

**DIGITAL STORAGE
OSCILLOSCOPE
OS4000**

Instruction Manual

 **GOULD ADVANCE**

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Telephone 01-500 1000

Telegrams Attenuate Ilford

Telex 263785

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The Gould Advance OS4000 Digital Storage Oscilloscope is a versatile instrument which combines conventional 10MHz oscilloscope performance with a digital storage system, capable of storing signals up to 450kHz. The digital method of storage offers several advantages over the more common tube storage, notably the facility of pre-trigger viewing, the simultaneous viewing of a stored and a real-time display, absence of deterioration of the stored display with time, completely flicker free, low frequency performance, and the abolition of the very expensive storage tube.

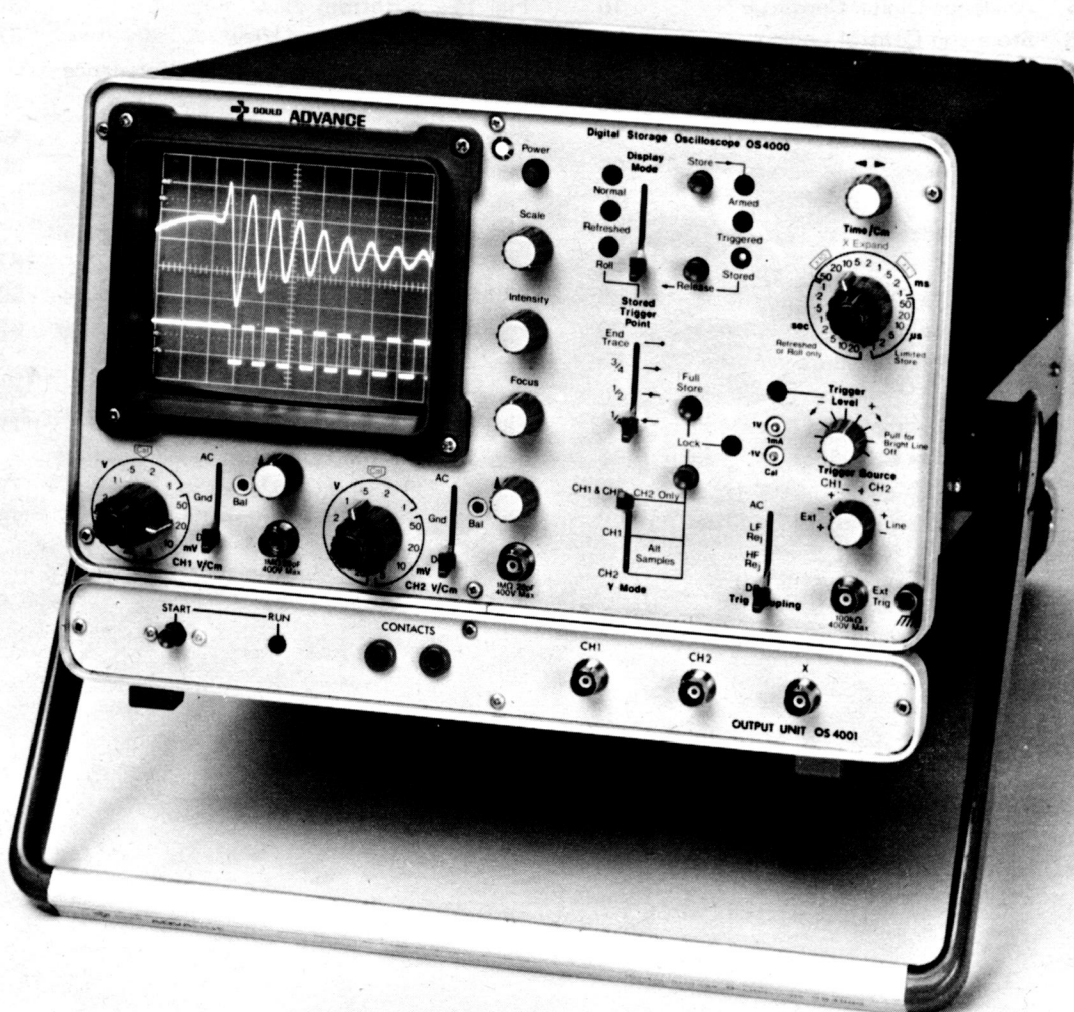
Careful attention to the ergonomic design allows the OS4000 to be operated in the same way as a conventional

oscilloscope with the addition of the minimum number of additional controls for the storage functions.

APPLICATIONS

The OS4000 is ideally suited for viewing:

1. Transient waveforms, e.g. in Medical, dynamic testing, vibration, pulse testing application.
2. All LF applications where the 'Refresh' mode eliminates flicker. The slowest sweep speed of 200s maximum allows the instrument to be used for new classes of viewing application.
3. Normal (real time) viewing with the 10MHz real time performance.
4. Comparisons between stored and real time waveforms.



DISPLAY

8 x 10 cm rectangular CRT operating at 4kV
Illuminated graticule

VERTICAL DEFLECTION

Two identical input channels

Bandwidth: DC-10MHz in the Normal mode

Sensitivity: 5mV/cm to 20V/cm in 12 ranges
Uncalibrated fine gain control gives between
range sensitivity adjustment

Accuracy: $\pm 3\%$ in calibrated positions

Input Impedance: 1M/28pF

Input Coupling: AC-GND-DC

Maximum Input: 400V DC or pk AC

HORIZONTAL DEFLECTION

Timebase: 1 μ s/cm to 20 sec/cm in 23 ranges

Accuracy: $\pm 3\%$

X Expansion: Continuously variable from 1X to 10X
with calibrated stops at each end

TRIGGER

Source: CH1 \pm , CH2 \pm , Ext \pm , or line \pm

Coupling: AC, LF Rej., HF Rej, DC

Sensitivity: Internal 2mm approx., DC-2MHz
(1cm at 10MHz)
External 1V approx. DC-2MHz
(5V at 10MHz)

Bright Line: Available on normal operation only

DISPLAY VIA STORE

Store size: 1024 x 8 bits

Vertical Resolution: Approx. 200 for 8cm display, i.e.
25 steps per cm

HORIZONTAL RESOLUTION

Single Trace: Approx. 1000 samples for complete scan
(100 samples/cm)

Double Trace Approx. 500 samples for complete scan
or Alt. Lock: (50 samples/cm)

Maximum Sample Rate: 1.8MHz (0.55 μ s)

FASTEST RISE TIME

For step response: 0.55 μ s single trace
1.1 μ s dual trace or Alt. Lock
(Equivalent Bandwidth 600kHz and
300kHz)

Maximum Storage 450kHz single trace
Frequency - 3 db: 225kHz dual trace or Alt. Lock

Limited Store: For timebase speeds faster than
50 μ s/cm the number of samples per
cm is reduced in proportion to the
sweep rate. For speeds slower than
50 μ s/cm the maximum stored bandwidth
is reduced in proportion to the sweep
rate

Dot Joining: The expanded display appears as straight
lines joining consecutive samples rather
than as distinct dots

ACCESSORIES SUPPLIED

Handbook PN 36240
2 x Lead PL44 BNC-clip
2 x Lead PL43 BNC-BNC

Supplies: 115V, 220V, 240V $\pm 10\%$
45-400Hz, 55W

Size: 17.8 x 31.2 x 41.7 (7" x 12 $\frac{3}{8}$ " x 16 $\frac{1}{2}$ ")

Weight: Approx. 11 kg (24 $\frac{1}{4}$ lb)

Temperature Range: Operating 0 to 50°C
Full spec. 15 to 35°C

OPTION 4001

This add-on option provides analogue outputs to allow
the trace to be recorded on strip chart, X Y or T Y
recorders and digital outputs for further processing of
the recorded data. (See data sheet.)