

TECHNICAL SPECIFICATIONS

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| DATA LOGGER | Panasonic CF-19 (or alternatively any Windows PC with Ethernet LAN interface). |
| RADAR ACQUISITION UNIT | IDS DAD FAST WAVE, with RIS K2 acquisition software |
| MAX NUMBER OF CHANNELS | Up to 8 |
| ANTENNA FREQUENCIES | 200 and 600 MHz |
| POSITIONING | Metric wheel and/or GPS interface |
| COLLECTION SPEED (up to 8 profiles simultaneously) | 4 m/sec in full configuration (8 channels) |
| BATTERY OPERATING TIME | > 8h |
| WEIGHT | 58 Kg full configuration |
| SIZE ON GROUND | 200 cm x 60 cm (full configuration) |
| SURVEY PATH WIDTH | Up to 8 radar scans, 52 cm each |
| WIRELESS CONNECTION | Available |
| ENVIRONMENT | IP65 |

SOFTWARE SPECIFICATIONS

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|---------------------|--|
| PROCESSING SOFTWARE | <p>GRED 3D Utilities including:</p> <ul style="list-style-type: none"> - Automatic target detection - Automatic data processing - Automatic propagation velocity estimation - 2D/3D representation - Data fusion for different frequencies and directions - Irregular volume representation - Iso-surface Map |
| OUTPUT DATA | Automatic data transfer onto CAD maps |



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Utility Mapping

RIS MF I-MOD

The only end-to-end solution for **accurate utility mapping**



Even better performance, even better productivity

RIS MF Hi-Mod represents the latest evolution of the utility mapping array radar system first introduced by IDS more than 10 years ago.



IDS: The leader in multi-frequency
and multi-channel Ground Penetrating Radar

G0201S14



I-MOD



AN "INDUSTRIAL" SOLUTION

The RIS MF Hi-Mod provides an end-to-end "industrial" hardware and software answer to utility mapping:

- Consolidated complete procedure from field acquisition to the output (maps on CAD or GIS) ensures high productivity
- The best performance in terms of utility detection and location
- Automated tools for providing meaningful and unambiguous results
- A mechanical structure for all urban environments and all terrains, even suitable for archaeological mapping.

FEATURES

RIS MF HI-MOD offers the highest detection performance thanks to the following features.

SOFTWARE

- Automatic target recognition: automatic tools help the operator locate pipes and cables
- 2D and 3D tomography: optimized tomography for an immediate visualization of pipes and cables
- Multifrequency data fusion: automatic fusion of data from the 200 and 600 MHz antennas
- Automatic transfer to CAD/GIS: localized pipes and cables automatically transferred to CAD or GIS maps.

HARDWARE

- FastWave: the fastest digital radar control unit on the market, providing a high stacking factor and hence superior penetration depth
- Chain architecture: antennas are added to the system in a "chain" connection in "plug and play" mode
- Multifrequency: each antenna houses 200 and 600 MHz frequencies for better penetration and resolution
- Modular design: can be reconfigured in the field (no tools required) for use with from 1 to 4 antennas
- Robust: robust while light mechanical structure for intensive use
- All terrain: the trolley has been designed for both asphalt and rough terrain.

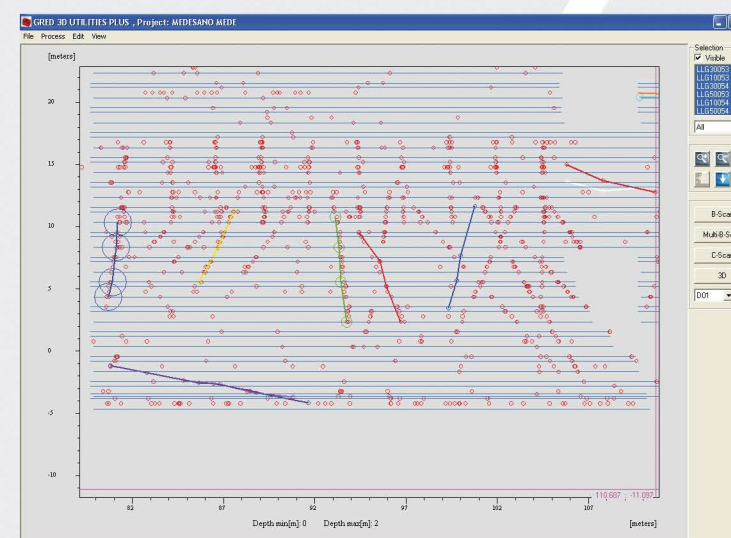
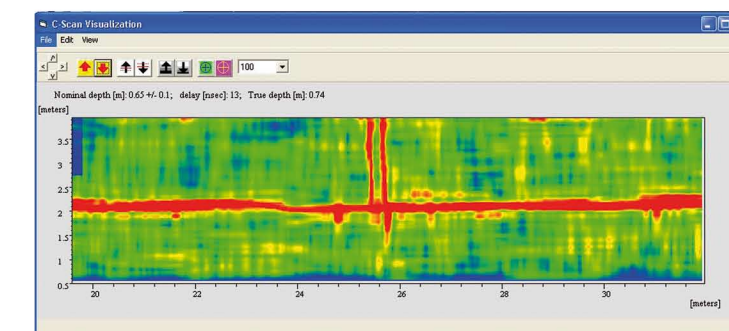
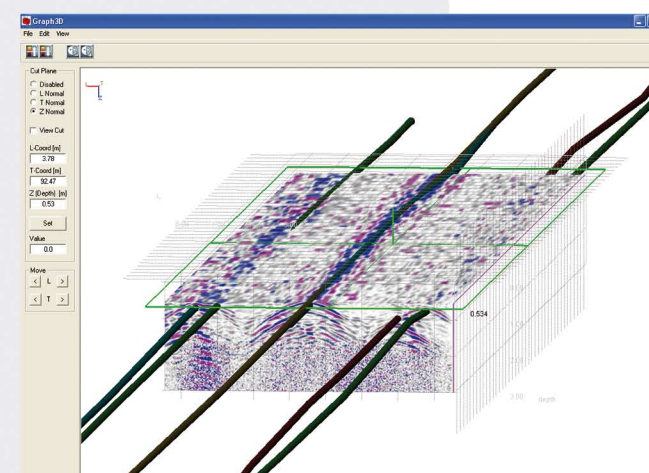


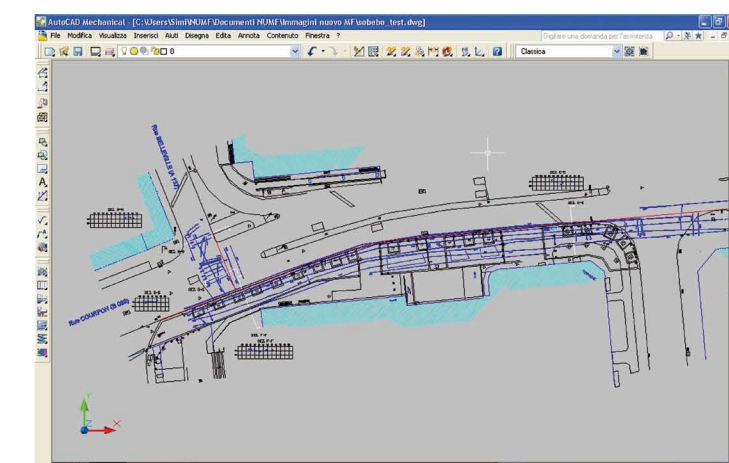
Image showing automatic target detection (red points) where aligned points identify pipes



Tomographic map showing main pipes and junctions

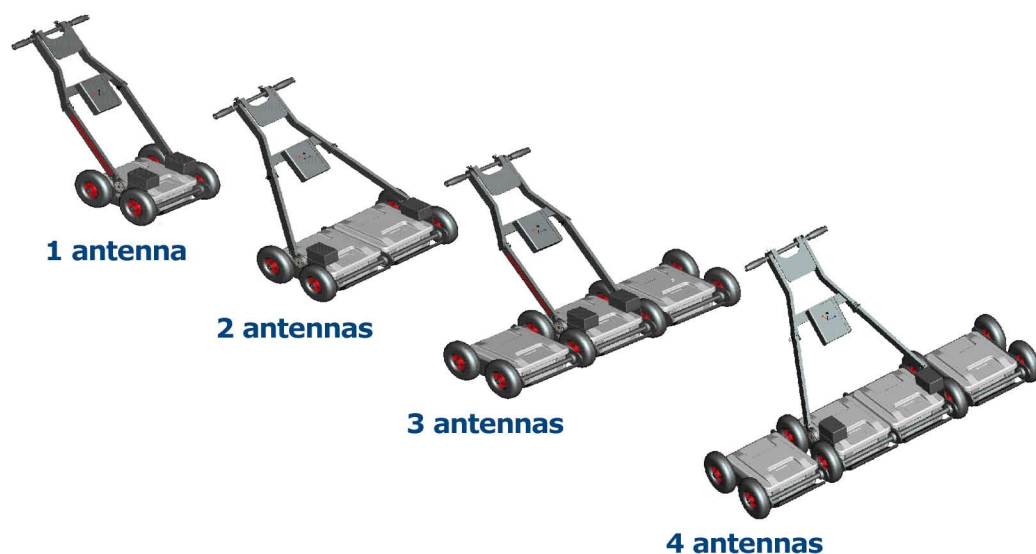


3D view with detected pipes



Identified pipes are automatically transferred to CAD drawings

MODULAR COMPOSITION: easily reassembled



BENEFITS

- Automatic detection tools for high productivity
- High penetration depth
- Highly modular array structure adapts to use in both narrow passages and open spaces
- Easily mounted and reconfigurable in the field
- Can be used on all terrains: asphalt, grass and rough terrains.

