

Dynamatic Aerospace®

A Division of Dynamatic Technologies Limited

Dynamatic Homeland Security™

A Division of Dynamatic Technologies Limited

Dynamatic® Hydraulics

A Division of Dynamatic Technologies Limited

Dynamatic Limited, UK

A Dynamatic Technologies Company

Dynametal®

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JKM Automotive™

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JKM Global Pte Limited, Singapore

A Dynamatic Technologies Company

JKM Research Farm Limited

A Dynamatic Technologies Company

Oldland Aerospace Limited, UK

A Dynamatic Technologies Company

Powermetric® Design

A Division of Dynamatic Technologies Limited

Over the years, Dynamatic® Divisions and Subsidiaries have forged deep and lasting relationships with all their stakeholders, which have enabled them to grow continuously. These relationships are based on mutual trust and respect, and upon their collective capabilities in delivering complex technological solutions, at economically viable price levels.

We are geared towards providing innovative and creative solutions to our customers on a continuous basis. Every business process is built around the customer. We firmly believe that our success is merely a reflection of our ability to delight our customers.

Dynamatic®

**RAKSHAK**

**Securing  
The Nation's Borders**



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**DYNAMATIC HOMELAND SECURITY™**



By partnering potential customers like India's National Defence Forces, Homeland Security Forces, Police and Civilian Agencies, Dynamatic® enables agencies in the government and private sectors enhance their abilities to prepare and plan for emergencies as well as their response and recovery skills.

Dynamatic® Homeland Security, a division of Dynamatic Technologies, offers cutting edge security products and technologies which will enhance the Nation's capabilities in countering modern day security threats.

By partnering potential customers like India's National Defence Forces, Homeland Security Forces, Police and Civilian Agencies in developing security solutions relating to Access Control, Visual-Intelligence, Counter Terror Mechanisms, Specialised Communications, Armour, Bomb-disposal, Command Centers, and training, Dynamatic® enables agencies in the government and private sectors enhance their abilities to prepare and plan for emergencies as well as their response and recovery skills.

## Monitoring & Surveillance Systems

Dynamatic Homeland Security™ designs, develops and custom-builds sophisticated monitoring & surveillance solutions for mobile and stationary applications, which are capable of monitoring infiltration and gathering real-time visual intelligence in cities as well as in remote and hostile environments.

These special monitoring and surveillance systems which can combine Special Multi Sensory Heads, Day Light and Infra Red Cameras and Powerful Radar Systems with the necessary customized software, offer a highly effective integrated day/night observation platform that delivers performance under the most exacting conditions.

The important areas of application include:

- Border Security
- Homeland Security
- Military Applications
- Coast Lines, Harbours, Ports
- Airports
- Surveillance of Critical Infrastructure like Oil Refineries and Nuclear Power Plants
- National Resources Conservation like Forests
- High Traffic Areas within Cities
- Public Gatherings

## Dynamatic®: A Partner of Choice

Dynamatic Technologies designs and builds highly engineered products for Automotive, Aeronautic, Hydraulic and Security applications and enjoys a leadership position as the partner of choice to the Ministry of Defence and other leading defence agencies in India.

Dynamatic® has been a pioneer in the development of precision engineering components, assemblies and systems for India's Defence Industry, and, has received numerous awards in recognition of its efforts.

Apart from Tactical Unmanned Aerial Vehicles and Systems, Dynamatic® also develops and builds Mobile Surveillance Vehicles capable of monitoring infiltration on the Country's borders, as well as providing real-time visual intelligence within cities.

The Dynamatic® Rakshak is a unique Mobile Surveillance Vehicle (MSV) developed for India's Security Forces, which is capable of monitoring infiltration on the Country's borders, as well as providing real-time Visual Intelligence within Cities. The Rakshak is a 4-wheel drive vehicle specially built for deployment on any kind of terrain, and, is equipped with a sophisticated surveillance system including Day Light Camera, Infra Red Camera and Laser Range Finder, capable of detecting, scanning and recording in day-night conditions. Its ergonomically designed interiors provide the operating team with comfort in addition to safety.



## Technical Specifications

### Optronics

Thermal Imager (Infra Red Camera): 640x480 pixel, Sensitivity 20 mk, Automatic Gain Control, Initialisation Time: < 5 mins, Standby To Ready Mode: <1 min, Digital Detail Enhancement  
*Detection Range Human Target: 10 km*  
*Recognition Range: 5 km*

### Day Light Camera with CCD Device & Laser Range Finder

Laser Range Finder: Eye Safe, Safety Class -I, Accuracy: ± 5m, Range: 80 m – 21 km  
 Day Light CCD Camera with Motorized Zoom Lens:  
 High Resolution,  
 Optical Zoom 26x  
 Digital zoom 12x,  
 Approx. 800,000 Pixels



### Stabilised Pan/Tilt Head

New Generation, Servo Controlled, 2 Axes, High Precision  
 Pan /Tilt Stabilized by Optical Gyros

### Digital Magnetic Compass

This feature helps in Auto Northing. The position of the selected target is shown according to user-defined co-ordinates, either as Latitude/ Longitude or Indian Grid Reference System, through WASS enabled software.

### Electro-Pneumatic Mast

Telescopic Construction  
 Extended Height: 5.5 mtrs Above Ground Level  
 Operational Stability for Wind Speed of 80 kph  
 Payload Capacity: 60 kgs

### Tripod Mounting

The surveillance payload is deployable on a tripod up to 100 metres away from the vehicle.



### Global Positioning System

WASS Enabled GPS Data Module  
 Acquire, Monitor and Transmit GPS Data  
 Low Power Consumption  
 Real Time Clock  
 Additional Tri-Band GSM/GPRS Module  
 GSM/GPS Combo Antenna

### Display & Video Monitors

- The System has two 17" displays – one for the PC Control Unit and the other, for the Video Recorder DVR. The Software RSM.NET for the Pan/Tilt Head and Sensors is controlled by the mouse or keyboard while the Electro-Optic Head is controlled by mouse or Joystick.
- Moving with handle left/right side – Pan/Tilt Head is moving in pan direct (clockwise or anti-clockwise)
- Moving with handle apart/on- Pan/Tilt Head is moving in tilt direct (up/down)
- Rotating with handle – this operation is driving zoom of camera (narrow/wide), which camera will be controlled is up to operator
- Pushing the button – distance measuring of targets with LRF
- Control computer and DVR unit have 17" displays with these parameters:
  - Type – 17" Matrix TFT LCD panel
  - Contrast ratio – 500:1

### DVR Unit

System is provided for recording of videos and pictures by DVR recorder PDR-S2004D

with following technical description: DVR unit is able to display both cameras (night & day) on the same screen simultaneously during Surveillance as well as Scanning mode.

### Software Functional Features

- Scan Mode (Selection of Interest Points)
- Panorama Mode (Selection of Interest Points)
- Alarm Mode (Acoustic and/or Visual)
- Digital and Software Stabilization of Image
- Creation of Photographs and Video Recording including states of Alarm
- Auto Tracking of Selected Target
- Auto/Manual Focus
- Optical & Digital ZOOM
- Automatic Gain Control & White Balance.

### Compatibility with Military and Environmental Standards

The MSV is designed to perform in extreme climatic conditions, including a temperature range of -20 to +50°C and Relative Humidity of up to 95%. Other features include:

- The Display Unit Conforms to MIL Standards
- Power Supply - Silent DG set 7.5 KVA with Back Up UPS for up to 2 hours
- Fully Air-Conditioned to maintain a minimum cabin temperature of 15 Degree Centigrade
- In-Built Heater

