

DuoTek®



THE ULTIMATE FENCE PROTECTION ANALYSER

 **DETECTION  
TECHNOLOGIES**  
PROTECTING PERIMETERS WORLDWIDE



The DuoTek® perimeter security system analyser from Detection Technologies Ltd. pushes the limits of intrusion detection performance far beyond that of comparative technologies currently servicing this highly specialised branch of the security industry.

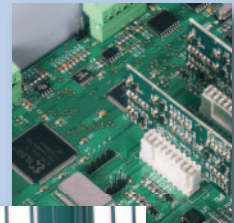
The DuoTek® analyser employs state of the art digital signal processing hardware hosting powerful knowledge based software processes which continually sift megabytes of digital data generated in response to the wide range of mechanical activity that impacts on every type of perimeter barrier structure.

Such mechanical activity may be the result of benign environmental effects such as wind, rain, hail & snow, as well as activity resulting from hostile actions such as cutting through, climbing over, or other similar actions intended to defeat the perimeter barrier.

Used in conjunction with Detection Technologies advanced VibraTek®\* sensor, the primary function of the DuoTek® analyser is to monitor the status of the perimeter barrier and alert security personnel and systems when signals generated as a result of mechanical activity on the barrier are detected and classified as being of hostile origin.

At the same time, the DuoTek® analyser must reliably ignore all signals generated as a result of benign, or non-hostile activity which would otherwise be classified as false alarms. Within this context, DuoTek® comfortably outperforms it's competitors.

While the majority of applications of the DuoTek® analyser will involve protection of metallic fence structures, the adaptability and capabilities of DuoTek® ensures reliable detection performance when applied to walls, wall toppings, wooden fences, roofs, and many other perimeter barrier structures.\*\*



\* Refer to the VibraTek product literature for detailed information on this advanced sensor technology  
\*\* Subject to Detection Technologies technical recommendations.

## Overview

The DuoTek® analyser provides 2 zones of intrusion detection utilising the VibraTek® sensor cable, along with 4 relay contact monitoring inputs ensuring that DuoTek has the flexibility to meet the needs of virtually all perimeter barrier protection applications.



High level interfacing capability is achieved by the incorporation of a high speed communications link within each DuoTek® analyser allowing multiple analysers to be linked together. Low level interfacing is achieved through the use of semiconductor relays.



The DuoTek® analyser fully utilises the high quality audio monitoring capability provided by the VibraTek® sensor cable and can be configured to store pre and post alarm audio signals generated in response to hostile activity. Live audio directly from the perimeter may also be monitored.

## Control Options

### Local System Control

Local system control refers to the capability to configure each zone of the DuoTek® analyser using an on-board USB interface. This capability is most often used to make field adjustments to smaller installations where the analysers may not be linked on a communications bus and employ the on-board semiconductor relay interfacing to annunciation equipment or alarm panels on unmanned sites.

The IrDa infra-red link allows a wide range of adjustments to optimise the detection performance and manage the operation of the analyser. A real time clock associates every analyser transaction with a date and time stamp.

System security is ensured by the use of passwords to prevent unauthorised adjustment of the system.

### Remote System Control

Remote system control refers to the capability to control and configure each DuoTek® analyser from a central location on site such as a security control room within a prison or other secure establishment.

Each DuoTek® analyser incorporates integrated data communication capability to allow remote control of analysers by transmission of commands from a central location. This data communication capability is based on the industry standard RS485 data transmission protocol.

The communications bus linking the DuoTek® analysers terminates with a base station module which provides Ethernet connectivity between the RS485 communications bus and the security management or annunciation system to which the base station is connected.

Up to 32 DuoTek® analysers (64 VibraTek zones + 128 contact zones) may be linked together using the integrated communications capability. Multiple base stations may be used to meet the zone requirements of larger sites.

Remote control of the analysers allows access to the digital audio functionality provided by DuoTek®.

## Common Features

### Relay Signalling Capability

Each DuoTek® analyser offers 4 relay outputs which may be configured as alarm & tamper indicators when the analyser is deployed in a stand-alone configuration. Low level signalling via these relays provides a simple interface to annunciators or other warning devices.

### Contact Monitoring Capability

In addition to providing two zones of sensor cable detection, each DuoTek® analyser can also monitor the status of 4 volt-free contact inputs.

This capability allows simple integration of 3rd party detection systems, gate contacts, etc. by transmission of the status of these contacts to a central control system.

### Event Log

The DuoTek® analyser maintains an event log which stores the details of every alarm transaction initiated by the analyser. Each event is date and time stamped along with an event descriptor. The event log holds a maximum of 1000 transactions before overwriting the oldest event.

### Audio Storage Capability

Each alarm event detected by the DuoTek® analyser causes the sensor cable audio signal that created the alarm condition to be stored within the analyser so that it can be subsequently recalled to assist in the process of alarm verification.

The audio storage system records audio continuously so that on the occurrence of an alarm event, pre-alarm and post-alarm audio is available for verification purposes.

### Integrated Audible Warning Device

Each DuoTek® analyser incorporates an audible warning device to assist in setting the detection parameters by indicating when an alarm condition is present. The warning device is automatically enabled when the enclosure lid is removed and disabled when the lid is replaced.





# THE ULTIMATE FENCE PROTECTION ANALYSER

## Electrical Specification

### Inputs

- Power supply port: (1) input voltage range: 9 – 24v DC  
current drain @ 12v: 200mA
- Sensor cable ports: (2) VibraTek® sensor cable
- Contact input ports: (4) dry (volt-free) contact inputs.

### Outputs

- On-board audio ports: (2) non-isolated output (*local diagnostic use only*).
- Audible warning device: (1) commissioning & system demonstration aid,  
(*automatically disabled on enclosure lid replacement*).
- Alarm outputs: (2) form A (NO) semiconductor relay.
- Tamper outputs: (2) form A (NO) semiconductor relay.

### Local Control Port

- Implementation: (1) On board USB interface
- Functionality: system parameter adjustment, event log access, time & date setting, password control.

### Remote Control Port

- implementation: (2) RS485 data bus with loop capability.
- functionality: As Local Control Port plus: digital audio transport, stored audio control, auxiliary contact status monitoring, alarm & tamper status monitoring.

## Environmental Specification

- Operating temperature range: - 30° to + 70° Celsius.
- Relative humidity: 90% non-condensing e

## Physical Specification

- Enclosure material: Pressure die-cast aluminium.
- Enclosure sealing: IP65.
- Cable glands: 4 x M20 (Service Cables), 2 x PG9 (Sensor Cables).
- Cable gland sealing: IP66.
- Dimensions: 260 w x 160 h x 90 d (mm)
- Weight: 1.8 kgs.

