

BrightSpec MCA Summary Table

	bMCA-U	bMCA-E	Topaz-pico	Topaz-SiPM	Topaz-X	Topaz-HR
Device						
Case format	Tube-base 14-pin PMT socket	Tube-base 14-pin PMT socket	Desktop / case	Miniature case	Desktop / miniature case	Desktop / case
Data connection	Full speed USB 2.0 ~ 1.2 Mb/sec	Ethernet 10/100	Full speed USB 2.0 ~ 1.2 Mb/sec	Full speed USB 2.0 ~ 1.2 Mb/sec Or Ethernet 10/100	High-speed USB 480 Mb/sec	High-speed USB 480 Mb/sec
Acquisition modes	PHA and MCS	PHA and MCS	PHA and MCS	PHA and MCS	PHA, MCS, LIST and TLIST	PHA, MCS, LIST and TLIST
Programmable I/O ports	none	none	one port	one port	two ports	two ports
Sampling rate	25 Ms/s, 12-bit	25 Ms/s, 12-bit	25 Ms/s, 12-bit	25 Ms/s, 12-bit	50 Ms/s, 14-bit	50 Ms/s, 14-bit
DSP	50 Mhz. Trapezoidal shaper	50 Mhz. Trapezoidal shaper	50 Mhz. Trapezoidal shaper	50 Mhz. Trapezoidal shaper	100 Mhz. Trapezoidal shaper	100 Mhz. Trapezoidal shaper
CPU	40 MHz	40 MHz	40 MHz	40 MHz	200 MHz	200 MHz
Max. no of channels/ channel depth	4096, 32-bits	4096, 32-bits	4096, 32-bits	4096, 32-bits	16 384, 32-bits	16 384, 32-bits
Detector HV Bias	$\leq + 1500$ Volts	$\leq + 1500$ Volts	$\leq + 1500$ Volts	None	None	$\leq \pm 6000$ Volts
Typical detectors	Scintillators: NaI(TL), CsI(Tl), LaBr ₃ , CeBr ₃ , SrI ₂ , BGO and plastic, e.g. PVT	Scintillators: NaI(TL), CsI(Tl), LaBr ₃ , CeBr ₃ , SrI ₂ , BGO and plastic, e.g. PVT	Scintillators: NaI(TL), CsI(Tl), LaBr ₃ , CeBr ₃ , SrI ₂ , BGO and plastic, e.g. PVT	Scintillators with SiPM, such as: NaI(TL), CsI(Tl), LaBr ₃ , CeBr ₃	Silicon Drift Detectors (SDD) and PIPS	HPGe, CdZnTe, Si(Li), SDD and PIPS
Typical field/ Energy resolution	Gamma-ray spectrometry. Medium resolution	Gamma-ray spectrometry. Medium resolution	Gamma-ray spectrometry. Medium resolution	Gamma-ray spectrometry. Medium resolution	X-ray spectrometry. ED XRF. Charge particles. High resolution	Gamma and X-ray spectrometry. High resolution
Dimensions (LxWxH)	52 (H) x 56 (D) mm	68 (H) x 56 (D) mm	107 x 72 x 19 mm	70 x 45 x 26 mm (USB) 86 x 55 x 26 mm (ETH)	86 x 70 x 18 mm	126 x 106 x 56 mm