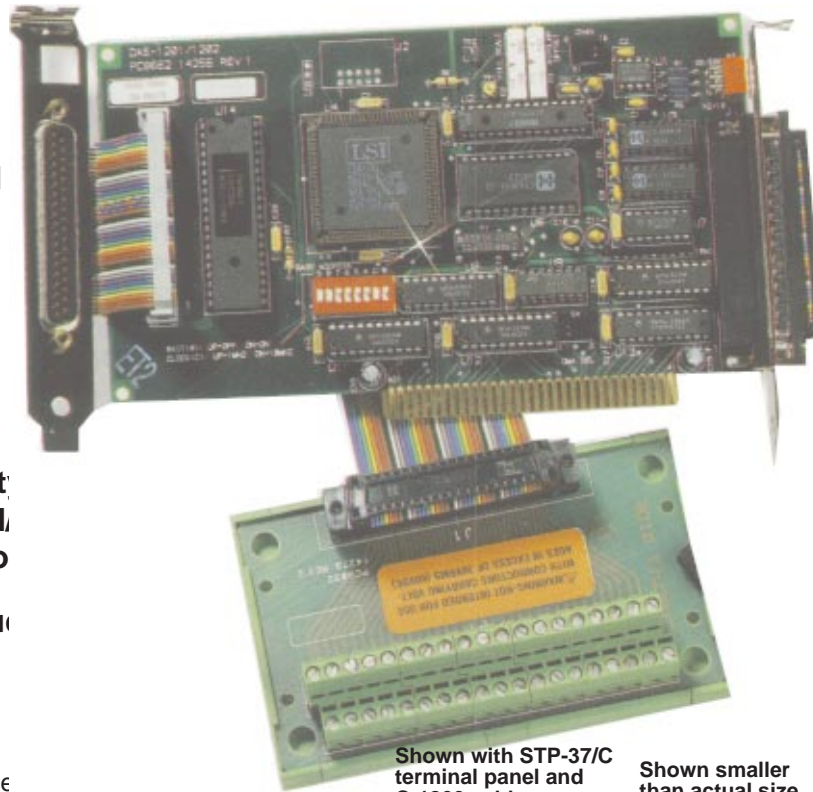


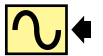
# Analog Input and Digital I/O Card

## DAS-1200 Series

- ✓ High Speed Analog and Digital Board
- ✓ 50 or 100 K Samples/second
- ✓ 16 Single-ended/ 8 Differential Analog Inputs with 12 Bit Resolution
- ✓ High Speed DMA Transfer Capability
- ✓ 32 Bits of Digital I/O
- ✓ Driver software for Windows 3.x and Windows 95 Included



**\$599**  
Basic Unit



A/IN



D/O



IBM PC

Shown with STP-37/C terminal panel and C-1800 cable

Shown smaller than actual size

The DAS-1200 is a high speed acquisition board for IBM PC and compatible computers. It features the versatile DAS-1200 multifunction board and DriverLinX driver software. The DAS-1201 and DAS-1202 are high speed analog and digital interface boards. The DAS-1201 supports high gains and has a maximum sample rate of 50,000 samples per second, while the DAS-1202, which supports low gains, is rated to 100,000 samples per second.

Input ranges are switch selectable from switches conveniently located on the backplate at the rear of the computer.

Data transfer can be accomplished in 3 ways: by program control, interrupt service routine, or DMA. All modes are software selectable. Demand mode DMA capability allows up to full sample rates in both PC/XT, AT and above computers. This demand mode helps to insure reliable data transfer. Counters within the DAS-1200's ASIC provide burst mode sampling capability which can be used to emulate simultaneous sample-and-hold (SSH) operation (with a minimum 10  $\mu$ sec channel to channel skew).

32-bits of digital I/O are available. 8-bits (4 input, 4 output) are brought out on the main 37-pin connector. The remaining 24-bits are bi-directional and are available on the auxiliary connector for your application. These 24 bits are divided into two 8-bit ports and two 4-bit ports. Each port is set individually as input or output. configurable plot attributes, printer and plotter support for data plot and table hard copy.

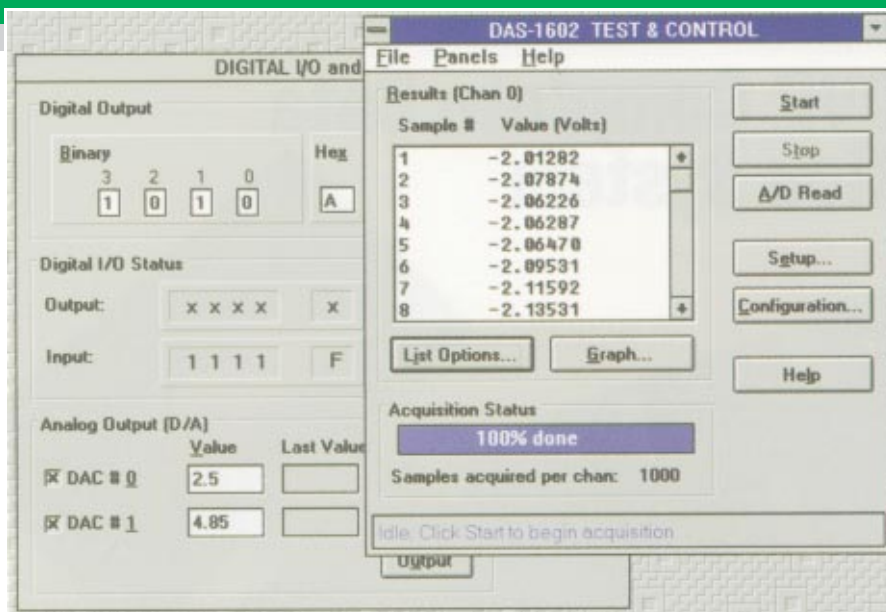
### Driver Software

DriverLINX software is also included, at no additional charge, with every DAS-1200 series board. Supporting your programming requirements in Windows 3.x/95 environments, DriverLINX provides application developers a standardized interface to over 100 services for creating foreground and background tasks to perform analog input and output, digital input and output, time and frequency measurement, event counting, pulse output and period measurement. In addition to basic I/O support, DriverLINX also provides sophisticated built-in capabilities to handle memory and data buffer management, a rich selection of starting and stopping trigger events

including pre-, mid-point, and post triggering protocols, extensive error checking and reporting capabilities, and a context-sensitive on-line help system. There are two versions included: DriverLINX and DriverLINX/VB. DriverLINX provides the C/C++-interfaces. DriverLINX/VB provides custom control interfaces (VBX and ActiveX) that can be accessed from the palette of built-in tools included in Microsoft's Visual Basic and Visual C environments. Software is supplied on CD-Rom.

### Terminal Panel with Cable

All inputs and outputs on the DAS-1200 board are accessed through two 37 Pin D male connectors, which consist of a main and auxiliary I/O connector. The main connector contains all analog inputs, counter connections and 8 digital I/O lines. The auxiliary I/O connector contains an additional 24 channels of digital I/O. If both connectors need to be used at the same time, two terminal panels and two cables are required.



**Specifications**  
**ANALOG INPUTS**

**Channels:** 8 differential or 16 single-ended; switch selectable  
**Resolution:** 12-bit  
**Accuracy:** 0.01% rdg  $\pm 1$  LSB typical (applies to the gain range that was calibrated)  
**Max. Uncalibrated Accuracy:** 0.8% rdg  $\pm 1$  LSB  
**A/D Type:** successive approximation  
**Conversion Time:** 8.5  $\mu$ sec, max  
**Acquisition Time:** 1.4  $\mu$ sec  
**Monotonicity:** guaranteed over operating temperature  
**Linearity:**  $\pm 1$  bit  
**INPUT RANGES: DAS-1201**

Gain	Range	Throughput
1	$\pm 5$ Vdc	50 ks/sec
10	$\pm 0.5$ Vdc	50 ks/sec
100	$\pm 50$ mVdc	50 ks/sec
500	$\pm 10$ mVdc	10 ks/sec

Gain	Range	Throughput
1	$\pm 5$ Vdc	100 ks/sec
2	$\pm 2.5$ Vdc	100 ks/sec
4	$\pm 1.25$ Vdc	100 ks/sec
8	$\pm 0.625$ Vdc	100 ks/sec

**INPUT RANGES: DAS-1202**

**Coding:** binary  
**Input Overvoltage:** +35.0 Vmax continuous  
**Input Bias Current:**  $\pm 2.0$  nA max, DAS-1201;  $\pm 0.002$  nA max, DAS-1202  
**Input Impedance:**  $> 25$  M $\Omega$   
**Temperature Coefficient, Zero Drift:** (1+115/gain)  $\mu$ V/ $^{\circ}$ C max, DAS-1201; (10+200/gain)  $\mu$ V/ $^{\circ}$ C max, DAS-1202  
**Temperature Coefficient, Gain Drift:**  $\pm 100$  ppm/ $^{\circ}$ C max, DAS-1201;  $\pm 150$  ppm/ $^{\circ}$ C max, DAS-1202

**DIGITAL I/O:** 8-bits on main 37-pin connector  
**Output Bits:** 4, standard LSTTL  
**Low Voltage:** 0.5 V max at Isink = 8.0 mA  
**High Voltage:** 2.4 V min at Isource = -0.4 mA  
**Inputs (and Interrupts):** LSTTL  
**Input Bits:** 4  
**Low Voltage:** 0.8 V max @ -0.2 mA max  
**High Voltage:** 2.0 V min @ 20  $\mu$ A min  
**DIGITAL I/O:** 24-bits on auxiliary 37-pin D connector  
**Type:** NMOS 8255A-5  
**Input Low Voltage:** 0.8 V max @  $\pm 10$   $\mu$ A max  
**Input High Voltage:** 2.0 V min @  $\pm 10$   $\mu$ A max  
**Input Current:**  $\pm 10$   $\mu$ A max  
**Output Low Voltage:** 0.45 V max @ 1.7 mA  
**Output High Voltage:** 2.4 V min @ -200  $\mu$ A

**PROGRAMMABLE TIMER**

**To Order (Specify Model Number)**

Model No.	Price	Description
DAS-1201	\$449	50 ksample/sec board
DAS-1202	449	100 ksample/sec board
STP-37	70	ScrewTerminal panel requires C-1800 cable
STP-37/C	80	STP-37 with enclosure, requires C-1800 cable
C-1800	30	Cable

**Ordering Example:** DAS-1201 50 ksample/sec analog input and digital I/O board with driver software, C-1800 cable, and STP-37 connector **\$549**.

DAS-1200 boards supplied with DriverLINX Windows driver software. DriverLINX is supplied on CD-ROM.

**Type:** 82C54-2

**No. of Counters:** 3-down counters, 16-bit; 2 permanently connected to 1/10 MHz as programmable timers, 1 on contact

**Outputs (buffered)**

**Low Voltage:** 0.5 V max at Isink = 25 mA

**High Voltage:** 2.0 V min at Isource = -15 mA

**Inputs (buffered)**

**Low Voltage:** 0.8 V max

**Low Current:** -0.2 mA max

**High Voltage:** 2.0 V min

**Input Current:** 20  $\mu$ A max

**Input and Gate:** TTL/CMOS compatible

**Clock Input:** dc to 10 MHz

**Power:** +5 Vdc at 235 mA; +12 Vdc at 4 mA; -12 Vdc at 4 mA

**Operating Ambient:** 0 to 70 $^{\circ}$ C; 95% RH, non-condensing

**Storage Temperature:** -20 to 70 $^{\circ}$ C