

PULSE GENERATOR
Models
1105A
1106B
1108A

1105A Serials Prefixed: 726-, 1106B Serials Prefixed: 1217A,
1108A Serials Prefixed: 723- or 732-
OPERATING NOTE/FEBRUARY 1977

Table 1. Specifications

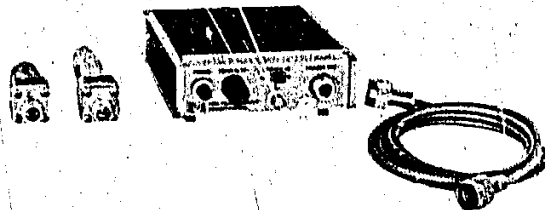


Figure 1. Model 1105A Pulse Generator and Model 1106B and 1108A Tunnel Diode Mounts

1. DESCRIPTION.

2. The Model 1105A Pulse Generator and associated Tunnel Diode Mounts (Figure 1) are combined for use in checking the dynamic response of wideband amplifiers, oscilloscopes, and transmission lines. The specifications of the Model 1105A and applicable Tunnel Diode Mount combinations are listed in Table 1.

3. This operating note applies to Model 1105A, 1106B, 1106B Opt 001, and 1108A units with serial prefixes as listed in the title block. The serial prefix is the first group of digits in the serial number. Always include the complete serial number in any correspondence with Hewlett-Packard Sales/Service Offices.

CAUTION

- a. The Model 1106B and 1108A Tunnel Diode Mounts are designed to be used only with Model 1105A Pulse Generator or Model 1104A Trigger Countdown (refer to Model 1104A 1106B/1108A operating note). The female type N connector of the tunnel diode mounts should be connected only to the Model 1105A or 1104A.
- b. Before connecting a Tunnel Diode Mount to a device under test, ensure that any voltage present does not exceed 1 volt across 50 ohms. Discharge any static potentials from the coaxial lines to be connected. Excessive peak current will damage the output resistor and the tunnel diode.
- c. Avoid mechanical shock to the T. D. Mount. Make no attempt to open encasement. It is a delicate precision instrument.

OUTPUT

- RISETIME:** Approximately 20 ps with 1106B and 60 ps with 1108A and less than 28 ps and 66 ps respectively when observed using HP Model 1811A/1430C 20 ps Sampler and Model 909A 50-ohm termination.
- OVERSHOOT:** Less than $\pm 7 \frac{1}{2}\%$ as observed using the HP Model 1811A/1430C and 909A.
- DROOP:** Less than 3% in first 100 ns.
- WIDTH:** Approximately 3 μ sec.
- AMPLITUDE:** Greater than +200 mV into 50 ohms.
- REPETITION RATE:** 0 to 100 kHz depending on external trigger. Free run at 100 kHz.
- OUTPUT CHARACTERISTIC:** (Tunnel Diode Mounts) 50 ohms $\pm 2\%$. Less than 10% source reflection using a 40 ps TDR system. Approximately 0.1 Vdc offset. (A precision male type N output connector is provided on Model 1106B, AFC-7 on 1106B Opt 001, and GR-874 output connector is provided on Model 1108A).

INPUT (Trigger)

- RISETIME:** Less than 20 ns required. Jitter less than 15 ps when triggered by a 1 ns risetime sync pulse from HP Model 1811A Sampling Time Base and Vertical Amplifier. Jitter increases with slower trigger risetimes.
- WIDTH:** Greater than 2 ns.
- AMPLITUDE:** At least ± 0.5 V peak required. Maximum safe input is 10V.
- INPUT IMPEDANCE:** 200 ohms, ac coupled through a 20 pF capacitor.
- REPETITION RATE:** 0 to 100 kHz.

GENERAL

- POWER:** 115 or 230 vac $\pm 10\%$, 50 to 1000 Hz, 1W.
- WEIGHT:** Model 1105A; Net, 3 lbs (1.4 kg). Shipping 8 lbs (3.6 kg). Model 1106B or 1108A; Net 1 lb (0.5 kg). Shipping 3 lbs (1.4 kg).
- ACCESSORIES SUPPLIED:** One 6-ft., 50-ohm cable with male type-N connectors, HP Model 10132A.

Operating Note Part No. 5955-2714
Microfiche Part No. 5955-2715

For More Information, Call Your Local HP Sales/Service Office or, in U.S., East (201) 256-5000. Midwest (312) 677-0400. South (404) 436-6181. West (213) 877-1282. Or Write: Hewlett-Packard, 1501 Page Mill Road, Palo Alto, California 94304. In Europe, Post Office Box 85, CH-1217 Meyrin 2, Geneva, Switzerland. In Japan, YHP, 1-59-1, Yoyogi, Shibuya-ku, Tokyo, 151.

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