

CIVIL
ENGINEERING

RIS Hi-BrigHT

The only specific radar solution for **bridge deck surveying**



Detect early phase deterioration and current damage to concrete bridge decks with the RIS Hi-BrigHT array system

TECHNICAL SPECIFICATIONS

Data Logger	Panasonic CF-19 (or alternatively any user's Windows PC with Ethernet LAN interface)
Radar control group	2 synchronised IDS DAD FastWave units
Number of channels	16
Antenna central frequency	2 GHz
Antenna polarizations	8 VV antennas + 8 HH antennas
Collection speed	100 scans/m at fast walking speed
Positioning	Metric wheel and/or GPS interface
Battery operating time	4 h
Weight	50 Kg
Size on ground	98cm x 42cm
Survey path width	80 cm
Environment	IP65
Acquisition Software	IDS K2 Stream
Post-processing Software	Road Doctor - Bridge Module by Roadscanners



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APPLICATIONS

- Measure pavement and concrete slab thickness
- Detect moisture damage
- Locate deck slab and protective concrete damage
- Map drainage and other buried pipes
- Determine reinforcement cover depth

BENEFITS

Allows pre-emptive maintenance of bridges:

- Major savings in rehabilitation
- More accurate planning
- Cuts down extraordinary maintenance

RIS Hi-BrigHT introduces a new approach in radar surveys, bringing the following benefits:

- Reduces survey times by a factor of 10 or more
- Limits traffic interruptions
- Easier data collection
- Better resolution of defects (3D Tomography)
- Dedicated SW tool simplifies interpretation (Bridge Doctor Module by Roadscanners)
- Lightweight and compact design



FEATURES

- High Bandwidth: 2 GHz antennas with wide bandwidth for the best resolution of defects
- 16 antenna array: a unique design based on the array of 16 antennas permitting 3D Tomography and saving acquisition time
- Double polarisation: 8 antennas in VV polarisation + 8 antennas in HH polarisation detect longitudinal and transversal targets (e.g. rebars, pipes) in a single scan and provide more detailed information on defects
- High manoeuvrability: compact and lightweight design for fast and easy data collection

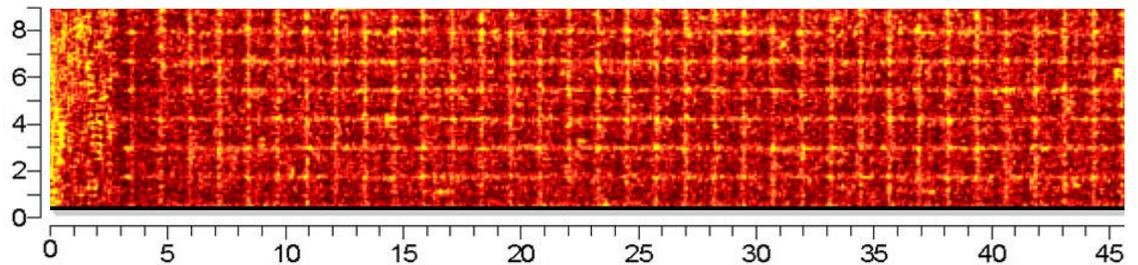
ROAD DOCTOR BRIDGE MODULE BY ROADSCANNERS

RIS Hi-Bright uses the new Bridge Module from the well known RoadDoctor software by Roadscanners this is a processing and interpretation tool dedicated to bridge analysis, featuring:

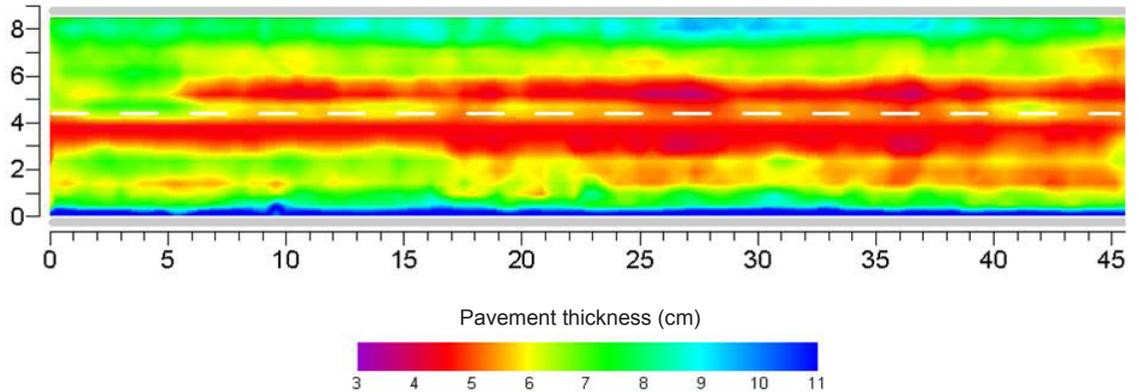


- 3D tomographic views
- Map of pavement and concrete thicknesses
- Maps of moisture anomalies at different depths in bridge deck
- Maps of deteriorated areas in concrete bridge deck
- Map and depth of reinforcement bars

Tomographic view of the reinforced cover.



Map of pavement thickness.



Identification of moisture zones. Blue spots locate moisture in concrete.

