

# Long Range Surveillance System (LRSE)

## INTRODUCTION

Long Range Surveillance Equipment has been developed to meet the surveillance requirement of unattended/ remote sites during the day-time. It has been realized in two entities, observation post & control station. The observation post consists of payload i.e. day camera mounted on pan-tilt unit, digital interface unit, high density battery bank, solar panel for charging the battery bank & wireless trans-receiver. Control unit is kept at control station, which is 15-20 Km apart from the observation post. The control unit provides the payload control and receives the video data through the trans-receiver kept at control station. It is equipped with advance image processing functions such as image enhancement, motion detection etc. IRDE has designed and developed LRSE for High Altitude Remote Border Area.

### SPECIFICATIONS

#### **Range Performance**

(Detection Range)

**Day Camera:** 12 Km (Light Vehicle); 10 Km (Gp of Person)

#### **Data & Video Transmission capability**

Up to 20 Km over Optical Fiber transmission Cable and  
Wireless (LOS)

#### **Environmental**

Storage Temperature: - 40° to +55° C

Operating Temperature: - 30°C to + 55°C Applicable JSS  
5855-11:2009 (in conjunction with JSS 55555)

### FEATURES

**Image Processing modules:** Image Enhancement, Video Mosaicing, Automatic  
change detection with audio alarm

**On-Site recording** 14 days

## TECHNOLOGIES INVOLVED

The development of LRSE involves the development of following technologies –

- Development of Long Range day camera
- Development of change detection unit with HMI such as image enhancement for improved detection & recognition, video mosaicing (Panoramic view), automatic change detection
- Renewable power source
- Development of control unit for monitoring station

*All the above technologies were successfully developed at IRDE (DRDO) Dehradun.*

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