

PARALLEL ANALYZER FUNCTION DATA INPUT

Channels — 318: 16 channels; glitch data is detected on all 16 channels.

338: 32 channels; glitch data is detected on 8 channels (POD A).

Minimum Logic Swing — 500 mV p-p; centered on threshold voltage.

Maximum Logic Swing — Threshold voltage plus 10 V to threshold voltage minus 15 V.

Glitch Data Width — 5 ns minimum with 350 mV overdrive from threshold.

Threshold Voltage — TTL: +1.4 V.

V 1: -10 V to +10 V.

V 2: -10 V to +10 V.

V 3: = (V 1 + V 2)/2.

SAMPLING

External Clock Mode	318	338
Data setup time	13 ns max	14 ns max
Data hold time	0 ns max	0 ns max
Clock period	20 ns min	50 ns min

Clock Pulse Width — High-Logic level: 15 ns min. Low-Logic Level: 15 ns.

Clock Polarity — + or - edge.

INTERNAL CLOCK MODE

Sample Interval

318: 20 ns to 500 ms/sample in 1-2-5 sequence.

338: 50 ns to 500 ms/sample in 1-2-5 sequence.

Data Memory Depth	318	338
Acquisition Memory	16 x 256 bits	32 x 256 bits
Reference Memory	16 x 256 bits	32 x 256 bits
Glitch Memory	16 x 256 bits	8 x 256 bits

TRIGGERING

Internal Trigger

Word Recognizer — Three words: A, B, and C; selected channels are AND'd together.

Input — All data input channels from P6451 data acquisition probes.

Glitch Trigger — Selected channels are OR'ed together.

Trigger Position — Begin, Center, End, Delay up to 65,000 clock cycles.

External Trigger

Input — Mini-jack connector on side panel, TTL compatible.

Threshold — 1.4 V nominal (TTL level).

Polarity — + or - edge.

Pulse Width — 20 ns minimum.

Trigger Output — Initiated high when an internal trigger sequence, glitch trigger or external trigger is detected. Reset on next acquisition start.

Output Level — TTL.

Current Max — High-Logic Level: 1 mA.

Low-Logic Level: 2 mA.

DATA DISPLAY

Timing Diagram Mode — Maximum of eight channels (one page) present on screen at one time. The 318 has two pages; the 338 has four pages.

Glitch Display: Displays glitches on timing diagram as a bit width transition edge.

Search: Searches for glitches or user defined word.

ΔT — Movable cursor for calculating the number of clocks and temporal distance between two events.

State Table Mode — Hex, decimal, octal, or binary radix format.

Search: Searches for glitches or user defined word.

Compare: Compares acquisition memory to reference memory and displays mismatched characters in reverse video.

SERIAL STATE ANALYZER FUNCTION

DATA INPUT

Data Timing — Synchronous or asynchronous.

Bits/Character — 5, 6, 7, 8 or 9 bits (includes parity bit if parity is active).

SAMPLING

Internal Clock for Asynchronous Mode — 50, 75, 110, 134.5, 150, 200, 300, 600, 1200, 1800, 2400, 4800, 9600, and 19,200 bits/second.

External Clock for Both Synchronous and Asynchronous Modes — Up to 19,200 bits/second.

Parity Control — Odd, even, or none.

TRIGGER SOURCE

Internal or external.

DATA DISPLAY

State Table Mode — Hex, binary, octal, ASCII, EBCDIC radix. **Search**: Searches for parity errors or user defined word.

Compare: Compares acquisition memory to reference memory and displays mismatched characters in reverse video.

Character Table Mode — All 256 bits of memory displayed in either ASCII or EBCDIC radix.

Search: Searches for parity errors or user defined word.

Compare: Compares acquisition memory to reference memory and displays mismatched characters in reverse video.

RS-232 INTERFACE

Data Transmission Type — Asynchronous only.

Communication Mode — Full Duplex.

Bits/Character — Eight bits with parity.

Parity — Even.

Data Transfer Rate — 110, 150, 300, 600, 1200, 2400, 4800, 9600 BPS.

Signal Characteristics — Meets RS-232C standard.

I/O Connector — 25 pin standard connector.

NONVOLATILE MEMORY

Memory Size — Three setups (serial or parallel) and one memory acquisition or reference.

Nonvolatile Period — Approximately five years at room temperature.

POWER REQUIREMENTS

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

Line Frequency — 48 Hz to 440 Hz.

PHYSICAL CHARACTERISTICS

Dimensions	mm		in	
Width with handle	237		9.3	
Height with accessory pouch	174		6.8	
Height without accessory pouch	120		4.7	
Depth, handle not extended	409		16.1	
Depth, handle extended	492		19.4	
Weight	kg		lb	
Net without accessories	5.1		11.5	
318S1 with accessories	6.7		14.7	
338S1 with accessories	7.2		15.7	

INCLUDED ACCESSORIES

Power cord (161-0104-00); **accessory pouch** (016-0697-00); **P6107 Probe** (1 additional with the S1 configuration) (010-6107-03); **P6451 probe**, two with the 318, **four with the 338** (010-6451-07); **workbook**, **reference guide**, **operator's manual**.

ORDERING INFORMATION

318 Logic Analyzer **\$5,300**
318S1 Logic Analyzer with Serial Analysis, RS-232 and Nonvolatile Memory **\$6,500**
318F1 Field Installed Serial Analysis, RS-232 and Nonvolatile Memory **\$1,500**
338 Logic Analyzer **\$5,800**

338S1 Logic Analyzer with Serial Analysis, RS-232 and Nonvolatile Memory **\$7,000**
338F1 Field Installed Serial Analysis, RS-232 and Nonvolatile Memory **\$1,500**

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

OPTIONAL ACCESSORIES

Service Manual
RS-232 Cable — Order 012-0757-00 **\$140**
Service Maintenance Kit — Order 067-1159-01 **\$625**
Null Modem Cable — Order 012 0530 00 **\$75**

The SONY®/TEKTRONIX® 300 Series is manufactured and marketed in Japan by Sony/Tektronix Corporation, Tokyo Japan, Outside of Japan the 300 Series is available from Tektronix, inc., its marketing subsidiaries and distributors.

LOGIC ANALYZERS

300 SERIES COMPARISON CHART

Characteristics	308	318	318S1	338	338S1
No. Parallel Data Channels	8	16	16	32	32
Maximum Asynchronous Sample Rate	20 MHz	50 MHz	50 MHz	20 MHz	20 MHz
Maximum Synchronous Sample Rate	20 MHz	50 MHz	50 MHz	20 MHz	20 MHz
No Trigger Levels	1	3	3	3	3
Acquisition Memory Depth (Bits/Channel)	252	256	256	256	256
Reference Memory Depth (Bits/Channel)	252	256	256	256	256
Glitch Latch (Channels)	8				
Glitch Capture (Channels)	No	16	16	8	8
Glitch Trigger (Channels)	No	16	16	8	8
Signature Analysis	Yes	No	No	No	No
Serial Data Acquisition	Yes	No	Yes	No	Yes
RS-232 Remote Control Interface	No	No	Yes	No	Yes
Nonvolatile Memory	No	No	Yes	No	Yes
Video Output	No	Yes	Yes	Yes	Yes
Weight (without accessories)	8 lb	11.5 lb	11.5 lb	11.5 lb	11.5 lb
Price	\$3,950	\$5,300	\$6,500	\$5,800	\$7,000