SLM2200

Dual frequency selective meter

Includes:

- Measures frequency and magnitude of two unrelated frequency components, even when lost in noise.
- Two isolated input channels rated at 500V cat II.
- Scans frequency range then centres automatically on the largest peaks.
- Magnitude displayed in dBm or V.
- Selectable bandwidth.
- Also includes 2 channel wideband true rms voltmeter and DSO.
- Generator includes FSK simulation.
- 100uV to 500V peak signal input range.
- 10mHz to 2MHz frequency range.
- RS232 and printer port.
- Graphic electroluminescent display.
- Audible signal on any measurement.
- Convenient, portable tower format.

Includes frequency scan and automatic centering.

Versatile DFT analysis instrument using DSP & FPGA technology with modern analogue techniques for optimum performance, speed of measurement and convenience.

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The SLM2200 uses powerful DSP analysis to deliver accurate measurements quickly and easily. Believed to be the only **dual frequency** selective level meter available, it simultaneously analyses for two independent frequency components. The noise rejection of the processing allows signals to be measured even when buried in wideband noise. True real-time processing (no missed data) with a selectable filter time constant allows measurements to be made even with varying signals. The isolation of the inputs allows connection of the SLM2200 in any environment up to 500V cat II.
The automatic tuning algorithm scans a frequency range for two frequency components. The SLM2200 then tunes the center of the passbands to the frequency of the two components present using a series of narrowing sweeps with increasing resolution. Once the frequencies have been determined, the magnitudes are monitored and displayed in real time.
Despite its sophisticated measurement capability it is very easy to use. The versatile graphic display allows results to be viewed as graphs, multiple data values, or large single values as appropriate.
The generator on the SLM2200 uses high-speed direct digital synthesis (DDS) to provide a variety of waveforms.

Selective Level Meter

channels	2 isolated
frequency scan	single, dual or sweep
selectivity (-3dB)	3Hz, 24Hz, or 100Hz
display	5 digit numeric values dBm or V
frequency	10mHz to 2MHz
coupling	ac or ac+dc
max input	±500V peak ±500V peak from earth
input ranges	500V, 300V, 100V, 30V, 10V, 3V, 1V, 300mV, 100mV, 30mV, 10mV
ranging	full auto, up only, or manual
input impedance	1M // 30pF (exc. leads)
magnitude accuracy	0.1% range <1kHz
all + 0.1mV	0.3% range < 10kHz 1% range < 50kHz 1% range + 4% rdg < 1MHz 1% range + 8% rdg < 2MHz
sweep step rate	0.2s, 0.3s, 2.5s extends to cycle time when measuring low frequencies
filter time constant	0.2s, 1.5s or 12s

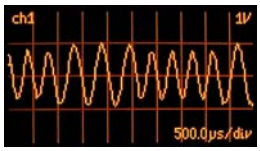
True rms voltmeter

channels	2 isolated
display	5 digits
measurement	rms, ac, dc, dBm, peak, cf, surge
frequency	dc to 2MHz
CMRR (typical)	55dB @ 10V 1MHz 120dB @ 100V 1kHz 140dB @ 240V 50Hz
accuracy (ac)	as SLM + 0.4mV
accuracy (dc)	0.2% range + 2mV

Low frequency isolated DSO

inputs	2 isolated
sample rate	800k samples/s
timebase	20us/cm to 5s/cm roll mode if > 0.5s/cm
maximum input	500V cat II
trigger mode	auto, normal, or single shot

These specifications are quoted in good faith but Newtons4th Ltd reserves the right to amend any specification at any time without notice.



Generator

type	digitally synthesised 16 bit 20Msample/s
waveform	sine, triangle, square, sawtooth, pulse (adjustable rise & fall time), FSK or harmonics
frequency	10mHz to 2.4MHz continuously variable adjustable step
accuracy	frequency ±0.05% amplitude ±5% (to 100kHz)
output impedance	50Ω ±10%
output voltage	±10mV to ±10V peak continuously variable adjustable step
offset	0V to ±10V

RS232 port

Connector	9 pin 'D'
baud rate	1200 – 19200
capability	complete control and reading of results
protocol	ASCII text

Printer port

type	Centronics
connector	25 pin 'D'
printout title	up to 3 lines of user data up to 2 lines of specific text
printer supported	Epson, HP, Canon inkjets

Audible output

data	any displayed value
alarm type	high, low, window, or linear

General

display	160 x 80 dot graphic electroluminescent
NV program stores	99 + 1 autoload on power up
size	30 x 15 x 25 cm approx.
temperature range	0 to 40 °C
weight	approx. 5kg
power supply (UK) (USA)	230V rms ± 10% 50Hz 110V rms ± 10% 60Hz 30VA max

specifications at 23°C ±5°C

FSK applications

A typical application for the SLM2200 is in testing of FSK telemetry. Traditionally, to measure the frequency and magnitude of the two frequency components the transmitter would have to be forced to transmit all 'ones' or all 'zeroes' in turn, and the measurements made on signals significantly greater than the noise floor. Using the SLM2200, the signals may be measured for both frequency and magnitude of the two components simultaneously at the receiver without changing the transmitter, even if the signals are noisy.

Designed and manufactured in the UK by Newtons4th Ltd