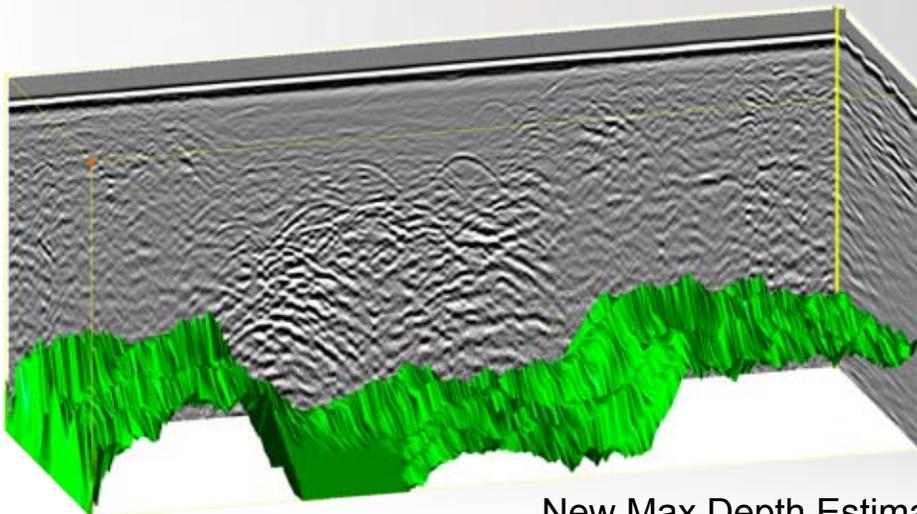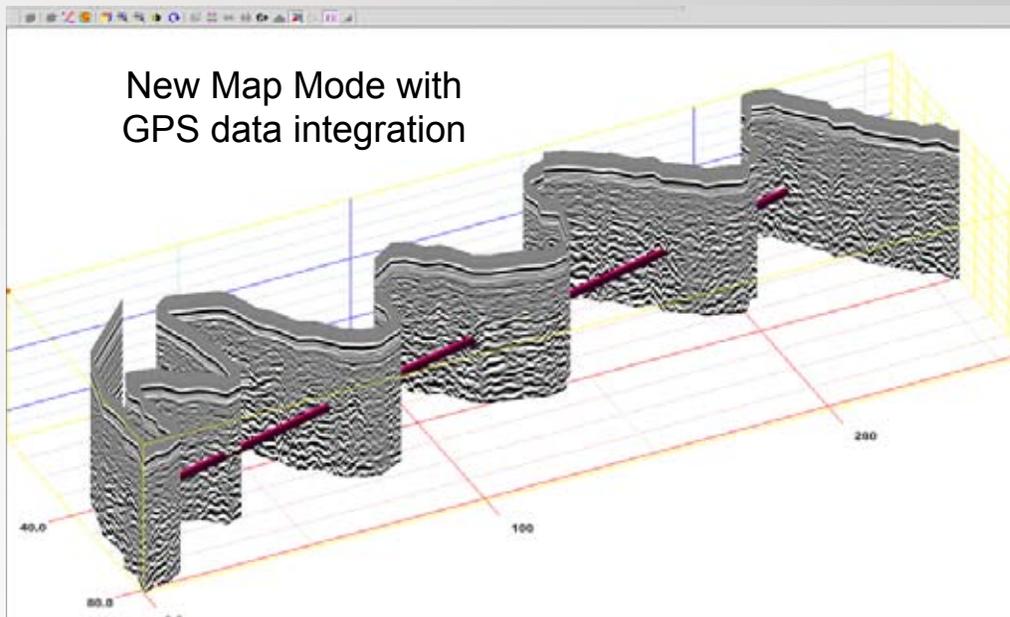# RADAN 6.5

The Difference is the Data

**The world's most advanced
and easy-to-use Ground Penetrating Radar
data processing and analysis package**

New Map Mode with
GPS data integration

New Max Depth Estimator

GSSI

**The World Leader in
Subsurface Imaging™**

Geophysical Survey Systems, Inc.
www.StructureScan.com

GSSI continues its industry leadership by advancing their state-of-the-art RADAN GPR software. *New features include:*

GPS Integration
Collect and integrate GPS data with the corresponding radar (.dzt) file. GPS data is stored in convenient MicroSoft Access format.

Max Depth Estimator
Automatically estimate maximum depth capability.

Marker Database
Edit and apply user-defined names to markers in MicroSoft Access database format.

MAP Mode
New mode allows 2D files collected with GPS data to be viewed in 3D. See the actual spatial view of collected data.

Help Feature
Familiar Windows-style on-screen context sensitive help available.

Enhanced and Simplified 3D Viewing
QuickDraw module provides improved 3D viewing options in a single dialog box. Animation from any slice with any other slice. Z width control always available. Stretch, shrink and zoom as desired. Fit a large file into a single view or zoom in on any section.
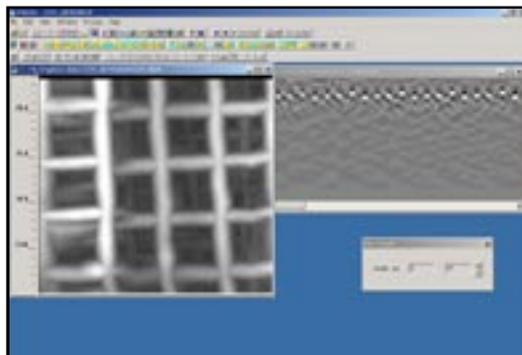
StructureScan Optical Data Processing
Process data collected with GSSI's new StructureScan Optical system that utilizes bar code identification for the industry's most simplified data collection.

Structure Identification Module

The Structure Identification module is the heart of GSSI's StructureScan systems. This powerful tool allows for easy creation of planview slices to aid in interpretation of StructureScan data files.

The versatility of this module allows for a broad range of civil/structural applications, including structures with different types of reinforcement. It can also be used to automatically find point targets, such as utility crossings or archaeological features with lower frequency antennas.
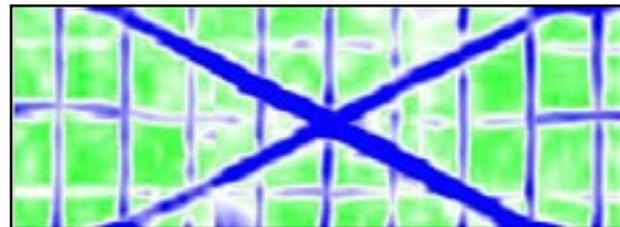
- ◆ Semi-automatic mapping of rebar locations and depths on simple concrete structures
- ◆ Interactive location mapping of conduits within concrete structures
- ◆ Semi-automatic mapping of deterioration zones within concrete structures
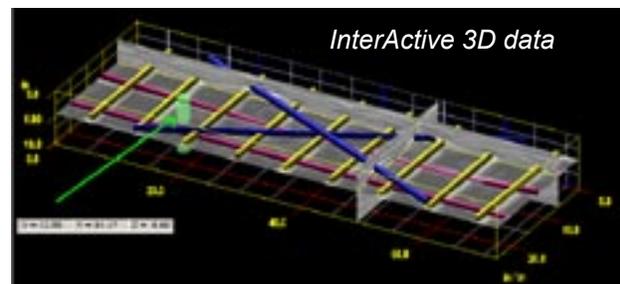

Before concrete pour

StructureScan data

InterActive 3D data

Planview slice showing two overlapping wire mesh sections.

3D QuickDraw Module

This add-on module features 3-D presentations of data with simple manipulations of the entire data "cube" so that it can be "sliced and diced" along various x-y, y-z, or x-z planes.

This module also uses some of the variable velocity migration capabilities that are featured in the RADAN main program to appropriately "size" point targets that appear like hyperbolic shapes in the raw data.

By first performing a migration operation, the final 3-D data set is now ready for linear feature recognition--a capability that enables the module to assist in identification and display of linear features such as walls or utilities that may be embedded in the earth.
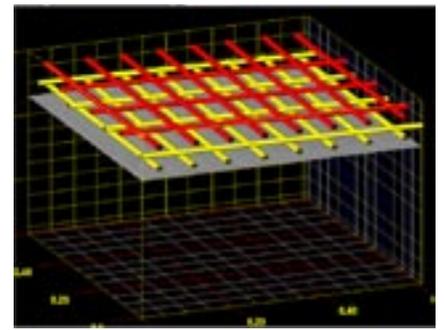

3D display of two layers of rebar mat

- ◆ *New Map Mode -* Projects slices into 3D space. Lets you view data as collected using GPS coordinates for spatial orientation.

- ◆ Ability to create multi-segmented "pipes"

- ◆ Remap color transform, contrast and gain in real time

- ◆ Improved and simplified 3D controls

- ◆ *Movie Mode -* Easy control of movie mode in X, Y or Z direction. Automatically "slice" through your data for easy target identification

- ◆ View any 2D file in 3D. Stretch, shrink or zoom to fit in view.

- ◆ *Simulated Borehole tool*
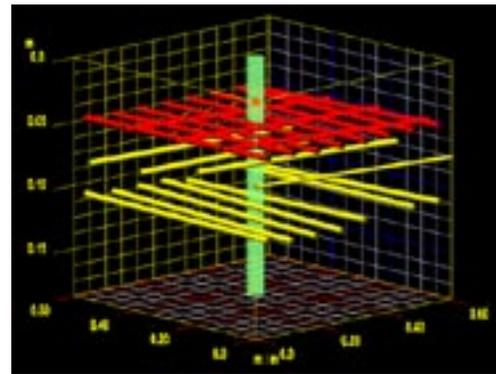
Two layers of rebar mat with GSSI's exclusive Simulated Borehole tool

InterActive 3D Module

The cornerstone of this module is its ability to show multiple, *interactive* views of 2D and 3D data simultaneously. This provides the user with unparalleled data interpretation capabilities.
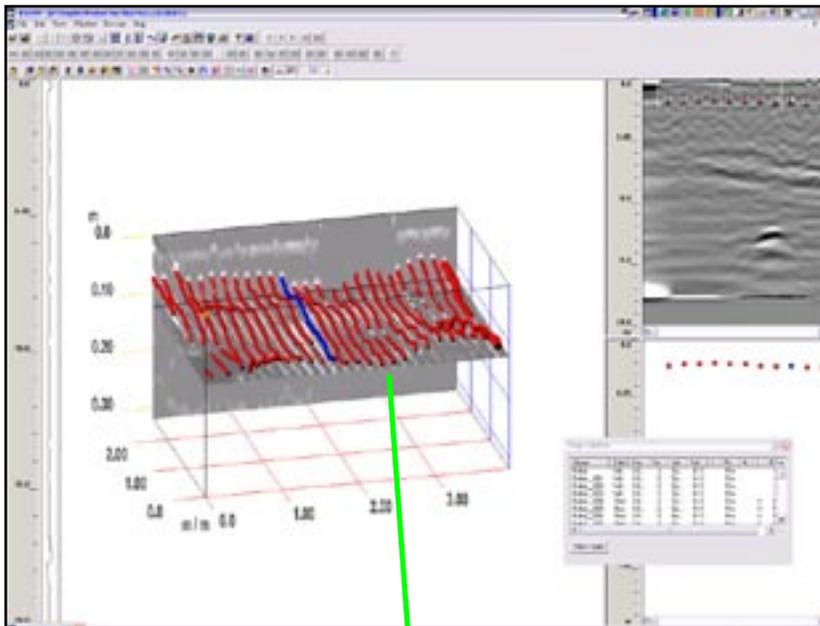
Note the "dipping" in the wire mesh mat.

- ◆ Multiple interactive views of pipes and other targets picked by the user

- ◆ Automatic Target and Pipe Recognition. Results generated quickly and automatically into the Interactive-3D window

- ◆ Edit targets or pipes (size, color, material)

- ◆ Link and unlink picks to form pipes and targets

- ◆ Ability to add and delete pipes and targets

Road Structure Assessment Module

For use with horn (air-launched) antennas. This module uses a signal calibration technique (where a metal plate reflection amplitude is compared, scan by scan, to raw data obtained from pavement analysis surveys) that measures significant layer interface amplitudes from the pavement data and calculates the propagation velocity of the GPR signal through the pavement layer media.

GSSI 1 GHz (Model 4108) horn antenna for high-speed road surveys.

This is significant because it allows pavement thickness, base thickness and other pavement structure properties to be calculated without ground-truth (core) data.

This software module includes automatic and interactive layer interpretation, automatic and interactive pavement thickness (but user CAN specify core data, if desired), and provides output of signal and position information to an ASCII database for roadway condition assessment.
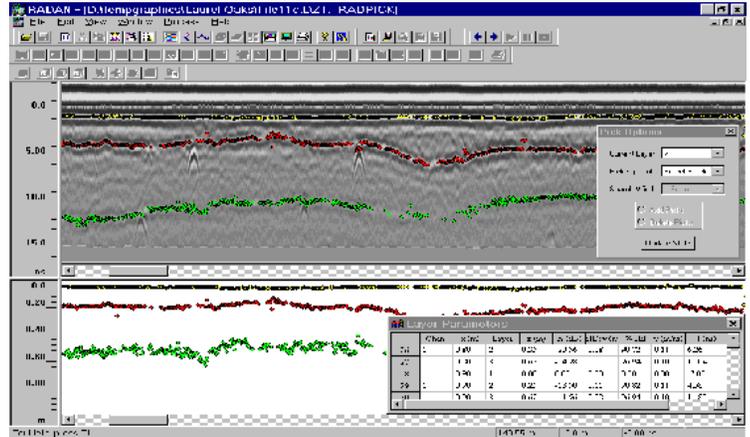
Bridge Assessment Module

Interactive pavement evaluation software showing layer thickness information.

Bridge deck survey conducted with 1.6 GHz (Model 5100) antenna.

Capable of identifying rebar and calculating concrete cover over rebar on new deck structures; performs deterioration-mapping using GSSI's patented data analysis method and is designed so that post-processing and analysis are streamlined specifically for bridge deck data. Perfect software for large bridge deck structures with typical two-layer orthogonal grid reinforcement patterns.
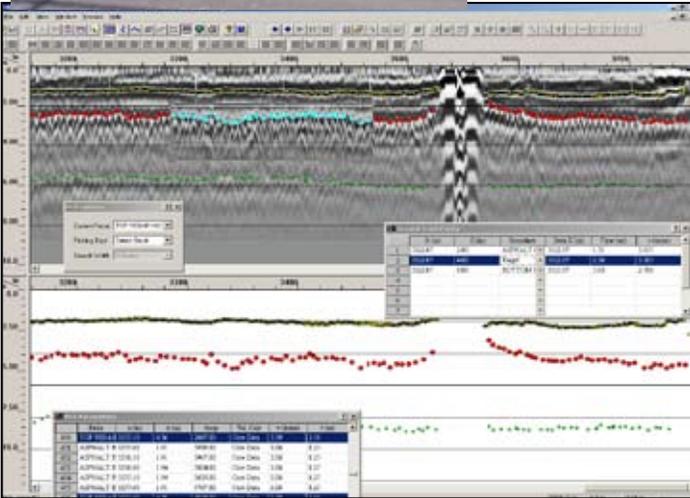
Data shows individual rebar and good and bad sections of deck separated by an expansion joint.

Minimum System Requirements for RADAN 6.5

- A Pentium 4 or better processor
  (1 GHz or greater recommended)

- USB Port required for hardware security key

- Microsoft Windows 2000 Professional or XP Professional

- 256 MB RAM minimum
  (512 MB or greater recommended)

- SVGA or better monitor with a 32 MB video card running in at least 16-bit color mode that supports Open GL and has up-to-date video drivers.

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