

DAP 840/103

DAP 4000a/112

DAP 4000a/212

DAP 5000a/526

DAP 5016a/527

DAP 5200a/626

DAP 5216a/627

DAP 5380a/526

DAP 5400a/627

iDSC 1816

INPUT											
Analog inputs	8	16	16	16	16	16	16	16	16	16	8
Expandable to	n/a	n/a	512	512	512	512	512	512	512	512	n/a [~]
Ranges ¹	abcd	abcd	abcd	cd†	cd†	abcd	cd†	cd	cd	cd	cd
Samples (x1000) per second	800††	800††	800††	800††	500††	800††	500††	5000††	10000††		1229 [~]
A/D converters/resolution (bits)	1/14	1/14	1/14	1/14	1/16	1/14	1/16	8/14	8/14		8/16
Time interval (microseconds)	1.25	1.25	1.25	1.25	2.00	1.25	2.00	1.24†††	0.50††††		n/a
Time increment (nanoseconds)	50	50	50	50	50	50	50	20	20		n/a
Maximum programmable gain*	500	500	500	40	40	500	40	1	1		1
Digital inputs (synchronous)	8	16	16	16	16	16	16	n/a	n/a		n/a
Expandable to	n/a	n/a	128	128	128	128	128	n/a	n/a		n/a
Samples (x1000) per second	800	800	800	1666	1666	1666	2000	n/a	n/a		n/a
Time interval (microseconds)	1.25	1.25	1.25	0.6	0.6	0.6	0.5	n/a	n/a		n/a
OUTPUT											
Analog outputs	2	2	2	2	2	2	2	n/a	n/a		n/a
Expandable to	n/a	66	66	66	66	66	66	n/a	n/a		n/a
Ranges ¹	abcde	abcde	abcde	cd	cd	abcde	cd	n/a	n/a		n/a
Updates (x1000) per second											
per onboard channel	400	400	400	833	833	833	1000	n/a	n/a		n/a
Time interval (microseconds)	2.5	2.5	2.5	1.2	1.2	1.2	1.0	n/a	n/a		n/a
DAC Resolution (bits)	12	12	12	12	16	12	16	n/a	n/a		n/a
Digital outputs	8	16	16	16	16	16	16	n/a	n/a		n/a
Expandable to	n/a	1024	1024	1024	1024	1024	1024	n/a	n/a		n/a
Updates (x1000) per second	800	800	800	1666	1666	1666	2000	n/a	n/a		n/a
Time interval (microseconds)	1.25	1.25	1.25	0.6	0.6	0.6	0.5	n/a	n/a		n/a
MICROPROCESSOR											
Processor ²	SXL	SXL	SXL	P	P	K6 III+	K6 III+	P	K6 III+		DX4
Clock speed (MHz)	50	50	50	233	233	400	400	233	400		96
Onboard OS - DAPL2000	yes	yes	yes	yes	yes	yes	yes	yes	yes		modified
RAM (Mbytes)	8	8	8	32	32	32	32	128	128		16
PC INTERFACE											
Interface type	PCI	PCI	PCI	PCI	PCI	PCI	PCI	PCI	PCI		PCI
Samples (x1000) transferred/sec.**	800	800	800	1666	1666	1666	2000	3200	5000		1229
Samples (x1000) logged/second**	800	800	800	1666	1666	1666	2000	3200	5000		1229

Notes for DAP Boards

† Ranges of +/-1.25 volts and +/-2.5 volts available using gain 4.

†† To maintain full 14-bit resolution (16-bit resolution for DAP 5016a and DAP 5216a) may require a lower sample rate when sampling more than one channel per ADC.

††† Minimum time interval in four-channel mode, with a maximum per-channel rate of 800k samples per second and an aggregate rate of 3.2M s/s. When sampling in eight-channel mode – maximum aggregate rate 5M s/s – the minimum time interval is 1.60 microseconds.

†††† Minimum time interval in four-channel mode, with a maximum per-channel rate of 2M samples per second and an aggregate rate of 8M s/s. When sampling in eight- or sixteen-channel mode – maximum aggregate rate 10M s/s – the minimum time interval is .80 microseconds.

Notes for iDSC 1816 Board

~ It is possible to synchronize multiple iDSC boards in one application: 256 or more analog inputs.

~ ~ Maximum aggregate rate over 8 channels. Maximum analog sampling rate per channel is 153.6k samples/second.

Notes for DAP Boards and iDSC Board

* Top sampling speeds are at gain=1.

The DAP 5000a, DAP 5016a, DAP 5380a, and DAP 5216a/627 have gains of 1, 4, 10, and 40.

The DAP 840, DAP 4000a, and DAP 5200a have gains of 1, 10, 100, and 500.

The iDSC 1816, DAP 5380a, and DAP 5400a have a gain of 1.

** Maximum disk logging and data transfer rates vary with PC platform.

1

Symbol	Range (volts)
a	0 to +5
b	-2.5 to +2.5
c	-5 to +5 (default calibration)
d	-10 to +10
e	0 to +10

2

Symbol	Processor
SXL	486SXL2
DX4	i486DX4
P	Intel Pentium
K6 III+	AMD K6 III+