BOSCH
Invented for life

AutoDome® TCP/IP Communications Module

- **Adds TCP/IP connectivity to any AutoDome 100, 200, 300 or 500i Series camera**
- **MPEG-4 compression at 4CIF/ Half D1/CIF/QCIF resolutions**
- **DVD-quality 4CIF video at frame rates up to 25/30 IPS**
- **Tri-streaming (simultaneous dual MPEG-4 and M-JPEG streaming)**
- **Supports hybrid analog/IP operation**
- **Direct iSCSI device support for Recording at the Edge**
- **Alarm notification via e-mail and upload of images via e-mail and FTP**
- **SNMP (v2 MIB-II) support for network management**

The TCP/IP Communications Module is an integral part of Bosch's AutoDome Modular Camera System, adding network connectivity to any AutoDome 100, 200, 300 or 500i Series camera. The TCP/IP module provides complete network-based control of all dome functionality including pan/tilt/zoom operation, presets, tours and alarming as well as web-based configuration of all dome settings.

AutoDome cameras equipped with the TCP/IP Communications Module deliver true hybrid operation. With both Ethernet and analog BNC connections, network-enabled AutoDome cameras provide direct network connection while simultaneously supporting existing analog equipment. The TCP/IP Communications Module uses MPEG-4 compression, bandwidth throttling, and tri-streaming capabilities to efficiently manage bandwidth and storage requirements while delivering outstanding image quality.

Built-in iSCSI support allows network-enabled AutoDomes to stream video directly to an iSCSI RAID array. This eliminates the need to stream all the video data over the network to a conventional network video recorder (NVR). The TCP/IP Communications Module can be configured to send alarm notifications with associated snapshot images via e-mail. SNMP support is included for remote device monitoring and management.

Functions

MPEG-4 encoding

AutoDome's TCP/IP Communications Module uses an MPEG-4 encoder to create DVD-quality streaming video at low bit rates. Use of MPEG-4 encoding, bandwidth throttling and multicasting capabilities, minimizes bandwidth and storage usage to reduce costs. The TCP/IP Communications Module supports 4CIF, 2CIF, 1/2 D1, 2/3 D1CIF, and QCIF resolutions at frame rates up to 25/30 PAL/NTSC images per second (IPS).

Tri-streaming video

Bosch's innovative tri-streaming feature enables AutoDomes equipped with the optional TCP/IP Communications Module to generate two independent MPEG-4 streams and a JPEG stream simultaneously. This allows you to stream high-quality images for live viewing while recording at a reduced frame rate, and at the same time, stream JPEG images to a remote PDA device.

Hybrid flexibility

The TCP/IP Communications Module enables true hybrid camera operation. With both Ethernet and BNC connections, AutoDomes equipped with a TCP/IP Communications Module can simultaneously stream IP video across a local or wide area network, and CVBS video via coaxial cabling to support existing analog equipment. Network video streams are sent over IP networks and can

be viewed with the Bosch DiBos Digital Video Recorder, or on a PC running VIDOS video management software. Alternatively, a Bosch IP video decoder can be used to display the video on an analog CVBS or VGA monitor. For maximum accessibility, the video can be viewed using a web browser.

The built in web server allows authorized access using a standard web browser, such as internet Explorer, eliminating the need to install special viewing software.

Audio

The AutoDome TCP/IP Communications Module provides integrated one-way audio support. This support allows the user to remotely monitor audio from the camera site directly over the network. Bosch enables video and audio to be relayed as a single media stream so the two are synchronized.

iSCSI device support

Built-in iSCSI support allows a network-enabled AutoDome to stream video directly to an iSCSI RAID array. This enables local video storage just like a conventional DVR without streaming high bandwidth video across the network. Local recording, or Recording at the Edge, minimizes bandwidth usage and makes system recording performance totally independent from network performance.

Alarm management

The TCP/IP Communications Module extends AutoDome's powerful, flexible alarm management system even further. An AutoDome equipped with the optional network module can be configured to send alarm notifications via e-mail. Each e-mail notification contains a text description of the alarm as well as a digital image of the event.

Network-based control and configuration

The AutoDome TCP/IP Communications Module enables full camera control and configuration capabilities over the network. Operators or technicians can control camera pan/tilt/zoom operation, presets, tours, and alarm management functions virtually anywhere without need for additional wiring.

The embedded web server on the Communications Module lets the installer access all the user settings, make camera adjustments, and update firmware via a standard web browser.

Device management

Simple Network Management Protocol (SNMP) support facilitates the remote monitoring and management. The TCP/IP Communications Module provides full support for SNMP v3.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Technical Specifications

Parts Included

Quantity	Component
1	TCP/IP Communications Module

Electrical

Compression Standards	MPEG-4; M-JPEG
Video Data Rate	9.6 Kbps–6 Mbps constant and variable
Video Resolution	704x576/480 (4CIF; 25/30IPS) 704x288/240 (2CIF; 25/30IPS) 464x576/480 (2/3 D1; 25/30IPS) 352x576/480 (1/2 D1; 25/30IPS) 352x288/240 (CIF; 25/30IPS) 176x144/120 (QCIF; 25/30IPS)
GOP Structure	I, IP
Overall Delay (IP)	MPEG-4: 100 ms
Frame Rate	1-25/30 IPS (PAL/NTSC) Field/frame based coding
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP, SMTP, Dynamic DNS, iSCSI
Software Update	Flash ROM, remote programmable
Configuration	Via web browser/built-in web server, DiBos, or VIDOS
Ethernet	10/100 Base-T, auto sensing, half/full duplex, RJ45
Audio Line In*	9 K Ohm typ, 5.5 Vp-p max

* With Ethernet models, the bi-phase ± can optionally be used as the audio line in connector.

Environmental

Input Voltage	Supplied by AutoDome
Power Consumption	4 W in addition to AutoDome
Weight	Approx. 0.17 kg (0.37 lb)
Operating Temp.	Depends on specific AutoDome model configuration

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