

# CIRP/TR1000/4000 series TI Presentation

**Active Infrared CCTV that can see 2600 ft (800m) day and night.**

**CSI-IR LED Illuminators** 

**Active Infrared CCTV Night Vision Surveillance Systems**

**CSI Vandal-Proof IR Dome Camera** 

**CIRP Night Vision**  
Range 2600 ft (800m) 

**Thermal Surveillance Systems**

**Thermal Ranger 2000**  
Range 11,800 ft (3.6 km) 

**CANTRONIC**  
SYSTEMS INC.

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**EMPOWERING  
HUMAN  
NIGHT VISION**



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# Overview

- **Who**-We are manufacturing and integrating thermal imaging systems as one of the world leader in Canada, more information
- <http://www.cantronic.com>
- **What**-We offer the first class product in thermal imaging technology with auto-tracking system
- **Why**-Security is the first in a safety society
- **Where**-Borders, coast, marine area
- **When**-24/7 a week, all weather conditions
- **How**- Security surveillance in Advance by using TI system associated with an existing Radar Security System (RSS) ,

Manufacturer for both uncooled and cooled thermal cameras, as well as active infrared camera

- **Worldwide leader** in night vision technology for demanding security surveillance applications.



- **New Generation QWIP sensor's supplier**
- With more than 15 years experience and proven track record

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# Company's milestone

**1992** Start in private

**1997** Enter Chinese market, IA113, IA116 cooled thermal cameras

**2000** First IR820 thermal camera

**2001** First IR860 thermal camera, acquire AIRT company

**2002** CSI-IR series, CIRP system, Thermal Ranger 2000 series (US Navy, Russia, Nuclear Plant Project,)

**2003** FSM3000, C201-6, C202-6 gas analyzer (SARS emergency Case in the world wide)

**2004** 3-in-1 Day/night camera, C202-6 gas analyzer

**2005** Become a public company listed in TSX Stock market, IR970, IR916 thermal cameras, C205-6

**2006** FSM1000, TR1000, TR3000 release to public, TR4000, TR5000, TR6000 series are developing

Acquire QWIP Technology in USA, QWIP technology is NASA licensed thermal technology,



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# Business Scope

- Manufacturing
- Integrating
- Customer Design Solution
- Marketing
- Training Service
- Military Project
- Process/online monitoring
- Security Surveillance
- Predictive & Preventive Maintenance
- Medical Imaging

# Business Experience and Capability

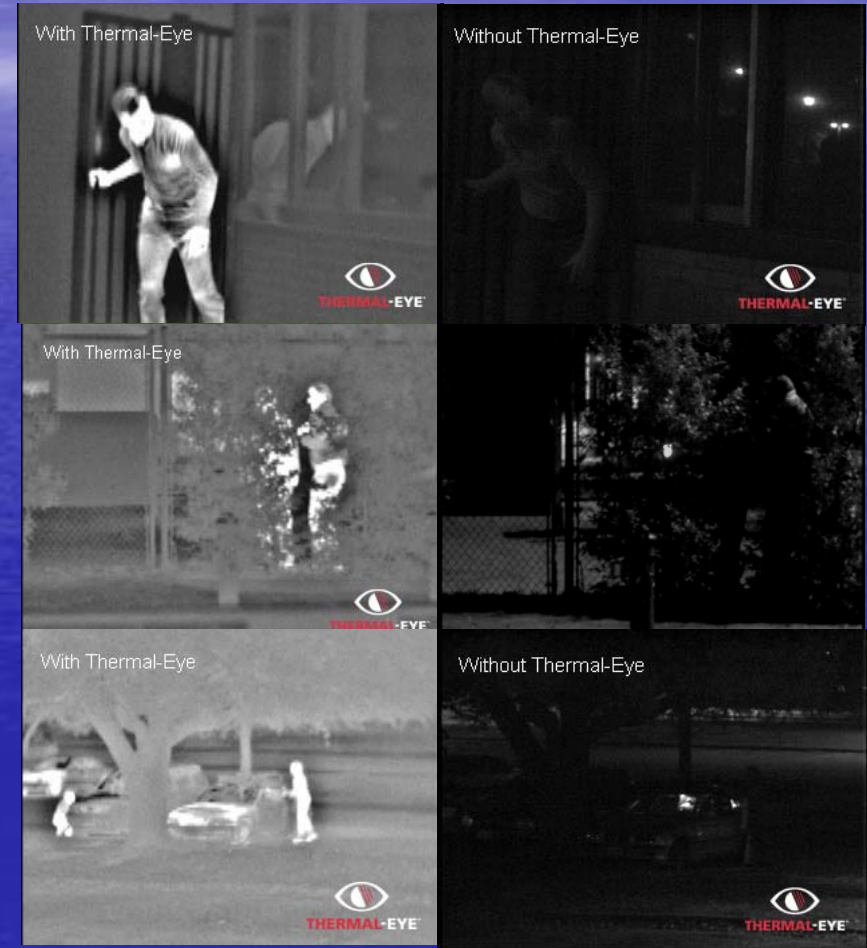
- More than 15 years industrial expertise experience in online monitoring system
- Our engineers are from professional and experts in electronics, mechanics, radar, opto-laser, optics, system integrate and software program more than 10 years experience
- We do have our own patent in USA
- We are qualified supplier listed in GSA( Government Service Administrator) in US
- We have supplied our system to US Navy in Japan, Nuclear Power Plant in US, Russia  
Transportation Commission, Chinese military project
- SARS emergency, we do supply our products to more than 20 countries
- We are also supplying our products to Airport Security Surveillance Project
- We do also supplying our gas analyzer online monitoring system to power station- larger oil transformer made by Siemens, ABB, Toshiba
- We are one of qualified integrators discrete selected by Ratheon-L3, one of the largest military supplier in the world.
- QWIP Technology's products has been submitted to Selex in UK and USA military project.

# Thermal-image Security Benefits

## Why Thermal Imaging?

- Complete night, day and challenging weather surveillance lets you detect more activities than other technologies
- Reduce false alarm rates and officer fatigue by detecting more accurately in the day and night when integrated with a complete system
- Affordable solution compared to other surveillance options because less cameras are needed to cover large areas and less maintenance is needed

Scene comparisons with thermal imaging and with visible light



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# Real-World Applications

Help prevent theft, terrorism and violence  
by detecting  
intruders and unauthorized activities  
earlier

Proven success with sites that must prevent disasters before they happen:

- Facility perimeters
- Critical infrastructure
- Ports and shipping docks
- Border protection
- Public Transportation
- Manufacturing sites



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# Surveillance Technology Comparison

<b>SURVEILLANCE SOLUTION COMPARISON</b>				
<b>POTENTIAL SURVEILLANCE NEEDS</b>	<b>CCTV DAYLIGHT ONLY</b>	<b>CCTV WITH OUTDOOR LIGHTS</b>	<b>NIGHT CCTV WITH INFRARED ILLUMINATOR</b>	<b>THERMAL IMAGING CAMERAS</b>
Light surveillance	* GOOD	* GOOD	* GOOD	* GOOD
No light surveillance	* POOR	✓ AVERAGE	✓ AVERAGE	* EXCELLENT
Rain and snow surveillance	* POOR	✓ AVERAGE	* POOR	* GOOD
Large area/perimeter coverage	* GOOD	✓ AVERAGE	* POOR	* EXCELLENT
Long-term affordability	* GOOD	✓ AVERAGE	* POOR	* EXCELLENT
Integration into existing network	* GOOD	* GOOD	* GOOD	* EXCELLENT

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# What is Thermal Imaging?



- Thermal imagers measure heat, which is in the infrared portion of the spectrum
- Heat behaves like visible light in that it can be optically collected and focused

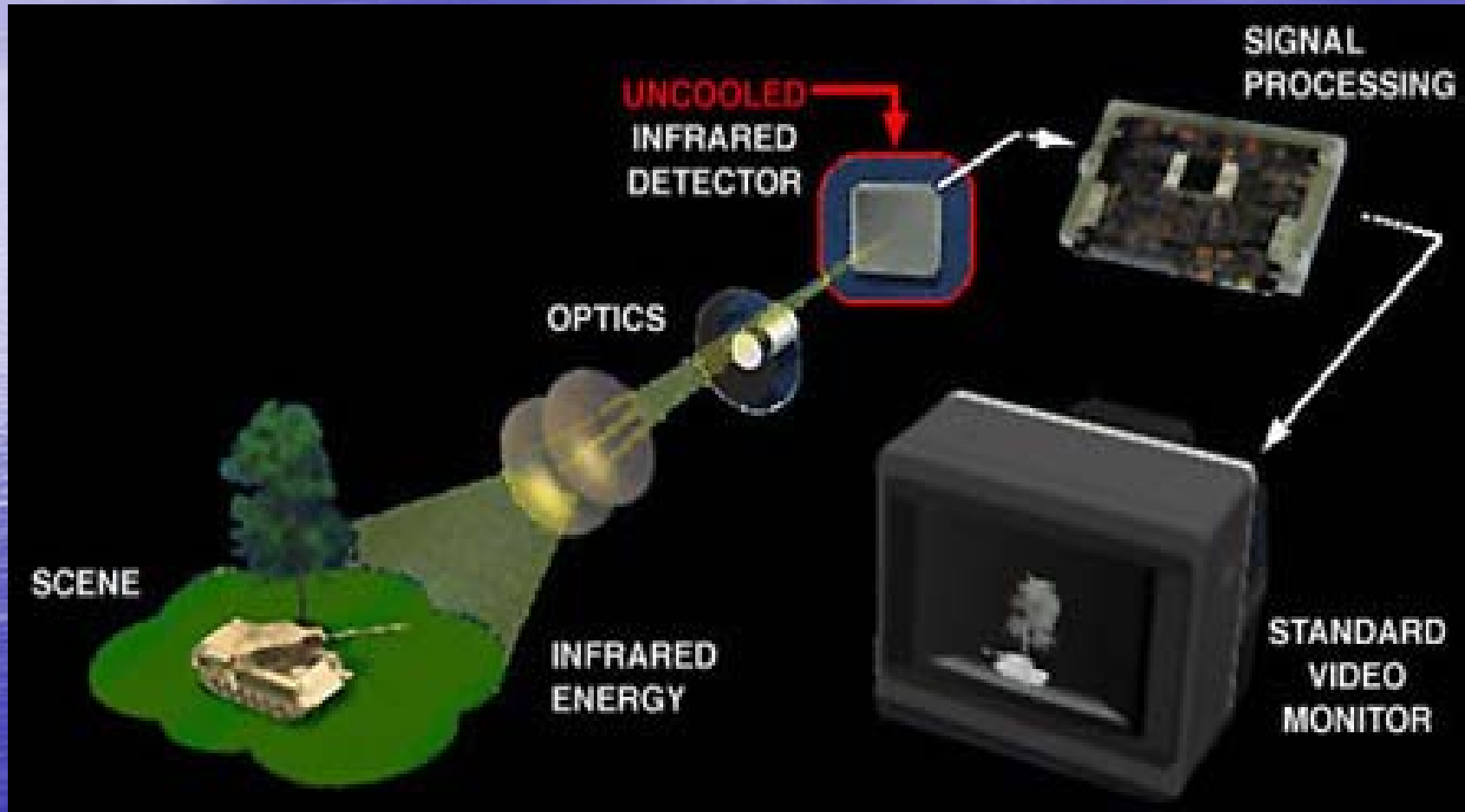
## Electromagnetic Spectrum

**Infrared:** 3-14um

**Thermal:** 8-12 um

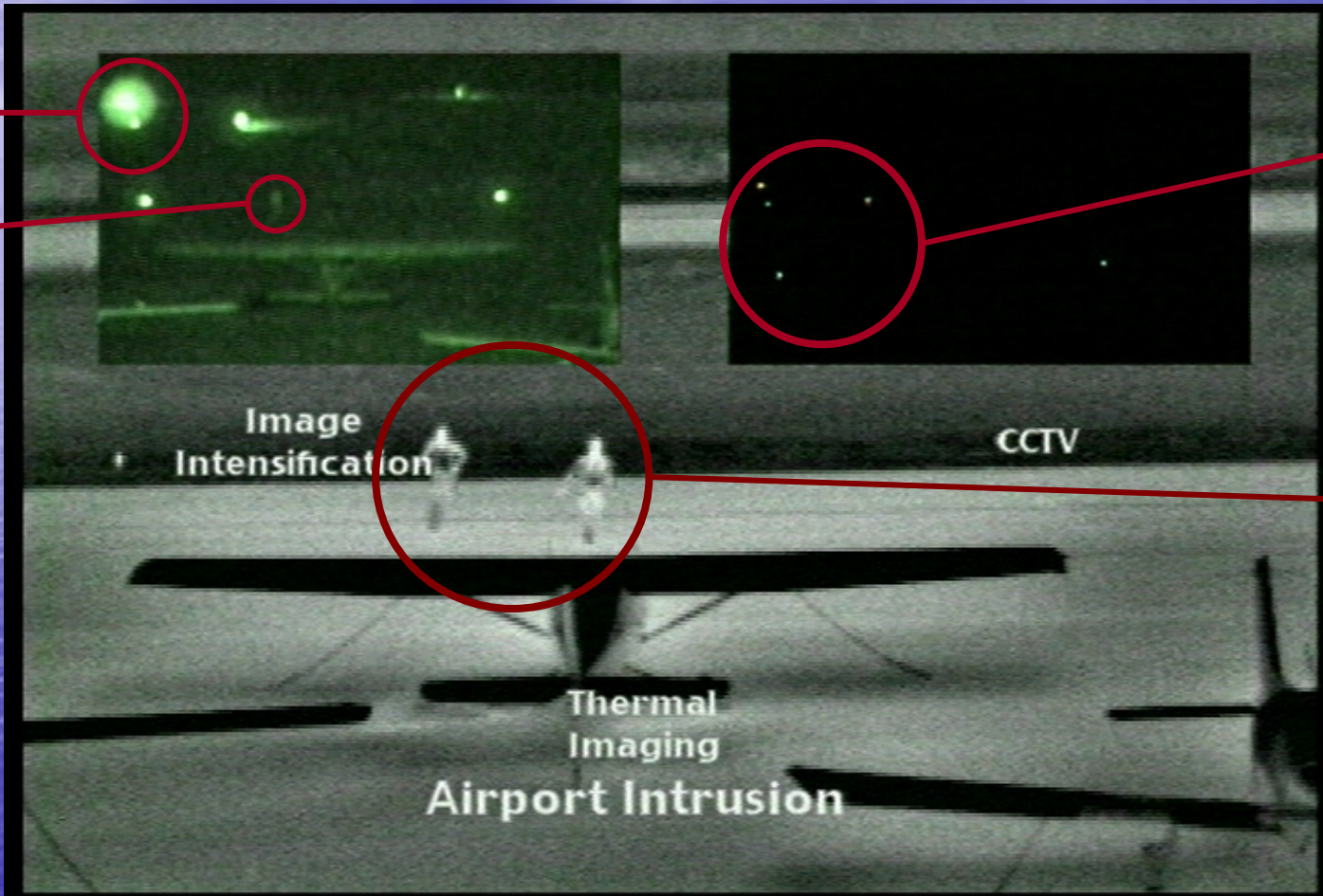
**Visible light:** .4 um and .7 um

# How does it work?



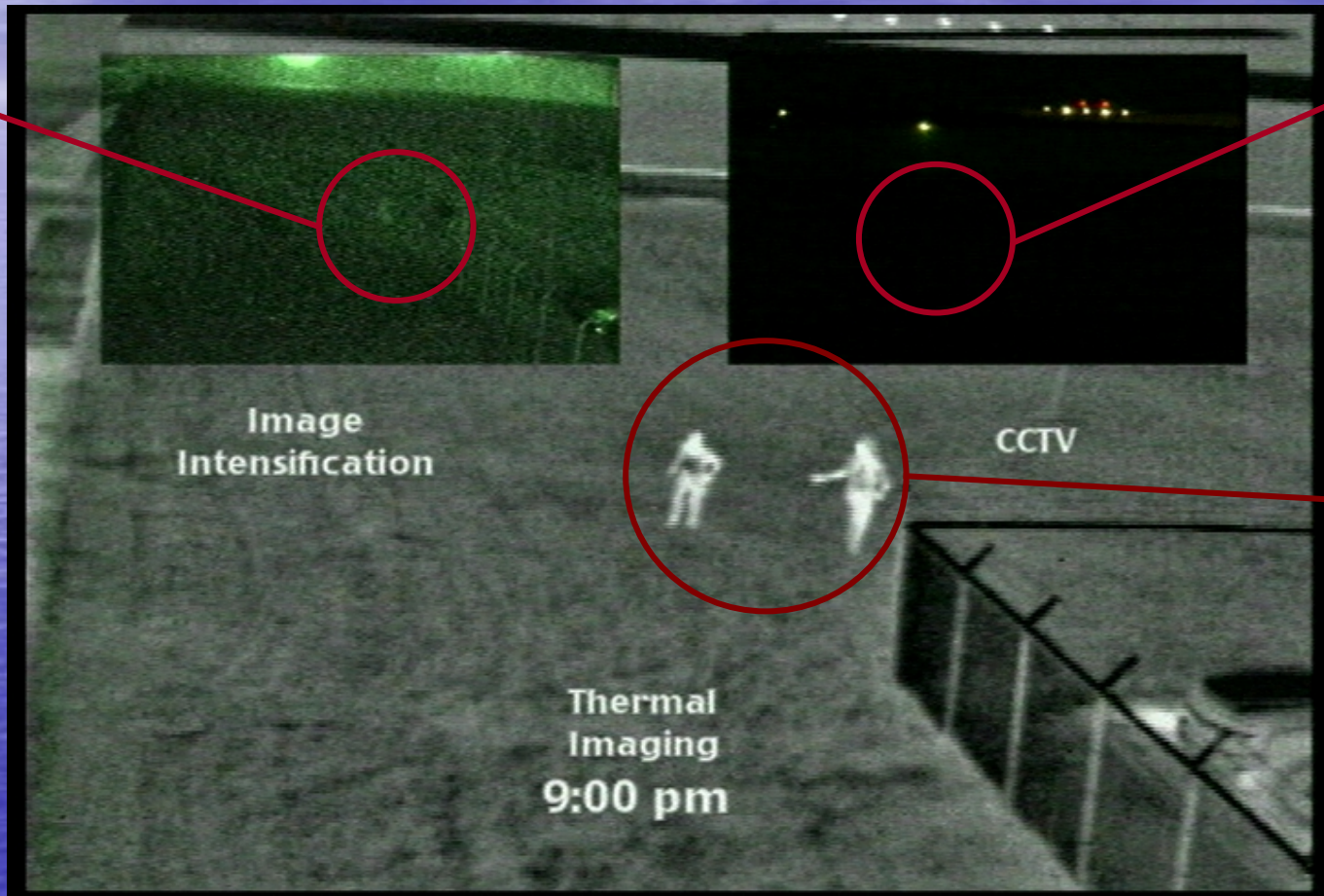
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# Airport Security Example



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# Dark Night Example



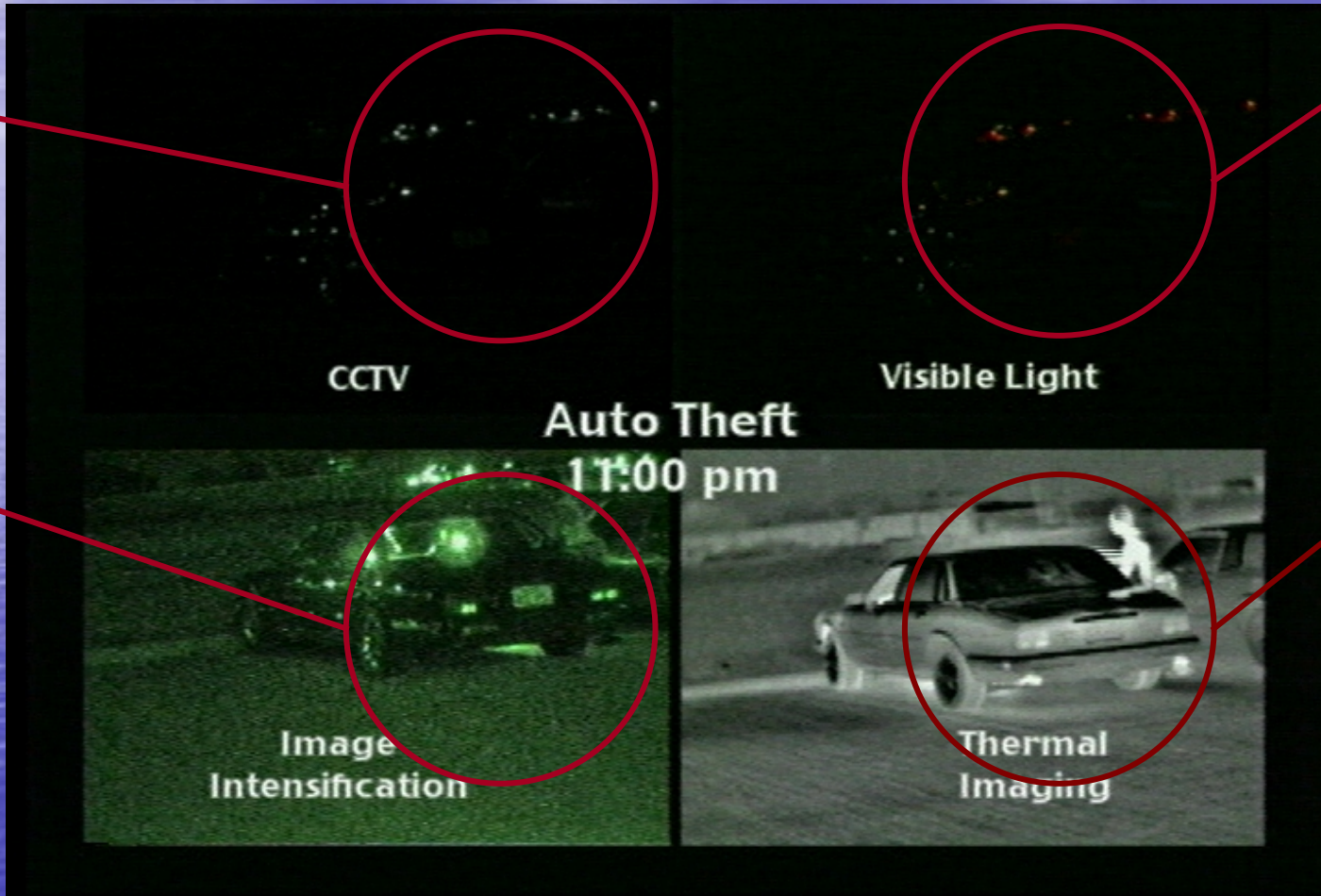
Hard to detect one of two intruders

Nothing visible!

Intruders clearly visible; other details clearly available.

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# Lighted Parking Lot Example



Without illumination only reflected light is visible

Without illumination there is nothing to see

Bloom from reflected light and grainy image make intruder difficult to detect.

Thief is clearly visible; other details clearly available.

CCTV

Visible Light

Auto Theft  
11:00 pm

Image Intensification

Thermal Imaging

# TR2000 series thermal camera



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# TR3000 series thermal camera



- Pressurized housing
- Military standard connectors
- Motorized lens



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# Project Overview

- ✓ US Navy based in Japan
- ✓ Russia Traffic Control
- ✓ USA Falmtom Nuclear Plant
- ✓ South American Salvado Airport
- ✓ South Korea KT Group
- ✓ South Korea KTX
- ✓ South Korea Airport
- ✓ Malaysia Royal Navy
- ✓ Lockheed Martine Subway
- ✓ Mongolia South and North Boundary
- ✓ Almaty Airport
- ✓ Guam US Navy
- ✓ Canada Defense
- ✓ India Military
- ✓ US Amy
- ✓ US Air force
- ✓ Mexico
- ✓ Shanghai Automobile Plant
- ✓ China Aerospace
- ✓ China Power Station Industry
- ✓ Shanghai Power Grid Distribution Center
- ✓ China Siemens
- ✓ Pakistan Siemens
- ✓ Vietnam Hanoi Airport
- ✓ Thailand Power Plant
- ✓ Philippine Power Plant
- ✓ More than 100 different projects

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# Project Example A

- US Navy in Japan—Commanding Center
- Requirement of project—Access gate, perimeter of base Land and Water surface monitoring
- Duration of delivery: 2-3 months after approval proposal
- More than 40 sets of CIRP and 4 sets of TR2000-150 installed since 2002 and 2003

# Picture of local installation



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# Harbor View by CIRP



Wide FOV



Narrow FOV

CIRP600m System 7.5-120mm F1.2, IR

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# Project Example-B

- KTX Subway Security
- Requirement of monitoring subway under ground and view long distance over hundred meters in total darkness
- CIS-IR200m30-220Vac illuminators—150 units have been used with day/night cameras
- 2 phases—the first phase is 21 IR illuminators on-site test, the result is not satisfactory, after our support information, integrator has changed their system configuration to meet the client's requirement
- Second phase has been completed in the next year

# Factors to be concerned

- CCD spectral response
- CCD size 1/2", 1/3" and 1/4"
- Optical Lens configuration
- IR coating
- IR Illuminator integration
- IR light wavelength
- F/number of Zoom lens

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# TR4000-T320P

- 6.28km

- 15km



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# Video Clips

- Video Clips-1



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# Video-Clips-2

- TR4000-100



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# Our Partners



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# References for TIC (Thermal Imaging Camera)

- Mexico
  - India
  - China
  - Canada
  - Vietnam
  - Korea
  - Mongolia
  - Kazakhstan
  - UK, Italy
  - South Africa
  - Thailand
  - Philippine
  - Saudi Arabic
  - Kuwait
  - Brazil
  - El Salvador
  - Bahrain
  - Australia
  - Hong Kong
  - Taiwan
  - Indonesia
  - Omen
  - Pakistan
  - Turkey
  - Singapore
  - UAE
  - More than 30 countries
- For Example, see below companies, and organization
- Northrum
  - US Navy
  - Video Alarm
  - Canada Defense
  - Westin House
  - Nuclear Power plant
  - Russia Traffic Center
  - KT Group

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