# NETRIX

## *VoIP-TURBO*

### *Dial-up Modem over IP*

- *Landline / PSTN no longer required.*
- *Transparent to existing Modem devices.*

## *Example Applications :-*

*Utility Meter Management*

*Alarm Response / ARC*

*CPE Management / NOC*

*EPOS / Lottery / Transactions*

*Telemedicine*

*SCADA / Command and Control*

## *Extensive list of value-add features including:-*

*Fax over IP*

*Additional VoIP Voice Channel for Management or long line extension.*

*Authentication and Encryption*

*PBX signalling Interface*

*Network Management*

*RS232 Serial Data over IP*

# Modem Gateway for IP and Wireless

NSGDatacom's VoIP-TURBO is a low-cost, high-performance, Modem over IP gateway for IP based services including Wireless, Cellular and Vsat data networks. Additionally Voice, Fax and Data are all supported as value-add features.

With two Analog ports, one RS232 Data port and one Ethernet port, it can connect two Analog line connections and an asynchronous data source across any type of IP data network, including Satellite, DSL, or Cellular data modems. The analog ports can be connected to standards based Dial Data Modems, analog telephone handsets, or Fax devices allowing them to be IP compatible. Compression technology can be used on voice to reduce bandwidth whilst maintaining quality.

The VoIP-Turbo uses NSG's unique, patented suite of *Netrix* voice and data protocols, which have been developed over many years and widely deployed by the Military and in Carrier networks world wide . The VoIP-Turbo is fully compatible with the full range of *Netrix* Network Exchange products, including the VoIPZIP™ product linewhere it can also consolidate and compress standard VoIP (G.711) telephone calls, providing both bandwidth compression and packet optimization. (See the VoIPZIP™ datasheet and Application brief for further details).

The unique ability of the VoIP-Turbo to interface with dial-up modems and Fax machines allows it to be used in many applications where standard VoIP equipment and networks do not support legacy Modem technology. Applications for the VoIP-Turbo are numerous and include, Point of Sale, Fax over IP, Lottery, Elevators, Remote Data Acquisition, Telemetry, Remote Data Control, Air traffic control, etc.. The VoIP-Turbo operates over long delay networks including double hop satellite links and cellular data networks.

The VoIP-Turbo is programed and managed (in or out of band) by the NSGDatacom Network Management System. The unit can also be operated via a menu-driven interface and provides full support for most CCITT facilities. If required, industry standard MIBs can be provided for integration with customers' Network Management Systems.

New software can be downloaded with minimal interruption to normal network operation via the network management system or MMI interface. The VoIP-Turbo can store two concurrent software loads, allowing installation and testing of new software features and releases prior to converting an entire network.

The VoIP-Turbo is a member of the extensive NSGDatacom range of integrated Voice/Data products that scale from point to point, to extensive multinational mesh networks, covering a wide range of Enterprise, Public Sector, Government and Carrier grade network applications.

*Communication solutions from*

# NSGDatacom

*extend. evolve. innovate.*

*VoIP-Turbo*

# Product Features

## Physical Interfaces

- **Analog Voice./Fax/Data:**
  - Two analog voice Interfaces
  - Fixed two-wire FXS Loop start
  - Optional one voice port also soft configurable for two wire FXO Ground start
  - Signaling types include Wink start, delay start, immediate start, hoot-and-holler and phone
  - Dialing can be either DTMF or pulse
- **LAN Connectivity:**
  - One 10 Base-T Ethernet Interface on RJ45
  - Optional USB interface
- **Serial Interface:**
  - One V.24/RS-232 physical level on DB9 connector
  - Supports Asynchronous data from 1200bps to 115.2Kbps.

## Connectivity

- **Voice/Fax/Data modem ports**
  - FXS/FX0
  - H323, SIP, B2BUA, G.711, G.729a, ACELP 5.5/8Kbps voice compression
  - Echo Cancellation
  - Silence Suppression
  - Modem Relay
  - V.22bis, V.32bis, V.42
  - V.27ter, V.29
  - Group III fax
  - DTMF or Pulse (10 or 20 pps)
  - TIP/RING Reversal
- **IP**
  - TCP, UDP/RTP Data Transport
  - RTP Packet Optimization
  - VoIPZIP ™ up t o 6 channels
  - VoIP Gateway
  - IP Static Routing
  - Dial-Up and DLCI IP configuration
  - DHCP Client
  - Telnet (Client or Server)
  - RIP configuration
  - TCP Port configuration
  - TCP Broadcast
- **DATA**
  - RS232 (V.24) Asynchronous Data
  - Triple X PAD Port Configuration
  - Local Console Port can be used as the Trunk (Async PPP) or as a local Data Port

## Management

- NMS Manageable via SNMP
- Configuration, Monitoring and troubleshooting over public or private IP networks
- Menu Driven Console Interface
- Remote or Local Access
- Compatible with NetrixView Network Management System

## System Features

- Central time keeping system
- Closed User Groups
- Date, Time processing
- Alarms
- Password Security for MMI
- User Friendly Man/Machine interface

## Reporting Features

- Alarm Reports
- CDR call logging

## Modem Settings

- Answer Wait Time 1-30 sec in 1 sec increments
- Modem Relay
- V.22bis, V.32bis, V.42
- V.27ter, V.29
- Group III fax
- DTMF or Pulse (10 or 20 pps)

## Security

- IP Authentication
- Call setup authentication
- Unit Authentication
- MMI User Passwords
- Optional Encryption

## Administrative Options

- DTR/DCD Handshake
- Network User ID (NUI)
- Logon with NUI Required
- TCP Configuration

## Networking

- Fully Compatible with the Netrix Exchange line of Products for Point to Point and Mesh Network Configurations.
- Provides Gateway functions between Private, PTSN and SIP Networks
- VoIPZIP ™ mesh networking compresses G.711 based PSTN or SIP circuits

## Operation

- IP Wireless
- Cellular Data (Supports multiple hops)
- IP Satellite
- Terrestrial IP
- Private or Public Networks

## Typical Applications

- PSTN bypass for Handsets, Fax Machines and Dial Modems
- Adding Voice over IP capability for standard handsets
- Mobile PBX extension for direct office communications
- Emergency Services
- Public Utility (eg. SCADA)
- Point of Sale (eg. temporary kiosks)
- Lottery
- Telemedicine
- Construction
- Telemetry and remote control
- Tone based Signaling and Control
- IP based Fax
- Mobile PBX Extensions
- Automated backup/replacement for Landline services

## Electrical Specifications

- **Power:**
  - External Power Block 5V DC, 10 Watt max
  - Input 100/250 VAC @ 50/60 Hz
- **Connectors:**
  - DB-9 male RS232 Data port
  - 2 x RJ11 Analog Voice/Fax/Modem ports
  - 10Base-T Ethernet port
- **Data Rates:**
  - Asynchronous: 50 bps to 38.4 Kbps
  - Async PPP: 1200 bps to 115.2 Kbps

## Physical

- **Size:**
  - Desktop: 1.25" H x 5.5" W x 3.75" D
- **Environment:**
  - Operating Temperature: 0º to 40º C (32º to 104º F)
  - Storage Temperature: -20º to 70º C (-4º to 158º F)
  - Humidity: 95% non-condensing

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*Specifications subject to change without notice*