

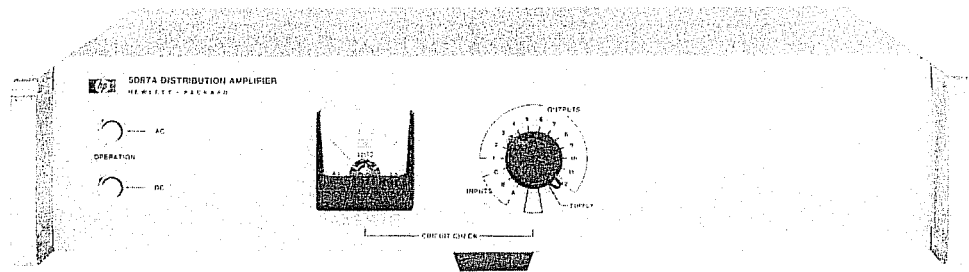
FREQUENCY & TIME STANDARDS

Accessories (cont'd)

Model 5087A

- Versatile with 3 input and 12 output channels
- Low noise, high stability, and isolation
- Exceptional phase stability
- Plug-in modular construction

HP 5087A



HP 5087A Distribution Amplifier

The Hewlett-Packard 5087A Distribution Amplifier provides the isolation and flexibility required for distribution of the output of high-quality frequency standards. Low distortion and excellent isolation make it ideal for providing multiple outputs from atomic or crystal frequency standards. The 3 input channels will accept 10 MHz, 5 MHz, 1 MHz or 100 kHz in any combination. The number of outputs for each channel is selectable up to a total of 12 outputs. The output levels are individually adjustable from 0 to 3 V rms. All input and output levels are monitored on a front-panel meter.

The Distribution Amplifier features plug-in modular construction, short circuit isolation, exceptional phase stability, low noise and cross-talk, and uninterrupted switchover to standby dc in event of ac power failure.

The shielding around each input and output plug-in amplifier assures minimum noise and crosstalk. The tuned output amplifiers provide clean signals and high channel-to-channel isolation.

The instrument is designed for maximum versatility and can be supplied to meet a wide variety of special requirements. The standard configuration of input and output amplifiers is shown in Figure 1.

Several other commonly used configurations are also available and special combinations of the various input and output modules can be supplied. Input and output amplifiers can be added or the configuration easily changed at any time.

Isolation

Load (open or short on any other channel)

Amplitude change: 0.1%.

Phase change: <0.1 ns at 5 or 10 MHz.

<0.5 ns at 1 MHz.

<5.0 ns at 100 kHz.

Injected signal: 1 V signal up to 50 MHz applied to any output except 10 MHz, will be down more than 60 dB in all other outputs; 10 MHz output channel will be down more than 80 dB.

SSB phase noise (5 MHz): >145 dB below signal in 1 Hz BW for frequencies > 1 kHz from carrier.

Short term stability degradation (5 MHz): < 1×10^{-12} in 10 kHz band. (1 s average).

Environmental

Temperature: MIL-E-16400, Class 4.

Operating: 0–50°C; storage: –62° to +75°C.

Stability

Amplitude: ±0.5 dB, 0° to 50°C.

Phase: <0.1 ns/°C., 5 and 10 MHz.

Humidity: 95% at 40°C.

Altitude: up to 30,000 ft.

General

Power: 115 or 230 V ±10%, 48 to 440 Hz, 20 VA, max, or 22–30 V dc, 500 milliamperes, max.

Dimensions: 88 mm H x 425 mm W x 286 mm D (3.5 in. x 16.7 in. x 11.3 in.).

Weight: typical, Opt 031—Net 7 kg (15 lb).

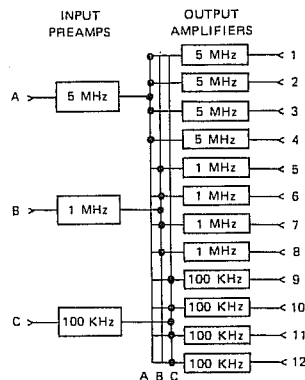


Figure 1. HP 5087A Distribution Amplifier with Option 031, Standard Configuration input and output amplifiers.

Specifications

Inputs: (up to three, rear panel BNC).

Frequencies: 10 MHz, 5 MHz, 1 MHz or 100 kHz.

Level: 0.3 to 3.0 V rms, 50 ohms.

Outputs (up to 12 rear panel BNC).

Frequencies: 10 MHz, 5 MHz, 1 MHz or 100 kHz.

Level: 0–3 V into 50 ohms (screwdriver adjustment).

Harmonic distortion: >40 dB below rated output.

Non-harmonic distortion: >80 dB below rated output.

Ordering Information

HP 5087A Distribution Amplifier Mainframe

Price

\$2500

Normal Configurations (input and output amplifiers)

Opt 031 5, 1 and 0.1 MHz inputs and 4 outputs at each frequency + \$2450

Opt 032 Single 5 MHz input and 12 outputs + \$2200

Opt 033 Single 10 MHz input and 12 outputs + \$2200

Opt 034 Single 5 MHz input, 4 each outputs at 5, 1 and 0.1 MHz + \$2550

Special Configurations

Input Preamplifiers (up to 3 total)

Opt 004 Input Preamplifier (0.1 to 10 MHz) + \$120

Opt 005 5 to 1 MHz Input Divider + \$180

Opt 006 1 to 0.1 MHz Input Divider + \$270

Opt 011 5 to 10 MHz Input Doubler + \$280

Opt 013 10 to 5 MHz Input Divider + \$320

Opt 014 10 to 1 MHz Input Divider + \$320

Output Amplifiers (up to 12 total)

Opt 001 5 MHz Output Amplifier + \$180

Opt 002 1 MHz Output Amplifier + \$180

Opt 003 0.1 MHz Output Amplifier + \$210

Opt 012 10 MHz Output Amplifier + \$180

Opt 908 Rack Flange Kit + \$75

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