# TEK DUAL TIME BASE

**7B92A**


**Dual Time Base**

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**0.5 ns/div to 0.2 s/div Calibrated Time Base**

**Triggering to 500 MHz**

**Alternate Display of Intensified Delaying and Delayed Sweeps**

**Contrast Regulation between Delaying and Delayed Sweeps**

The 7B92A Dual Time Base is recommended for use only in the 7800 and 7900 Series Mainframes (the 7B92A may be used in all other mainframes at slower sweep speeds).

There are four display modes: normal sweep, intensified delaying sweep, delayed sweep, and alternate sweep (excepting alternate in R7704). When operating in the AUTO mode of main triggering, a bright base line is displayed in the absence of a trigger signal.

### DELAYING SWEEP (MAIN SWEEP)

**Sweep Rate** — 0.2 s/div to 10 ns/div in 23 calibrated steps (1-2-5 sequence). An uncalibrated variable rate is continuous between steps, and extends sweep rate to at least 0.5 s/div. The VARIABLE control is internally switchable between delaying and delayed sweeps.

**Sweep Accuracy** — Measured over the center 8 div in a 7900 Family Oscilloscope.

| Time/Div | +15°C to +35°C | 0°C to +50°C |
|---|---|---|
| 0.2 s/div to 20 ns/div | Within 2% | Within 3% |
| 10 ns/div | Within 3% | Within 4% |

**Delay Time Multiplier Range** — 0 to 9.8 times the DLY TIME/DIV setting from 0.2 s/div to 10 ns/div (0 to 1.96 s).

**Differential Delay Time Measurement Accuracy** — (+15°C to +35°C).

**Sweep Speed**

| | | |
|---|---|---|
| 0.2 s/div to 0.1 µs/div | Both delay time mult dial settings at 0.5 or greater | ±(0.75% of measurement +0.25% of full scale) |
| | One or both delay time mult dial settings at less than 0.5 | ±(0.75% of measurement +0.5% of full scale +5 ns) |
| 50 ns/div to 10 ns/div | Both delay times equal to or greater than 25 ns | ±(1% of measurement +0.5% of full scale) |
| | One or both delay times less than 25 ns | ±(1% of measurement +1% of full scale +5 ns) |

Full scale is 10 times the TIME/DIV or DLY TIME setting. Accuracy applies over the center 8 Delay Time Multiplier div from +15°C to +35°C.

**Delay Time Jitter** — Not applicable for the first 2% of max available delay time (DELAY TIME MULT dial setting >0.2).

| | |
|---|---|
| 0.2 s/div to 50 µs/div | 1 part in 50,000 of the max available delay time |
| 20 µs/div to 10 ns/div | 1 part in 50,000 of the max available delay time +0.5 ns |

Max available delay time is 10 times the TIME/DIV or DLY TIME switch setting.

### MAIN TRIGGERING

**Auto, Norm**

| Coupling | Triggering Frequency Range | Min Signal Required Int | Min Signal Required Ext |
|---|---|---|---|
| Ac | 30 Hz-20 MHz | 0.5 div | 100 mV |
| | 20 MHz-500 MHz | 1.0 div | 500 mV |
| Ac LF REJ* | 30 kHz-20 MHz | 0.5 div | 100 mV |
| | 20 MHz-500 MHz | 1.0 div | 500 mV |
| Ac Hf REJ | 30 Hz-50 kHz | 0.5 div | 100 mV |
| Dc | Dc-20 MHz | 0.5 div | 100 mV |
| | 20 MHz-500 MHz | 1.0 div | 500 mV |

EXT ÷ 10 switch attenuates external signal 10 times.

**Hf Sync** — Triggering sensitivity is 0.5 div INT or 100 mV EXT, from 100 MHz to 500 MHz for any coupling except Ac Hf Rej.

**Single Sweep** — Triggering requirements are the same as normal sweep. When triggered, time base produces one sweep only until reset.

**Internal Trigger Jitter** — 50 ps or less at 500 MHz.

**External Trigger Input** — Selectable 50 Ω or 1 MΩ inputs (1 MΩ is paralleled by ≈20 pF). Max safe input is 250 V (dc + peak ac) for 1 MΩ input and 1 W average for 50 Ω input. Range of trigger level is at least ±3.5 V in EXT, and at least ±35 V in EXT ÷ 10.

### DELAYED SWEEP

**Sweep Rate** — 0.2 s/div to 0.5 ns/div in 27 steps (1-2-5 sequence). An uncalibrated variable rate is continuous between steps, and extends sweep rate to at least 0.5 s/div. The VARIABLE control is internally switchable between delaying and delayed sweeps.

**Sweep Accuracy** — Measured over the center 8 div in a 7900 Family Oscilloscope.

| Time/Div | +15°C to +35°C | 0°C to +50°C |
|---|---|---|
| 0.2 s/div to 20 ns/div | Within 2% | Within 3% |
| 10 ns/div to 5 ns/div | Within 3% | Within 4% |
| 2 ns/div to 1 ns/div | Within 4% | Within 5% |
| 0.5 ns/div | Within 5% | Within 6% |

**Delayed Triggering**

| Coupling | Triggering Frequency Range | Min Signal Required Int | Min Signal Required Ext |
|---|---|---|---|
| Ac | 30 Hz to 20 MHz | 0.5 div | 100 mV |
| | 20 MHz to 500 MHz | 1.0 div | 500 mV |
| Dc | DC to 20 MHz | 0.5 div | 100 mV |
| | 20 MHz to 500 MHz | 1.0 div | 500 mV |

**Internal Trigger Jitter** — 50 ps or less at 500 MHz.

**External Trigger Input** — Selectable 50 Ω or 1 MΩ inputs (1 MΩ is paralleled by ≈20 pF). Max safe input is 250 V (dc + peak ac) for 1 MΩ input, and 1W average for 50 Ω input. Range of trigger level is at least ±3.5 in EXT.

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