

TNP-100 Multiservice Network Access System

High Performance, low latency leader.

IPtec specializes in facilitating high performance, low latency services over packet based networks.

IPtec provides reliable, high quality products for low latency, E1/T1 (CESoIP), video and data acquisition (TMoIP) services. These products enable customers to transport high quality voice (E1/T1) video and telemetry signals over Ethernet, IP-based or MPLS networks.

Standards based Multiservice over Packet (MSoP)

Low latency transmission over packet based networks

Superior Flat Line response

Four programmable multi-function IO ports

Enables Multiple TDMoIP (CESoIP) & LAN services

Enables Analog & Digital data acquisition services

Integrated Loopbacks, BERT, and Alarms

Managed via Embedded Web Server and SNMP



TNP-100 for Medical Video & Audio Conferencing

Minimum Invasive Surgery (M.I.S) is a standard procedure for many routine procedures, for example in the field of – ENT/General Surgery/Gyn/Uro etc. using both flexible and rigid scopes. However, one of the most critical components is the camera system which is the “3rd EYE” of the operating surgeon, who depends on the camera system to assist in navigation during the surgery.

Be it Surgeries, Workshops, Conferences etc., the need to rely on the high quality optical devices and video transmission, as well as recording during the entire event, benefits both patients and aspiring doctors. The key to simplifying this demanding solution is the state of the art (Swiss Army Knife” TNP -100 MNAS (Multiservice Network Access System) which has the following features and benefits:

- Due to its low latency of 1ms to 10ms it enables high quality multi channels video/audio transmission over LAN, WAN or MPLS networks by electrical or optical media.
- Simultaneous transmission of tele- and data communication with good frame rate (at least 28 f.p.s and above), which is a must for medical applications, especially in real time live surgeries shown to within the campus and intercity or country.

- Extremely compact unit, with small foot print (H 4.5cm x W 21.6cm x D 25,4cm). The TNP -100 can be placed literally in any where from the Chief surgeons office, O.R control room panel etc. It is very portable and can be shared among needed parties.
- Highly cost efficient as it can connect directly to the hospital existing high speed LAN, WAN hard-wired or optical network.
- No limitation to distance as there is no hard wire transmission video/audio cables which need a booster after 100 meter cable distance if not the Video/Audio strength will drop. In short it is simple set up – Plug and Play.
- User friendly set up through Embedded Web Server and SNMP and it is software upgradable with your new clinical needs, giving many years of reliable functionality in your daily work.

The above key Features & Benefits will help to enhance your productivity and efficacy. Only your imagination is the limit to the usage of this advanced “Swiss Army Knife” Multi Service Network Access unit, the TNP-100. Call your nearest dealer for a live demo. Seeing is believing.

TNP-100 Medical Imaging Applications

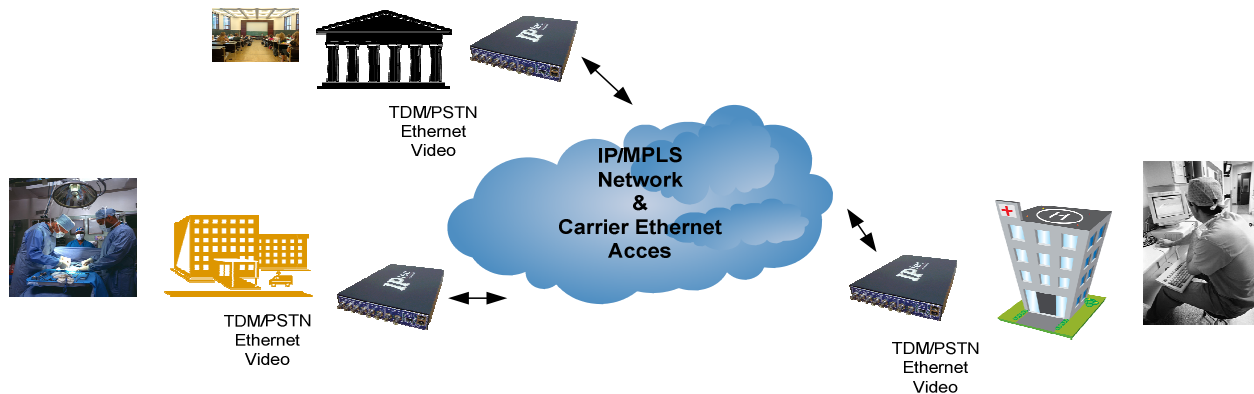
The TNP-100 is designed to deliver low latency TDM, Video, Ethernet LAN and Data Acquisition services over Ethernet enabled networks.

Medical professionals rely on high quality video transmission services within hospitals, other campus locations, or around the world. As video usage has expanded throughout the medical industry by the introduction of miniaturized cameras in Surgical Remote Distance Learning, conference discussions, and Surgical procedure video assisted documentation are now available.

The TNP-100 enables very low latency high quality multi-channel video & audio transmission allowing OR interactive discussions during a medical procedure. The system allows for simultaneously transmission of tele- and data-communication.

The integrated transmission platform also enables medical procedure room data acquisition and transmission.

The TNP-100 can be connected to LAN, WAN & MPLS networks by electrical or optical media.



TNP-100 Technical Specification Summary

Multi-Function Interface

Number of user configurable inputs/outputs

4 multi-service ports.

Connector

BNC & RJ45 (using an in-line Balun adaptor)

Impedance

75 ohms (Unbalanced), 110 ohms (Balanced)

Telecom

E1,T1 (CESoIP) (PWE3)

Digital Data Acquisition Format Support

TTL, ECL,RS-232 and RS-422 (TMoIP)

Impedance

50 ohm and 75 ohm

Data Rate

Up to 50Mb/s per port

IRIG Timing

Analog format (1, 10 & 100Khz)

Signal Level

Input: 0.2Vpp min. 10Vpp max

Output: 3Vpp (50 ohms), 10Vpp (25 ohms)

Impedance

Input: Hi-Z, 600 ohms and 50 ohm

Output: 25, 50 & 600 ohms

Analog Data Acquisition & Video

Baseband Analog signals (TMoIP)

Signal Level

5Vpp max

Impedance

50 ohms and 75 ohms

Bandwidth

Up to 10Mhz

Remote Management

Built-in Web-based GUI and SNMPv2 and v3

Ethernet Service Ports & Network Interface

One pluggable SFP module. 100/1000Base-X

Two RJ45. 10/100/1000Base-T

Maintenance

An onboard BERT (Bit Error Rate Test) generator allows remote testing. Following test patterns are supported:

- Alternating Ones and Zeroes
- Pseudorandom 2^{11-1}
- Pseudorandom 2^{15-1}

Physical Dimensions

1RU, 1/2-width 19". Two units fit in a 19" 1RU rack space (H x W x D) 1.75" x 8.50" x 10.00"

Environmental Conditions

Operating Temperature: 0 to 50°C (32F to 122F)

Storage Temperature: -40 to 70°C (-40F to 158F)

Relative Humidity: 5% to 90% (Non Condensing)

Regulatory Compliance

ANSI-FCC Part 15 Class A

ANSI-UL: 1950, third edition

Telemetry over IP (TMoIP), RCC Standard 218-07

IETF-PWE3, SAToIP, CESoIP, G823/G.824, IEEE 808.1D,

1Q, 1P, 1p, 1ag, 3x, 1x, 2, 3ad, 3u, 3z, 3ah

Power

94 – 264V AC (47 – 63Hz). 25W