Leica DMC III

Breaking new ground. Always.

+25,000 PIXELS

World's largest swath

Based on the all-new CMOS sensor, specifically engineered for airborne applications, the Leica DMC III mapping solution is breaking new ground. With the most efficient workflow available, this camera offers the world's largest swath generated by a single frame capturing 25,000+ pixels across.

CMOS

Revolutionary CMOS technology

The Leica DMC III is the first large format camera using CMOS sensor technology reaching beyond the limitations of traditional CCD technology. The sensor captures more information with 100% increase in dynamic range and unsurpassed image quality thanks to less image noise and almost zero blooming.

Most efficient & intuitive workflow

The intuitive common data processing platform RealWorld features a simple yet powerful workspace that allows the user to easily manage even the largest data sets. Starting from data download, raw QC to basic data management, it guides you through the sensor-specific processing steps.

PART OF HEXAGON

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Leica Geosystems

Leica DMC III product specifications

PAN

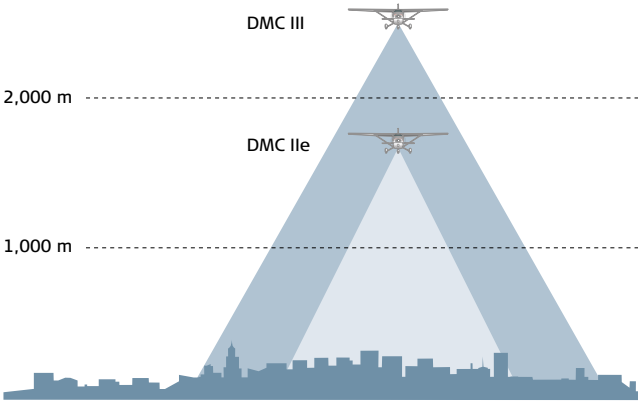
Pixel across track	25,728
Pixel along track	14,592
FoV across track	57.2°
FoV along track	34.4°
Focal length	92 mm
Pixel size	3.9 µm
GSD@500m	2.1 cm

MS

Pixel across track	8,956
Pixel along track	6,708
FoV across track	61.7°
FoV along track	48.2°
Focal length	45.0 mm
Pixel size	6.0 µm
GSD@500m	6.7 cm

GENERAL

B/H	0.25
Number of camera heads	5
PAN: colour resolution	1 : 3.1
Frame rate	1.9 sec
Colour channels	R,G,B, NIR
Resolution per pixel	14-bit
FMC, mechanical	Yes
Dynamic range (CMOS)	78 dB
Onboard storage	9.6 TB to store up to 7900 images
Weight	63 kg
Power consumption	280 W, camera incl. MM30 storage modules
Altitude non pressurised	25,000 ft (7,620 m)
Operating temperature Camera control electronic Optics	 0 °C to +40 °C, upper part - 20 °C to + 40 °C, lower part

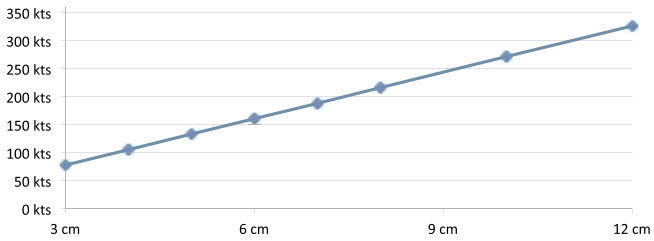


Leica DMC IIe 230 compared to DMC III

MAXIMUM GROUND SPEED

GSD	60 % forward overlap	80 % forward overlap
3 cm	161 kts	81 kts
4 cm	213 kts	108 kts
5 cm	267 kts	135 kts
6 cm	325 kts	162 kts
7 cm	370 kts	189 kts
8 cm	431 kts	215 kts
10 cm	541 kts	271 kts
12 cm	640 kts	319 kts
15 cm	781 kts	406 kts
20 cm	1,074 kts	537 kts
25 cm	1,343 kts	671 kts
30 cm	1,611 kts	806 kts

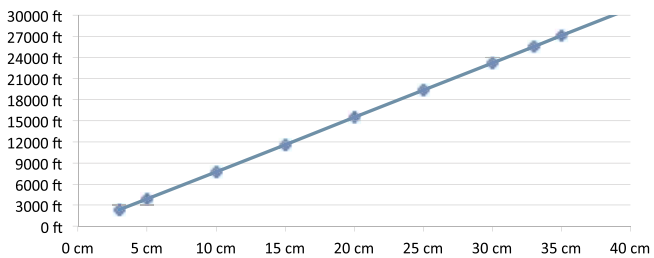
Maximum ground speed 80 % forward overlap



FLYING HEIGHT AND SWATH WIDTH

GSD	Flying height (m)	Flying height (ft)	Swath width
3 cm	708 m	2,322 ft	783 m
5 cm	1,179 m	3,870 ft	1,306 m
10 cm	2,359 m	7,739 ft	2,611 m
15 cm	3,538 m	11,609 ft	3,917 m
20 cm	4,718 m	15,479 ft	5,222 m
25 cm	5,897 m	19,349 ft	6,528 m
30 cm	7,077 m	23,218 ft	6,528 m
33 cm	7,785 m	25,540 ft	8,617 m
35 cm	8,256 m	27,088 ft	9,139 m
40 cm	9,436 m	30,958 ft	10,445 m
45 cm	10,615 m	34,827 ft	11,750 m

Flying height and swath width



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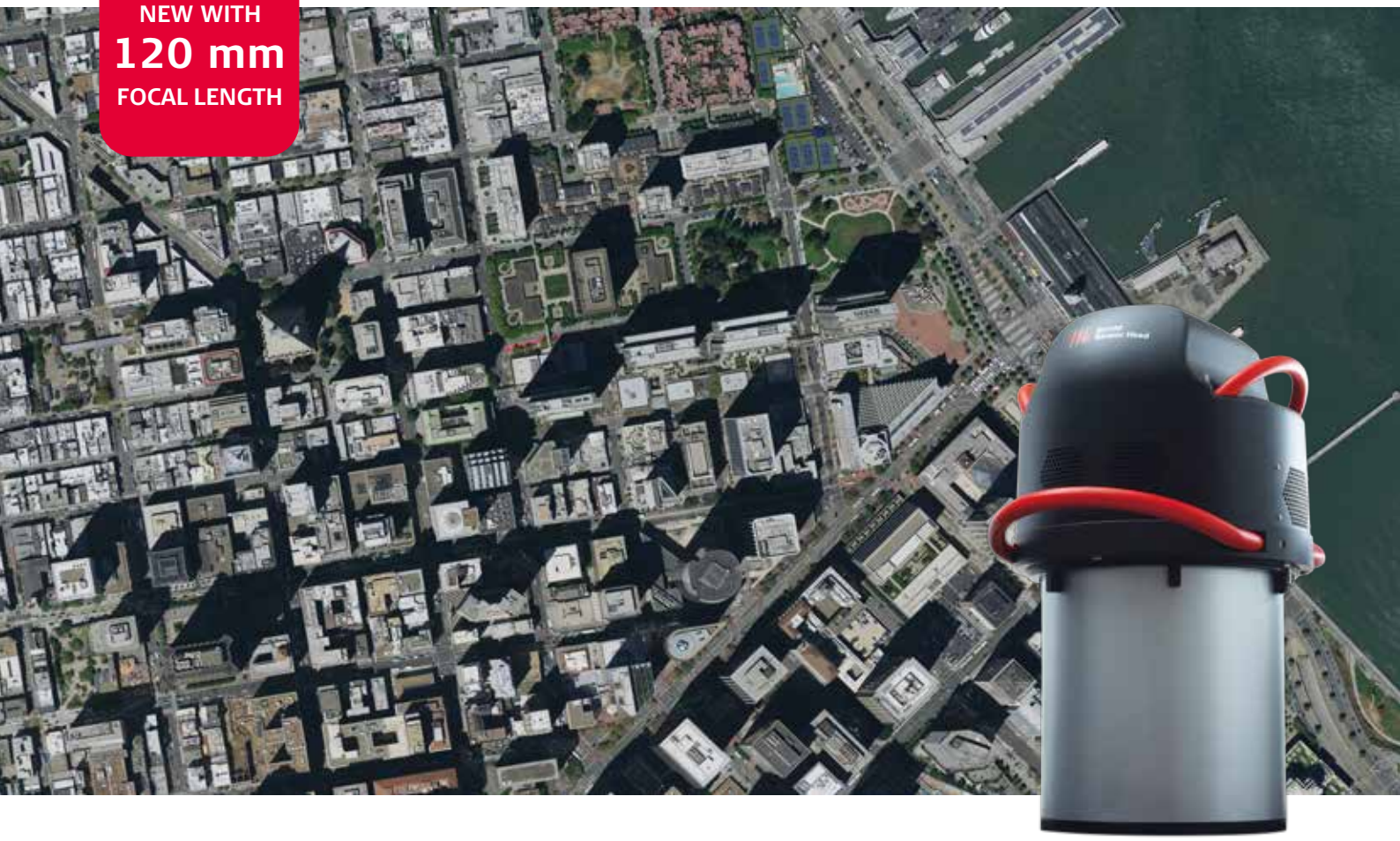
Leica Geosystems

Leica ADS100

Airborne digital sensor – airborne evolution

NEW WITH
120 mm
FOCAL LENGTH



Increased image quality

With its unique features, the Leica ADS100 is designed to meet the 21st century airborne imaging needs. A full multispectral colour swath width of 20,000 pixels in RGBN guarantees the highest data acquisition efficiency, and full colour RGBN in the forward, nadir and backward offers more flexibility for stereo interpretation.

Reduced flight time

The Leica ADS100 product family continues to lead the way in airborne evolution. The improved cycle time allows you to acquire smaller GSD at faster speed, and the 120 mm focal length increases ground resolution, making the ADS100 SH120 the perfect sensor for urban mapping and high altitude data collection applications.

Fastest processing speed

The Leica ADS100 features embedded Novatel SPAN GNSS/IMU with tightly coupled processing to reduce fuel consumption. End-to-end workflow from mission planning with Leica MissionPro to orthophoto and point cloud generation with Leica XPro let you collect and process data at the highest level of performance.

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Leica Geosystems

Leica ADS100 product specifications

CHARACTERISTICS OF DATA ACQUISITION

Focal plate (FPM)	Total of 13 CCD lines with 20,000 pixels each in three line groups (forward, nadir, backward), pixel size 5um, TDI stages selectable 1, 2, 4, 8, 15 (1/2, 1/4, 1/8, 1/16 @ Cycle time › 1 ms) Two tetrachroid beamsplitters in forward (14°), full colour RGBN and backward (10.4°), full colour RGBN one bi-tetrachroid in nadir, full colour RGGBN (green staggered)
Dynamic range of CCD	72 dB
Resolution A/D converter	14-bit
Data channel	16-bit
Data compression	Lossless 14-bit
Recording interval per line (cycle time)	› 0.5 ms

SPECTRAL RANGE

Spectral range	Red, green, blue, near-infrared
Spectral bands	
Red	619 – 651 nm
Green	525 – 585 nm
Blue	435 – 495 nm
NIR	808 – 882 nm

OPTICS DO120

Field of view (FoV)	
SH100	Forward 65.2° across track Nadir 77.3° across track Backward 71.4° across track
SH120	Forward 36.9° across track Nadir 45.2° across track Backward 41° across track
Focal length	
SH100	62.5 mm
SH120	120 mm
F-number	4
Registration accuracy	1 um
Lens design	Telecentric lens design. Maintains position and width of filter edges over whole FoV. Thermic and pressure compensation for high accuracy.
Flying height multiplier	
SH100	12,500 : 1, 10 cm GSD = 1,250 m AGL
SH120	24,000 : 1, 10 cm GSD = 2,400 m AGL

MECHANICAL INTERFACE

Sensor head	
Weight, height, diameter	
SH100	50.5 kg with CUS6 IMU, 67 cm, 39 cm
SH120	46.5 kg with CNUS5H IMU, 67 cm, 39 cm
Camera controller CC33	
Weight with MM30	6.5 kg
L x W x H	300 x 260 x 140 mm, usable with Leica RCD30 series, Novatel SPAN embedded
Mass memory MM30	Solid state drive 1,600GB per MM30, Standard ¾" slot, weight 0.5 kg, removable, portable
Leica operator console OC60	12.1" touch-screen with 1024 x 768 resolution, sunlight readable
Leica pilot display PD60	6.5" screen with 1024 x 768 resolution, quick access buttons
Interface stand IS40	IS40 stand fits RC30 NAV-sight installation
IMU integrated in sensor head	Novatel SPAN CNUS5H IMU integrated
GNSS/IMU system	Novatel SPAN embedded in CC33 (GPS, GLONASS and BeiDou)
Mount	New Leica PAV100 high performance gyro-stabilised mount with adaptive control
Total weight installed	
SH100	~120 kg
SH120	~130 kg

IN-FLIGHT QUALITY CONTROL

Video camera	
SH100	
Oblique view	17° forward
Swath width	55° along x 77° across track
SH120	
Oblique view	6° forward
Swath width	33° along x 44° across track
Waterfall images	Waterfall images during flight available for RGB nadir
Leica FlightPro	Full control of data acquisition parameters

OPERATIONAL

Capacity of mass memory	Joint volume 3.2 TB; recording time depending on data acquisition configuration; MM30 hot-swappable in flight.
Firmware & software	Leica FlightPro Flight Management Software
Average ground speed (GS) for various GSD @ 0.5 ms CT	GS = 120 kts for GSD of 1.2" / 3 cm GS = 190 kts for GSD of 2" / 5 cm GS = 290 kts for GSD 3" / 7.5 cm GS = › 350 kts for GSD 4" / 10 cm

ENVIRONMENTAL

Pressure	Non-pressurised cabin up to ICAO 25,000 ft (7,620 m)
Humidity	0 % to 95 % RH according ISO7137
Operating temperature	– 20 °C to + 55 °C
Storage temperature	
SH100	– 40 °C to + 85 °C
SH120	– 40 °C to + 70 °C

ELECTRICAL

Average power consumption incl. SH120, CC33, PAV100 High Performance, OC60, PD60	350 – 700 W / 28 VDC
Fuses on aircraft power outlet	Typically 1 x 35 A or 1 x 50 A

STANDARDS

General standards for temperature & electronic environment	ISO 7137, RTCA DO -160G, EUROCAE -14G
Conformity to national regulations	USA: FCC Part 15, EU: Directive 2004/108/EG

POST PROCESSING AND DATA FORMAT

Output from XPro post-processing	TIFF tiled

COMMON SENSOR PLATFORMS

The Leica ADS100 product family supports unified aircraft installation. All components, such as the Leica PAV100 high-performance, camera controller CC33 and the operator and pilot displays, can be shared with the Leica RCD30 medium format and oblique cameras, thus significantly reducing cost of ownership and simplifying operation.

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Leica Geosystems

Leica CityMapper
More information, smarter decisions

RealCity

Capture more

Leica CityMapper is the world's first hybrid airborne sensor specifically designed for urban mapping. One sensor provides oblique and multispectral nadir imagery as well as LiDAR data. Collect all you need to create any 2D or 3D geospatial data product essential for smart city applications. Discover the most efficient way to capture airborne data in urban areas.

Process faster

Leica HxMap is the high-performance multisensor workflow featuring the industry's fastest data throughput. Process the data captured with the CityMapper in one simple, intuitive user interface and generate the SmartBase, a comprehensive geospatial base layer, at the push of a button. HxMap is modular, scalable and upgradable specific to your needs.

Work smarter

By combining the CityMapper with HxMap, Leica RealCity offers the foundation to make smart decisions in rapidly changing urban environments. It is the fastest and most efficient way to create all geospatial information layers. The SmartBase consists of up-to-date and highly accurate 2D products and 3D models, all generated from simultaneously acquired data.

Leica CityMapper product specifications

(preliminary)

CITYMAPPER POD

Consists of	1 x Leica RCD30 CH82 multispectral camera in nadir 4 x Leica RCD30 CH81m oblique camera, viewing angle 45° 1 x Leica Hyperion LiDAR unit
IMU	SPAN CNUS5-H, no export license required US ECCN 7A994
Height / diameter	747 mm / 408 mm
Weight	65 kg

Designed for installation in Leica PAV100 HeavyLoad and Leica PodLifter HeavyLoad.

SOFTWARE

Mission planning	Leica MissionPro
Flight navigation & sensor operation	Leica FlightPro
Post-processing	Inertial Explorer – GNSS/IMU processing software Leica HxMap

CAMERA HEAD LEICA RCD30 CH82

CCD size (80MP)	10,320 x 7,752 pixels
Pixel size (80MP)	5.2 um
Dynamic range of CCD	73 dB
Resolution A/D converter	14-bit
Data channel	16-bit lossless compressed
Maximum frame rate	1.5 sec
Motion compensation	Mechanical, bi-directional
Spectral range	RGB and NIR (780-880 nm), co-registered
Viewing angle	Nadir
Weight (w/o lens)	3.1 kg
Height / diameter	168 mm / 128 mm
Optics (standard configuration)	Leica NAT-D 80 mm
Optics weight / height	0.5 kg / 46 mm
Shutter	Central shutter, user replaceable (~200,000+ frames)
Aperture	Automatically controlled aperture 2.8, 4, 5.6, 8
Lens mount	Precise bayonet connection, automated electrical connection, stabilised connection mechanics

CAMERA HEAD LEICA RCD30 CH81M

CCD size (80 MP)	10,320 x 7,752 pixels
Pixel size (80 MP)	5.2 um
Dynamic range of CCD	73dB
Resolution A/D converter	14-bit
Data channel	16-bit lossless compressed
Maximum frame rate	1.5 sec
Motion compensation	Mechanical, in flight direction
Spectral range	RGB
Viewing angle	45° (others upon request)
Weight (w/o lens)	2.1 kg
Height / diameter	138 mm / 128 mm
Optics (standard configuration)	Leica SAT-D 150 mm
Optics weight / height	0.8 kg / 95 mm
Shutter	Central shutter, user replaceable (~200,000+ frames)
Aperture	Automatically controlled aperture 4, 5.6, 8, 11
Lens mount	Precise bayonet connection, automated electrical connection, stabilised connection mechanics

LEICA HYPERION LIDAR UNIT

Laser wavelength	1,064 nm
Laser divergence	0.25 mrad ($1/e^2$)
Pulse repetition frequency	Up to 700 kHz
Return pulses	Programmable up to 15 returns, including intensity, pulse width, area under curve and skewness waveform attributes Full waveform recording option at down-sampled rates
Operation altitude [1]	300 - 2,500 m AGL
Scanner pattern	Oblique scanner, various scan patterns
Scan speed	Programmable up to 100 Hz (6,000 RPM)
Field of view	40°
Swath width	Up to 70% of flight altitude
Point density [2]	Typically 8 points per square metre at 1,000 m altitude
Ranging accuracy [2, 3, 4]	< 2 cm RMS
Vertical accuracy [2, 3, 5]	< 6 cm 1 σ
Horizontal accuracy [2, 3, 5]	< 25 cm 1 σ
Dimensions L x W x H	252 x 190 x 485 mm
Weight	12 kg

CAMERA & LIDAR CONTROLLER CC33

CC33	Controls all camera heads and LiDAR unit, includes deeply coupled GNSS/IMU solution
Weight (without MM30)	6.1 kg
Dimensions L x W x H	300 x 260 x 140 mm
Processor	64-bit WIN7, 8GB RAM, 32 GB flash, USB 2.0, SATA
Mass memory	Leica MM30 solid state drive 2,400 GB CC33 holds up to 2 MM30s
Mass memory weight	0.5 kg; removable and portable
Mass memory capacity	Joint volume 4.8 TB, > 4.5 h of data collection at max. rate

PERIPHERALS

Sensor mount	Leica PAV100 HeavyLoad gyro-stabilised mount for high-performance data acquisition
L x H x W	673 x 532 x 168 mm
Weight	38 kg
Pod lifter	Leica PodLifter HeavyLoad to lift up the entire Leica CityMapper pod for takeoff and landing, 20 kg
Operator display	Leica OC60 12.1" screen with 1024 x 768 resolution, designed for installation with Interface Stand IS40
Pilot display	Leica PD60 6.3" screen with 1024 x 768 resolution, designed for cockpit mounting

ENVIRONMENTAL

Pressure	Non-pressurised cabin up to ICAO 15,000 ft
Humidity	0% to 95% RH according ISO7137 (non-condensating)
Operating temperature	-10 °C to 40 °C
Storage temperature	-40 °C to 70 °C

ELECTRICAL

Avg. power consumption of complete system	600 W / 28 VDC
Max. peak power consumption of complete system	1,000 W / 28 VDC
Fuse on aircraft power outlet	1 x 50A

STANDARDS

RTCA DO-160G, EUROCAE-14G, USA FCC Part 15, EU Directive 2014/30/EU

Invisible laser radiation, avoid eye or skin exposure to direct or scattered radiation.
Class 4 laser product in accordance with EN/IEC 60825-1:2014.

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[1] Maximum operating altitude is achieved at ≥10% reflectivity (e.g. dry asphalt) and 100% laser output
[2] Accuracy and point density stated in the table is acquired @1,000 m AGL, 60 m/s aircraft speed
[3] The 1σ value represents the 68% confidence interval. Typically, the RMSE value is equal to 1 accuracy value
[4] Ranging accuracy here refers to the measurement accuracy of LiDAR, not including GNSS/IMU error
[5] Vertical and horizontal accuracy estimation here are made based on the integrated SPAN system and a GPS error of 5 cm

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Leica Geosystems

Leica TerrainMapper

Highest accuracy for regional mapping projects

Leading performance

With 2 MHz pulse repetition frequency and sensitive collection optics, Leica TerrainMapper increases data collection rate versus flying height, allowing you to fly larger swaths for any given point density. Achieve more efficient flight planning and even point distribution for flying heights from 300 - 5,500 m AGL with up to 35 pulses in the air and with no range gate limitations.

Fastest data delivery

As part of the Leica RealTerrain solution, TerrainMapper uses Leica HxMap to process raw data. The high-performance, multisensor workflow features the industry's fastest data throughput and allows processing of LiDAR and imaging data using an intuitive user interface with all the tools you need for calibration, colourisation, quality assurance, project reporting and product generation.

New level of accuracy

TerrainMapper reflects the continued evolution of the Leica ALS sensor series, the most trusted linear mode LiDAR in the world. The new system delivers USGS LiDAR quality Level 0 data at flying heights up to 2 km, higher than ever before. Delivering 5 cm accuracy at greater flying heights allows high collection efficiencies, even in complex and changing terrain.

Leica TerrainMapper product specifications

POD

Hosts the TerrainMapper LiDAR and optional nadir camera	
IMU	SPAN CNUS5-H, no export license required US ECCN 7A994
Height / diameter	747 mm / 408 mm
Weight	37 - 41 kg complete (depending on configuration)
Designed for installation in Leica PAV100 and optional Leica PodLifter	

LIDAR UNIT

Laser wavelength	1,064 nm
Laser divergence	0.25 mrad (1/e²)
Pulse repetition frequency	Up to 2,000 kHz (height dependent)
Return pulses	Programmable up to 15 returns, including intensity, pulse width, area under curve and skewness waveform attributes Full waveform recording option at down-sampled rates Real time waveform analysis and pulse extraction Multiple Pulses in the Air (MPiA): Up to 35 pulses simultaneously Ambiguity resolution over multiple MPiA zones
Intensity digitisation	14 bits
Operation altitude [1]	300 - 5,500 m AGL
Scanner pattern	Oblique scan with even point distribution Other options available
Scan speed	Programmable up to 150 Hz (9,000 RPM), 300 scan lines per second
Field of view	20 - 40°
Swath width	Up to 70% of flight altitude
Min. vertical separation	0.5 m
Vertical accuracy [2, 3, 4]	< 5 cm 1 σ
Horizontal accuracy [2, 3, 4]	< 13 cm 1 σ
Dimensions L x W x H	252 x 190 x 485 mm
Weight	13.5 kg

CAMERA HEAD LEICA RCD30 CH82 (OPTIONAL)

CCD size (80MP)	10,320 x 7,752 pixels
Pixel size (80MP)	5.2 um
Dynamic range of CCD	73 dB
Resolution A/D converter	14-bit
Data channel	16-bit lossless compressed
Max. frame rate	1.25 sec
Motion compensation	Mechanical, bi-directional
Spectral range	RGB and NIR (780-880 nm), co-registered
Viewing angle	Nadir
Weight (w/o lens)	3.1 kg
Height / diameter	168 mm / 128 mm
Optics	Leica NAT-D-80 mm 35.9° FOV across track, 27.4° FOV along track Leica NAG-D 50 mm 53.8° FOV across track, 41.8° FOV along track
Optics weight / height	0.5 kg / 46 mm
Shutter	Central shutter, 1/50 - 1/1000 sec, user replaceable (>200,000 frames)
Aperture 80 mm lens 50 mm lens	Automatically controlled aperture 2.8 / 4.0 / 5.6 / 8.0 4.0 / 5.6 / 8.0 / 11.0
Lens mount	Precise bayonet connection, automated electrical connection, stabilised connection mechanics

CAMERA & LIDAR CONTROLLER CC43

CC43	Controls all camera heads and LiDAR unit, includes deeply coupled GNSS/IMU solution
Weight (without MM30)	6.1 kg
Dimensions L x W x H	300 x 260 x 140 mm
Processor	64bit Win10, 16GB RAM, 64GB SSD, USB 2.0, SATA
Mass memory	Leica MM30 solid state drive 2,400 GB CC43 holds up to 2 MM30s
Mass memory weight	0.5 kg each, 2 required, removable and portable
Mass memory capacity	Joint volume 4.8 TB, >5 h of typical data collection

PERIPHERALS

Sensor mount L x H x W	Leica PAV100 gyro-stabilised mount for high-performance data acquisition, 38 kg 673 x 532 x 168 mm
Pod adapter (optional)	Available in 185 mm and 50 mm heights, allowing raising of pod up to 335 mm
Operator display	Leica OC60 12.1" screen with 1024 x 768 resolution, designed for installation with Interface Stand IS40, 5.0 kg
Pilot display	Leica PD60 6.3" screen with 1024 x 768 resolution, designed for cockpit mounting, 1.0 kg
IS40 stand	Pedestal for OC60, 5.5 kg

ENVIRONMENTAL

Pressure	Non-pressurised cabin up to ICAO 15,000 ft
Humidity	0% to 95% RH according ISO7137 (non-condensing)
Operating temperature	-10 °C to 40 °C
Storage temperature	-40 °C to 70 °C

ELECTRICAL

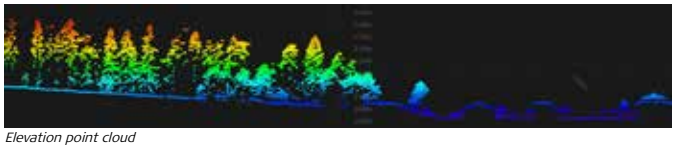
Max. power consumption of complete system	700 W / 28 VDC
Max. peak power consumption of complete system	1,000 W (<60s) / 28 VDC
Fuse on aircraft power outlet	1 x 50A

SOFTWARE

Mission planning	Leica MissionPro
Flight navigation & sensor operation	Leica FlightPro
Trajectory processing	Inertial Explorer
Point cloud/image processing	Leica HxMap

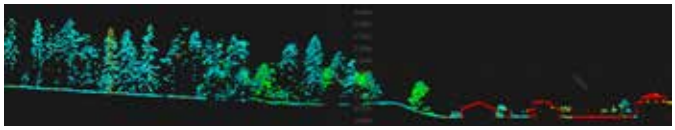
STANDARDS

RTCA DO-160G, EUROCAE-14G, USA FCC Part 15



Elevation point cloud

CIR point cloud



NDVI point cloud

[1] Maximum operating altitude is specified for 90% detection at ≥10% reflectivity (e.g. dry asphalt) and 100% laser output
[2] Accuracy and point density stated in the table is acquired @1,000 m AGL, 60 m/s aircraft speed
[3] The 1σ value represents the 68% confidence interval. Typically, the RMSE value is equal to 1 standard deviation
[4] Stated vertical and horizontal accuracies after calibration and registration using Leica HxMap workflow and with an assumed GNSS position error of 4cm

Invisible laser radiation, avoid eye or skin exposure to direct or scattered radiation.
Class 4 laser product in accordance with EN/IEC 60825-1:2014.

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Leica Geosystems

Airborne Bathymetric LiDAR Solutions

Proven productivity

PART OF HEXAGON

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Leica Geosystems

Leica Chiroptera 4X & HawkEye 4X – for high-resolution bathymetric surveys

The Leica Chiroptera 4X and HawkEye 4X is a combined airborne bathymetric and topographic multi-sensor LiDAR system providing seamless data from the seabed (bathymetry) onto land (topography). Both scanners use oblique LiDAR technology that illuminates seafloor objects from multiple angles, maximising coverage.

Finish your projects twice as fast at half the cost

With the new 4X product line, Leica Geosystems introduces an innovative high-resolution technology, increasing the point density by factor four compared to the previous versions. 4X offers an unrivalled bathymetric point density and depth penetration performance, at the same accuracy, turbid water performance and increased sensitivity, offering a productivity gain of >50% for most end user specifications.

Chiroptera 4X is equipped with one bathymetric channel for nearshore survey down to 25 metres depth and has one 500 kHz topographic channel for survey on land. Adding HawkEye 4X to the system doubles the performance with an additional bathymetric channel for water depths down to 50 m. Both systems include an 80 MP four-band (RGBN) Leica RCD30 camera.

Efficient method for coastal surveys

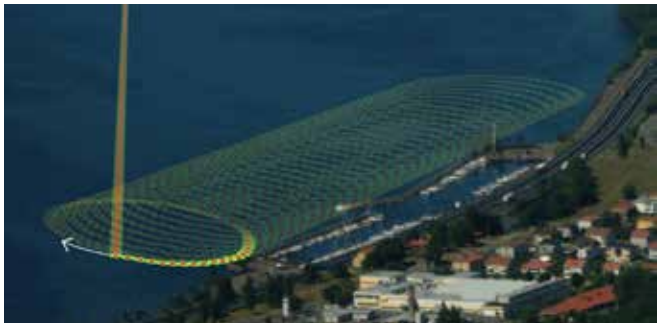
Perform topographic and hydrographic data collection at the same time. Chiroptera 4X and HawkEye 4X provide an unmatched combination of data density, object obstruction detection, accuracy and depth penetration for capturing seamless data in coastal zones and river environments. Use Leica Chiroptera 4X for nearshore and inland waters and HawkEye 4X for ultimate penetration in deeper waters.

Poor visibility? No problem.

The Chiroptera 4X and HawkEye 4X provide industry-leading ability to punch through water with less than optimal visibility. The LiDAR sensor family is field-proven in applications around the world in a variety of water conditions, including nearshore, at sea and in turbid inland waters. Ultimate performance is possible through a combination of hardware and workflow to master the challenges of poor water clarity.

Most complete & competitive workflow

Increase efficiency with an easy-to-use workflow, from mission planning and execution to data delivery in a variety of formats, including fused images, classified point clouds and RGB/CIR images. Leica LiDAR Survey Studio (LSS) incorporates all bathymetric LiDAR functions like full waveform processing, automatic refraction correction, water surface classification, 4-band LiDAR colourisation, automatic calibration, registration and quality assurance.

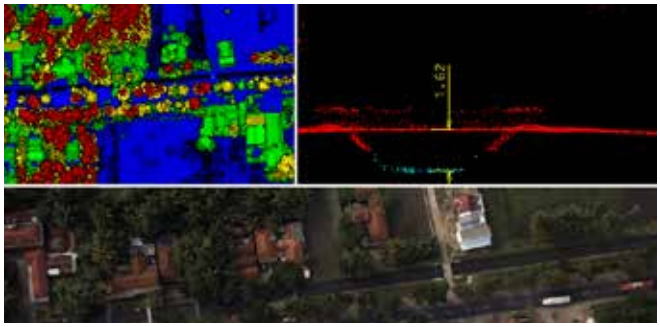


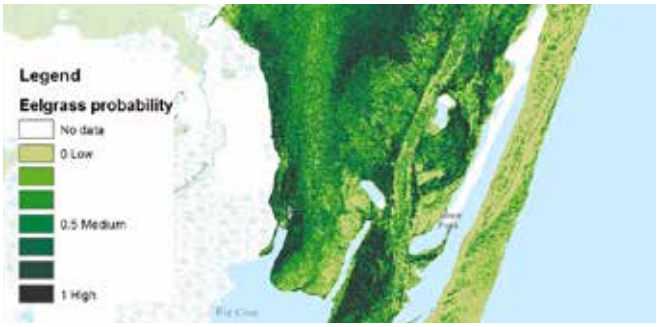
NEARSHORE CHARTING

- Charting according to S-44 standards
- Onshore, shoreline and seamless data down to the seabed
- Obstruction detection with oblique LiDAR
- Maximum depth penetration in turbid water conditions

COASTAL MONITORING

- Seabed and substrate classification
- Geology and geomorphology
- Coastal processes and erosion
- Reflectance and intensity data





RIVER SURVEYS AND INLAND WATERS

- Flood mapping and prediction
- Disaster management
- Geomorphology studies

ENVIRONMENTAL MONITORING

- Marine ecology
- Submerged vegetation and habitat mapping
- Aquaculture: area selection and monitoring
- Hydrodynamics

Cost-saving common sensor platforms

Leica Geosystems is the only provider offering imaging and LiDAR solutions based on a common sensor platform of system peripherals and software. Users can share components and common operator and pilot interfaces between systems for simple, consistent installation across all airborne sensors, providing synergies in ground handling and operator training regardless of the array of systems employed. Likewise, common mission planning makes it efficient for a small workforce to plan for a wide variety of missions, all from a familiar planning interface. This results in efficient workflow, reduced training and cost savings.

OC60 operator console and PD60 pilot display with FlightPro flight navigation and sensor control software

PAV100 gyro-stabilised mount

MissionPro mission planning software

Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems creates complete solutions for professionals across the planet. Known for premium products and innovative solution development, professionals in a diverse mix of industries, such as surveying and engineering, safety and security, building and construction, and power and plant, trust Leica Geosystems to capture, analyse and present smart geospatial data. With the highest-quality instruments, sophisticated software and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

Leica Geosystems is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technologies that drive quality and productivity improvements across geospatial and industrial enterprise applications.

Swiss Technology
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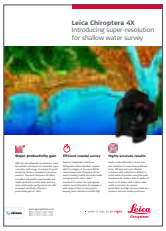
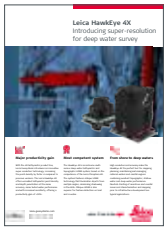


Leica Chiroptera 4X
Introducing super-resolution



Leica HawkEye 4X
Introducing super-resolution

Leica RCD30
80 MP camera multispectral RGBN imagery

Leica LiDAR Survey Studio
Turnkey workflow for bathymetric LiDAR survey

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- when it has to be **right**

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