

# Aplab

## 1.3GHz FREQUENCY COUNTER 1122 / 1122X



Aplab Model 1122/1122X, is a 1.3GHz high performance frequency counter at a low cost with wide applications. Its VHF range suits the TV bands, UHF range to communication systems and low frequency range for laboratory and institutional use. Its sleek and light weight construction makes it truly portable for field use.

### Description

Model 1122/1122X is an inexpensive and high performance instrument from Aplab. It has two input channels. Channel one (Input A) has a frequency range of 0.2Hz to 110MHz. Its high input impedance gives minimum loading effect. Channel two (Input B) has a pre-scaler and a frequency range from 50MHz to 1.3GHz. Its 50 Ohms input impedance matches with most of the source impedances in high frequency range. Selection of four gate times (i.e 10mSec, 100mSec, 1Sec & 10Sec) gives the best compromise between time & resolution. The use of LSI technology makes Model 1122/1122X highly reliable. The accuracy of the instrument is high owing to a high stability time base being used as a reference. The gate times are derived from the source.

### Features

- Wide Frequency Range 0.2Hz to 1.3GHz
- 2 Separate Channels, for LOW & HIGH Frequencies
- High Sensitivity
- 8 Digit Green LED Display
- Microcontroller based Advance Technology
- Optional RS232 Interface
- Reciprocal Counting Technique for High Resolution at Low Frequency
- Period Measurement
- Low Pass Filter for Noisy Low Frequency (<100KHz)
- 4 Selectable Gates (10ms, 100ms, 1sec, 10sec)
- AC/DC Coupling
- Attenuator (10:1)
- Slope Selection Facility on Channel A
- Sampling Time Control
- Hold Facility
- Reset Facility
- High Stability Oven Controlled Crystal Oscillator Time Base (For 1122X only)
- 'EXT' Oscillator Input Facility
- 'EXT' Battery Operation (Optional)

## Technical Specifications

<b>Frequency Range</b>	:	
Input A	:	0.2Hz to 110MHz.
Input B	:	50MHz to 1300MHz.
<b>Gate Time</b>	:	10mSec, 100mSec, 1Sec, 10Sec selectable.
<b>Resolution</b>	:	100n Hz to 10KHz.
<b>Accuracy</b>	:	±1 count ±time base accuracy.
<b>Sensitivity</b>	:	
Input A	:	0.2Hz to 50MHz - 30mVrms 50MHz to 100MHz - 50mVrms 100MHz to 110MHz - 100mVrms
Input B	:	50MHz to 1.1GHz - 30mVrms 1.1GHz to 1.3GHz - 60mVrms
<b>Input Impedance</b>	:	
Input A	:	1M ohm // 25pF nominal.
Input B	:	50 ohms nominal.
<b>Max. Input Voltage</b>	:	
Input A	:	DC to 5KHz : 300V (DC + AC pk). 5KHz to 110MHz : $5.5V + \frac{(1.25 \times 10^6 \text{ rms})}{(\text{Freq in Hz})}$
Input B	:	DC - 50V. AC - 3V rms.
<b>Attenuator</b>	:	x1 & x10.
<b>Period Measurement Range</b>	:	
Input A	:	10 nsec to 5 sec.
<b>Annunciators</b>	:	LED indication for overflow, Gate time (0.01, 0.1, 1, 10 in sec.), Display Hold, Freq. offset mode, Measurement mode (Freq. A conventional & normal, Freq. B, period A, ns, μs, ms, sec., MHz, KHz & Hz).

<b>Display</b>	:	0.56", 8 digit LED display.
<b>Display Time</b>	:	0.8 Sec to 5 Sec. & Display hold.
<b>Time Base Internal (For 1122X)</b>	:	
Time Base Freq.	:	10MHz oven controlled.
Stability Over Temp.	:	<±1 x 10 <sup>-7</sup> .
Range (0 to 50°C)	:	
Short term stability	:	< 5 x 10 <sup>-8</sup> / s.
Long term stability	:	< 5 x 10 <sup>-7</sup> / day.
Warm-up Time	:	15 minutes.
<b>Time Base Internal (For 1122)</b>	:	
Time Base Freq.	:	10MHz.
Ageing Rate	:	±5 PPM / year.
Stability	:	±1 PPM.
Temp. Stability	:	±5 PPM from 0 to 50°C.
Internal Out	:	5V p-p.
<b>Time Base External</b>	:	
Time Base Freq.	:	10MHz .
Sensitivity	:	2V p-p (min.), 5V p-p (max.).
<b>General</b>	:	
Interface	:	RS232 (Optional).
Power	:	230V AC ±10%, 50Hz & EXT BATT. operation.
Dimensions	:	310(D) x 85(H) x 275(W) in mm (approx).
Weight	:	< 3 Kg.
Standard Accessories	:	1. BNC(M) to BNC(M) Cable - 1 No. 2. Battery Jack Cable - 1 No. 3. Instruction Manual - 1 No. 4. Mains Cord - 1 No.

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.

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