



GEOSCOPE™ MK IV

HIGH-SPEED 3D GPR WITH HIGH-RESOLUTION AND DEEP PENETRATION

FEATURES & BENEFITS

ACHIEVING OPTIMAL RESOLUTION AT ALL DEPTHS:

Step-frequency technology enables users to achieve the best possible resolution at each investigation depth. Penetration and the highest resolution are simultaneously achieved with only ONE single antenna array. No need to deploy different antennas to adapt to different depths.



GeoScope™ Mk IV ground penetrating radar (GPR)

raises the standard for high-speed, high density three-dimensional, subsurface imaging. The Mk IV is the fourth generation GeoScope™ and further exploits the application of step-frequency technology to GPR.

GeoScope™ Mk IV enables high-density, high-speed 3D data capture with the unique combination of deep subsurface penetration coupled to high-resolution. Optimal signal bandwidth and the best possible resolution at each investigation depth result in large swaths at higher speeds with no sacrifice in imaging detail.

UNPRECEDENTED AREA SURVEY SPEED (WORK RATE):

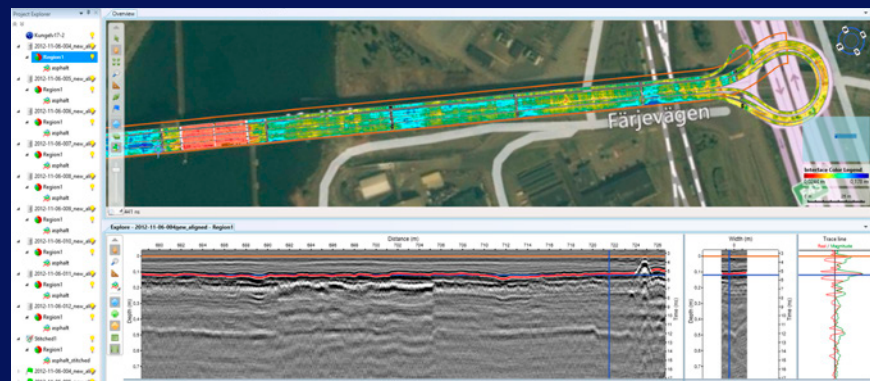
Very high scan rates and an efficient sampling method enables GeoScope™ Mk IV to provide full resolution 3D imagery with a 2.4 m antenna array at more than 80 km/h (50 mph) with a sampling grid of 7.5 by 7.5 cm. Work rates of above 20 ha/h (50 acre/h) are possible in appropriate locations.

HIGH-RESOLUTION, FULL 3D SUBSURFACE IMAGERY:

7.5 cm channel spacing in the antenna array combined with 3 GHz bandwidth ensures high-density sampling as required by utility mapping, military applications and archaeological prospection.

WIDE RANGE OF ANTENNA ARRAYS WITH UNIFORM RESPONSE ACROSS THE ELEMENTS:

The Mk IV is compatible with all DX and DXG™ Series antenna arrays ranging up to 3.3 m in width.



GEOSCOPE™ MK IV

TECHNICAL SPECIFICATIONS

ANTENNAS	Compatible with all 3D-RADAR DX and DXG antenna array models
NUMBER OF CHANNELS	User selectable up to the number of channels in the antenna array (Currently 41)
SCAN PATTERN	User definable. Includes linear scan, multi-offset and common mid-point.
FREQUENCY BANDWIDTH	2.9 GHz (100-3000 MHz)
RESOLUTION (TIME)	0.34 ns.
TIME RANGE	User selectable, up to 250 ns.
SCAN RATE	User selectable, up to 13,000 A-scans per second
OPERATING MODE	Continuous (Time Interval), Survey Wheel (Distance Interval) or External Trigger
POSITIONING	Internal GPS in antenna array (Coarse) or external GPS with NMEA 0183 protocol
USER INTERFACE	Control and display GUI running on external computer. Full 3D real-time data display.
INTERFACES	Gigabit Ethernet (Client computer), RS-232C (GPS) and Digital I/O (DMI, Trigger In and Out)
POWER SUPPLY	10.5-36 VDC, 100 Watts
SIZE	Without transport container: 483 x 337 x 89 mm (2U 19" rackmount) Within transport container: 630 x 500 x 310 mm
WEIGHT	Without transport container: 8 kg Within transport container: 20.5 kg
TEMPERATURE RANGE	Operating: 0 to 50°C Storage: -40 to +85°C
CLIENT COMPUTER	Intel i5 or i7 with 8 GBytes RAM Touch screen recommended SSD recommended to store radar data

3D-RADAR RELATED PRODUCTS

- DX™ Antenna Array Series
- DXG™ Antenna Array Series
- Examiner™ Software

APPLICATION AREAS

- **ROAD & BRIDGE INSPECTION**
 - Wide swath width and high-speed data capture minimizes lane closures.
- **RAILROAD INSPECTION**
 - Programmable to utilize unique scan patterns enabling a “look under” rails capability.
- **ARCHAEOLOGY**
 - Increased depths, multichannel antenna array support and high-resolution reduce data collection time while providing the best possible imagery.
- **UTILITY MAPPING**
 - Deeper depths and clear imagery increase the probability of locating buried infrastructure.
- **MINE / IED DETECTION**
 - The Mk IV technology is ideal for C-IED applications. High resolution and increased depth penetration, combined with an open software interface, makes Geo-Scope Mk IV a key component in IED/UXO detection systems.

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3D-RADAR AS

Kløbeveien 196 B
7037 Trondheim
Norway

Brynsveien 13
0667 Oslo
Norway

Tel: +47 72 89 32 00
Mail: sales@3d-radar.com
www.3d-radar.com