

The Nova series of counter-timers

SPECIFICATION

	Nova 200	Nova 200X	Nova 2400	Nova 2400X
Frequency range	10Hz – 200MHz (2 ranges)		10Hz – 2.4GHz (3 ranges)	
Timebase	200m sec.			
Time between measurements	200m sec.			
Crystal frequency	10MHz			
Stability	< 0.5ppm	< 0.2ppm	<0.5ppm	< 0.2ppm
Temperature stability	±10ppm – 10°C to+70°C	±1ppm – 0°C to50°C	±10ppm – 10°C to+70°C	±1ppm 0°C to 50°C
Aging	<±5ppm/year	<±1ppm/year	<±5ppm/year	<±1ppm/year

Frequency (Input A)

Range	10Hz – 20MHz			
Input impedance	1MΩ			
Sensitivity	10mVrms sinewave 20Hz–20MHz; 20mV rms sinewave 10Hz–20Hz			
Max. input voltage	28V DC, 20V rms			
Resolution	100Hz @ 0.01s gate time	1Hz @ 1s gate time	10Hz @ 0.1s gate time	0.1Hz @ 10s gate time
Attenuation	Automatic gain control from 10mV to 400mVrms, then diode clipping			
Measurement Accuracy	± (1 count + timebase accuracy)			

Frequency (Input B)

Range	15MHz – 200MHz			
Input impedance	50Ω			
Sensitivity	25mV rms sinewave 15MHz – 200MHz			
Max. input voltage	28V DC, 20V rms			
Resolution	1KHz @ 0.01s gate time	10Hz @ 1s gate time	100Hz @ 0.1s gate time	1Hz @ 10s gate time

Frequency (Input C)

Range	150MHz – 2.4GHz			
Input impedance	50Ω			
Sensitivity	10mV rms sinewave 150MHz – 1.3GHz 20mV rms sinewave 1.3GHz – 2GHz 50mV rms sinewave 2GHz – 2.4GHz			
Max input voltage	28V DC, 20V rms @ 50Hz RF INPUT POWER + 7dBm MAX			
Resolution	10KHz @ 0.0128s	100Hz @ 1.28s	1KHz @ 0.128s	10Hz @ 12.8s
Measurement accuracy	±(1 count + timebase accuracy)			

Period (Input A)

Range	10Hz – 5MHz			
Min pulse width	60ns			
Measurement type	Single cycle and multiple period average			
Display	μs			
Period averaged over	1, 10, 100, 1000 cycles			
Resolution	100ns + no. of cycles averaged			
Measurement accuracy	±(1count+timebase accuracy+[triggererror÷no of cycles averaged])			

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Trigger error	$\text{Trigger error} = \frac{\text{peak to peak noise voltage}}{\text{Signal slope (V/s)}}$ $\text{Trigger error for sinewave} = \frac{1}{\text{FREQ} \times \pi \times \text{S/N RATIO}}$			

Count (Input A)

Range	DC – 5MHz TTL Levels			
Count max.	(2 x 10 ⁸) – 1			
Resolution	1 count			
Reset	Manual (reset button)			

External timebase

External timebase	External oscillator in/internal oscillator out; switch selectable			
Calibration frequency	10MHz			
Output frequency	10MHz			
Input frequency range	DC to 10MHz			
Input voltage	0V to + 10V max., HCMOS load			
Output drive	45 TTL gates or sink 18mA Source 18mA			

Ancillary controls

Ancillary controls	Display hold; Reset			
Display	8½ digit 7 segment LCD; Automatic decimal point; Unit indicators for MHz, KHz, us, low Battery, gate, overflow			

Power requirements

Mains operation	115/230VAC ±10% 50/60Hz, 6VA selectable on panel			
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General

Environmental operating range	0°C to 40°C (10% – 80% RH non-condensing)			
Case	Robust, lightweight steel painted light grey, with tilt stand			
Size	212mm x 228mm x 100mm (Product only) 318mm x 356mm x 141mm (Packed)			
Weight	2.6kg (Product only) 2.9kg (Packed)			
Supplied accessories	Mains lead, instruction manual, spare fuse			
Optional accessories	Passive probes, carry case, service Manual, RF antenna			
EMC:	Complies with EN50081-1 and EM50082-1			

Black Star reserve the right to alter specifications without notice

Designed and manufactured by

Black★Star

BLACK STAR LIMITED

4 Harding Way, St. Ives, Huntingdon, Cambridgeshire
PE17 4WR England

Telephone: 01480 462440 Fax: 01480 495172



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manufactured
in Britain

Available from:

