HySpex VS-725

HySpex VS-725 is a hyperspectral imaging system consisting of HySpex VNIR-1800 and HySpex SWIR-725. Designed to provide **high resolution airborne data** in the full spectral range from **400-2500 nm**, HySpex VS-725 offers a **compact** and cost efficient solution.

HySpex VS-725.

The novel HySpex SWIR-725 configuration provides a **high resolution** SWIR imaging system of unique optical performance with **exceptionally low smile and keystone**. HySpex SWIR-725 consists of two HySpex SWIR-384HR (High Resolution) systems, overlapping with one degree in the central FOV, in a **common sensor head** configuration.

The Data Acquisition Unit provides full control and real time previews from all sensors, and ensures **accurate synchronization** between the sensors and the INS to achieve **high precision georeferencing**.

Main specifications

	HySpex VS-725	
	VNIR-1800	**SWIR-725**
Spectral range	400 – 1000 nm	955 – 2510 nm
Combined spectral range	400 – 2510 nm	
Spatial pixels	1800	725
Combined spatial pixels	725	
Spectral channels	186	288
Combined spectral channels		453
Spectral sampling	3.26 nm	5.45 nm
FOV	17°	17°
Combined FOV	17°	
Pixel FOV across/along	0.16/0.32 mrad	0.41/0.41 mrad
Combined Pixel FOV across/along	0.41/0.41 mrad	
Bit resolution	16 bit	
Noise floor	2.4 e^-	150 e^-
Dynamic range	20000	7500
Peak SNR (at full resolution)	> 255	> 1100
Max speed (at full resolution)	260 fps	400 fps
Power consumption	30 W	60 W
Combined Power consumption	90 W	
Dimensions (l–w–h) [cm]	39 – 9.9 – 15	38 – 36 –17.5
Combined Dimensions (l–w–h) [cm]*	50 – 50 –40	
Weight	5.0 kg	12 kg
Combined Weight*	22 kg	

**Includes interface plate for GSM4000*

www.hyspex.no | Norsk Elektro Optikk AS | Prost Stabels Vei 22 | 2019 Skedsmokorset | Norway | hyspex@neo.no

HySpex models overview

All HySpex cameras (except ODIN) can be used for both ground based and airborne applications. The classic cameras can be delivered with a wide range of close-up lenses, making them very versatile and ideal for a wide range of applications requiring different spatial resolutions without compromising the optical performance of the system. The HySpex Mjolnir series, designed for UAVs, is also an outstanding, and very portable solution for ground applications with working distances greater than 20 m.

HySpex VNIR-1800.

HySpex SWIR-384.

HySpex Mjolnir V-1240.

HySpex ODIN VS-1024.

	Classic HySpex					ᛗᛃᛟᚱᚾᛁᚱ				ODIN	
	VNIR-1024	**VNIR-1800**	**SWIR-384**	**VS-725**		**V-1240**	**S-620**	**VS-620**		**VS-1024**	
Spectral range [nm]	400-1000	400-1000	930-2500	400-2500		400-1000	970-2500	400 - 2500		400 - 2500	
Spatial pixels	1024	1800	384	725		1240	620	620		1024	
Spectral channels	108	186	288	453		200	300	490		427	
Spectral sampling [nm]	5.4	3.26	5.45	3.26	5.45	3.0	5.1	3.0	5.1	3.0	6.1
FOV	16.1°	17°	16°	17°		20°	20°	20°		15°	
Pixel FOV across/along [mrad]	0.28/0.56	0.16/0.32	0.73/0.73	0.41/0.41		0.27/0.27	0.54/0.54	0.54/0.54		0.25/0.25	
Bit resolution (raw data)	14 bit	16 bit	16 bit	16 bit		12 bit	16 bit	16 bit		16 bit	
Noise floor [e^-]	11	2.4	150	2.4	150	2.3	80	2.3	80	2.4	150
Dynamic range	3400	20000	7500	20000	7500	4400	10000	4400	10000	37000	7500
Peak SNR (at full resolution)	> 330	> 255	> 1100	>255	>1100	>180	>900	>180	>900	>500	>1300
Max speed (at full resolution)	690 fps	260 fps	400 fps	260 fps		285 fps	100 fps	100 fps		180 fps	
Power consumption	6 W	30 W	30 W	90 W		50 W	50 W	50 W		60 W	
Dimensions (l–w–h) [cm]	30.5-9.9-15	39-9.9-15	38-12-17.5	50-50-40		25-17.5-17	25.4-17.5-17	37.4-20-17.8		113.4-43-73	
Weight [kg]	4.2	5.0	5.7	22		< 4.0*	< 4.5*	< 6.0*		90	
				VNIR	SWIR			VNIR	SWIR	VNIR	SWIR

*includes IMU/GPS & DAU