Specification

Product Name	TV Sensor		
Model	TV-100 	TV-202 	TVS-4000 
Feature	For a single camera only, small sized, lightweight, portable, includes a LCD TV (previously installed surveillance cameras can be incorporated)	Two-camera connection and stereoscopic monitoring available (previously installed surveillance cameras and TV monitor can be incorporated)	User-customized model (connection of multiple surveillance cameras available, custom design and fabrication)
Principal application	Monitoring against intruders, monitoring a crane's approach to power lines, ensuring safe railroad work procedure, providing enhanced airport security, providing a safety measure for construction sites, ensuring safe port operations, monitoring traffic systems, monitoring against fall from a subway platform, monitoring against intruders in hazard areas, monitoring for preventing fire in factories, etc.		
Number of cameras for connection	1	2	4 or more
Electric power consumption	10W	5W	Over 30W
Monitor screen	7-inch LCD incorporated	Placed separately (TV provided)	
Stereoscopic monitoring function	No	Double touch (stereoscopic monitoring function)	
Rated voltage	12 VDC (AC adapter included)	100 VAC	
Image format	NTSC system		
Image input voltage	1Vp-p 75Ω		
Image output voltage	1Vp-p 75Ω		
Area Select	Mask Areas 1-3		
Setup Menu	Dot Control		
	Sens Control		
	Area Control		
	Effects		
Time schedule	Weekly scheduled monitoring of three surveillance areas per camera		
Sensor dot	56 dots in vertical line, 64 dots in horizontal line (total of 3584 dots)		
Sensor input	By mouse (USB supported) (standard accessory)		
Menu setting	Three adjustment buttons: Menu, + (plus), - (minus)		
Display	Alphabet and numeric characters		
Image I/O connector	BNC connector		
Dimensions	W270×H180×D220	W360×H65×D320	W600×H1600×D600
Weight	3.5kg	3kg	Over 60kg

Optional Device

Ultra-sensitive color camera TVC-50

- Ultrahigh-sensitivity: 0.41M pixel, 1/3 inch
- Minimum illumination: 0.008 Lux
- External dimensions: W62 x H50 x D118, 290g

Hard drive recorder (Made in Japan)

High-hour recording, multi-camera simultaneous recording, timer recording, alarm recording, display on up to 16 screens

- External dimensions: W420 x H96 x D349, 5.5kg

TV Sensor (older models: TV-8900, TV-9000, TV1000) Previous Purchasers

Ministry of Defense, National Police Agency and prefectural police departments, Japan Coast Guard, Tokyo Customs, Hokkaido Regional Development Bureau, Kamigoto Oil Storage Co., Ltd., Shirashima Oil Storage Co., Ltd., Tokyo Electric Power Company Inc., Kansai Electric Power Company Inc. and other electric power companies, Saibu Gas Co., Ltd, Japan Airlines Co., Ltd., NYK Line, East Japan Railway Company, West Japan Railway Company, Nippon Telegraph and Telephone Corporation, Honda Motor Co., Ltd., Showa Shell Sekiyu K. K., Obayashi Corporation, Taisei Corporation and other general contractors, Kandenko Co., Ltd., Kurihara Kogyo Co., Ltd. and other electrical construction companies

■Dealer

■Manufacturer

Kankyo Electronics Co., Ltd.

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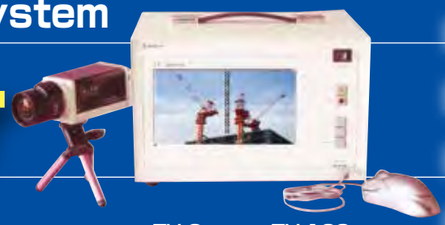
Kankyo

Image Processing Sensor System

TV Sensor



TV Sensor, TV-100

The TV Sensor is a closed-circuit television system that replaces the need for human eyes to monitor the safety and security of an area.

Monitoring a crane's approach to a set of high voltage lines

As a safety measure for construction sites

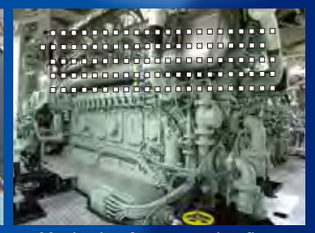
Monitoring against intruders at important/essential facilities

Providing enhanced airport security

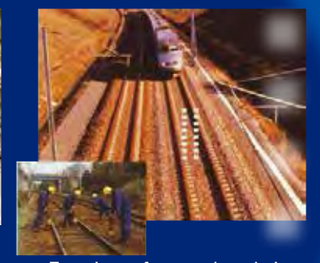
Ministry of Land, Infrastructure, Transport and Tourism
NETIS registered
TV Sensor Safety monitoring system
Registration No. QS-110022-VE
New Technology Information System (NETIS)

As traffic monitoring systems

Ensuring safe port operations



Monitoring for preventing fire in ship engine rooms



Ensuring safe procedure during railroad work

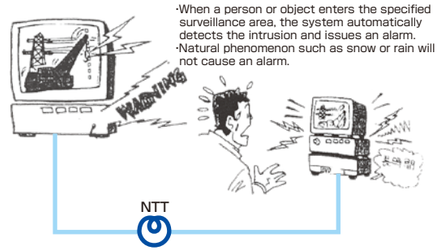
Kankyo Electronics Co., Ltd.

Recommendation 1

**Install a surveillance camera where monitoring is desired and, using a mouse, set a specific surveillance area on the TV monitor.
If an intruding object or person enters the specified surveillance area, an alarm is automatically issued.
Along with the alarm, an image can be simultaneously transmitted to a remote location.(Optional)**

·The TV Sensor system can be set to monitor a surveillance area in any location, type of landscape, for any distances and can include sky and sea.
·The range to be monitored by the surveillance camera can be set as desired.
·Previously installed surveillance cameras can be incorporated into the system.
·Stereoscopic monitoring is an available option.

·Using a mouse, a specific surveillance area is set on the TV monitor.
·The specified surveillance area can easily be overwritten, deleted and added to.
·The specified surveillance area is indicated with dotted lines or dotted-outline shapes.

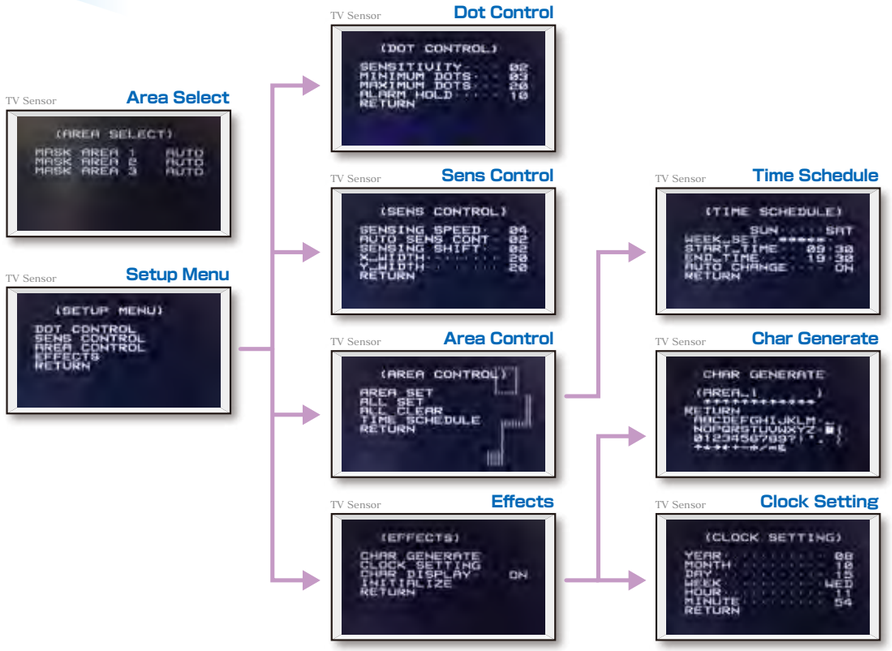


·When a person or object enters the specified surveillance area, the system automatically detects the intrusion and issues an alarm.
·Natural phenomenon such as snow or rain will not cause an alarm.

·Images or warnings can be transmitted to remote locations over telecommunication lines or by dedicated line connection.(Optional)

Recommendation 2

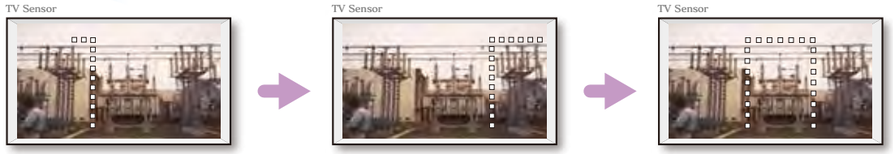
**The system can be customized through the TV monitor to best suit the site being covered.
All settings can easily be made with manual controls (three adjustment buttons) on the system without the need of a computer.**



Recommendation 3

One camera can be used to cover three specified surveillance areas using scheduled monitoring; it will automatically switch between areas.

○Example：Specified surveillance areas can be set individually as follows: weekday daytime surveillance area, weekday night surveillance area and weekend surveillance area.



Monday, Tuesday, Wednesday, Thursday, Friday
Surveillance area from
8:30 a.m. through to 5:30 p.m.

Monday, Tuesday, Wednesday, Thursday, Friday
Surveillance area from
5:31 p.m. through to 8:29 a.m. the next day

Saturday, Sunday
Surveillance area from
8:30 a.m. through to 8:29 a.m. the next day

Recommendation 4

**Compared to conventional infrared systems,
TV Sensor provides a higher level of accurate surveillance without issuing false alarms.**

Comparison between conventional infrared system and TV Sensor

	Infrared system	TV Sensor
		
Main device	Transmitter, receiver, detector	Surveillance camera, TV Sensor
Alarm trigger	IR cutoff	Change in color contrast through image processing
Detection range	Max 600m	Max 400m
Surveillance area	Area along a single ray of infrared light	Outline shape displayed on the TV monitor
Installation location	Flat surface	Flat surface, uneven surface, water surface, sky, etc.
Illumination	Illumination not required (Works well in darkness)	Minimum illumination required
Identification of detected objects	On-site visual confirmation required → Risk of entering a potentially dangerous area	Checking objects on the TV monitor → Safety guaranteed
Advantage	Inexpensive	Any area on the monitor can be set as a surveillance area
		Able to identify the cause of alarm on the monitor
		Fewer false alarms
		Easy to change/add surveillance areas
		Suitable as a remote monitoring system
Disadvantage	Many false alarms	Expensive Unable to use in darkness Minimum illumination required
	Unable to identify the cause of alarm	
	Unable to be used in snow, fog or heavy rain	
	Available installation locations are limited	
	Higher installation cost	
Price	IR only: 50 to 200%	300%
	Combined use of IR and surveillance camera: 300 to 600%	

Main causes of false alarm and troubleshooting features

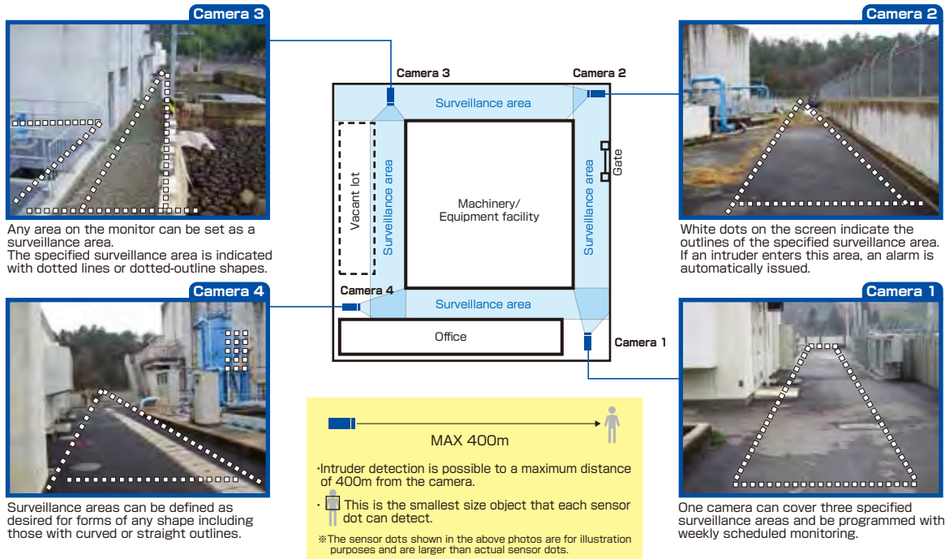
Causes	Troubleshooting features of TV Sensor
Small animals (dogs, cats, etc.)	Size setting
Flying objects (birds, leaves, etc.)	Speed setting
Fog, snow, rain, lightning	Sensitivity setting
Headlights	Setting of the number of dots and direction of movement
Neon flashes	Change of the dot position
Lamp flashes	Setting of the direction of movement
Swaying plants	Setting of the number of dots and direction of movement
Puddle reflection	Setting of the direction of movement
Swaying electric wires or ropes	Setting of the number of dots
Vehicles, trains	Change of the dot position
Fax paper ejecting	Deletion of dots
Swaying curtains	Alarm count setting

Previously installed surveillance cameras can be incorporated.

Recommendation 5

Our many years of experience and past accomplishments have helped TV Sensor come closer to being the same as a pair of human eyes.

○Example of sensor areas covered by 4 surveillance cameras



Any area on the monitor can be set as a surveillance area.
The specified surveillance area is indicated with dotted lines or dotted-outline shapes.

Surveillance areas can be defined as desired for forms of any shape including those with curved or straight outlines.

·Intruder detection is possible to a maximum distance of 400m from the camera.
· This is the smallest size object that each sensor dot can detect.
※The sensor dots shown in the above photos are for illustration purposes and are larger than actual sensor dots.

White dots on the screen indicate the outlines of the specified surveillance area. If an intruder enters this area, an alarm is automatically issued.

One camera can cover three specified surveillance areas and be programmed with weekly scheduled monitoring.