7S11 Sampling Unit

7T11A Sampling Sweep Unit

7S11

- **2- to 200-mV/Div Calibrated Deflection Factors**
- **Plug-In Sampling Heads**

The 7S11 single-channel sampling unit employs the sampling plug-in head concept. The heads, which mount in the 7S11, range in bandwidth from 1 to 14 GHz. The 7S11 is used for a variety of applications. Single-channel sampling uses one 7S11 with a 7T11A. Two 7S11s and one 7T11A provide dual-trace sampling. One 7S11 and one 7S12 provide dual-trace sampling. Two 7S11s can be used for X-Y operations.

CHARACTERISTICS

Deflection Factor—2 to 200 mV/div in seven steps (1-2-5 sequence), accurate within 3%. Uncalibrated variable is continuous (extends deflection factor from 2 mV/div to at least 400 mV/div). Deflection factor is determined by the plug-in sampling head.
Bandwidth—Determined by the sampling head.
Input Impedance—Determined by the sampling head.
DC Offset—Range, +1 to −1 V or more. Offset out is 10X the offset voltage within 2%. Source R is 10 kΩ within 1%.
Delay Range—At least 10 ns for comparing two signals in a dual-trace application.
Memory Slash—0.1 div or less at 20 Hz.
Vertical Signal Out—200 mV per displayed div within 3%.
Ambient Temperature—Performance characteristics are valid over an ambient temperature range of 0 to +50°C.

ORDERING INFORMATION

7S11 Sampling Unit Without Sampling Head **$1,995**
Includes: Instruction manual (070-0985-00).

7T11A

- **10-ps to 5-ms/Div Calib Time Base**
- **Random or Sequential Sampling**
- **Equivalent- or Real-Time Sampling**
- **No Pretrigger Required**

The 7T11A Sampling Time Base provides equivalent- and real-time horizontal deflection for single- or dual-trace sampling. Timing accuracy is within 3% and nonlinearity is below 1%. Triggering range is from approximately 10 Hz (sequential mode) to above 12.4 GHz. The 7T11A works with all 7000-Series instruments and is a companion unit to the 7S11.

CHARACTERISTICS

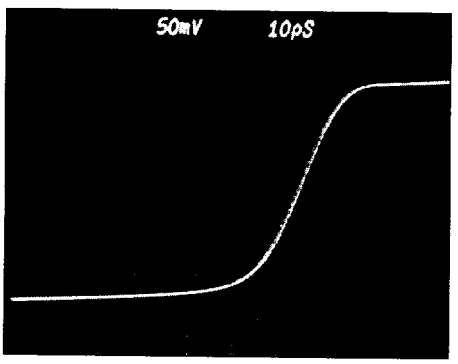
Time/Division Range—10 ps to 5 ms/div (1-2-5 sequence) directly related to time position ranges. Uncalibrated variable is continuous between steps to at least 4 ps/div.
Time Position Range—Equivalent time is 50 ns to 50 μs in four steps; real time is 0.05 ms to 50 ms in three steps.
Time/Division Accuracy—Within 3% for all time/division settings over center 8 cm.

TRIGGERING

External 50-Ω Input—Frequency range: dc to 1 GHz in X1 Trig Amp mode. Sensitivity range: 12.5 mV to 2 V p-p (dc to 1 GHz) in X1 Trig Amp, 1.25 mV to 2 V p-p (1 kHz to 50 MHz) in X10 Trig Amp. Input R: 50 Ω within 10%. Max input voltage: 2 V (dc + peak ac).
External 1-MΩ Input—Frequency range is dc to 100 MHz in X1 Trig Amp mode. Sensitivity range is 12.5 mV to 2 V p-p (dc to 100 MHz) in X1 Trig Amp, 1.25 mV to 2 V p-p (1 kHz to 50 MHz) in X10 Trig Amp. Input R is 1 MΩ within 5%. Maximum input voltage is 100 V p-p to 1 kHz (derating 6 dB per octave to a minimum 5 V p-p).
External HF Sync—Frequency range: 1 to 12.4 GHz. Sensitivity range: 10 to 500 mV p-p. Input R: 1 MΩ. Max input voltage: 2 V p-p.
Internal Trigger Source (Sine Wave Triggering)*1—Frequency range is 5 kHz to 500 MHz in X1 Trig Amp: 5 kHz to 50 MHz in X10 Trig Amp. Sensitivity range is 125 mV to 1 V p-p (referred to the vertical input) in X1 Trig Amp; 12.5 mV to 1 V p-p (referred to the vertical input) in the X10 Trig Amp.
*1 *Trigger circuits will operate to dc with pulse triggering, except for HF Sync.*
Random Mode Trigger Rate—1 kHz min.
Display Jitter*1

Time Pos Range	Sequential Mode	Random Mode
50 μs to 500 ns	0.4 div or less	1 div or less
50 ns	10 ps	30 ps

*1 *Measured under optimum trigger conditions with Time/Division switch clockwise.*
Pulse Out—Positive pulse amplitude at least 400 mV (into 50 Ω) with 2.5-ns rise time or less.
Trigger Kickout—2 mV or less into 50 Ω (except HF Sync).
Display Scan Rate—Continuously selectable from at least 40 sweeps/s to <2 sweeps/s.
External Scan—Deflection factor is continuously variable from 1 to 10 V/div. Input R is 100 kΩ within 10%. Maximum input voltage is 100 V (dc + peak ac).
Sweep Out—1 V/div within 2%. Source R is 10 kΩ within 1%.
Ambient Temperature—Performance characteristics are valid over an ambient temperature range of 0 to +50°C.



7S11/7T11A provide accurate measurements on repetitive signals. Pulse rise time of 21 ps shown.

ORDERING INFORMATION

7T11A Sampling Sweep Unit **$4,880**
Includes: 42-inch BNC 50-Ω cable (012-0057-01); 3-mm SMA male to BNC adaptor (015-1018-00); 3-mm SMA male to GR874 adaptor (015-1007-00); 10X 50-Ω attenuator (011-0059-02); instruction manual (070-0986-00).

OPTIONAL EQUIPMENT

7M11—75 ns Delay Line **$1,730**

TRAINING

Tektronix Instrument Group Customer Training offers operation and application training to help you get full value out of your instrumentation investment. Information is in the Customer Training section. For further information, or to enroll, call us at 1-800-835-9433 ext. 430. In Oregon, call collect 629-1017.