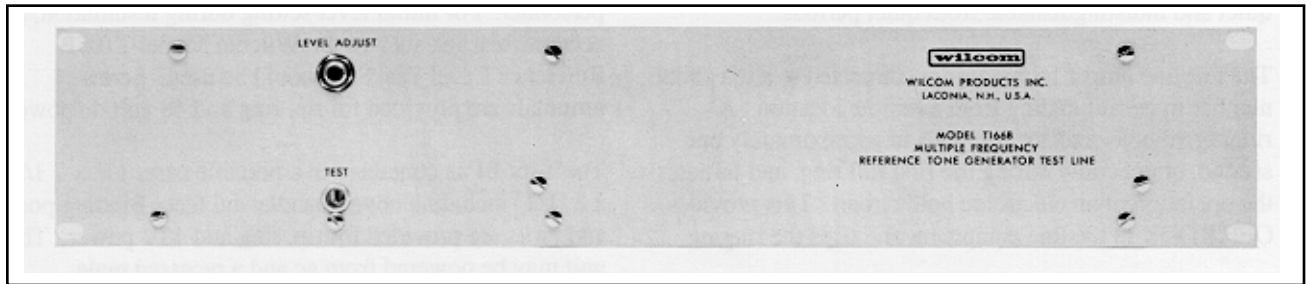


# multiple frequency reference tone generator

# T166B



## Features

- Up to 10 tones cycling in sequence
- Quiet termination during any part of the sequencing cycle
- Level Vernier Adjustment  $\pm .75$  dB
- Level Stability:  $\pm .03$  dB after adjustment
- Frequency Stability:  $\pm 1/2\%$
- Tone delay after initial OFF HOOK
- Test jack
- Automatic disconnect
- Ringing voltage start
- Office battery or ac operation
- Rack Mount, and portable models
- Strap selectable operating options:
  - 600 or 900 ohms
  - Output level 0, —10 or —16 dBm

## Description

The T166B Multiple Frequency Reference Tone Generator is designed for use in ESS type office or PBX's, or in any office where a control lead or a dry circuit (no battery during idle) cannot be provided. The test line operation is initiated by application of ringing voltage to the pair assigned to the test line.

The T166B Multiple Frequency Reference Tone Generator is useful in making one-way transmission measurements where it is necessary to evaluate the frequency response characteristics of the line or trunk. The T166B test lines may also be arranged to provide a quiet termination which can be used to make noise measurements.

The T166B includes a stable reference tone generator, designed to supply up to ten tones all cycling in any sequence. Tones in the frequency range of 200 to 5000 Hz can be provided.

The nominal output is either 0, —10, or —16 dBm as determined by strap selection. A panel mounted level adjust vernier (screwdriver operated) permits fine adjustment of  $\pm .75$  dB with respect to the selected nominal level.

The output impedance is either 600 or 900 ohms as selected by strapping on rack mounted units or by a front panel switch on portable units.

The cycling sequence consists of from one to ten equal periods. Each period consists of a one second interruption (or initial delay) during which the output is quiet, followed by an operating interval. The operating interval is normally six seconds but may be anywhere from one to fifteen seconds if specified on special order. Any of the operating intervals may consist of a quiet period instead of a tone. Also, more than one interval may be assigned to any one tone. After the last period used, the set automatically goes on ON HOOK to drop the connection.

A typical cycle might be as follows:

Initial delay (quiet)	1 sec.
300 Hz tone	6 sec.
Interruption (quiet)	1 sec.
1004 Hz tone	6 sec.
Interruption (quiet)	1 sec.
3000 Hz tone	6 sec.
Interruption (quiet)	1 sec.
Quiet termination	6 sec.
Interruption (quiet)	1 sec.
Quiet termination	6 sec.
Interruption (quiet)	1 sec.
Quiet Termination	6 sec.
ON HOOK	

Automatic Disconnect

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## Description (Continued)

Uninterrupted quiet termination is obtained by specifying as many adjacent quiet periods as may be required, since the intervening one-second interruptions are themselves quiet and indistinguishable from quiet periods.

The test line output terminals are connected to a telephone number to permit dialing from a remote location. A ringing voltage detector responds in approximately one second, or generally during the first full ring, and initiates the operation of an electronic hold circuit. This provides OFF HOOK to the line equipment and trips the ringing.

The test line will then step through the tone and quiet interval provided. When the cycle is complete, it returns to the ON HOOK condition, releasing the electronic hold circuit and thus the line equipment. The test line is then ready to accept another call.

## Specifications

### Output:

Frequencies:

Up to 10 frequencies cycling in sequence. Any frequency between 200 and 5000 Hz can be supplied in any sequence desired. Specify on order.

Total Harmonic Distortion:

Less than 1%

Level:

0, -10, or -16 dBm, as specified on order, adjustable  $\pm 7.5$  dB from front panel. Other levels available on special order.

Accuracies 0°C to 50°C operation):

Frequency:  $\pm 1/2$  %

Level:  $\pm .03$  dB after initial adjustment

Impedance and Quiet Termination: 600 or 900 ohms.

Specify on order.

### Frequency Time Intervals:

6 second duration for each tone or quiet period. One second interruption between tones. Continuous quiet termination through adjacent quiet periods. Entire cycle should be specified on order.

### Hold Circuit:

Electronic; approximately 35 mA.

### Power:

48V dc  $\pm 10\%$ , 200 mA max. T166BP may also be operated on 115V ac power.

### Environmental Conditions:

Operating Temperature: 0° to 50°C

The T166B is mounted on a 3 1/2" x 19" (or 23") panel and is powered from 48 volts office battery. Installation of this equipment is easy and may be performed by local personnel. For initial level setting during installation, an accurate test set, such as the Wilcom Model T105B Reference Level Test Set, should be used. Screw terminals are provided for tip, ring and 48 volt dc power.

The T166BP is contained in a portable case, 11" x 7 1/2" x 8 1/2" including cover, handle and feet. Binding posts and jacks are provided for tip, ring and 48V power. This unit may be powered from ac and a recessed male receptacle is provided for connecting the line cord.

Humidity: 95% at 35°C noncondensing  
40% at 50°C  
Storage Temperature: -55°C to 70°C  
Altitude (non-operating): 50,000 feet

### Mechanical:

Panel Mounting: 3 1/2" H x 4 3/4" D x 19" or 23" W (specify width on order)

Portable Case: 7 1/2" H x 8 1/2" D x 11" W

### Weight:

T166B Approximately 3 lbs.

T166BP Approximately 7 1/2 lbs.

### Ordering Information:

Specify Model T166B for:

Rack mounted, 48V dc battery operation.

Specify rack width. Part Number: 30166060

Specify Model T166BP for:

Portable unit, operates from either 48V dc or

115 ac supply. Part Number: 30166078

Specify on order:

Frequencies required;

Complete tone and quiet interval cycle;

Output Impedance (600 or 900 ohms);

Output Level (0, -10, or -16 dBm standard).

CLEI CODE: T166BP TEOCWV06AA  
T166B CPR 066214

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Specifications and price subject to change without notice.

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811-566-002

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