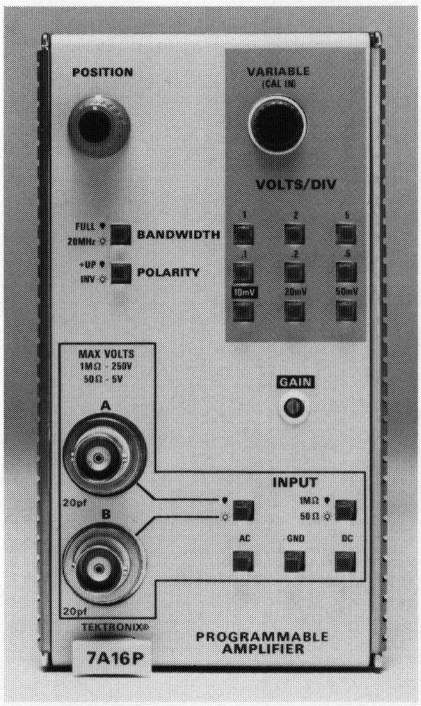
7A16P Programmable Amplifier

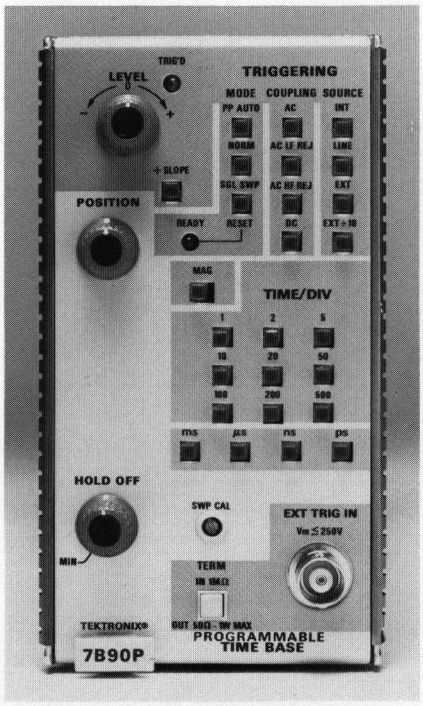
- **Fully Programmable in 7912AD or 7612D Digitizers**
- **10 mV/div to 5 V/div Deflection Factors**
- **200 MHz Bandwidth**
- **50Ω or 1MΩ Input Selectable**

7B90B Programmable Time Base

- **500 ps/div to 500 ms/div Calibrated Time Base**
- **Fully Programmable in 7912AD Digitizer**
- **400 MHz Trigger Bandwidth**
- **Single-Sweep Operation**

7000 SERIES PROGRAMMABLE PLUG-INS





The 7A16P and 7B90P Programmable Plug-Ins are designed for use in Tektronix 7000-Series Programmable Digitizers. The 7A16P is a Programmable Amplifier; the 7B90P is a Programmable Time Base. These plug-ins are not intended for use in 7000 Seres non-programmable mainframes.

All of the normal operating features of a high-quality, wide band 7000 Series plug-in amplifier are provided by the 7A16P. These features are available at the front panel for manual selection, or they can be set under program control via a programmable mainframe and the IEEE-488 bus. Whether the 7A16P is operated manually or under program control, the front-panel push buttons light to indicate plug-in status. Plug-in status can also be read over the IEEE-488 bus by an external controller for input to instrument setup and control routines. Two switchable input connectors are also provided for selecting the input signal source.

The programmable 7B90P is designed for use with a Tektronix 7912AD Programmable Digitizer. Its operating functions can be manually selected at the front panel or selected under program control via the IEEE-488 bus. The only non-programmable functions are the Sweep Calibration adjustment and the External Trigger Input Terminator Switch.

7A16P Characteristics

Bandwidth — Plug-in Only: 225 MHz. With the 7912AD: 200 MHz. Bandwidth may be limited to 20 MHz ±3 MHz by bandwidth limit switch.

Ac Coupled Lower Bandwidth — 10 Hz or less.

Step Response — 50Ω input plug-in only, 1.8 ns risetime.

Deflection Factor — 10 mV/div to 5 V/div, 9 steps in a 1-2-5 sequence. Accuracy is ±2% of indicated deflection factor with Gain adjusted at 10 mV/div. Uncalibrated variable is continuous between steps and extends selected deflection factor to at least 2.5 times the calibrated value.

Input R and C — Selectable: 1 MΩ within 2% and paralleled by ≈20 pF or 50Ω ±1Ω with vswr ≤ 1.5:1 at 200 MHz or less.

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Inputs—Selectable A or B signal input connectors.
Maximum Input Voltage—1 MΩ, Dc Coupled: 250 V (dc + peak ac), ac component 500 V p-p maximum, 1 kHz or less. 1 MΩ, Ac Coupled: 500 V (dc + peak ac), ac component 500 V p-p maximum, 1 kHz or less. 50Ω: 0.5 W maximum.
Programmable Functions—All functions except Variable, Gain, and Identify are programmable.
Included Accessory—Instruction manual.

7B90P Characteristics

Sweep Rates—500 ms/div to 10 ns/div in 24 steps. Magnifier extends fastest calibrated sweep rate to 500 ps/div.
Sweep Accuracy—Measured over center 8 div, + 15°C to + 35°C, with any 7000 Series programmable mainframe. Derate accuracies by an additional 1% for 0°C to + 50°C.

Time/Div	Unmagnified	Magnified
500 ms/div to 100 ns/div	2%	3%
50 ns/div to 10 ns/div	3%	4%
500 ps/div	—	5%

Trigger Holdoff—Programmable in 62 steps between minimum and maximum.

Time/Div	Min (ccw)	Max (cw)
500 ps/div to 2 μs/div	≤3.5 μs	≥ 90 μs
5 μs/div to 20 μs/div	≤35 μs	≥900 μs
500 μs/div to 200 μs/div	≤350 μs	≥ 9 ms
500 μs/div to 2 ms/div	≤3.5 ms	≥ 90 ms
5 ms/div to 500 ms/div	≤35 ms	≥900 ms

Triggering Sensitivity

P-P AUTO MODE

Triggering Frequency Range	Min Signal Required	
	Int	Ext
At least 50 Hz	2.0 div	500 mV
200 Hz to 50 MHz	0.5 div	125 mV
50 MHz to 400 MHz	1.5 div	375 mV

NORM MODE

Coupling	Triggering Frequency Range	Min Signal Required	
		Int	Ext*1
Ac	30 Hz to 50 MHz 50 MHz to 400 MHz	0.3 div 1.5 div	100 mV 250 mV
Ac LF Rej*2	30 kHz to 50 MHz 50 MHz to 400 MHz	0.3 div 1.5 div	100 mV 250 mV
Ac HF Rej*3	30 Hz to 50 kHz	0.3 div	100 mV
Dc	Dc to 50 MHz 50 MHz to 400 MHz	0.3 div 1.5 div	100 mV 250 mV

*1 Ext ÷ 10 operation attenuates ext trigger signal 10 times.
*2 Will not trigger on sinewaves or < 8 div Internal, or 3 V External, at or below 60 Hz.
*3 Will not trigger on 50 MHz sinewaves 1.5 div or less Internal, or 0.15 V or less External.

Single-Sweep Mode—Same as Norm mode.
Trigger Level—Programmable in 0.05 div steps.
Horizontal Position—Programmable in 0.0125 div step unmagnified, 0.125 div step magnified.
Internal Trigger Jitter—0.1 ns or less at 400 MHz.
External Trigger Input—Selectable: 1 MΩ ±5%, 20 pF ±10% or 50Ω ±5% with 1.22 maximum vswr at 400 MHz. Maximum input is 250 V (dc + peak ac) for 1 MΩ or 1 W for 50Ω. The level range (excluding p-p Auto) for a 1 kHz sinewave input is at least ±3 V in Ext and at least ±30 V in Ext ÷ 10.
Included Accessory—Instruction manual

Ordering Information

7A16P Programmable Amplifier
7B90P Programmable Time Base

For further information, contact:

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