



SPECIFICATIONS

The general DASH 8 specifications presented below, except for waveform inputs, also apply to the DASH 8u model. Waveform input specifications for the DASH 8u are provided in Chapter 12 of this manual.

chart recorder

recording method	direct thermal
chart size	millimeters: 216 mm W x 139 mm L inches: 8.5" W x 5.5" L (Z-fold, 300 sheets, 137.5 ft)
resolution	8 dpm (200 dpi) amp. axis, 10 dpm time axis
chart speed	1 mm/hr to 100 mm/s; $\pm 2\%$ accuracy
dual speed	automatic change of speed with trigger or time
remote start/stop	TTL level or switch closure
external speed control	TTL pulse to 25 mm/s (250 Hz)
text printing	print ASCII files from Zip disk
maximum waveform size	200 mm
amplitude grids	8 independent grids up to 200 mm wide; grid placement automatic or user-defined
time marking	tri-state (x1, x10, x100) mark on either chart edge; grid time lines can be synched to time mark; selectable time mark reference (0.02 to 1 second)
annotation	system log printed automatically (time, date, speed); each grid has one line of text (128 ASCII characters); an on-demand text buffer is available (128 characters)
signal conditioner	auto-annotation
channel ID	each channel labeled with channel number; top and bottom grid values can be annotated
trace thickness	user-adjustable



data capture	<p>sample rate disk capacity maximum record time stamp header events trigger point location auto arm auto playback external sample rate</p>	<p>0.2 Hz to 20 kHz per channel 1 billion samples, 1000 records 1 billion samples time and date automatically saved with data information on units, range, sample rates, etc., saved with data all external event inputs captured with waveforms pre- and post-trigger %, user adjustable allows automatic stacking of captures yes external TTL sample clock to 1 kHz 300 micro-second minimum pulse width</p>
data logger	<p>data logger</p>	<p>numerical printout of waveform data in user-specified engineering units: up to 500 milliseconds/line</p>
digital signal processing	<p>sample rate ADC resolution functions filter choices RMS time constant</p>	<p>20 kHz 16-bit filter, RMS, integration, differentiation w/filter low pass with stops from 1 Hz to 1000 Hz; high pass with starts from 0.1 Hz to 100 Hz; notch with 50 or 60 Hz center selectable (in seconds): 0.02 / 0.2 / 2.0</p>
environmental	<p>operating temperature non-operating temp operating humidity</p>	<p>5° C to 40° C (40° F to 105° F) -15° C to 60° C (0° F to 140° F) 10% to 95%, non-condensing</p>

SPECIFICATIONS (CONTINUED)

event inputs	number of inputs	eight external event markers
	input type	TTL with pull-up
	input range	0 to 5 V
	protection response	current-limited (PTC fuse) and clamped detects if duration > 0.05 msec
front panel display	type	active matrix color LCD
	viewing area	10.4" (diag); resolution 640 x 480
	functions	control menus, waveform monitoring and capture review
miscellaneous	utility port	connections for remote start/stop, remote drive, trigger and events
	indicators	trigger, arm
	controls	full alpha-numeric keypad, soft keys, encoder wheel
	real-time clock	battery-backed time and date
	built-in help/reports	general, system status, chart information
power	input voltage (auto select)	105 to 130 VAC at 60 Hz 210 to 260 VAC at 50 Hz
	power consumption	100 W typical, 250 W maximum
physical	case material	aluminum
	dimensions	inches: 16.4" L x 11.2" W x 5.2" H centimeters: 41.65 L x 28.44 W x 13.20 H
	weight	20 lbs. (9.09 kg.)


**record
review**

formats	strip chart, numeric tabular, XY-plot
display	use cursors to select sections and make measurements
chart	playback all or any section at x1/8 to x8
Zip archive	up to 45 million samples
ASCII conversion	direct conversion to PC/ASCII/Excel format

**trigger
acquisition
sources**

window	all active waveform channels simultaneously
special	slew rate or slope/level
event	binary combination of active event states
clock	time of day or periodic
other sources	both manual and hard-wire trigger inputs

**waveform
inputs**

number of channels	eight
input type	isolated, single-ended
connector	two guarded banana jacks
UL-rated input*	250 Vrms
measuring range	50 mV to 500 V full scale
accuracy (25°C)	<±1% of full scale
bandwidth	2 kHz (-3 dB)
input coupling	DC
input impedance	1 Megohm
IMR at 60 Hz	> 90 dB
IMV	500V
NMR at 60 Hz	> 60 dB
max intrinsic noise	±0.5% of full scale (filters off)

*The 250 Vrms limit means that continuous voltages above 250 volts may cause damage. For example, a 700 volt peak-to-peak sine wave results in 247 Vrms and is therefore a safe input. Conversely, 400 volts DC has an RMS value of 400 and is not acceptable.



SPECIFICATIONS (CONTINUED)

waveform inputs (cont'd)	baseline drift w/temp isolation	<0.1% full scale per degree C 1500 Vrms (iso common to chassis and other iso commons)
	calibration	semi-automated using internal voltage reference
	zero suppression	yes
	engineering units	yes
Zip drive	format	MS-DOS® format
	function	setup files, software upgrades and data transfer/archive
	menu functions	format, rename, delete, copy, print (ASCII)