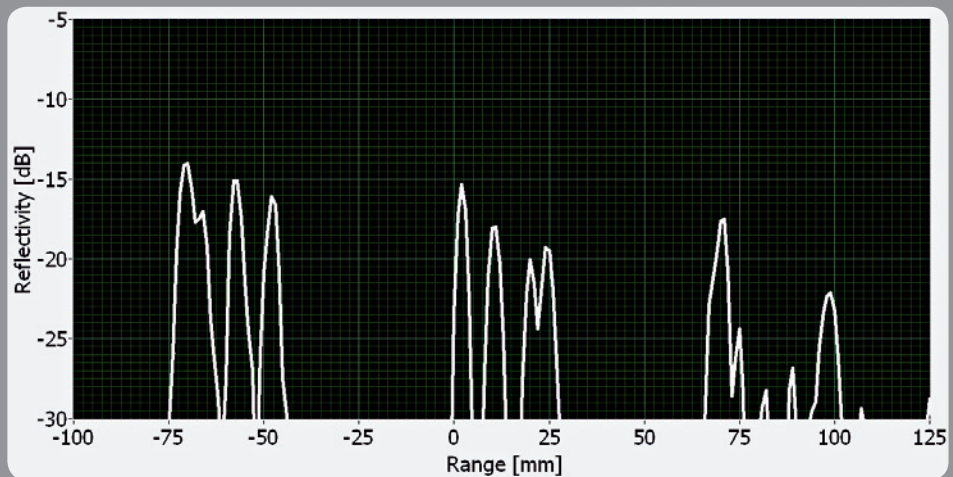


SynViewHead

Terahertz / Millimeter Wave Measurement Head

all-electronic range profilometer

10000 range profiles per second

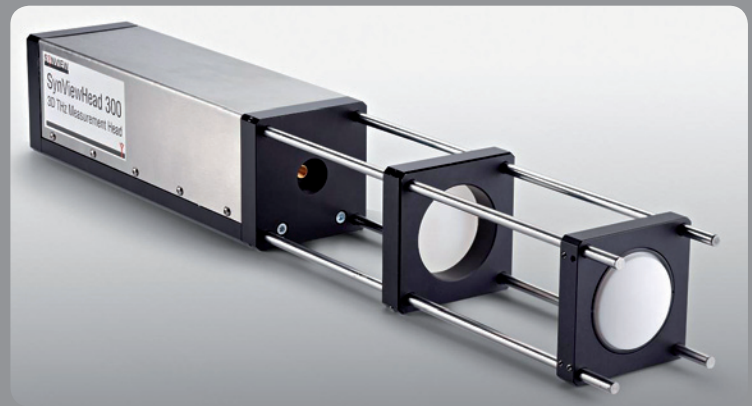


The SynViewHead is an all-electronic measurement head which works as a Terahertz range profilometer. It measures with a very high dynamic range of up to 70 dB and can obtain a range profile in as low as 100 microseconds. Due to this unique performance the SynViewHead is an excellent choice for scanning 2D/3D THz imaging and sensor systems.



SynViewHead

Key Specifications



	SynViewHead 100	SynViewHead 150	SynViewHead 300	SynViewHead 450 *)	SynViewHead 700 *)	SynViewHead 850	
Operation mode	coherent FMCW						
Frequency range	0.07 THz – 0.11 THz	0.11 THz – 0.17 THz	0.23 THz – 0.32 THz	0.33 THz – 0.50 THz	0.50 THz – 0.75 THz	0.84 THz – 0.87 THz	other frequency ranges are available on request
Measurement time per range profile	100 μ s - 1 sec						
Dynamic range for a measurement time of 100 μ s / 10 ms / 100 ms	> 40 dB / > 60 dB / > 70 dB	> 40 dB / > 60 dB / > 70 dB	> 35 dB / > 50 dB / > 60 dB /	> 30 dB / > 40 dB / > 50 dB	> 30 dB / > 40 dB / > 50 dB	> 25 dB / > 40 dB / > 50 dB	requires appropriate optics with minimized back reflection
Output power	2 mW	100 μ W	60 μ W	10 μ W	5 μ W	2 μ W	
Spatial resolution	3 mm	2 mm	1 mm	0.7 mm	0.5 mm	0.4 mm	depends on the optical configuration
Depth resolution (layer separation) in typical materials	6 mm	4 mm	2mm	1.5 mm	1.2 mm	10 mm	depends on the optical configuration and the sample geometry
	2 mm (If both Heads are used simultaneously e.g. in the SynViewScan TRMF)		2 mm	< 1 mm (If both Heads are used simultaneously e.g. in the SynViewScan TRMF)		10 mm	
Depth resolution in air	9 mm	6 mm	3 mm	2.25 mm	1.8 mm	15 mm	
Range-, depth- and thickness precision	at least 20 μ m (typ.) for any single interface within the depth resolution window	at least 20 μ m (typ.) for any single interface within the depth resolution window	at least 20 μ m (typ.) for any single interface within the depth resolution window	at least 20 μ m (typ.) for any single interface within the depth resolution window	at least 20 μ m (typ.) for any single interface within the depth resolution window	at least 20 μ m (typ.) for any single interface within the depth resolution window	depends on the optical configuration and the sample geometry

*) In development; specifications are preliminary. Expected to be available in 2012.

Valid for all SynViewHead		
Depth penetration	several centimeter	depending on the material under test
Range window	20 cm for each reference point	multiple reference points possible
Max. distance between measurement head and object	3 meter	larger distances possible on customer request
Maximum continuous data acquisition time	infinite	requires appropriate PC configuration
Trigger capabilities	hardware (TTL) or software	feasible for synchronization to a motion control unit
Software interface	LabView driver or RS232	
Long term stability of calibration (at least 40 dB dynamic range)	> 30 min. after warm up	
Size:	75 mm x 75 mm x 230 mm	Head only

All values require appropriate calibration and are subject to change without notice.
Delivery includes: measurement head, data acquisition unit, PC, software. Other interfaces or software utilities are available on request.

Please note the available full 3D Terahertz Imaging system SynViewScan.

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