ISA Hardware

DT2812
Analog and Digital I/O

*The DT2812 is a general-purpose, IBM®
PC-compatible analog and digital I/O
board capable of performing DMA
transfers. With features that include 100
kS/s A/D with programmable gain, two
DACs, digital I/O, counter/timers, and a
programmable pacer clock, the DT2812 is
an inexpensive solution for scientific and
industrial applications.*

- A/D and D/A transfer rates of up to 100 kS/s (DT2812-A) and to 60 kS/s (DT2812) are possible with the board's DMA data transfer support

- Three Intel 8254-based, 16-bit counter/timers; two are dedicated to internal use and for event counting or frequency measurement, the third is user accessible

- Contains a programmable pacer clock and provisions for an external clock and external trigger

Summary

A/D: 12 bits; 60 or 100 kS/s throughput; gains to 8
D/A: 2 DACs; 12 bits; 100 kS/s throughput per DAC
**Digital I/O:** 16 lines total; 8 lines in and 8 lines out*
Clock: One programmable clock
(controls A/D or D/A operations)
Counter/Timers: Three 16-bit; Intel 8254-based; two are dedicated, one is user accessible
Interface: Single-channel DMA or programmed I/O; one interrupt

*If the onboard counter/timer is used, the number of digital inputs is restricted to 5, 6, or 7 depending on how the counter/timer is used
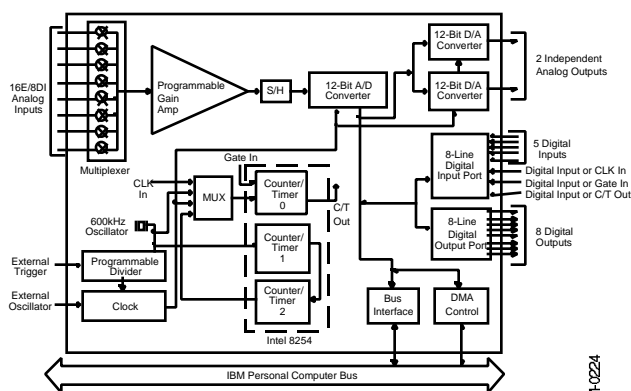
Ordering Summary

The DT2812 ships with diagnostic, a DT-Open Layers device driver for Windows 95/98 and comprehensive user manuals.

- DT2812–60 kS/s, 12-bit A/D, PGH
- DT2812-A–100 kS/s, 12-bit A/D PGH

Accessories
- DT717–Screw terminal panel; needs EP226, EP227, or EP227-3
- EP226–.95 m (3.2 ft.) unshielded cable
- EP227–.95 m (3.2 ft.) shielded cable
- EP227-3–3 m (10 ft.) version of EP227
- DT709-Y–Conditioning panel, 16 DI inputs; needs DT752, EP238, and EP226, EP227, or EP227-3

Software
The following products include a copy of the software, a single-user license, and a user manual. All software is supplied on CD-ROM, except as noted.
- HP VEE with DT VPI visual programming software Version 5.0 for Windows 95/98 SP1950-CD
- HP VEE Lab with DT VPI visual programming software version 5.0 for Windows 95/98 SP1950-LAB
- TestPoint software for designing test, measurement and D/A applications for Windows 95/98 SPTPXX–CD (see page 32 for details)
- DTx-EZ visual programming tools for Visual Basic and Visual C++ for Windows 95/98 SP0970-CD
- DataAcq SDK Software Development Kit for Windows 95/98 SP0945-CD
- DT-LV Link data acquisition connection to LabVIEW for Windows 95/98, on 3.5 in. 1.4 MB disk SP0810-CL

Analog Inputs

	Resolution (bits)	Throughput (kS/s)	Input Channels	Gain	Ranges (V)	System Error (% of FSR)	Conversion Time (µs)	CMRR (dB @ 60 Hz)	S/H Aperture Uncertainty (ns)	Max Input Volt. W/O Damage (On/Off)
DT2812	12 (.024% FSR)	60	16SE/8DI	1,2,4,8	0–1.25, 2.5, 5, 10 ± .625, 1.25, 2.5, 5, 10	± .03, G=1 ± .05, G=8	12.5	>70	.3	±32/±20
DT2812-A	12 (.024% FSR)	100	16SE/8DI	1,2,4,8	0–1.25, 2.5, 5, 10 ± .625, 1.25, 2.5, 5, 10	± .03, G=1 ± .05, G=8	8	>70	.3	±32/±20

Analog Outputs

	DACs	Resolution (bits)	Throughput (kS/s)	Ranges @±5 mA (V)	Settling Time (µs)	Slew Rate (V/µs)	Error (% of FSR)	Drift (ppm of FSR/°C)
All Models	2	12 (.024% FSR)	100/DAC	±5	10	1.5	± .2	±3, Zero ±30, Gain