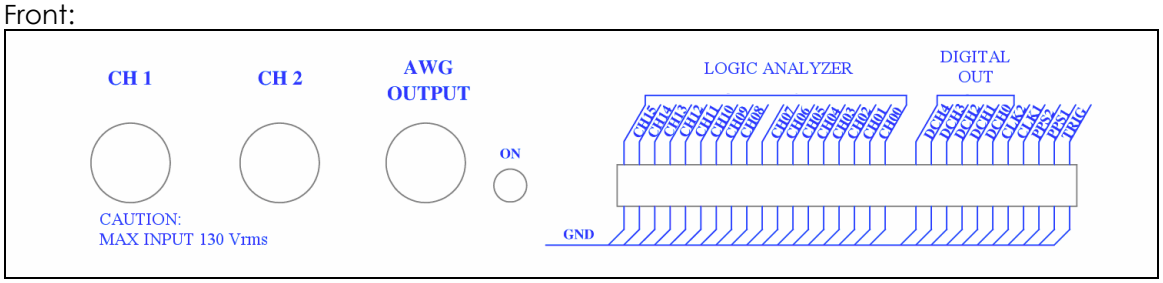
Number of Independent Outputs:	2
Maximum Output Voltage:	+/- 10V
Voltage Adjustment Steps:	+/- 100mV
Voltage Accuracy:	+/- 5mV @ 50mA load
Maximum Output Current:	+/- 60mA[4] Typically 100mA @ 3V

General Specifications:

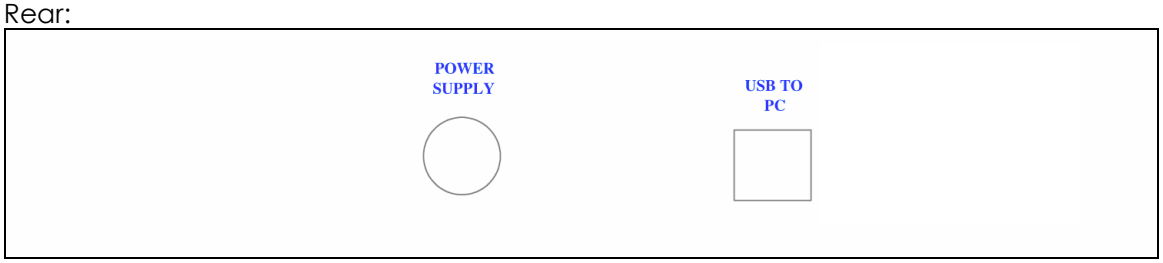
Power Supply Input Voltage:	105-130VAC, 50-60Hz
Operating Temperature Range:	0 – 104 Degrees F 0 - 40 Degrees C (Non-Condensing)
Dimensions:	7.25" X 4.92" X 1.65" (W X D X H) 184mm X 125mm X 42mm
Weight:	22.4oz , 635g (Elab unit) 25.4oz, 720g (Power Supply)
Time base accuracy	+/- 0.2%
PC Requirements	Windows 98SE, ME, 2000, XP One (1) Free USB port
Connection to PC:	USB v1.1

Panel Connections:

Front:



Rear:



[1] All clocks in share the same base clock. Because of this, **ALL** active clocks (DSO, AWG, user clocks) must be below 10KHz or above 10KHz.
[2] Some ranges are implemented in software. These are 5mV (1X), 20mV (10X), 50mV (10X), and 10V (10X)
[3] These voltages are with no load. Voltages will be reduced as load increases due to the 50 Ω output impedance of the AWG.
[4] Current limit is total for (+) voltages and total of (-) voltages independently. For example, it is possible to pull +60mA from one channel and –60mA from the other, but not +60mA and +60mA.
[5] This is the maximum voltage that can be measure at the input connector. This means that with a 10X probe, 50V can be measured, or 500V with a 100X probe. This voltage is peak-peak voltage, and is independent of the DC offset level. For example, with the DC offset @ -2.5V, 0-5V can be measured.
[6] When programming with the DLL, memory is available in 1K increments from 1K-32K.