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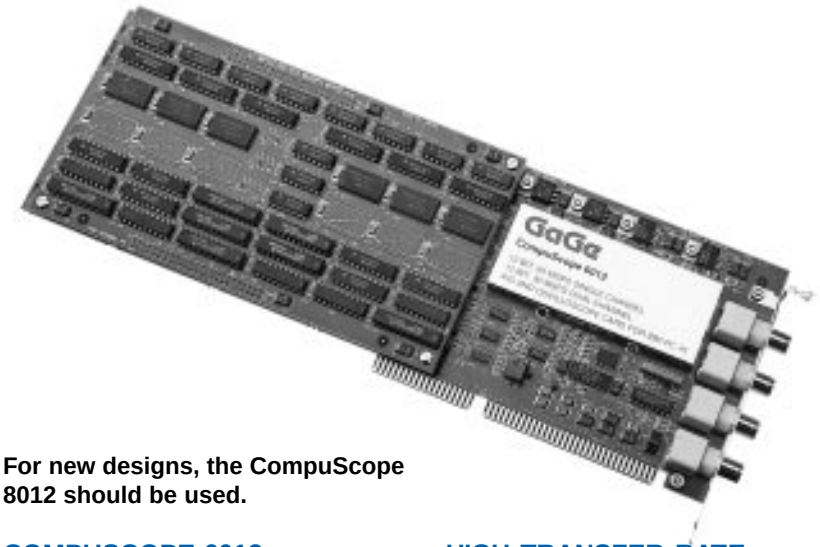
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Find the *DynamicSignals / GaGe CompuScope 6012* at our website: *Click HERE*

CompuScope 6012

Ultra-Fast IBM PC Based 12 Bit A/D and Oscilloscope Card

CompuScope 6012 is a family of 60 MSPS, 12 bit IBM PC based data acquisition cards. These cards provide the only affordable means of obtaining 12 bit A/D at such high speeds.



For new designs, the CompuScope 8012 should be used.

COMPUSCOPE 6012

The CompuScope 6012 digitizes analog signals with a resolution of 12 bits at a sampling rate of up to 60 MSPS and stores the resulting digital pattern in the on-board memory.

The IBM PC is then allowed to access the memory and retrieve the data for further processing.

60 MSPS, 12 BIT SAMPLING

The CompuScope 6012 uses two monolithic flash A/D converters, each running at 30 MSPS.

In the single channel mode the two ADCs are clocked in a “ping-pong” mode to achieve up to 60 MSPS sampling.

On-board programmable gain amplifiers and offset control circuits ensure measurement accuracy and long term thermal stability.

MEMORY DEPTH

CompuScope 6012 is currently available with memory depths of 512 K, 1M, 2M, 4M, 8M and 16M. Models with 8M and 16M occupy two slots.

In the single channel mode, the maximum number of sample points is equal to the memory depth of the CompuScope 6012 model being used, whereas in the dual channel mode the maximum number of sample points is half the memory depth.

The data stored in the CompuScope 6012 memory can be transferred to the PC memory or hard disk for post processing without any interface bus (no GPIB or IEEE 488 bus required).

According to benchmarks, data throughput to the PC memory is in excess of 1 Megaword per second on a Pentium based machine.

HIGH TRANSFER RATE

The fast data transfer rate to PC’s memory allows the CompuScope 6012 to be used in applications which have a high Pulse Repeat Frequency (PRF).

Data can be captured by CompuScope 6012 and transferred to PC’s memory in a tight loop up to thousands of times per second.

INTERRUPT CAPABILITY

CompuScope 6012 can be made to interrupt the 80x86 processor upon receiving a trigger, upon completion of data storage or upon filling up the memory. Interrupts are selected via switches on the card.

PRE-TRIGGER DATA

Due to the digital nature of the CompuScope 6012, it is capable of storing both pre- and post-trigger data, making it a very powerful tool for transient analysis.

The amount of post-trigger data can be specified in a GageScope menu or via software, and the remaining memory is pre-trigger memory.

SHIELDED ANALOG INPUT

The shielded section of the CompuScope 6012 contains programmable gain amplifiers which control the input amplification of the two channels.

In addition to the shielding, the six-layer CompuScope 6012 printed circuit board also protects sensitive analog signals with three power planes.

FLEXIBLE TRIGGERING

CompuScope 6012 features state-of-the-art windowed triggering. Two independent comparators provide triggering from either one or both channels, or from an external signal or a logical combination of them all at two independent trigger levels.

In the case of a Multi-Card system, it is possible to have up to 32 trigger sources.

FREE GAGESCOPE DIGITAL OSCILLOSCOPE SOFTWARE

CompuScope 6012 is accompanied by a free copy of the powerful, full color GageScope software which allows the CompuScope 6012 to be used as a digital oscilloscope. Please see the specification sheet on GageScope for more details.

DRIVERS AND OEM SUPPORT

Gage’s OEM Support Program offers qualified developers and OEMs the support to make the CompuScope 6012 a part of their products.

Gage supplies source code drivers for the CompuScope 6012 in Borland C, Visual C and Quick BASIC. The source code routines, along with sample programs are accompanied by a detailed reference manual.

EXTERNAL CLOCK

An external clock option can be ordered from the factory in situations where sampling must be coherent to the rest of the system.

GATED DIGITIZATION

A Gated Digitization option can be ordered. Data is stored in the RAM only when the external TTL GATE input is HIGH. This can be useful when it is desirable to stack successive data captures in the on-board memory.

MULTIPLE RECORDING

Multiple Recording allows the CS6012 to capture data on successive triggers and stack it in the on-board memory.

GageScope software can display the stacked data as individual acquisitions. Software drivers also provide support for accessing the stacked data. This is useful for applications in which a series of bursts of data have to be captured in quick succession.

MULTI-CARD SYSTEMS

One of the most unique features of the CompuScope cards is the Multi-Card systems that can be configured.

A Multi-Card system, comprised of one Master and up to 7 Slave boards, can be ordered if the user wants to capture more than two channels with a common clock and trigger. A board to board interconnect will be supplied with the system. This interconnect carries all the signals needed for proper synchronization.

COMPUSCOPE 6012 SPECIFICATIONS

SYSTEM REQUIREMENT

IBM PC AT, 386, 486, Pentium or ISA compatible PC with 640 kilobytes of RAM, VGA, EGA, CGA or Hercules graphics card and monitor and 1MB hard disk space. 80x87 coprocessor recommended.

SIZE

Single slot full length 16 bit ISA PC board. Models with 8M and 16M memory occupy two slots.

POWER

20 Watt at + 5 Volt
0.6 Watt at + 12 Volt
6 Watt at - 12 Volt
0.05 Watt at - 5 Volt

CHANNELS A & B

Inputs per card :	2
Impedance :	1 MΩ, 25 pF 50 Ω optional
Coupling :	AC or DC
Bandwidth :	30 MHz
Resolution :	12 bits
Voltage Range :	±100mV, ±200mV, ±500mV, ±1V, ±2V ±5V
Amplitude :	Absolute Max ±15 Volts
Accuracy :	± 0.5 %
Sampling Rate	
Channel A:	60 MSPS max 30 MSPS, 20 MSPS, 10 MSPS,...
Channel B:	30 MSPS max 10 MSPS, 5 MSPS,...
Aperture jitter :	5 ps, rms
Memory Depth:	Programmable with 64 *(128)* sample resolution in dual *(single)* channel mode
Channel A :	up to full on-board memory
Channel B :	up to half on-board memory
SNR :	61 dB @ 30 MSPS 1 MHz input in ±1V range
Protection :	Diode Clamped
Connector :	BNC

MEMORY DEPTHS AVAILABLE

Memory Depth:	512K, 1M, 2M, 4M, 8M and 16Msamples (12 bit samples)

TRIGGERING

Source :	CH A, CH B, Ext or Kbd or an OR product
Type :	Analog windowed triggering with two trigger levels
Levels :	256 per trigger level
Slope :	Positive or Negative
Mode :	Pre, Mid, Post-trigger
Post Trigger Data:	128 points minimum can be defined with a 64 point resolution in dual channel mode and 128 points in single channel mode.

EXTERNAL TRIGGER

Impedance:	1 MΩ, 30 pF
Amplitude :	Absolute Max ±15 Volts
Voltage Range:	±1 V and ±5 V
Coupling :	AC or DC
Bandwidth :	30 MHz
Connector :	BNC

EXTERNAL CLOCK

Max. Freq. :	60 MHz
Min. Freq :	8 MHz
Signal Level :	TTL

TEST OUTPUT

Amplitude :	0 to 200 mV square wave
Frequency :	1 kHz, typical
Connector :	BNC

MULTIPLE RECORD

Pre-Trigger Data:	None
Record Length:	128 points minimum can be defined with a 64 point resolution in dual channel mode and 128 points in single channel mode.

TRANSFER RATES

On board RAM to PC Memory:	1.5 MS/s (3 MB/s)

INTERRUPTS

Interrupt Lines :	IRQ4, IRQ5, ... Switch Selectable
Interrupt on:	Trigger, End of Capture, Memory Full

DISPLAY / OUTPUT / ANALYSIS (GAGESCOPE SOFTWARE)

See page 67 for detailed specifications

SOFTWARE DRIVERS

DOS Based CompuScope Drivers

- Borland C / Visual C
- Quick BASIC
- Protected Mode Pascal

Windows 3.1 DLL

- Visual C++ / Borland C++
- Visual BASIC for Windows
- Turbo Pascal for Windows
- HP VEE
- LabVIEW for Windows 3.1
- LabWindows CVI for Windows 3.1
- Visual Designer (Contact Factory for Release Date)
- Hypersignal (Contact Factory for Release Date)

Windows 95 DLL

- Visual C++
- LabVIEW for Windows 95
- LabWindows CVI for Windows 95

Windows NT DLL

- Visual C++
- LabVIEW for Windows NT
- LabWindows CVI for Windows NT

QNX Drivers

- Source code for Watcom C

MATERIALS SUPPLIED

One CompuScope 6012 card
One GageScope software package
Reference Manual
Two X10 / X1 Oscilloscope Probes

WARRANTY

One year parts and labor
All specifications subject to change without notice

ORDERING INFORMATION

Product	Part Number
CompuScope 6012-512K	601-101-002
CompuScope 6012-1M	601-101-004
CompuScope 6012-2M	601-101-005
CompuScope 6012-4M	601-101-006
CompuScope 6012-8M	601-101-007
CompuScope 6012-16M	601-101-008
GageScope Single-Card	Included
GageScope Multi-Card	200-001-002
GageScope: FFT Module	200-001-003
GageScope: X-Y Module	200-001-004
GageScope: Averaging	200-001-005
GageScope: Maintenance Program	200-111-123
512K to 1M Upgrade	601-181-001
512K to 2M Upgrade	601-181-002
512K to 4M Upgrade	601-181-003
512K to 8M Upgrade	601-181-014
512K to 16M Upgrade	601-181-015
1M to 2M Upgrade	601-181-004
1M to 4M Upgrade	601-181-005
1M to 8M Upgrade	601-181-016
1M to 16M Upgrade	601-181-017
2M to 4M Upgrade	601-181-006
2M to 8M Upgrade	601-181-018
2M to 16M Upgrade	601-181-019
4M to 8M Upgrade	601-181-020
4M to 16M Upgrade	601-181-021
8M to 16M Upgrade	601-181-022
External Clock Upgrade	601-181-008
X1 External Clock Upgrade	601-181-023
Master Multi-Card Upgrade	601-181-009
Slave Multi-Card Upgrade	601-181-010
Gated Digitization Upgrade	601-181-011
Periodic Re-Calibration	601-181-012
DSP Link Option	601-181-024
Gage Driver Pack	200-113-000
Driver Maintenance Program	200-111-124
Driver Pack Maintenance Program	200-111-125
CompuScope C Drivers	200-113-001
CompuScope Quick BASIC Drivers	200-113-002
CompuScope Windows 3.x DLL	200-113-005
CompuScope LabVIEW for Win 3.1	200-113-006
CS LabWindows CVI for Win 3.1	200-113-007
CompuScope Windows NT DLL	200-113-008
CompuScope Windows '95 DLL	200-113-009
CompuScope LabVIEW for Win 95	200-113-010
CompuScope LabVIEW for Win NT	200-113-011
CS LabWindows CVI for Windows 95	200-113-012
CS LabWindows CVI for Windows NT	200-113-013
CompuScope QNX Driver	200-113-014
Gage CCD Software	200-001-006
CompuScope HP VEE Drivers	200-113-016
CS DSO Replacement Driver	200-113-017
X10 / X1 Probe, Extra	220-100-001
X100 Probe	220-100-002

All Upgrades performed at the factory

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