

## CEL-553 Real time analyzer

### Introduction

The CEL-553 model is the starting point in the range of CEL real time analyzers. The instrument is available with both full octave and third octave band filters that operate simultaneously across the whole audio spectrum. Manually controlled measurements allow the operator to use the analyzer for "Snapshot" recording in a familiar point and shoot mode associated with more standard sound level meters.

### Applications

Primary uses of this instrument include;

- Workplace noise surveys
- Product noise reduction
- Sound power measurements
- General acoustic engineering investigations

### Operation

The CEL-553 Real time analyzer uses the concept of "Runs" and "Records" to make measurements where the operator is in complete command of the data capture. Up to 999 separate Runs can be stored in the instrument memory and each run can save up to 9999 individual measurements. A run can then represent a measurement around a particular machine with the records representing the individual measurement positions associated with that machine. The run concept logically groups the individual measurements together for easy comparison when recalled from memory or downloaded to a personal computer.

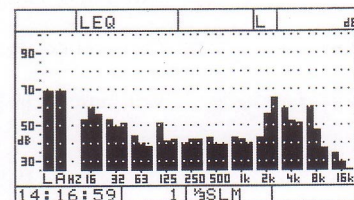


Example of broadband measurement screen showing dual frequency weighting and dual time weightings

		C	A
90	SPLF , dB	58.4	55.6
	SPLS , dB	56.6	54.1
70	SPLFMAX , dB	70.1	66.9
	SPLSMAX , dB	64.1	60.1
50	LEQ , dB	57.8	53.6
30			
FEA	LINPEAK , dB	81.5	
11:55:16	1	ZSLM	

broad band screen

Example of narrow band measurement screen showing third octave band measurement with linear and A weighted overall noise levels at left of main display



1/3 octave band screen

<b>CEL-553 Measurement parameters</b>		
Acoustic standards	-	ANSI S1.4 Type 1 & 2, ANSI S1.43 Type 1 & 2, ANSI S1.11 IEC-651, IEC-804, IEC-225
Frequency weightings	-	A, C & Linear (unweighted 10 Hz to 25 kHz +0/-0.5dB) (choose 2 simultaneously from 3)
Time weightings	-	Slow, Fast, Impulse & Peak (choose 2 simultaneously from 3)
Amplitude weightings	-	Exchange rate Q = 3, 4, 5 & 6 (choose 2 simultaneously from 3)
Total measurement range (dB)	-	5 to 140 dB in 7 x 10 dB step intervals
Alternative measurement range (with 1/4in microphone)	-	30 to 165 dB (with CEL-302 ¼ in microphone)
Dynamic range (dB)	-	75 dB
Calculated results		
Broadband mode	-	SPL, Max, Min, Leq, lLeq, SEL, Lavg, TWA, LEP,d, Peak,
Octave mode	-	2 selectable broadband results plus 11 simultaneous octave bands from 16 Hz to 16 kHz
Third octave mode	-	2 selectable broadband results plus 33 simultaneous octave bands from 12.5 Hz to 20 kHz
Storage method		
Manual mode	-	User control via tactile keypad, Start, Stop, Reset, variable measurement time
Regular timed interval mode	-	Preselectable fixed record times from 0.5, 1, 5, 10, 15, 30, 60 seconds 5, 10, 15, 20, 30 & 60 minutes
Storage capability	-	400,000 data results in broadband mode, or 22,800 third octave band spectra
Maximum number of Runs	-	999
Maximum number of Records	-	9999
Memory size	-	2 Mbytes
Measurement setups	-	1 factory default plus 6 user selectable configuration setups for each mode
Standard accessories included with instrument	-	CEL-250 1/2in Precision free field microphone capsule, CEL-500 Analog interface module, CEL-502 RS232 interface module, C6621 serial download cable to computer, CEL-510 Tripod shoe adapter, Operator Manuals, Getting Started Guide, 8 x AA batteries
Standard items included in kits	-	CEL-553.C1/K1 includes CEL-553.C1 RTA, CEL-284 Class 1 Acoustic calibrator, CEL-2962 Foam windscreen, CEL-6629 Attaché kit case CEL-553.C2/K1 includes CEL-553.C2 RTA, CEL-282 Class 2 Acoustic calibrator, CEL-2962 Foam windscreen, CEL-6629 Attaché kit case
Localization	-	Instrument firmware available in 5 languages, English, French, German, Italian & Spanish, specify at time of order

<b>Instrument upgrades available</b>		
CEL-553/UP573	-	Adds the ENV data capture mode to the standard SLM mode (provides regular time interval recording)
CEL-553/UP593	-	Adds the ENV & EVT data capture modes to the standard SLM mode (provides regular time interval recording and event threshold recording)
CEL-5X3/UPT	-	Adds the FASTORE option to the standard instrument (provides the rapid data storage event based recording)
CEL-5X3/UPR	-	Adds the FASTORE & BUILDING ACOUSTICS options to the standard instrument (provides the rapid data storage event based recording and the building acoustics recording)
CEL-5X3/UPL	-	Adds the FASTORE & LOUDNESS options to the standard instrument (provides the rapid data storage event based recording and the sound quality loudness recording)