

ADPRO® InSight

Video and Audio Surveillance with Alarm Verification

Data Sheet

Key Features

ADPRO® InSight is the first fully integrated monitored alarm system with color or black and white local video surveillance and remote video alarm verification.

Technology breakthroughs mean that InSight can provide a fully featured alarm system, site management, CCTV surveillance, video multiplexing, and off-site video, audio and alarm verification, in one unique compact package. Key features include:

- Alarm and Site Management System
- Unique ADPRO® BiSensor
- Remote Video and Audio Surveillance and Site Control
- Off-site Video and Audio Alarm Verification
- Local Video and Audio Surveillance
- Full Duplex color or black and white Multiplexed Video Recording

InSight Advantages

InSight is specifically designed to provide a monitored video alarm and surveillance system for smaller commercial premises, retail outlets and prestige homes. The system provides affordable protection for people, assets and profits by:

- Providing immediate response to panic or duress situations
- Reversing inventory shrinkage
- Creating a safer environment for staff and customers
- Collecting evidence in respect to theft, fraud and public liability
- Providing peace of mind at single operator sites.

Applications

InSight's broad range of configuration and programmable setup options allow the system to be tailored to meet the specific security needs of each individual site.

This means that InSight can be used in a wide range of applications that include nearly all types of small business or retail outlets. Examples are:

- Petrol/Gas Stations
- Convenience Stores
- Jewellery Stores
- Pharmacies and Drug Stores
- Liquor Stores
- Banks and Savings and Loan Outlets
- Post Offices.

Flexible and Easy to Use

InSight's user friendly automated operating features make it easy to use through intelligent CodePad displays and controls. Features for the Operator include:

- Menu displays of all available functions
- Simple function selection through smart softkeys
- Informative displays guide the operator through the various functions.

The same intelligent features and logical menu structures are provided for the Installer or alarm company technician.

System configuration and setup programming to suit the needs of each individual site is straightforward. Key Installer features include:

- Single integrated package for all Video and Alarm functions
- Straightforward installation using industry standard methods
- Programming options to tailor the system to the exact needs of the site
- Easy system configuration, setup programming, testing, and commissioning
- Local and Remote setup capability using a portable PC.



ADPRO® InSight

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ADPRO® InSight Product Overview

InSight is a fully integrated security solution designed specifically for small to medium commercial applications, retail outlets and high-end residential homes.

Most of these applications need a monitored alarm system and many complement this with a CCTV surveillance system. The CCTV systems vary from a simple camera and monitor through to multiple cameras, intelligent video switching and display and multiplex recording to a VCR.

Recent innovations in data compression and transmission technology have seen some of these systems include video and audio alarm verification. This means that the site CCTV surveillance system can now complement the alarm system.

InSight has redefined the physical boundaries between the various products and functions that make up these systems. It is the first cost-effective and easy to install alarm system with integrated local video surveillance and 24-hour multiplex recording to a VCR.

Alarm reporting is verified with site video and audio ensuring rapid police response. Local video recording, alarm logging and alarm image snapshots sent to the Central Station are all common date/time stamped to ensure an accurate audit trail. Alarm event management, and logging is supported by both local and Central Station recorded video.

Concepts and Special Functions

The video surveillance and alarm monitoring functions needed to provide effective site security are not fixed, and vary from site to site, depending on the time of day or even the day of the week. InSight's unique integration of all the key elements essential for effective security means that the system is always providing the right balance of functionality to suit the immediate needs of the site, day or night.

During business hours (for example) InSight operates as a Closed Circuit Television (CCTV) surveillance system. Site video is displayed on the local monitor and multiplex recorded to a video cassette recorder (VCR).

In a panic or emergency situation InSight can be directed to call the Central Station and to display video images of the alarm event, along with video snap-shots of the events leading up to the alarm. The Central Station can then continue to monitor live video and audio while directing police or other emergency service response.

After hours, when the secured premises is vacant (or closed), InSight acts as a fully featured monitored alarm system. When alarms are reported to the Central Station, video snapshots are also available to assist in alarm assessment.

The Central Station can also carry out live video guard tours of the site and listen in to site audio. All of these features ensure that alarms are properly

assessed and illegal activity on the site (both visible and audible) is monitored until the police arrive.

Alarm System

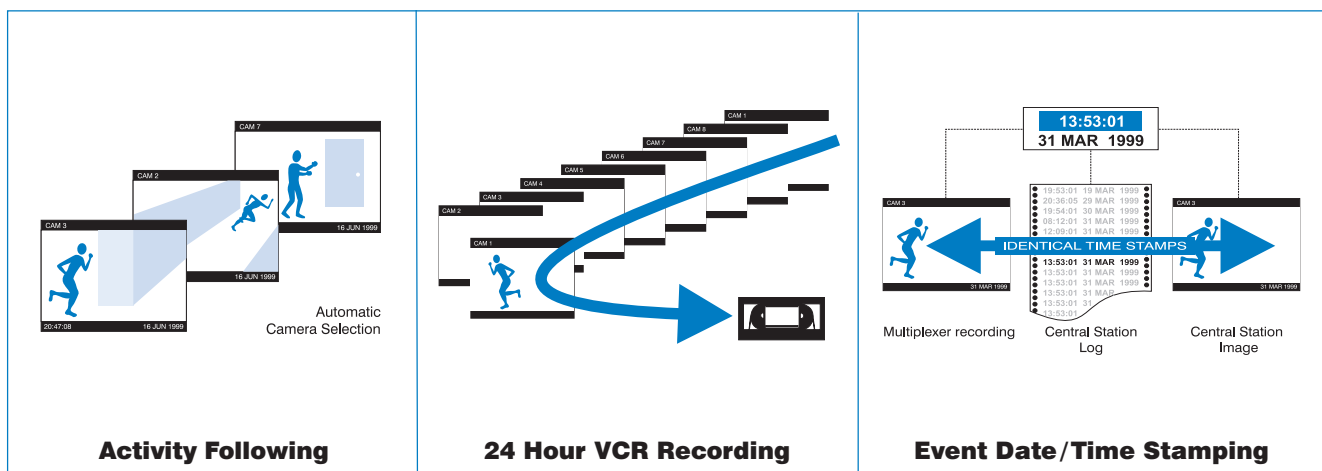
InSight provides all the features found in a fully programmable monitored alarm system designed for small commercial premises like retail outlets.

Alarm system features include:

- Up to 16 fully supervised alarm zones, 8 for video, and 8 for other industry standard sensing devices
- Zones report seal, alarm and tamper
- 2 siren outputs
- Cross zoning
- Partial arming (home and away feature)
- Entry delay, paths and entry points
- Exit delay and paths
- Duress CodePad entry
- A 200 event history log of all site events.
- Key Switch arming

Because of the total integration with the video surveillance functions, InSight also provides many other useful alarm system features. These include:

- ADPRO® BiSensors, providing fully integrated video, audio, and PIR sensors with matched fields of view
- Video snapshots from up to 3 simultaneous alarms or duress CodePad entry
- Pre-alarm video snapshots from panic or holdup alarms
- The ability to reference any standard alarm zone to any video zone.



ADPRO® InSight

Site Management and Video Multiplexing

Site Management

InSight's flexible user-programmable options provide many useful site management and access features. These include:

- Up to 4 User authorization levels for up to 30 users for controlled access to site and system functions
- Master and Installer User ID's
- Quick Arm and Duress Entry User ID's
- User access linked to any one of 5 seven-day timers
- Up to 5 Auxiliary Control Outputs for lights and other functions
- Control outputs operated from a remote location, or linked to seven-day timers.

Local Video Surveillance

InSight has two industry-standard video monitor outputs to view the video images from BiSensors or CCTV cameras connected to its video zone inputs.

The display of any video input is user programmable so that covert surveillance and recording to VCR can be carried out on the site if required. The local video surveillance features for the first monitor output include:

- Spot Monitoring,
- Quad Display,
- Auto Sequencing,
- Activity Follow or Alarm Homing,
- Freeze Frame,
- VCR Replay.

The second monitor output has Spot Monitoring, Activity Follow and Auto Sequencing capabilities, and is independent of the first monitor.

Spot Monitoring

Spot Monitoring allows the operator to select any authorised video input for display on the video monitor.

Quad Display

The Quad Display allows the simultaneous viewing of 4 video inputs. Where more than 4 video inputs are used, the system can automatically sequence between them.

Auto Sequencing

Auto Sequencing automatically selects a video input for display on the monitor at a user preset time interval. Each video zone is programmable to appear in the auto sequence display.

Activity Follow

The InSight system adds another level of automation to auto sequencing with intelligent activity following.

The video on the operator's monitor is automatically switched to display areas of the site where people are moving about.

If the activity moves from one video zone to another, the video display will automatically switch and "follow" the activity.

When several areas are active at the same time, the system will automatically sequence between them.

Freeze Frame

This feature allows the operator to temporarily freeze the image on the monitor for closer inspection or identification.

Video Multiplex Recording

The InSight system comes standard with an inbuilt video multiplexer that allows (for example), 24 hour recording of all system video on a time-lapse VCR. This allows a standard 3 hour VHS tape (E180) to record 12, 24, 48 (and sometimes more) hours of video.

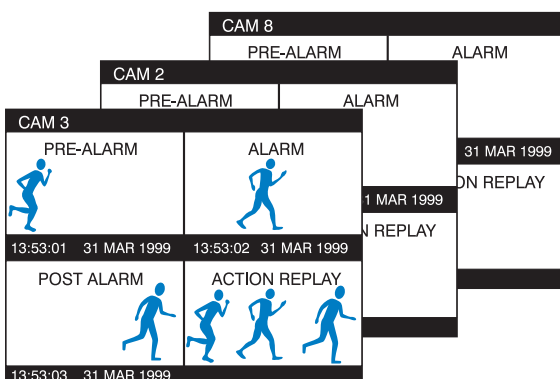
InSight provides a relay output to switch the VCR to real time recording during an alarm situation.

The video multiplexer provides full duplex color or black and white operation. This means it can record to one VCR, while replaying from another. Several replay display modes are provided:

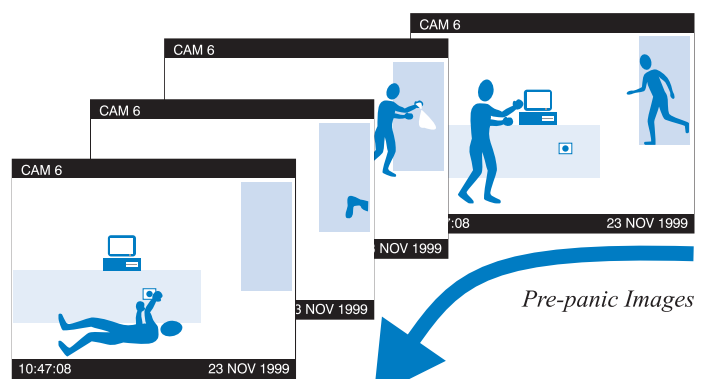
- Spot a single video input,
- Quad display of four video inputs,
- Activity following, and
- Freeze frame.

These modes provide the same features as the live video display modes.

When using Activity Follow during VCR multiplexer replay, the system automatically displays recorded images that contained activity or alarms at the time of recording. If alarms or activity were present on multiple zones, the display will automatically switch between them.



Multiple Alarm Image Capture

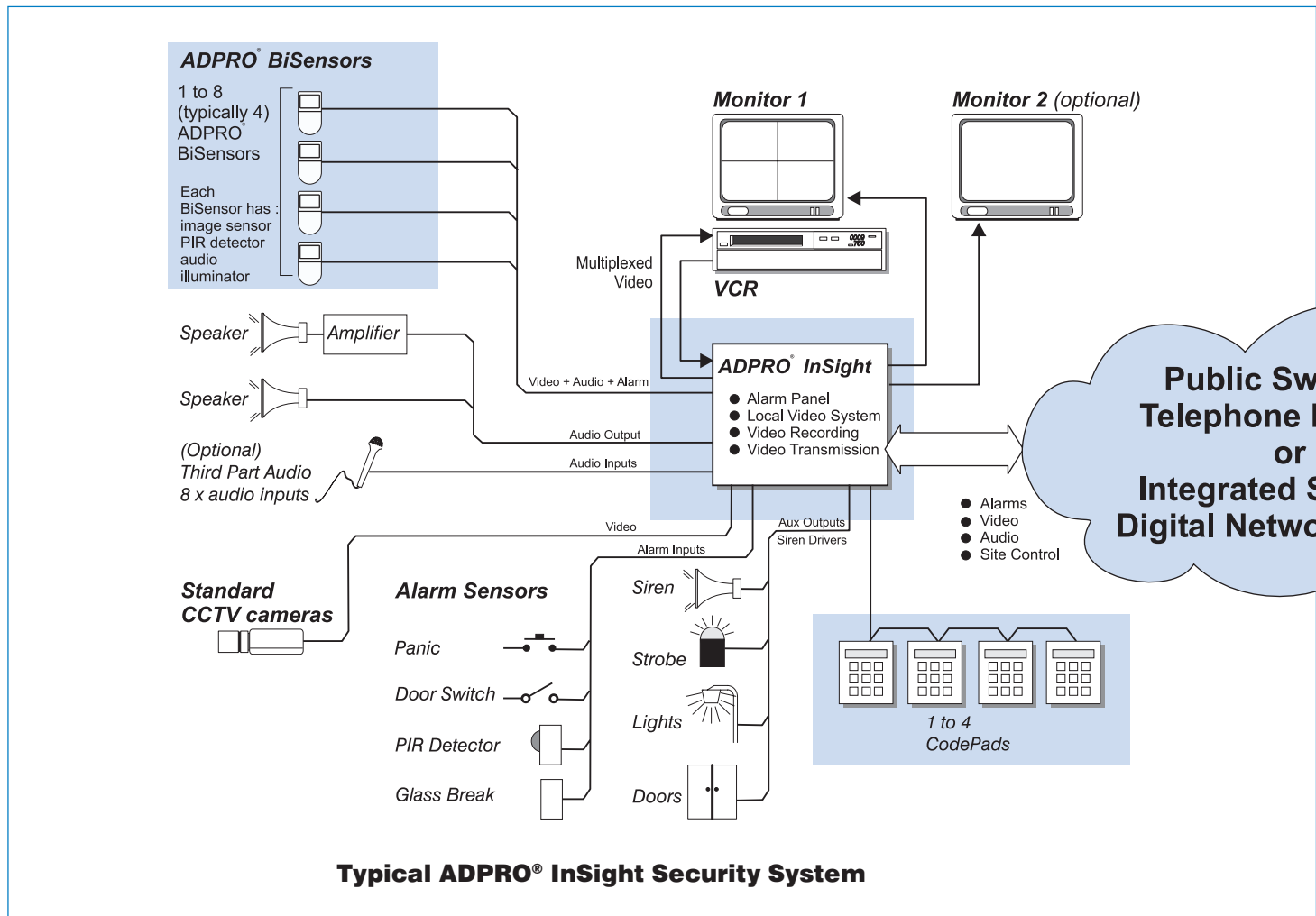


Panic Instant

Up to 6 Panic Pre-Alarm Images

ADPRO® InSight

Video and Audio Surveillance with Alarm Verification



Remote Video, Audio and Alarm Verification

InSight is a monitored alarm system and reports alarms to a Central Station using the Public Switched Telephone Network (PSTN or POTS), or Integrated Services Digital Network (ISDN).

The system can be set up so that the Central Station can also dial into the site for video and audio guard tours, and control Auxiliary Outputs. Using a standard or portable PC, the owner of the protected premises can also dial in and check the site.

Video Alarm Verification

InSight verifies alarms with video snapshots of alarm events. When the premises is closed, the system will take three alarm snaps from up to three simultaneous alarms. These are then compressed and sent to the Central

Station with the alarm event report. The system can also be setup to send pre-alarm image snapshots for Duress code entry and panic or hold up alarms.

Three normal alarm images are sent to the Central Station along with 6 pre-alarm images from a user defined video input zone to show what happened before and after the alarm.

The system will stay on line so that the Central Station can also use live video and audio to monitor ongoing activity at the site, while accurately directing appropriate police and emergency response.

Alarm History

Video multiplex recording on the site with hard disk recording of events, alarm images and live video and audio at the Central Station ensure a complete audit trail. Video images multiplexed to

VCR on the site have the same time and date stamp and camera identification as those logged at the Central Station.

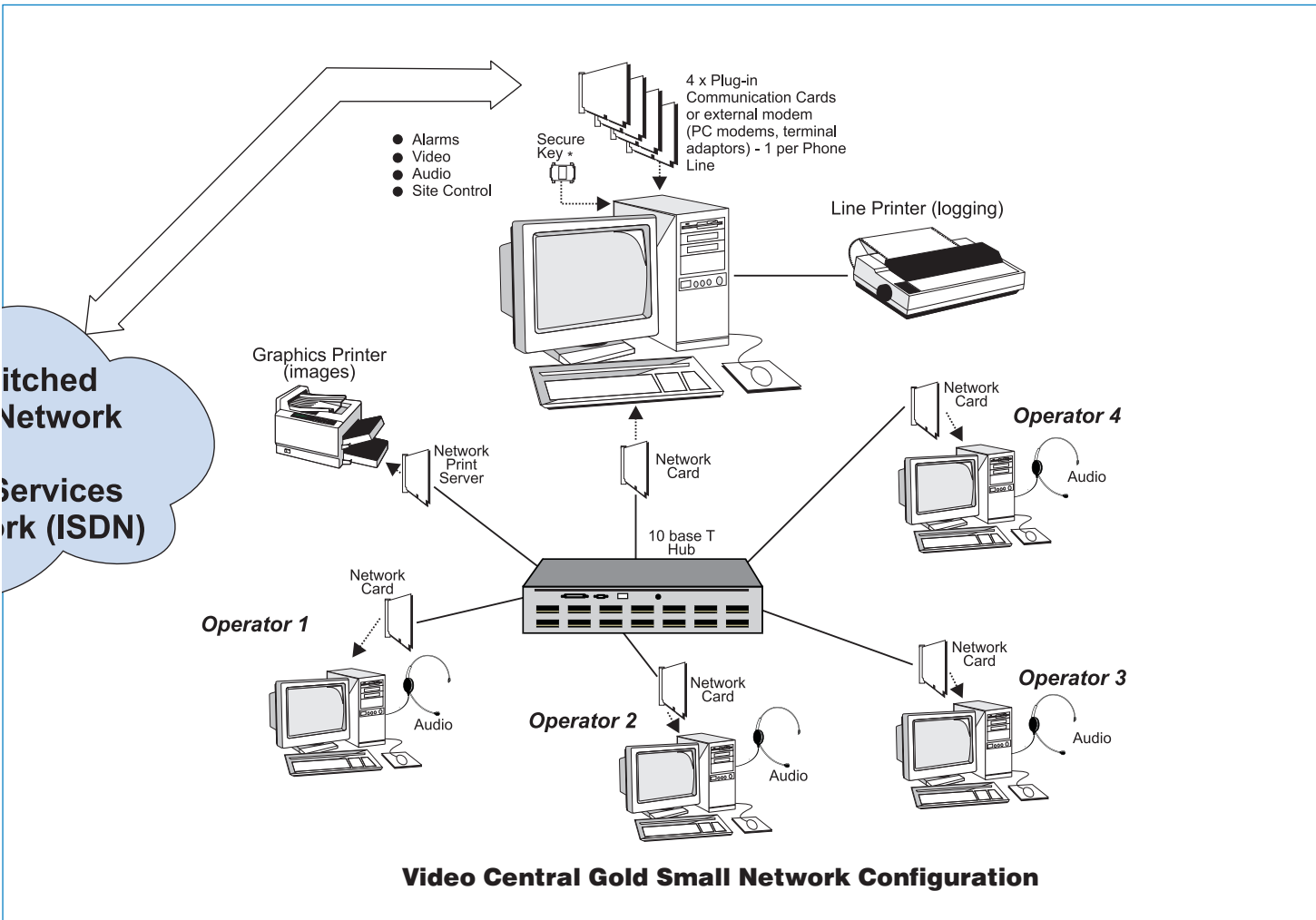
Remote Monitoring Options

Using standard PC hardware and operating systems, ADPRO Video Central Gold provides a wide range of options for effective InSight remote video and alarm monitoring. Options include:

- Stand alone or laptop portable PC with internal or external modem or terminal adaptor for a small Central Station or site owner.
- Small to large networks with multiple PC's and operators.
- Features to provide partial or full integration with existing Central Station computer management systems.

ADPRO® InSight

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ADPRO® Video Central Gold Concepts

ADPRO® Video Central Gold off-site monitoring options have been designed to work in various environments ranging from small self monitored systems through to integration with a large Central Station management computer.

Configuration Options

Video Central Gold software is designed for standard PC's running the Windows 95, 98 2nd Edition or NT 4.0 SP5 operating systems. Hardware configuration options include:

- Stand-alone PC fitted with either an internal or external modem, terminal adaptor
- Up to 5 PC's running in a networked configuration (example shown above).
- Up to 11 PC's running in an expanded network configuration.

Stand-Alone PC

This configuration would typically be used by:

- A small Central Station with a few sites.
- A site owner for self-assessment and surveillance.
- An InSight Installer to carry out remote diagnostics, setup, and system maintenance, or on-site testing and setup.

Small Networks

This configuration would typically be used to monitor several hundred InSight system sites. Up to 4 communication cards and 4 operators are supported and system components are interconnected with a standard 10baseT Network. The system can be built up over a period of time by starting out with (say) 2 communication cards and 2 operators, then building the network up to the maximum configuration.

Expanded Networks

This configuration will support up to 8 communication cards and 8 operators. It is suitable to monitor many hundreds of sites.

Audio

A PC sound card must be used when audio is required.

ADPRO® Fast Scan Support

Video Central Gold also has the ability to monitor ADPRO® Fast Scan systems of 100 or less cameras with support for pan/tilt/zoom functions.

Further Information

Refer to the ADPRO® Video Central Gold Data Sheet for more information on hardware requirements, configuration options, and specifications.

Video Central Gold has been designed for integration with Central Station management packages. Contact your nearest ADPRO distributor or Vision Systems office for more information.

ADPRO® InSight

Unique BiSensors

ADPRO® BiSensor

InSight has been optimised to use the revolutionary ADPRO color or black and white BiSensor that fully integrates surveillance and intruder detection technologies.

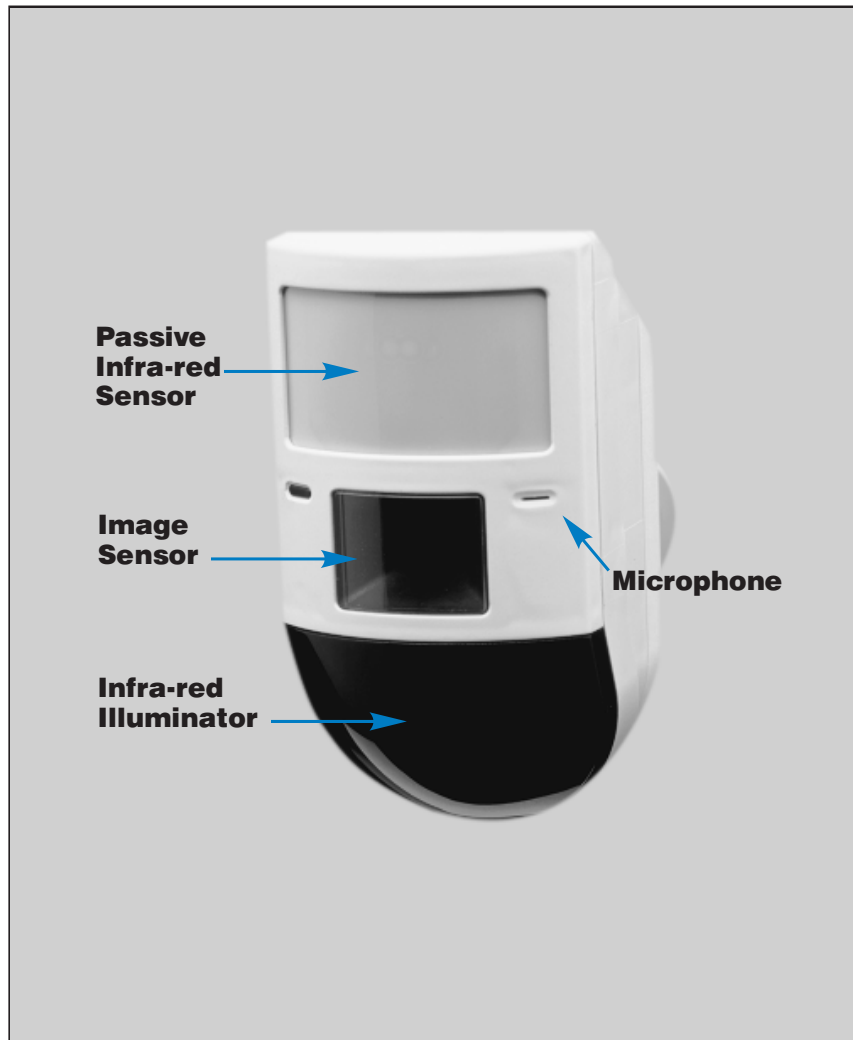
Surveillance is provided by video image and audio sensors, while the passive infra-red detector (PIR) in the BiSensor has a sensing area pattern that has been designed specifically to work inside the image sensor field of view, both horizontally and vertically.

Digital signal processing in the InSight video alarm panel implements a unique form of image and PIR sensor data fusion (international patents applied for) to reliably detect intruders while virtually eliminating false alarms.

BiSensor Key Features

Key features of this leading edge sensor are:

- Unique infrared and video sensor fusion for reliable detection.
- The sensor fusion qualifies PIR activations with image processing to filter out nuisance alarms.
- PIR detection area matched to the image sensor fields of view and all intrusions captured in the video image.
- High quality black and white or color images.
- Audio pickup feature can detect voice conversation from up to 5 metres (16 feet) away.
- Black and white BiSensor automatically strobes the integral I/R illuminator when the scene is dark.
- Detects masking, tampering, or cable cut.
- Battery backed up power from the InSight video alarm panel and low power mode for extended mains power failure.
- Simple installation, using up to 100 metres (300 feet) of industry standard screened dual twisted pair cable.
- Automatic backlight compensation.



Total Security with Battery Backup and Low Power Mode

In the event of a mains power failure, ADPRO® BiSensors are powered from the InSight video alarm panel backup batteries and operate normally.

After 15 minutes, the BiSensors go into Low Power Mode to conserve the batteries until mains power is restored. However, PIR activation on any BiSensor will restore it to normal operation.

Subsequent intrusions in the zone covered by the BiSensor will result in alarm image capture, and transmission to the Central Station. Unlike other CCTV systems, security and alarm verification is not compromised by mains power failure.

Installation and Setup

BiSensor installation is simple, using up to 100 metres (300 feet) of industry standard screened dual twisted pair cable. This is all that is required to connect a BiSensor to the InSight system and carries the Video, Audio, Control, and BiSensor power.

A multitude of cables are normally required for PIR's, CCTV cameras, audio pickup devices, I/R illumination, and appropriate power for all of them. With ADPRO® BiSensors, the unique 4-wire interface handles the lot.

Setting up the BiSensor is easy. Checking the video image on the InSight local monitor output provides a visual confirmation of the sensor detection coverage. Anything that's not in the field of view will not cause an alarm.

ADPRO® BiSensor Specifications

Image Sensor Resolution

PAL - 500(h) x 582(v)
NTSC - 570(h) x 492(v)

Horizontal Line Resolution

Black and white – 400 lines
Color – 320 lines

Image Sensor Sensitivity

Minimum scene illumination:
Color - 5.0 LUX @ F2.0
Black and white - 0.5 LUX
@ F2.0 (0 LUX with I/R Illuminator)
SNR - 40db with AGC full ON,
55db with AGC OFF

Image Sensor FOV

Wide angle - 90°(h) and 70°(v),
Narrow angle - 45°(h) and 35°(v).

I/R Illumination - General

On black and white BiSensors I/R illumination operates automatically on low scene illumination with automatic exposure, and covers the image sensor fields of view.

I/R Illuminator Range

10 metres (33 feet) for wide angle sensor and 15 metres (49 feet) for narrow angle sensor.

PIR Performance

Meets the detection performance requirements for U/L 639, BS4737 and AS2201.

PIR Detection Area

Always within the field of view of the image sensors. Intrusions are captured in alarm images.

PIR Detection Range

10 metres (33 feet) for wide angle sensor and 15 metres (49 feet) for narrow angle sensor.

PIR Detection Indicator

Activation shown by a pulsing red LED.

Audio Pickup Sensor

Capable of monitoring conversational speech directed towards the BiSensor, to a range of 5 metres (16 feet), in a low ambient noise environment.

Low Power Mode

Enters low power mode fifteen minutes after a mains power failure to conserve system backup batteries. The PIR component of the BiSensor remains active to recover the system for alarm image capture on subsequent alarms.

InSight Video Alarm Panel Specifications

Video Standard

Factory settable to PAL/CCIR or NTSC/RS170.

Video Input Zones

Connection points for up to eight ADPRO® BiSensors or InSight Third Party Camera Adaptors when using other CCTV cameras.

VCR Replay Input

BNC connector for RG-59 cable terminated in 75ohm.

Local Monitor Outputs

Two BNC connectors for RG-59 cable to drive 75ohm.

Video Out to VCR

BNC connector for RG-59 cable to drive 75ohm.

Remote Audio Output

Output for audio from the Central Station; 1 Watt into 8ohms.

Third Party Audio Inputs (optional)

Eight microphone or line level inputs for connection to third party devices.
0.1mV-10mV (microphone)
10mV-400mw (line)
Phantom power 5V@4mA

Alarm Device Inputs

Eight Zones for other alarm sensors using fully supervised wiring. Supervision provided by the supplied end-of-line (EOL) resistors. Each Zone protected to a maximum input voltage of 32V DC.

Auxiliary Control Outputs

Five open collector auxiliary control outputs, to control low power relays. Rated as open collector with a 0.1ohm ON resistance, 15V DC max. terminal voltage, nominal current of 100mA, and max. short circuit current of 200mA.

Siren Outputs

Two sirens or strobe outputs, rated at 12V DC, 4 Amps peak current, 2 Amps continuous (when recommended backup batteries are fitted). Internally fused with self-recovering devices.

RS232 Serial Port

Industry standard DB9, RS232 connection point for connection to a laptop PC or external modem or terminal adaptor for system setup or testing.

Telephone Line Connection

Connection points for three RJ11 connectors for primary dial line backup line and loop through for shared equipment on the backup line. Supports Redcare and Securitel line monitoring.

Internal Modem Dialler - (optional)

Integral 33k6 V34 modem approved for UK, USA, Australia and South Africa.

System Code Pad Control

Connection points for up to four system CodePads. Electrical interface is industry-standard 4-wire RS485. 100m (330ft) max.

System Access and Integrity

Provides four levels of User authorization for up to 30 Users and each User programmable for limited access using one of the system's 7-Day Timers.

System Programming

Programming facilities provided via the CodePads and the option for Installer to use a laptop PC, either locally via the RS232 port or remotely over the phone line.

Local Video Display Modes

Monitor 1 provides local video display modes of Spot, Auto-sequence, Quad, Activity Follow, Freeze and VCR replay. Monitor 2 Provides local video display modes of Spot, Auto-sequence and Activity Follow.

Quad Display Resolution

PAL/CCIR - 512(h) x 576(v)
(24 bit color/256 greyscale),
NTSC/RS170 - 512(h) x 480(v)
(24 bit color/256 grayscale).

Quad Update Rate

Typically 12.5 per second (PAL/CCIR) or 15 per second (NTSC/RS170) when using BiSensors.

Multiplexer Recording

Full duplex color, black and white or mixed multiplexed recording to VCR, with a simultaneous split screen display, or replay from a second VCR while still recording to another.

VCR Control Relay

Form C contact relay to control a time-lapse VCR. Relay contacts rated at 30V DC, 1 Amp max, 500mA continuous.

Multiplexer Display Modes

Display modes for multiplex replay of Spot, Quad, Activity Follow and Freeze.

Multiplexer Display Resolution

PAL/CCIR - 512(h) x 288(v)
(24 bit color/256 greyscale),
NTSC/RS170 - 512(h) x 240(v)
(24 bit color/256 grayscale).

Specifications cont.

Multiplexer Quad Resolution

PAL/CCIR - 512(h) x 576(v)
(24 bit color/256 greyscale),
NTSC/RS170 - 512(h) x 480(v)
(24 bit color/256 grayscale).

Battery Backup

Connection points for up to four backup
12V DC 6.5 or 7 Amp/Hr sealed lead acid
batteries, using factory-supplied cables.

System Tamper Switch

Factory-supplied N/C tamper switch
assembly to monitor the integrity and
security of the enclosure and its mounting.

Auxiliary +12V DC Supply

Internal 12V DC power supply to supply
low power sensing devices like PIR's.
Max. current capacity is 400mA (when
recommended backup batteries fitted)
and protected with a self-recovering
fuse device.

Compliance Statement

Electrical Safety: AS3260/EN60950
Emissions: AS3548/EN55022/FCC
Part 15 Class B
Immunity: AS4252.1/EN50082.1
BSI Standards: BS4737
European Directives: LVD: 73/23/EEC,
EMC: 89/336/EEC, TTE: 91/263/EEC
Modem Compliance: ACA: TS001,
TS002, FCC: Part 68, BABT: UK NTR3,
SATRA: TE001, TE004.

Video & Audio Transmission and Alarm Verification

Image Resolution at the Monitoring Station

LoRes

PAL/CCIR 256(h) x 288(v),
NTSC/RS170 256(h) x 240(v),
24 bit color/256 greyscale.

HiRes

PAL/CCIR 512(h) x 288(v),
NTSC/RS170 512(h) x 240(v),
24 bit color/256 greyscale.

Video and Audio Surveillance

Can be dialled from a remote location
using a standard phone line to view all
video inputs, and monitor audio from
ADPRO® BiSensors.

Alarm Image Capture (Premises Closed)

Capture facility for three HiRes alarm
images per alarm event from up to
three simultaneous alarm events.

Alarm Image Capture (Premises Open)

Three HiRes alarm images from the
first alarm event plus 6 pre-alarm
images from a designated duress or
panic/armed holdup video input.

Image Transmission Times

First image is 2 to 10 seconds on PSTN
(faster on ISDN), depending on estab-
lished link data rate, image quality
(Hi or Lo Res), and color or black
and white.

Image Updates

Subsequent update rates can be up to
8 images per second, depending on the
amount of activity in the scene.

Alarm Image Display at the Central Station

Initial alarm display is quad screen with
1st alarm image, 2nd image, 3rd image
and an "action replay" of the first 3
images in the 4th quadrant to clearly
show what caused the alarm.

Image Logging

All images viewed by the remote
monitoring equipment operator are
time stamped and logged to an image
data base in compressed form.

Logged Image Review

Images, along with alarm events and
audio to and from the site, are reviewed
in the exact format as originally
presented to the operator, with time
or date search by each site.

Components and Options

- Video Alarm Panel with
Modem and Video Transmission
- ISP-1x/Myy/R/T
- Video Alarm Panel with
Modem* - ISP-1x/Myy/R
- Video Alarm Panel with
Video Transmission - ISP-1x/R/T
- Video Alarm Panel* - ISP-1x/R

x = P for PAL, or N for NTSC

yy = UK for modem approved in UK
US for modem approved in USA
AU for modem approved in Australia
ZA for modem approved in
South Africa

*Video Alarm Panels without transmission
continue to report video verified alarms,
but do not transmit live video or audio

InSight Options

- CodePad - ISC-1
- Third Party Camera Adaptor - ISTPCA-1
- Third Party Audio Adaptor - ISTPAA-1
- Video Transmission upgrade for
Video Alarm Panels without transmis-
sion - ISP-1T
- Video Central - Refer to the Video
Central Gold data sheet for details.

BiSensors

- Black and white with I/R
- ISSM-1xyyI
 - Color - ISSC-1xyy
- x = P for PAL, or N for NTSC
yy = 90 for wide FOV, or 45 for narrow
FOV.

Minimum System

- Video Alarm Panel with modem or TA
- At least 1 CodePad (up to a total of 4)
- Up to 8 ADPRO® BiSensors or
standard CCTV cameras, with Third
Party Camera Adaptors.

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