

the i-Volution™ 1400 HARDENED ENCODER

QuadriMedia Codec Series

The i-Volution 1400 (i1400) Video-over-IP networking solution provides multi-channel transport capability for advanced surveillance applications requiring high resolution, full motion video. The i1400 can encode up to four MPEG-1/MPEG-2 video streams, two serial data channels as well as audio for transport over a standards-based IP network. The i1400's advanced capability allows it to encode any one of the (4) video inputs and/or simultaneously transport them as a single quad-image at full D1 resolution. The video streams can be viewed from anywhere in the network using i-Volution compliant hardware and/or software decoders.

The i1400 is available as a stand-alone 4-port video encoder with single or dual 10/100 Base-T Ethernet interfaces. An optional dual-fiber 100 Base-FX Ethernet interface is also available.



The i1410 QuadriMedia Encoder



The i1420 QuadriMedia Encoder with Dual Ethernet interface



The i1420 QuadriMedia Encoder with Dual Ethernet and Dual Optics

applications

- Security Surveillance
 - Airports
 - Military
 - Industrial Complexes
 - Hospitals
 - Campuses
 - Detention Centers
 - Residential
- Transportation Monitoring
 - Road (ITS)
 - Traffic Intersections
 - Rail/Light Rail
 - Subway/Metro

High Resolution - Full Motion Video

Impath Networks i1400 provides the highest digitized video quality over standard IP Ethernet networks. Every image is encoded in real-time and displayed at 30/25 (NTSC/PAL) frames per second. This advanced capability provides full motion DVD quality video for digital CCTV surveillance applications.

Quad-Channel Capacity

The i1400 supports (4) video inputs for surveillance applications where multiple cameras are deployed within close proximity. The two serial data ports provide additional support for PTZ, NMS, POS and SCADA applications.

High Quality Audio

The i1400 QuadriMedia Encoder supports (1) bi-directional audio channel (stereo) that can be broadcast over an IP network. This high quality audio channel can be used for a multitude of applications such as distributed Public Addressing Systems, SOS phone support and critical infrastructure monitoring.

Network Scalability & Flexibility

The i1400 complements the i-Volution product family with enhanced scalability and functionality at the edge of the network. The stand-alone i1400 Encoder is ideal for a multitude of surveillance applications requiring multi-channel capacity and high quality full motion video.

Advanced features such as On-Screen-Display (OSD) allow network administrators to display camera name, date, time, resolution, bit rate and other related information on any video monitor in the network.

Enhanced IP Multicast Capability - Video, Data & Audio

i-Volution simplifies network connectivity via standards-based multicast technology for streaming video, data and audio within an IP network. IP Multicasting provides the ability to distribute information efficiently to an unlimited number of remote locations via a single communications interface at the central site. This flexibility reduces hardware and bandwidth requirements while optimizing the overall network.

Standards Compliant

Video is encoded using standard MPEG-1 or MPEG-2 compression. Audio is encoded via MPEG-1 Layer 3 (MP3) and decoded via MPEG-1 Layer 2 or 3. The video stream/s can be viewed by Impath software/hardware decoders and/or 3rd Party products.

Network Manageability

The i1400 can be managed both locally and remotely using Telnet, i-Volution NMS or via 3rd Party SNMP network management systems.

Temperature Hardened

The i1400 is environmentally hardened to operate over extended operating ranges and is conformal coated to ensure maintenance free operation in harsh conditions.

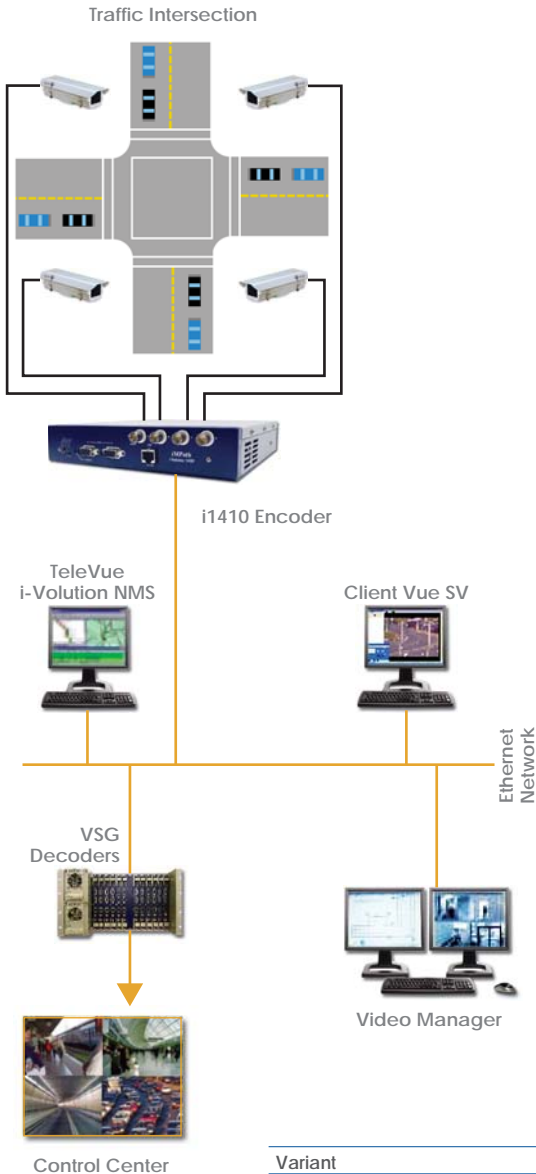


the i-Volution™ 1400

HARDENED ENCODER

ethernet & serial data interface applications

- Pan Tilt Zoom
- Traffic Controllers
- Card Readers
- Virtual Message Signs
- Weather Stations
- Loop Detectors
- Weigh-in-motion
- Video Detection
- SCADA devices
- Radar
- PC Workstation
- Maintenance Applications



Video

Analog Video Channels	NTSC (30 fps), PAL (25 fps)	
Connector	Four (4) inputs - User Selectable - Video A or B or C or D or Quad view (4) BNC, 75 ohm	
IP connectivity	Unicast and Multicast (UDP)	
Digital Encoding	MPEG-1 (ISO/IEC 11172-2) and MPEG-2 (ISO/IEC 13818-1 Transport Stream or ISO/IEC 13818-2 Elementary Stream) MP@ML	
Data Rate	128 kbps to 8 Mbps in Transport Stream and up to 12 Mbps in Elementary Stream	
Resolution	NTSC	PAL
Full	720 x 480	720 x 576
HHR	352 x 480	352 x 576
SIF	352 x 240	352 x 288
QSIF	192 x 128	160 x 128
Latency	225ms with Optimal Setting	

Data

Format	Serial/Asynchronous
IP Connectivity	Unicast and Multicast (UDP)
Channels/Connectors	(2) DB9-F
Interface	EIA-232/422/485 - 2/4 Wire, Half/Full Duplex, Software Programmable
Data Rate	300bps to 115.2 kbps

Audio

Audio Mode	Bi-directional Stereo
IP Connectivity	Unicast and Multicast (UDP)
Audio Encoding	MPEG-1 Layer 3 (MP3) ISO/IEC 13818-3
Audio Decoding	MPEG-1 Layer 2 & 3 (MP2 & MP3) ISO/IEC 13818-3
Frequency Resp./Sampling rate	20Hz - 20 kHz / 32kHz, 44kHz, 48 kHz
Bandwidth Requirements	64kbps to 192 kbps
Audio Jack	Mini DIN : Balanced & un-balanced Line Level Input/Output <i>Adapter with 4 RCA jacks is included</i>

LAN

Format	IEEE 802.3 Ethernet
Channels/Connector	(1) RJ45 channel on i1410 and (2) channels on model i1420 and i1422
Interface	10/100 Base-T Ethernet, Half/Full Duplex, Auto-Sensing
Data Rate	10/100 Mbps
Protocol	<i>When Multicast video is used, any device connected on the Ethernet port of the i1420 and i1422, must negotiate it's speed to 100 Mbps FD.</i> TCP, UDP, IPv4, IGMPv2, RTP, Diffserv, SAP, SNMPv2

Optical Link (Available on optical variant i1422)

Optical Format	IEEE 802.3 Ethernet
Connector / Fiber	(2) ST / Single Mode / 35dB link Budget
Interface	100 Base-FX Ethernet, Full Duplex
Data Rate	Integrated Layer-2 Switches with Extended Channel Support
Laser Products Approvals	<i>Maximum Cascade of 15 units provided aggregate bandwidth < 70% of Optical Link.</i> 100 Mbps Europe IEC60825-1.2; North America CFR 1040 Class 1

Alarms

Via NMS/SNMP	Video Loss Detection Contact Sense & Closure (4), Unit Configuration Change and Reset
--------------	--

Management

Local Management	Via Serial (Console) Maintenance Port, LED Status Display
Remote Management	Via i-Volution NMS (TeleVue), Telnet, SNMPv2
Software Updates	Via Network Download - One or multiple units simultaneously

Power

Input Voltage	10.5 - 15 V DC (.100" center pin diameter lock type connector.) <i>AC Power Adapter included</i>
Consumption	18 to 23 W (model dependant)

Physical

Size	W 9.1" (23.1 cm) x H 1.72" (4.37 cm) x L 9.1" (23.1 cm)
Weight	2 lbs (.9 kg)

Environmental

Operating Temperature	-34°C to +74°C
Relative Humidity	5% to 95%, Non-Condensing
Environmental Protection	PCB Conformal Coating

Regulatory Approvals

Emissions	EN55022: 1998, EN61000-3-2: 1995 & EN61000-3-3: 1995 Class A
Europe	FCC47 CFR Part 15, Subpart B: 1999 Class A
North America	AS/NZS 3548: 1995 Class A
Australia/New Zealand	EN55024
Immunity	

Variant	Video ports		Audio ports		Ethernet ports	Data ports	Dry contact	
	Encoding	Decoding	Encoding	Decoding			Sense	Closer
i1410 QuadriMedia Encoder	4 - 1		1	1	1	2	4	4
i1420 QuadriMedia Encoder with Dual Ethernet	4 - 1		1	1	1	2	4	4
i1422 QuadriMedia Encoder with Dual Optics	4 - 1		1	1	2 + 2 optics	2	4	4



Impath Networks Canada Corporation 42 Payzant Avenue, Suite 100, Halifax, NS Canada B3B 1Z6
T: 902-468-1010 F: 902-468-1044 impathnetworks.com

Impath Networks Ltd. 9 Camelot Drive, Suite 100, Ottawa, ON Canada K2G 5W6
T: 613-226-4000 F: 613-226-4602 impathnetworks.com

Copyright 2008 Impath Networks Canada Corporation. Impath is a registered trademark of Impath Networks Canada Corporation. TeleVue, ClientVue and i-Volution are trademarks of Impath Networks Canada Corporation. All other trademarks are those of their respective owners. Printed in Canada - 10/08. Specifications subject to change without notice or obligation. 08mbr_148_100_i1400_09.pdf