DAS-8 Series

4kHz, 12-Bit Multifunction Boards

- **8 analog input channels**
- **Fully differential inputs, selectable per channel (DAS-8PGA, DAS-8PGA/G2, and DAS-8/AO only)**
- **12-bit resolution**
- **7 digital I/O bits (4 out, 3 in)**
- **4kSamples/s using Call Driver**
- **Onboard sample pacer clock**
- **Software-programmable input range (DAS-8PGA, DAS-8PGA/G2, & DAS-8/AO only)**
- **Two 12-bit analog outputs (DAS-8/AO only)**
- **16-bit DriverLINX software drivers for Windows 95/98— ActiveX and DLL based**

The DAS-8 Series consists of four analog and digital I/O boards: the DAS-8, DAS-8PGA, DAS-8PGA/G2, and DAS-8/AO. The DAS-8PGA and DAS-8PGA/G2 feature software programmable input ranges, and the DAS-8/AO also provides two analog outputs and an onboard pacer clock.

up & running
software

DAS-8 SERIES SELECTOR GUIDE

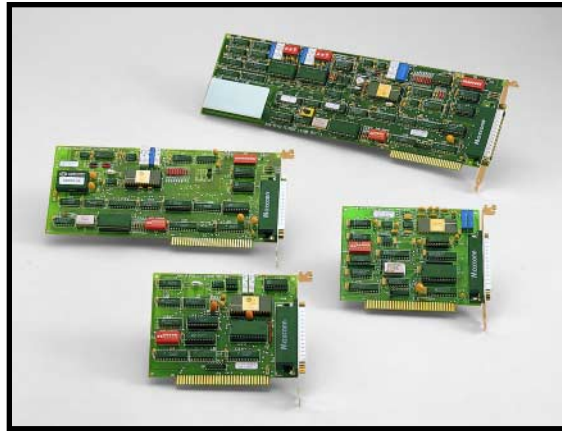|	DAS-8	DAS-8PGA	DAS-8PGA/G2	DAS-8/AO
Analog Inputs	8 single-ended	8 SE/Diff.	8 SE/Diff.	8 SE/Diff.
Analog Outputs	0	0	0	2
Maximum Speed	4kS/s	4kS/s	4kS/s	4kS/s
Resolution	12 bits	12 bits	12 bits	12 bits
Input Ranges	±5V	±10V, ±5V, ±0.5V, ±0.05V, ±0.01V, 0 to +10V, 0 to +1V, 0 to +0.1V, 0 to +0.02V	±5V, ±2.5V, ±1.25V, ±0.625V, 0 to +5V, 0 to +2.5V, 0 to +1.25V, 0 to +0.625V	
Digital Inputs	3	3	3	3
Digital Outputs	4	4	4	4

Ordering Information

DAS-8 4kS/s Analog and Digital I/O Board

DAS-8PGA 4kS/s Analog and Digital I/O with gains of 0.5, 1, 10, 100, and 500

DAS-8PGA/G2 4kS/s Analog and Digital I/O Board with gains of 1, 2, 4, and 8

DAS-8/AO 4kS/s Analog and Digital I/O Board with 2 Analog Outputs

ACCESSORIES AVAILABLE

C1800	DAS-8 Series to STA-08, STA-08PGA, EXP-16, or EXP-GP Cable
EXP-GP	8-Channel Signal Conditioning and Multiplexer Accessory Board
MS-DAS-8	Upgrade to the latest version of DriverLINX software and hardware manuals for DAS-8, -8/AO, -8PGA. Windows 95/98 only.
S1800	Shielded version of the C1800 Cable
STA-08	Screw Terminal Accessory Board for DAS-8 or DAS-8/LT. Requires a C1800 or S1800 Cable
STA-08PGA	Screw Terminal Accessory Board for DAS-8/PGA or DAS-8PGA/G2. Requires a C1800 or S1800 Cable
STA-08AO	Screw Terminal Accessory Board for DAS-8/AO Requires a C1800 or S1800 Cable
STC-37	Direct Screw Terminal Connector
STP-37	Screw terminal Panel. Requires a C1800 cable
TESTPOINT	TestPoint Software Package

APPLICATIONS

- **Data logging**
- **Process control & monitoring**
- **Energy management**
- **Laboratory automation**
- **Production test**
- **Signal analysis**

KEITHLEY

A G R E A T E R M E A S U R E O F C O N F I D E N C E

DAS-8

4kHz, 12-Bit Multifunction Boards

Specifications

ANALOG SPECIFICATIONS

NUMBER OF CHANNELS:
  8, single-ended (DAS-8).
  8, single-ended/differential (DAS-8PGA, DAS-8/AO).

ACCURACY: 0.01% of reading ±1 bit; 0.05% of full-scale (DAS-8/AO).

FULL SCALE: ±5V (DAS-8); ±10V bipolar, 0 to +10V unipolar (DAS-8PGA, DAS-8/AO).

RESOLUTION: 12-bits.

CONVERSION: $25\mu s$ typ ($35\mu s$ max.).

FIFO: None.

DIMENSIONS

(DAS-8):	$4.25in \times 5.0in \times 0.75in$ $(10.8cm \times 12.7cm \times 1.9cm)$.
(DAS-8PGA):	$4.25in \times 9.0in \times 0.75in$ $(10.8cm \times 22.9cm \times 1.9cm)$.
(DAS-8/AO):	$4.24in \times 13.25in \times 0.75in$ $(10.8cm \times 33.7cm \times 1.9cm)$.

ANALOG OUTPUT (DAS-8/AO ONLY)

CHANNELS: 2.

RESOLUTION: 12-bits.

RANGES: 0–5V, 0–10V, ±2.5V, ±5V, ±10V, 4–20mA.

SETTLING TIME: $4\mu s$ to 0.01% for full-scale step.

INPUT DATA DECODING:
  Unipolar — True binary (right-justified).
  Bipolar — Offset binary (right).

4–20mA CURRENT LOOP:
  Type: 4–20mA constant-current sink to ground.

OUTPUT RESISTANCE: >100MΩ.

LOOP EXCITATION VOLTAGE: +6V min; +36V max.

Specs Common To All Boards

DIGITAL I/O

OUTPUTS: LSTTL.

OUTPUT PORT: 4 bits.

LOW VOLTAGE: 0.5V max at I_{sink} = 8.0mA.

HIGH VOLTAGE: 2.4V min at I_{source} = −0.4mA.

INPUTS (IP1 – 3 & INTERRUPTS): LSTTL.

LOW VOLTAGE: 0.8V max.

LOW CURRENT: −0.4V max.

HIGH VOLTAGE: 2.0V min.

HIGH CURRENT: $20\mu A$ max.

INTERRUPT CHANNEL

LEVEL: 2 – 7 software selectable.

ENABLE: Via INTE of control register.

PROGRAMMABLE TIMER

TYPE: 8254.

COUNTERS: 3 down counter, 16-bit.

OUTPUT DRIVE: 2.2mA at 0.45V (5 LSTTL loads).

INPUT, GATE: TTL/DTL/CMOS compatible.

CLOCK FREQUENCY: 1MHz ±0.1% (DAS-8 uses computer's bus clock).
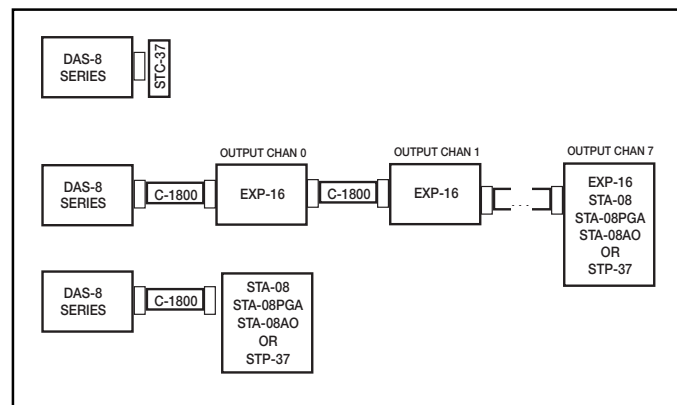
ACTIVE EDGE: Negative.

ENVIRONMENTAL

OPERATING TEMP.: 0 to 50°C.

STORAGE TEMP.: −20 to 70°C.

HUMIDITY: 0–95% non-condensing.

Configuration Guide

The C1800 cable is used to daisy chain up to 8 EXP-16 expansion boards to the DAS-8, DAS-PGA, or DAS-8/AO.