# 308

**Four Analyzers in One**

**Up to 25 Channels of Word Recognition Triggering**

**Ultra-Portable**

**Easy to Use**

**Cost Effective**


The 308 is a 20 MHz portable analyzer containing a unique combination of features. It provides timing, state, serial, and signature analysis in an extremely easy-to-use package.

## CHARACTERISTICS

### SIGNAL INPUTS

**Timing and State —** Multi-line probe-tip, eight data lines, one clock and one ground lead.

Maximum Number of Inputs: Eight.

Input Impedance: 1 MΩ, 5 pF.

**Logic Swing —**

Minimum: 500 mV ±2% of threshold voltage, p-p, centered on threshold voltage.

Maximum: Threshold +10 V to Threshold −15 V.

Maximum Nondestruct Input Voltage: ±40 V.

Width of Data Input: 10 ns minimum with 400 mV overdrive from threshold voltage.

Threshold Voltage: +1.4 V ±0.2 V selectable TTL, −12 V to +12 V variable.

Input Mode: Selectable sample or latch (to 5 ns with 550 mV overdrive voltage).

**Serial —**

Single Channel Probe Input: 10 MΩ, 13 pF input impedance. 500 V maximum nondestructive input voltage at probe tip. 250 peak at BNC input connector.

Logic Swing: 500 mV minimum + 2% of threshold voltage, p-p, centered about the threshold. ±30 V maximum.

Selectable Parity: ODD, EVEN or NONE.

Selectable Bits Per Character: 5, 6, 7 or 8 bits (includes parity if active).

Selectable Input Logic: Positive or negative (at probe tip).

Synchronizing Word (Synchronous Mode Only): Programmable to require two equal words. If not programmed, defaults to ASCII word SYN.

Hunt Word (Synchronous Mode Only): Programmable to require one word. If not programmed, defaults to "XXXXXXXX" (not defined). One Hunt word is equal to three Hexadecimal "FF"s (line idles).

Stop Bits (Asynchronous Mode Only): Responds to one or more bits.

**Signature Analyzer —** Single Channel Data Input Via Probe: 10 MΩ, 13 pF clock start and stop inputs provided by data acquisition probe.

### CLOCK

**Timing and State —**

External Clock: 50 ns minimum period. 24.5 ns high-logic level minimum pulse width. 24.5 ns low-logic level minimum pulse width. 25 ns minimum data setup time. 0 ns minimum data hold time.

Internal Clock: 20 MHz sample interval (50 ns minimum). Data pulse width of 1 sample interval +10 ns required to insure sampling minimum. Sample intervals of 50 ns to 200 ms/sample in 1, 2, 5 sequence.

Qualifier Input: Selectable trigger or clock.
+1.4 V ±0.2 V TTL input threshold.
−5 V to +10 V maximum input voltage.

**Serial**

Synchronous or Asynchronous.

Internal Clock for Asynchronous Mode Selectable Via Keyboard: 50, 75, 110, 134.5, 150, 200, 300, 600, 1200, 1800, 2400, 4800, and 9600 bits/second (baud rate).

Internal Clock Accuracy: ±0.02%.

External Clock for Asynchronous Mode: Up to 9600 baud.

External Clock for Synchronous Mode: Up to 9600 baud.

### MEMORY

**Data Acquisition Memory —** 8 x 252 bits.

**Reference Memory —** 8 x 252 bits.

**Triggering (State and Timing) —**

Synchronous or asynchronous.
External qualifier.
Data Word Recognizer: 8 channels, programmable in hex, binary, octal, or decimal.

External Word Recognizer Probe: 16 channels, programmable in hex, binary, octal, or decimal.

Input Threshold: +1.4 V ±0.2 V TTL.

Word Recognizer Out: +1.4 V ±0.2 V TTL.

Trigger Delay: Programmable from 0 to 65,535 clock cycles.

Data Position: Pre- or post-trigger selectable.

First trigger mode (internal select).

**Triggering (Serial) —**

Data Word Recognizer: Programmable to require a sequence of two words (or characters).

External Trigger: Programmable for one bit (0 or 1).

Trigger Delay: Programmable from 0 to 65,535 by word count (character).

Data Position: Pre- or post-trigger selectable.

Framing Error Detection: Data acquisition is stopped when a valid stop bit is not detected.

### DISPLAY

Status information of the 308 is always displayed at the top of the screen. The menu is displayed will all fields visible. In serial mode, an extended menu is provided for additional serial capabilities.

**Timing Diagram —** Programmable memory window size. Cursor position pointer and word decode. Positive or negative logic display.

**State Table —** Simultaneous display of hex, binary, and octal. 12 word display table.

Search Mode: Inverse video highlighting.

Compare Mode: Inverse video highlighting of differences.

Positive or negative logic display.

**Serial —**

Simultaneous display of hex, binary, and ASCII. 12 word character display.

Search Mode: Inverse video display of word.

Compare Mode: Inverse video display of differences.

Positive or negative logic display.

**Signature —**

Displays the selects for clock, start, and stop. Displays each signature simultaneously. Displays a 4 digit signature.

Displays Character: 0 to 9, A, C, F, H, P, U.

### PHYSICAL CHARACTERISTICS

| Dimensions | mm | in |
|---|---|---|
| Width | 237 | 9.3 |
| Heights | 117 | 4.6 |
| Depth | 359 | 13.9 |
| **Weights** | **kg** | **lb** |
| Net without probes | 3.7 | 8.0 |
| Net with probes | 4.5 | 10.0 |

### POWER REQUIREMENTS

**Line Voltage —** 90 V to 132 V ac, 180 V to 250 V ac.

**Line Frequency —** 48 Hz to 440 Hz.

**Power —** 40 W maximum.

**Temperature Range —** 0°C to 50°C, operating.

### INCLUDED ACCESSORIES

Power cord (161-0104-00); accessory pouch (016-0654-00); P6451 probe (016-6451-05); P6107 probe (016-6107-03); operator's manual, maintenance manual.

### ORDERING INFORMATION

**308** Data Analyzer ..... **$3,950**

**Option 01 —** P6406 Word Recognizer Probe ..... **+$420**

**Option 03 —** Extended Signature Analysis Capability (Includes P6406 Word Recognizer Probe) ..... **+$1,950**

**1105** Battery Power Supply ..... **$1,430**

**Option 01 —** 230 V Operation ..... **NC**

### INTERNATIONAL POWER CORD AND PLUG OPTIONS

**Option A1 —** Universal Euro 220 V/16 A, 50 Hz

**Option A2 —** UK, 240 V/13 A, 50 Hz

**Option A3 —** Australian, 240 V/10 A, 50 Hz

**Option A4 —** North American 240 V/15 A, 60 Hz

**Option A5 —** Switzerland 220 V/10 A, 50 Hz

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