The 8007’s excess counters are supported by a broad range of accessors which are described in detail in the following section.

Both OCXO and the TCXO feature state of the art design and are used in various applications, such as:

- Audio equipment
- Instrumentation
- Military applications
- Telecommunications
- Industrial applications

The 8007-8009 offer a temperature stability of ±0.0001°C to ±0.0002°C, which is essential for high-precision applications. The TCXO's output is a high-precision, low-jitter signal source, suitable for use in demanding environments where stability and accuracy are paramount.
POWER

The power input jack mates with the hollow pin plug from the will plug transformer supplied. AC or DC voltage will be may be to provide the slots for power sources. Because the slotless U, S, 0.1μF, and 0.01μF have full wave current input circuits. Polarity need not be observed. Maximum bridge input circuits should be less than 1 Amp.

OSCILLATOR ADJUST

Access hole in rear panel for TCXO/OCXO Oscillator adjustment.

REAR PANEL

The BNC connector has 0.05μH terminal circuit, where the front panel button is depressed on 10 MHz, TTL compatible signal must be connected to the BNC connector for the counter to operate.

A=:2

"^:^:2

zE-z

-t-vJ=F

=az::€=

r'1 Fi

1

A

(1

-a

OVEN TIME BASE OPERATION - OCXO-80 OPTION

The OCXO-80 is an oven controlled crystal oscillator which features a low power consumption, frequency stability, and temperature compensation. It is designed for use in applications requiring high frequency stability and low phase noise. The OCXO-80 is available in a variety of frequency ranges, including 10 MHz to 100 MHz.

10 MHz CLOK

OVEN LIGHT

The power input jack mates with the hollow pin plug from the will plug transformer supplied. AC or DC voltage will be may be to provide the slots for power sources. Because the slotless U, S, 0.1μF, and 0.01μF have full wave current input circuits. Polarity need not be observed. Maximum bridge input circuits should be less than 1 Amp.

PROBE PWR

Accessory probe power switch for use with active probe such as the model 48A19. Power switch is set to provide Sensitivity

Pull knob to power on counter. Push knob in to remove power. When # OCXO-80 option is installed, the decimal point to right of least significant digit during oven warm-up or when oven "COO" is below operating temperature. Frequency measurements made during high temperature may be inaccurate because of OCXO turn up to temperature.

NI-CAD BATTERY OPERATION

The Ni-Cad battery pack supplied with the OCXO-80 battery option is a high-quality, rechargeable battery pack. The Ni-Cad battery pack is specifically designed for use with the OCXO-80, and it provides a reliable and long-lasting power source for the instrument. The battery pack is rechargeable, allowing for repeated use and a reduced need for frequent replacement.

90 OHM INPUT

The 90 Ohm input connector is designed for use with an AC or DC power source. The connector is compatible with a variety of power sources, including wall plug transformers and battery packs. The input connector is designed to provide a stable reference for the instrument, ensuring accurate measurements and results.
CALCULATING FREQUENCY MEASUREMENT ERROR

In practical applications, where the count of true frequency cannot be determined, a certain amount of measuring error may occur due to instrument limitations. To minimize this error, a certain amount of compensation factor is applied. This compensation factor varies depending on the instrument's specifications.

The compensation factor is calculated as:

\[
\text{Compensation Factor} = \frac{\text{True Frequency}}{\text{Measured Frequency}}
\]

For example:

- If the true frequency is 100 MHz and the measured frequency is 90 MHz, the compensation factor is:

\[
\text{Compensation Factor} = \frac{100}{90} = 1.11
\]

This means that the measured frequency has an error of 11%.
Figure A shows the correct operation of a frequency counter to avoid truncation errors.

Signal Coupling Considerations to Avoid Truncating Errors

Figure B shows the false triggering that occurs when a noisy input signal is connected.
maximum value for R can be computed as follows:
and the current input resistance. To minimize 100 ms at the counters input, the
A voltage divider is formed by R and the parallel combination of the two capacitors.

SERIES DAMPING RESISTOR CALCULATIONS

[Diagram]

FIG. A

Damping resistor works well in many applications. DC (0.0 Ohm) probes can be used with a suitable resistor in series with the input. A 10 k Ohm series

FIG. B

Ringing can cause false triggering as shown in Fig. B. Fig. C shows the effect of a series damp-

FIG. C

BASIC COUNTER PROBE WITH SERIES DAMPING RESISTOR

FIG. D

REMEmBERS RENgNC.

FIG. E

FIRST HARMONIC COUNTER CAUSES

FIG. F

SECOND DOUBLE COUNTING.

FIG. G

REMEMBER RENgNC.

FIG. H
The SW/REG module contains fixed Vol, adjustable 10 Vol and adjustable 7.5 Vol regulators.

When the PSL-1350 is used, many P.C. board jumpers I4, I5 and I6 are installed. The PSL-751 module requires no jumpers I2 and G5 be installed.

PSL-1350 module is driven by P.S. line and from J1.

Adjusting the P.S. from the PSL-1350 module's output of the PSL-1350 module a P.S.L-1350 multiplier, P.S.L-1350 has a

Block Theory of Operation

The 80XX-S series consists of a CMOS large scale integrated circuit (L2) which comprises a

TCXO/OCTO or from the external clock input is led directly to 12.

Adjusting the internal clock input is led directly to 12.

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