Optelecom-nkf

V → 1x **A ↔** stereo **D ↔** 2x **CE ↔** 2x

MPEG-2 video en/decoder, audio, data and CC

C-20

Features

- DVD-quality MPEG-2 video codec
- Environmentally hardened
- Low-latency (< 150ms)
- Bandwidth-efficient multi-stream
- 2-way CD-quality audio, (PTZ) data and contact closures
- Password protected Web-interface
- Unicast and multicast support
- Ruggedized and compact
- SNMPv2 network management
- Five year warranty

Description

Optelecom-NKF's versatile C-20 encoder and decoder are designed for DVD-quality video surveillance over IP networks. The encoder can simultaneously stream various picture rate to limit bandwidth during live monitoring, background recording, video content analysis, etc. By supporting IGMPv2 multicast, the C-20 efficiently uses the available network capacity. To migrate analogue CCTV services to IP, the versatile C-20 combines DVD-quality video with two-way stereo audio, serial data (e.g. for PTZ-control), and two-way contacts (e.g. for alarm contacts).

Both encoder and decoder are designed and tested to operate under industrial conditions, characterized by a wide operating temperature range (-40 to +74°C) and mechanical stress (vibration and shock).
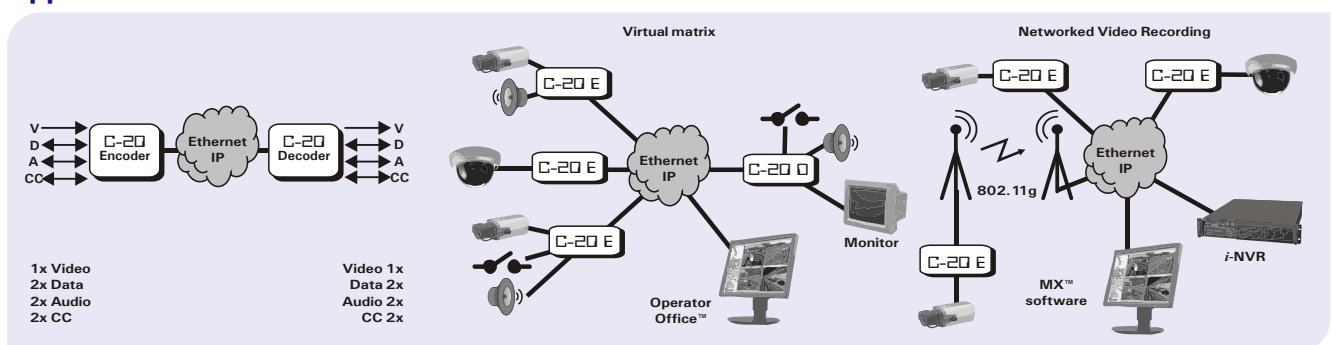
The C-20 encoders and decoders are key elements of Optelecom-NKF's Advanced IP-Video Network solutions offering seamless integration of video management, network recording, control and operating software, and video content analysis software. All systems within Optelecom-NKF's Advanced IP-Video Network solutions interoperate.

Configuration and management are simplified by the built-in web-interface and SNMPv2 agent. Full in-band control is available through Optelecom-NKF's software suites (MX™ and Operator Office™). The MPEG-2 codec comes as a Eurocard module to be slotted into an Optelecom-NKF MC 11 power-supply cabinet or as a stand-alone (/SA version) and is firmware upgradeable.

Ordering information

Model	Description	Interface	Housing	Managed
C-20 E /IP	Ethernet MPEG-2 video encoder with audio, data and CCs	10/100Base-TX	rack-mount	SNMP/MX
C-20 D /IP	Ethernet MPEG-2 video decoder with audio, data and CCs	10/100Base-TX	rack-mount	SNMP/MX
C-20 x /IP/SA	Stand-alone version of rack-mount model		stand-alone	SNMP/MX

Applications

Video

Video format	PAL/NTSC
In-/output level	1 Vpp (± 3 dB)
Number of inputs	1
Number of output streams	3 (multi- and/or unicast)
Video connector	BNC 75 Ω (goldplated center pin)
Compression algorithm	MPEG-2
Encoding-decoding latency	120 ms (no B-frames)

Resolution (HxV)	PAL	NTSC
D1	720x576	720x480
2/3D1	480x576	480x480
HD1	352x576	352x480
CIF	352x288	352x240

Frame rate	1 to 30 fps, configurable per stream
Data rate	up to 15 Mbps, configurable per stream

Audio

Number of channels	2 (full-duplex)
Number of streams	3 (multi- and/or unicast)
Maximum bandwidth	20 Hz to 20 kHz
Sampling resolution	16-bits (linear PCM or G.711)
Sampling rate	44, 16 or 8 kHz (selectable)
In-/output level	0 dBV (+6 dBV max)
Total harmonic distortion	< 0.25% at nom. level
SNR	> 75 dBA
Input impedance	> 50 kΩ or 600 Ω bal.
Output impedance	< 50 Ω bal.
Connector type	RJ45

Transmission interface

Number of interfaces	1
Interface	10/100Base-TX Fast Ethernet
selectable	auto-negotiation, half-duplex/full-duplex, 10/100 Mb
Protocols	MPEG-ES or TS, RTP, UDP, IP, DHCP, IGMPv2, MX/IP, HTTP, SNMPv2
Connector	RJ45

Powering

Power consumption	< 6 W
Rack-mount units	MC 10 and MC 11 power-supply cabinets
Stand-alone units (/SA)	11 to 16 Vdc (PSA 12 DC/25 or PSR 12 DC)

Management

LED status indicators	
DC	Power-on indicator (green)
NV	No video on in- or output (red)
SYNC	All links are operational (green), failure in RX stream(s) (yellow), failure in TX stream(s) (red)
Ethernet port	Green LED: on = 100 Mb, off = 10 Mb; Amber LED: on = link okay, flashes with activity.
Network Management & Control	SNMP v2, SNM™, MX™, HTTP (password protected)
MIB variables	Network settings and statistics, MPEG-2 settings (GOP), video settings, audio and data settings, stream control, PS voltages, module temperature, module status, configuration, etc.

Environmental

Operating temperature	-40 to +74°C
Relative humidity	<95% (no condensation)
MTBF	>200,000 h
Safety & EMC	IEC/EN 60950-1, IEC/EN 60825, IEC/EN 61000 EN 50130-4, EN 50081-1, EN 55022, FCC part 15

Mechanical

Dimensions (hxwxd)	128 x 34 x 190 mm
Weight (approx.)	450 g
Housing	Rack-mount or stand-alone

Contact Closure

Number of channels	2 (full-duplex)
Number of streams	2x 3 (multi- and/or unicast)
Input	+3 V pull-up, 2 kΩ
Threshold	1.5 V
Output	Fail-safe, potential-free
Switch rating	2 A at 30 Vdc
Latency	<5 ms
Connector type	RJ45

Data

Number of channels	2 (full-duplex)
Number of streams	2x 3 (multi- and/or unicast)
Interfaces	1x RS-232
	1x RS-422/485 (2- or 4-wire)
Format	Asynchronous, serial
Data rate 'sampling mode'	DC to 19.2 kb/s
Sampling rate	153 ksamples/sec
Latency	10 ms
Data rate 'UART mode'	300 b/s to 230.4 kb/s
Latency	<5 ms
Connector type	RJ45