

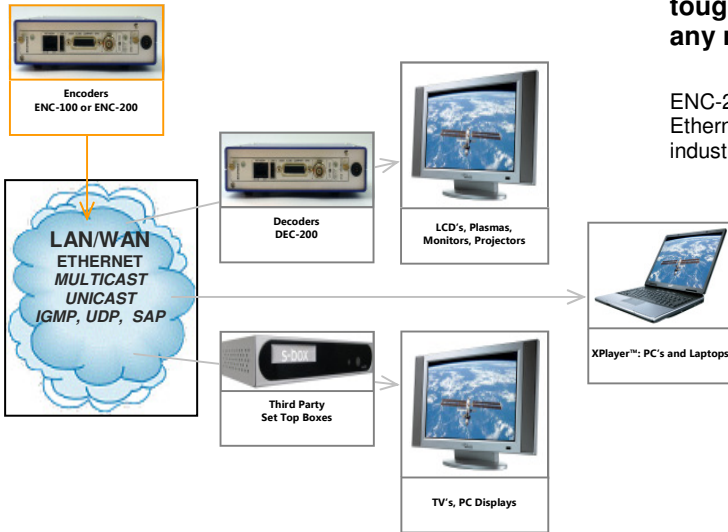
## COMPACT MPEG-4 AVC H.264 SD ENCODING BLADES

The ENC series is designed for LIVE streaming applications where single TV channels, CAMERA signals or MONITORING feeds are distributed or published on a network.

The ENC series provides real-time compression of video and audio inputs. The ENC series create and transmit video streams inside LAN and intranet networks.

Input video/audio signals on an ENC encoder and view these streams directly -via network- on PC's, TV's or other display devices.

The ENC-200 is a compact, low cost H.264 SD video encoding and LIVE streaming blade.



### Networking video input and stream creation

The ENC-200 real-time encoder is designed for LIVE streaming applications such as LIVE TV or video transmission, video trunking, IPTV encoding, remote monitoring feeds, video collaboration and is also used as the ingest for LIVE and VOD video publishing systems.

### Flexible video for LIVE and ON-DEMAND

Real-time LIVE streams from ENC-200 encoders can be viewed on PC's by using Teracue's XPlayer software player.

TV's, LCD's, plasmas, monitors, can join the transmission streams with the robust DEC-200 decoder. Consumer and PC-based displays can cost-effectively receive ENC-200 streams with set top boxes.

To record and preserve LIVE feeds for later viewing, analysis or simply archiving the iCue™ Streaming Server has been designed.

### Professional quality

ENC-200 encoders incorporate low-latency compression technology and professional signal processing, creating full resolution and smooth motion DVD-quality video streams.

### Simple setup

Connect LAN Ethernet and a video/audio input signal and the ENC-200 encoder will turn into a true video networking "port", transmitting your video in digital form over IP networks.

### Easy configuration

To access the intuitive graphical user interface use your standard web browser from any PC on the network, no special or additional tools are required. Remote network configuration is also supported over SNMP and Telnet, as well as serial control over the local Comport.



The ENC-200 encoder process input streams in up to full DVD-quality for professional MPEG-4 AVC H.264 SD streaming to any kind of device. ENC-200 encoder blades are built for robust 24/7 LIVE encoding operations and can be used in tough environmental conditions. They are designed without any moving parts, making them disk-, fan- and noiseless.

ENC-200 combines high-performance with unparalleled simplicity in a compact Ethernet video encoding appliance designed for commercial, institutional, and industrial applications such as:

- Broadcast/TV Distribution over IP
- IPTV/Confidence Monitoring
- Security/Surveillance/Monitoring/Public Safety
- Medical/Corporate/Military/Industrial-Training
- Education/Distance Learning/Tele-Teaching
- Finance/Brokerage Television
- Legal/Legislative Communications
- News/Sports/Advertising Agencies – Air/Rail station advertising
- Manufacturing/Process Monitoring
- Hospitals/Clinics/Telemedicine

### TALKBACK audio conferencing, integrated COM server and GPIO

The ENC-200 supports TALKBACK. This allows audio conferencing and communication between encoder standpoint and viewer. TALKBACK to ENC encoders is supported by PC's, as well as from the DEC decoder series. The Comport supports remote control of PTZ cameras and other peripheral serial equipment through it's integrated RS-232 port. The GPIO interface enables basic remote control of the ENC-200, e.g. turning encoding/transmission on/off, by a light sensor or foot switch.

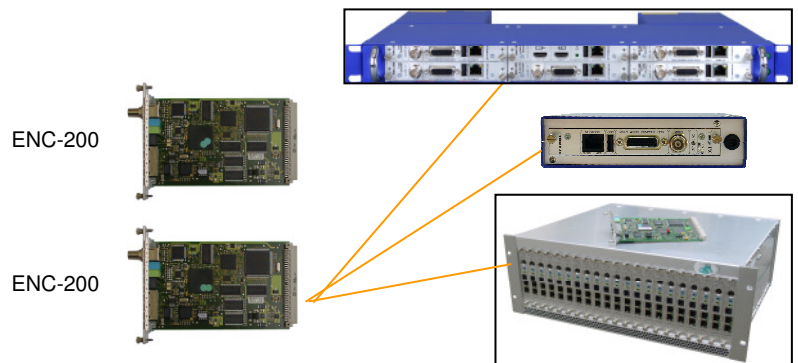
### Extremely robust and durable

The encoder blades are designed without any moving parts; such as hard drives/fans, to ensure system uptime, reliability and noiseless operation. The ENC-200 can be used in extreme operating conditions and at temperatures up to 60°C.

### Blade based operation

The ENC-200 blades are operated inside the FR chassis series. Blades can be used in a single channel chassis (FR-110, as shown above) or in the FR-210 dual channel chassis. High-density requirements are solved by operating the ENC blades in the FR-2000 multi-channel rack, which can hold up to max. 21 Teracue blades. Different types of ENC encoder blades, DEC decoder blades and DVB/IP videogateways can be "mixed and matched" inside the FR-2000 chassis.

### The ENC-200 encoder blades can be operated, mixed-and-matched inside the FR Chassis series:



**PRODUCT NAME:** ENC-200

MPEG-4 AVC H.264 SD encoder blade with SDI input (embedded audio supported) and Composite, S-Video or Component Input  
The BNC connector on the front panel can be configured as Composite input or as SDI input via mini-jumper.

The ENC-200 is delivered with the BREAK-OUT cable S as standard additional inputs/outputs via the DB26 connector.  
Teracue also offers a professional BREAK-OUT cable P which must be ordered separately.

S - YC (MiniDIN), CVBS (RCA plug), Analogue Audio In/Out (RCA plug)

P - YP<sub>BPR</sub>, YC, CVBS, AES-3id (all BNC), Analogue Audio In/Out (RCA plug), GPI In/Out (Sub D 9pin), RS-232 (Sub D 9pin)

**ENCODING SPECIFICATIONS****Standards**

PAL, NTSC, 576i50, 480i60

**Video Inputs**

Composite: 1 V<sub>PP</sub>, 75 Ohm (BNC) or  
SDI Input: 0,8 V<sub>PP</sub>, 75 Ohm (BNC, embedded audio support);  
SMPTE259M, SMPTE272M  
This can be configured via mini-jumper

Break-out cable inputs: Composite: 1 V<sub>PP</sub>, 75 Ohm  
S-Video: 1 V<sub>PP</sub> (Y), 0,3 V<sub>PP</sub> (C - Pal), 0,286 V<sub>PP</sub> (C - NTSC), 75 Ohm  
Component: 1 V<sub>PP</sub> (Y), 0,7 V<sub>PP</sub> (P<sub>BPR</sub>), 75 Ohm

**Video Encoding**

MPEG-4 AVC H.264 Baseline Profile\*\* at Level 3.0 (BP@L3.0), 4:2:0, ISO/IEC 14496-10  
Main Profile at Level 3.0 (MP@L3.0), 4:2:0, ISO/IEC 14496-10

**Video Encoding Bitrates**

250Kb/s – 4Mb/s, CBR/VBR, low latency support

**Video Input Resolutions**

Full D1: 720h x 576/480v, Half-D1: 352h x 576/480v, CIF/SIF: 360/384h x 288/240v

**Audio Inputs**

2x Mono or 1x Stereo, unbalanced, AC-coupled  
Audio nominal level: -10 dBV (0,316V<sub>rms</sub>), Maximum level: 3 V<sub>PP</sub>  
Microphone nominal level: -50 dBV (1mV<sub>rms</sub>), Gain Control for microphone and line input  
Minimum load resistance 10kΩ  
2x AES-3id-1995 unbalanced, AC-coupled, 1V<sub>PP</sub>, 75 Ohm, SDI embedded Audio, Dolby Digital Pass through\*

**Audio Encoding**

MPEG-1 Audio Layer II (ISO/IEC 11172-3), MPEG-4 AAC LC (ISO/IEC 14496-3)

**Supported Sample Rates**

48 kHz, 16Bit Sample Rate, 64-384 kbit data rate

**Audio Outputs (TALKBACK)**

Stereo, unbalanced, AC-coupled  
Output gain adjustment from (off) -78 dB to +9 dB  
Talkback: 16 bit mono, PCM, Sample Rate 24kHz/48kHz switchable

**Stream Types, Multiplex Format**

ISO/IEC 13818-1 Transport  
ISO/IEC 14496-10 NAL (Network Abstraction Layer)  
Elementary Audio/Video

**I/O SPECIFICATIONS****Network**

10/100TX Ethernet, RJ45, half/full duplex, Auto-sensing or manual control

**Streaming Traffic**

Unicast and Multicast traffic supported

**IP Protocols**

HTTP, TCP/IP Control Protocol, UDP/IP Streaming, RTP\*, RTCP\*, IGMPv3, SAPv2, Unicast/Multicast, Telnet, SNMPv2, DHCP

**USB\***

1x USB 2.0 (Blade Connector), High Speed, Type A socket  
1x USB 2.0 (on board Connector), High Speed, Type A socket (on board USB stick recording, usage alternately with Blade Connector)

**RS-232 port**

RS-232 connection via console (Remote control for non IP devices via TCP/IP RS-232 command tunnelling\*)

**GPIO\***

1x In, non isolated, TTL 4 mA, 1x Out, non isolated, TTL 20 mA

**MANAGEMENT**

Configuration data can be stored/loaded as XML presets\*  
Software updates via web browser (remote), or via Comport\* (local)  
Fault measurement with log file generation\*, authorization via user password, RTC (Real Time Clock) support

**ENVIRONMENTAL****Agency Approvals**

CE, RoHS, EN 55103-1, EN 55103-2, EN 55022

**Humidity**

Up to 90%, non-condensing

**Temperature**

0 to +60°C environment temperature; fanless when operated in FR-110 or FR-210

**Weight**

Approx. 160 grams

**Blade dimensions (H/W/D)**

20mm x 130mm x 190mm, Europe Card (160mm x 100mm, 3HE), Conform to IEC60297-3/-4

**Power**

5Vdc ±10% / 4W per blade

**Limited Warranty**

1 year standard limited warranty. Warranty extensions available.

\*\*\*PLEASE NOTE: Live streaming/Multicast Streaming requires specially designed and configured networks.

Minimum Requirements include: Layer-3 Switched Ethernet, Multicast Enabled, IGMPv2/3, Network and Multicast Routing Supported.

\* = Will be supported in future firmware versions.

\*\* = On request