romdas

Providers of Innovative Technology for Measuring and Managing

ROMDAS

Bump Integrator

romdas

Manufactured by Data Collection Ltd

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ROMDAS System Overview

ROMDAS® (**RO**ad **M**easurement **D**ata **A**cquisition **S**ystem) has been developed by Data Collection Limited (DCL) as a comprehensive, cost effective and modular system for collecting asset and pavement information. Implemented in over 60 countries, it's flexible design allows for installation on locally sourced vehicles and meets widely accepted international standards.

Depending on your needs, a ROMDAS system can be easily customized with a variety of add-on modules to suit the specifications and budget of any project.

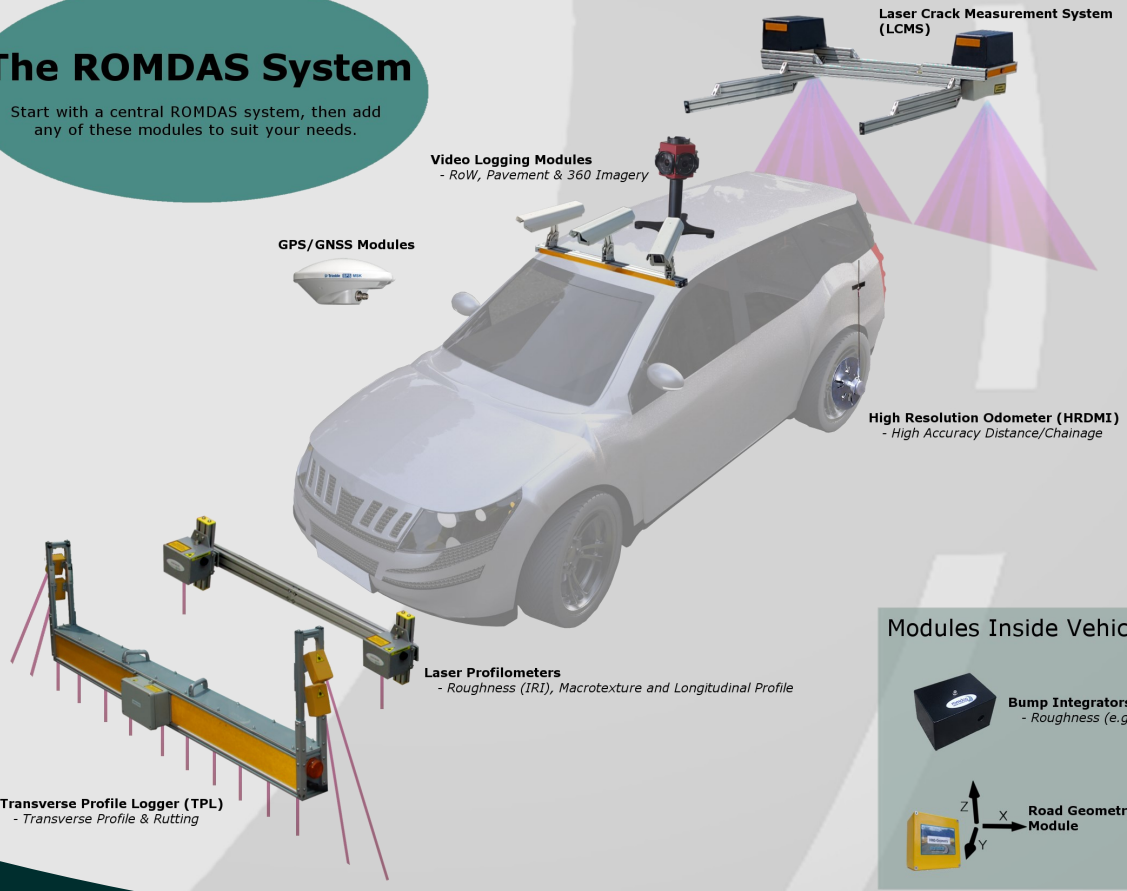
Whether a private consultant, government department or research institution, ROMDAS offers great reliability, flexibility and ease of use for anyone who needs to quickly and accurately collect asset data.

ROMDAS CAN BE USED FOR...

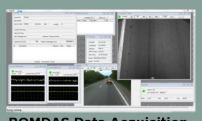
- ✓ High-speed network level or project specific road surveying
- ✓ Road roughness surveys
- ✓ Transverse profile/rutting surveys
- ✓ Macro-texture (MPD)
- ✓ Visual condition, environment or event rating
- ✓ Automatic crack and surface defect inspections
- ✓ Location referencing (spatial GPS/GNSS data or linear LRP data)
- ✓ GIS mapping of condition data and road alignment
- ✓ Video logging surveys (right of way, 360 and pavement view)
- ✓ Mobile mapping of roadside assets & inventory
- ✓ Road geometry surveying
- ✓ Travel time and congestion surveys
- ✓ iRAP road safety surveys

The ROMDAS System

Start with a central ROMDAS system, then add any of these modules to suit your needs.



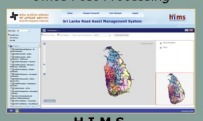
Software Solutions



ROMDAS Data Acquisition
In Vehicle

DataView
Office Post-Processing

Mobile Mapping
Office Post-Processing



H.I.M.S
Asset Management

Modules Inside Vehicle

Bump Integrators
- *Roughness (e.g. IRI)*

Event Rating Keyboards

Road Geometry Module

Survey Computers

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ROMDAS Module:

Bump Integrator

SPECIAL POINTS OF INTEREST:

- Collect pavement roughness calibrated to any international index (e.g. IRI or RN)
- Unaffected by wet, unpaved or very rough surfaces
- Wide operating speed (10-100km/h),
- High resolution, high reliability optical encoder
- Very cost-effective compared to market alternatives
- Simple design allows for quick and easy installation and full serviceability in the field
- Little-to-no operator input required during surveys
- User defined roughness intervals

The ROMDAS Bump Integrator (BI) is used to perform road roughness surveys at normal traffic speeds. It is a World Bank Class 3 roughness device and has been proven effective in some of the toughest conditions around the world. The BI module offers great value through a combination of its robustness and low purchase price.

The raw roughness data from the Bump Integrator can be recorded directly on to a notebook computer when connected to a ROMDAS System or on to a Pocket PC as part of the miniROMDAS System. A well calibrated BI will easily rival or exceed the accuracy of other Class 3 roughness profilers, including accelerometer based equipment.

The Bump Integrator also excels in rough, unpaved or wet conditions where laser based profiling equipment is unusable. Thanks to its low minimum speed (10km/h), it can also be used in areas of high congestion where accelerometer based devices may struggle.

A ROMDAS System with a Bump Integrator requires little-to-no operator interaction while surveying, and all readings are shown in real-time.

APPLICATIONS:

- Small or large scale roughness surveys,
- Collecting roughness data on unpaved, wet or rough roads,
- Feasibility studies,
- Research projects,
- Collecting roughness data for developing maintenance and forward works programs.

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ROMDAS Module:

Bump Integrator

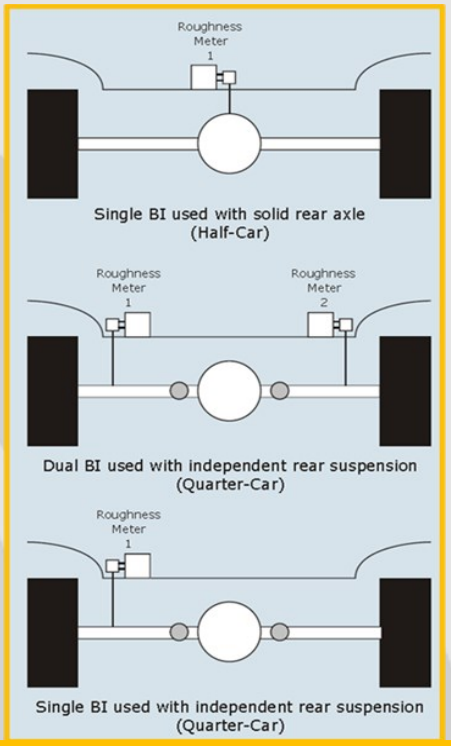
INSTALLATION AND OPERATIONAL PRINCIPLE

The Bump Integrator is installed above the rear suspension. Mounted on the floor of the vehicle, a cable is then connected to the axle for measuring the vertical 'bounce' as the vehicle travels along the road. The movement of the vehicle is logged over user defined sampling intervals. It is then automatically converted into accurate IRI, RN or other roughness indexes using coefficients calculated during the calibration process.

The unit is extremely portable and installation can be performed within a few hours.

Depending on the type of vehicle, there are three possible configurations for installing the BI in a vehicle to output either half or quarter car IRI.

If using a vehicle with independent rear suspension then a dual BI configuration is recommended.



COMPONENTS

The Bump Integrator kit comes complete with the following components:

- 1 x Bump Integrator
- 4 x mounting bolts
- 1 x Power and communication cable
- 1 x BI axel bracket
- 1 x BI wire (spare)
- 1 x BI spring (spare)

Specifications

Applicable standards:	**World Bank Class 3, ASTM E1448, ASTM E1082**
Encoder resolution:	**850 pulse per revolution**
Vertical resolution:	**1 pulse per 0.25 mm of suspension up movement**
Unit weight:	**2.5kgs**
BI wire breaking strain:	**95 kg**

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