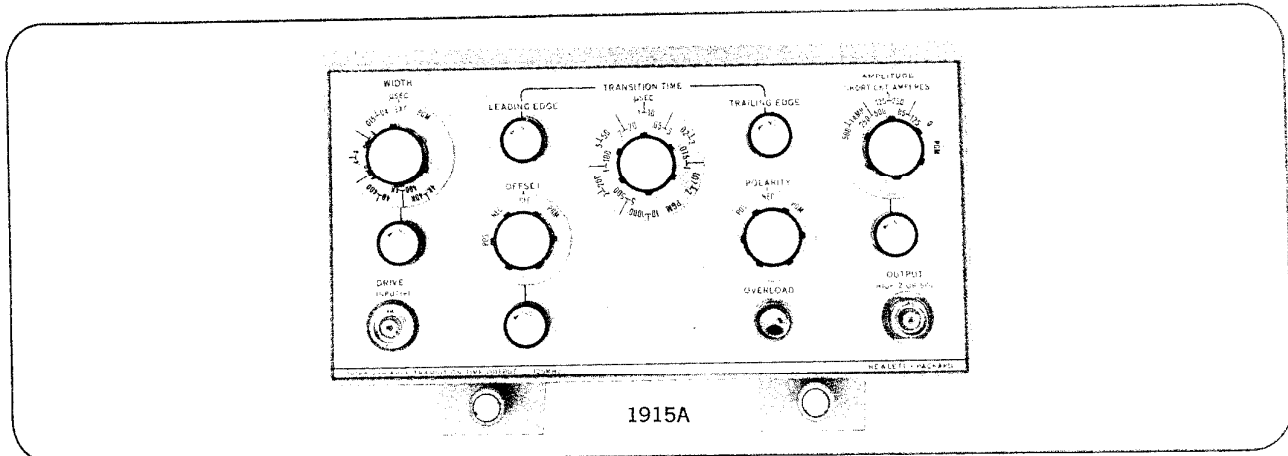


SIGNAL SOURCES 1900 SYSTEM *continued*
High power, variable rise and fall
 Variable transition time output Model 1915A


Model 1915A Variable Transition Time Output, a half-size plug-in, provides high-power, variable risetime and falltime output pulses. These pulses, with reversible polarity and with risetime and falltime as fast as 7 ns, are useful in testing magnetic memory devices and in other applications requiring high currents and voltages. Maximum current available is 1 ampere (50 volts into 50 ohms).

Either 50-ohm or high impedance source is available. The 50-ohm source impedance preserves the clean pulse shape by absorbing reflections from an external load. The high impedance source provides maximum current and voltage.

Risetimes and falltimes are variable from 7 ns to 1 ms. A common control selects the range and verniers select risetime and falltime separately. Ratios between transition times up to 100:1 provide a wide degree of flexibility.

Specifications, 1915A (operates in 1900A mainframe only)
Output pulse

Source impedance: 50 Ω or high Z; self-contained 50 Ω termination may be connected or disconnected.

High Z output: approximately 5 k ohms shunted by 45 pF.

50 Ω output: approximately 50 Ω shunted by 45 pF.

Amplitude (short circuit current): 50 milliamperes to 1 ampere in 4 ranges; 2.5:1 vernier allows continuous adjustment on any range. Voltage into external 50 Ω is ± 2.5 V to ± 50 V with high Z source; ± 1.25 V to ± 25 V with 50 Ω source. Maximum amplitude (including offset) is ± 50 V.

Pulse top variations

With 50 Ω source and 50 Ω load: $\pm 5\%$ for transition times 7 ns to 20 ns; $\pm 2\%$ for transition times > 20 ns.

With high Z source and 50 Ω load: $\pm 5\%$ for all transition times.

Polarity: + or -, selectable.

Duty cycle: 0 to $> 90\%$, internal width mode; 0 to 100%, external width mode.

Baseline offset: ± 60 milliamperes. Maximum offset into external 50 Ω is ± 1.5 volts with 50 Ω source; ± 3 volts with high Z source.

Overload: overload light comes on to indicate protection circuits are limiting output to prevent damage to output transistors. Two common combinations of overload conditions are: (a) 25-ohm combined load (source and external), $< 0.2\%$ duty cycle, and width > 2 μ s; and (b) 50-ohm combined load, > 2 μ s transition time, and > 35 volts amplitude.

Transition times: 7 ns (10 ns with high Z source) to 1 ms in 11 ranges (1,2,5 sequence); two 100:1 verniers allow independent control of rise- and falltimes.

Width
Internal

Ranges: 10 ns to 40 ms in 7 decade ranges (except for first

range which is 10 to 40 ns); 10:1 vernier allows continuous adjustment on any range.

Width jitter: $< 0.5\%$ of selected pulse width.

External: provides pulse amplifier operation; output pulse width determined by width of drive input.

Drive input

Repetition rate: 0 to 25 MHz.

Input impedance: 50 Ω , dc-coupled.

Sensitivity: $> +1$ volt peak.

Connection: drive input may be connected internally or externally from other plug-ins, selected by internal switch.

Options

Option 001: programming connector and circuitry allowing width range, Transition Time range, Amplitude range, Offset and Polarity selection by contact closure to ground; verniers for Width, Leading Edge, Trailing Edge, Offset, and Amplitude programmed by analog current allowing continuous control on any range. Price: Model 1915A Option 001, \$275 (additional).

Option 002: provides positive-only pulse output and positive-only offset. Price: Model 1915A Option 002, deduct \$225.

Option 003: provides negative-only pulse output and negative-only offset. Price: Model 1915A Option 003, deduct \$225.

Option 004: calibration of pulse amplitude in voltage. Four ranges provide from ± 2.5 V to ± 50 V from high Z source into 50 Ω external load or ± 1.25 V to ± 25 V from 50 Ω source into 50 Ω external load. Price: Model 1915A Option 004, add \$25.

Accessories available

Programming kit: field installation of same capability as Option 001. Price: IIP Part No. 01915-69501, \$275.

Price: HP Model 1915A, \$1600.