

## Features

- 2-channel video transmitters and receivers
- 9-bit uncompressed digital video
- High-quality video  $\geq 63\text{dBw}$  SNR
- 1 duplex high-speed (HS) port
- 2 duplex user-configurable Option Modules
- Standalone and rack-mount versions
- Network Management System (NMS) compatible



## 9421D Series

### Two-channel video w/HS port and two Option Modules

#### Description

The Optelecom® 9421D series modules digitise and transport two video channels, one duplex High-Speed port data channel, and two Option Module channels over one optical fiber, with the Option Module channels operating in both directions.

The two Option Module channels provide additional transport for any combination of two data, audio, contact closure, or intercom channels on the same fiber as the video and High-Speed port channels. The High-Speed port supports duplex 1.5Mb/s RS-422 or connection to an optional Option Module Host card for transport of four or eight duplex audio, data or contact closure, or 10Mb/s Ethernet signals.

Uncompressed 9-bit digitising, oversampling, and digital filtering ensure a very high transmission performance, exceeding the requirements of the EIA RS-250C short haul specification.

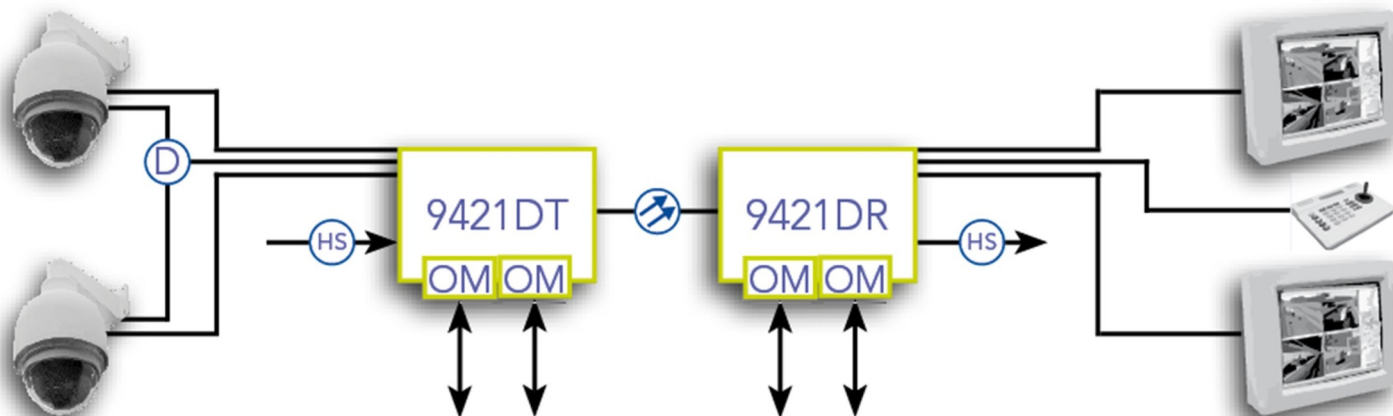
The wide operating temperature range of these units makes the 9421D series well-suited for environmentally harsh applications such as traffic monitoring, video surveillance in city centers, and federal and critical infrastructures.

The 9421D series comes as a rack-mount version, suitable for a 9002 or 9008 power supply cabinet, or as a standalone unit. The 9421D series modules are managed with the Optelecom® Network Management System (NMS).

To create a standalone version of the 9421D rack-mount card, use the 9003-2 mini chassis.

# Technical Specifications

## 9421D Series



### Video (x2)

Video format	NTSC, PAL
Video input	1Vpp into 75Ω
Connector type	BNC
Bandwidth	5Hz to 6.5MHz (-3dB)
Differential gain	2.0%
Differential phase	1.0°
Signal-to-noise ratio	≥63dBw
Video encoding	Uncompressed 9-bit linear PCM
Video sampling rate	15MHz

### Option modules

Number of free channels	2x duplex
A Module	1x audio
B Module	1x user-configurable data (RS-232, RS-422, RS-485)
C Module	1x contact closure
D or E Module	2x audio (simplex only)
GM or GR Module	2x intercom audio

For more information on Option Modules, refer to the Option Modules data sheet or contact TKH Security Solutions.

### Management

LED status indicators	
9421DT	Sync, video present (x2)
9425DT	Sync, loop, not sync, video present (x2)
9421DR	Sync, Tx video present (x2)
9425DR	Sync, loop, not sync, Tx video present (x2)
Management system	9900 Network Management System (NMS)

# Technical Specifications

## 9421D Series

### High-speed ports

Number of ports	1x duplex
Data format	RS-422 or extension port
Data rate	
Synchronous RS-422	15Mb/s
Asynchronous RS-422	≤1.5Mb/s
Extension port for:	
Option module host	9961A-C, 9962A-C
10Mb Ethernet	9971-C, 9972-C
Ethernet ports	10/100 Fast Ethernet, autosensing, auto MDIX, full-duplex/half-duplex, autonegotiation, built-in 4-port unmanaged switch, RJ-45 connectors

For more information on HS port capabilities, contact TKH Security Solutions.

### Power requirements

9421DT	
Voltage	6VDC (chassis)
Current	650mA
9421DT	
Voltage	6VDC (chassis)
Current	700mA
9425DT	
Voltage	8-15VDC
Current	370mA at 12VDC
9425DR	
Voltage	8-15VDC
Current	370mA at 12VDC

### Environmental

Operating temperature	-40°C to +74°C (-40°F to +165°F)
Storage temperature	-55°C to +85°C (-67°F to +185°F)
Relative humidity	<95% with no condensation

### Mechanical

9421DT, 9421DR	
Housing	1-slot card, 9000 series chassis
Dimensions (h x w x d)	154.9 x 20.3 x 218.4mm (6.1 x 0.8 x 8.6in)
Weight	272g (9.6oz)
9425DT, 9425DR	
Housing	Standalone chassis (size 5)
Dimensions (h x w x d)	40.6 x 81.3 x 127.0mm (1.6 x 3.3 x 5.0in)
Weight	464g (16.4oz)

# Technical Specifications

## 9421D Series

### Optical

	9421DT/DR-MMH TX/RX	9421DT/DR-SM TX/RX
Fiber type	MM (62.5)	SM (09)
Output wavelength	1310nm/1550nm	1310nm/1550nm
Output power	-7dBm/-7dBm	-7dBm/-7dBm
Input sensitivity	-26dBm/-30dBm	-25dBm/-31dBm
System link budget	19dB <sup>1</sup> /21dB <sup>1</sup>	18dB/24dB
Fiber length (range) <sup>2</sup>	13km	47km
Connector type	ST (others optional)	ST (others optional)

<sup>1</sup>For 50/125µm fiber, subtract 4dB.

<sup>2</sup> Range may be limited by fiber bandwidth.

### Ordering information

Models*	Description	Fiber type
9421DT(XX)/MMH-ST	2-channel digital video transmitter	1xMM
9421DR(XX)/MMH-ST	2-channel digital video receiver	1xMM
9421DT(XX)/SM-ST	2-channel digital video transmitter	1xSM
9421DR(XX)/SM-ST	2-channel digital video receiver	1xSM
9425DT(XX)/SM-ST	Standalone version of the 9421D transmitter model	1xSM
9425DR(XX)/SM-ST	Standalone version of the 9421D receiver model	1xSM

\*For user-definable Option Modules, replace (XX) in model number with code letters for desired Option Modules.



The quality management system used in the development, production, sales, and support of this product is ISO 9001:2008 certified by LRQA.

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