# NETRIX

## Network Exchange 2205D

# Voice and Data Gateway
# for IP Services

- *2 T1/E1 Voice and/or Data Ports*

- *2 Switched Ethernet 10/100 ports*

- *Optional high-speed serial interface*

- *Toll Quality Voice at 8Kbps*

- *Optimized for Satellite Networks*

- *Extensive Voice Feature Set*

- *Advanced Quality of Service Mechanisms*

- *H.323 & SIP (with B2BUA) Compliant*

- *Standards Compliance Ensures Superior Interoperability*

Internet standards and developments in VoIP technology have made the combination of voice and data – long treated as separate services – not just a good technical concept, but a sound business decision. With the Netrix Network Exchange (Nx) 2205D from NSGDatacom, managers now have the ability to add high quality digital voice services to a multi-service network, making such convergence a simple and affordable reality.

The Nx2205D is an integrated VoIP gateway and data access device for LAN and WAN applications. Full or fractional T1 or E1 voice circuits can be connected directly to the unit and individual voice channels compressed and merged with other data streams for transmission over public or private packet-based networks including Frame Relay or IP. Dual T1/E1 ports with a full DS0-level digital cross connect allows drop and insert on incoming and outgoing circuits, and the non-blocking ability to groom or mix G.711 voice circuits with fractional T1/E1 packet data.

The reputation of the Netrix Nx2200 series products for outstanding voice clarity is continued in the Nx2205D. With many VoIP implementations there is a trade-off between voice quality and data throughput efficiency; improve one and you negatively impact the other. Not so with the Nx2205D, which combines the use of industry standards with proprietary compression techniques to ensure interoperability, toll quality voice and high bandwidth efficiency. Drawing from Netrix's heritage of nearly twenty years experience in voice and data integration, the Nx2205D eliminates the need to compromise voice quality when combining data and voice traffic over the same network.

Interoperability is a key element in the Nx2205D's design, which also conforms to H.323 and SIP, enabling integration with soft switches, PC-based telephony and other gateways. The Nx2205D's compression algorithms include the common standards along with Netrix-developed vocoders. Independent testing and extensive deployments have proven the Netrix 8Kbps codec to be indistinguishable from the PSTN. High quality vocoders are only just the start for high quality voice over a converged network. In conjunction with its sister product the Nx2205A, sophisticated queue buffer, jitter buffer and echo cancellation mechanisms are deployed to maintain this quality, particularly over circuits with long delays. Here again the Netrix heritage shows. Netrix's experience in voice and data integration has resulted in the creation of unique, robust solutions to the problems inherent to using satellite services. The Nx2205 product family maintains toll quality connections over one or more satellite hops.

On the data network side, the Nx2205D's sophisticated traffic management capabilities preserve its bandwidth efficiency and voice clarity without sacrificing functionality. The system reduces the overhead associated with multiple calls to a single destination, thereby optimizing line utilization. Additionally, the Nx2205D uses QoS mechanisms (TOS & DiffServ) to ensure voice traffic is given the required priority. A clock recovery mechanism allows TDM link timing to be retained over a wireless or wireline IP connection.

Currently installed in many networks worldwide, the Nx2200 products are relied upon to provide critical voice and data transmission in call center, military, transaction processing, financial, airport, service provider, and many other mission critical enterprise applications.

*Communication solutions from*

## NSGDatacom

*extend. evolve. innovate.*

# NETRIX
## Network Exchange 2205D



IP (LAN) or FR

Data and Compressed Voice (VoIP)

10/100BaseT

Local LAN

T1/E1

PBX

# Product Features

## Physical Interfaces (per card)

- **Digital Voice**
  - Two T1 or E1 voice and/or data
  - Up to thirty voice channels can be compressed
  - Full drop and insert for all DS0/ timeslots between interfaces
  - CAS and ISDN fully supported
  - Transparent pass through for signaling including SS7
  - Transparent TDM clock recovery over IP
- **LAN Connectivity**
  - Two integrated switched Ethernet interfaces
  - Auto sensing, 10BaseT or 100BaseT user or hub connection independently on each Ethernet connection
  - RJ-45 physical interface
- **High Speed Serial Interface**
  - One optional high-speed serial interface, internal or external clocking to 2.048 Mbps
  - Software configurable DTE/DCE, V.24/RS-232/V.35/RS-449,/X.21
  - Speeds from 1200 bps to 2.048 Mbps



Control Console    2X T1/E1    Optional second module

2X 10/100 Ethernet    HSSI I/F
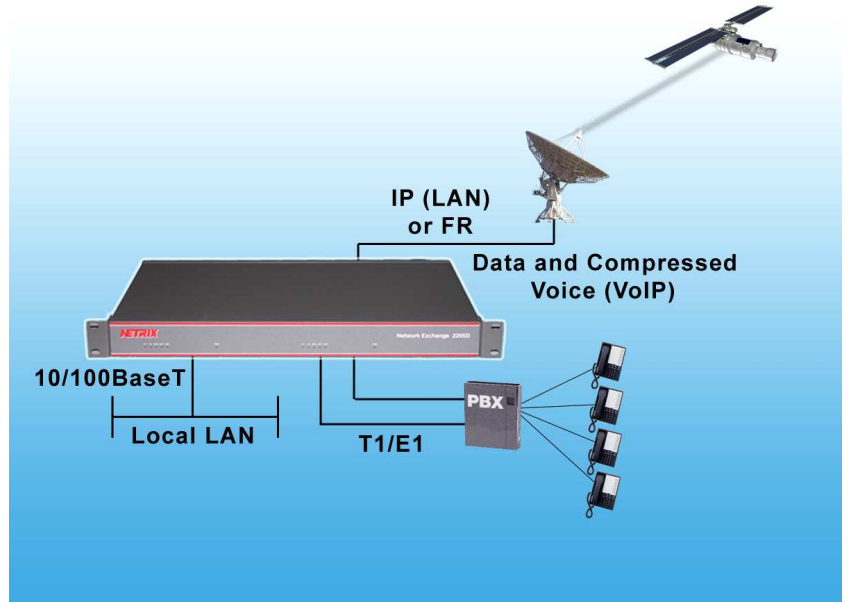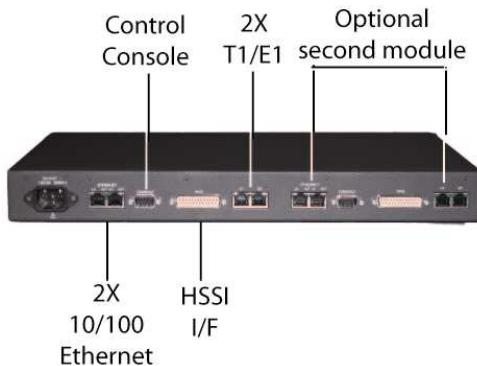
## Connectivity

- **Voice/Fax**
  - CAS/ISDN/E&M
  - H.323, SIP, B2BUA, G.711, G.729a, CELP 4.8/7.4 kbps, ACELP 5.5/8.0 kbps
  - V.27ter, V.29, Group III
- **IP**
  - VoIP, RIPv1/2, OSPF, Static Routing, SNMP, SFTM
  - H.323, SIP, B2BUA
- **Frame Relay**
  - Frame Relay NNI, UNI, FRF4/ITU Q.933, Frame Relay Annex D, LMI
  - PVC and SVC support

## Management

- Graphical User Interface (GUI) hosted by Microsoft Windows® PC.
- Configuring, monitoring and troubleshooting over public, private or hybrid networks.
- Distributed management of existing equipment via Simple Network Management Protocol (SNMP)

## General (up to two cards fit in chassis)

- **Physical**
  - Size: 17.25"W x 10"D x 1.75"H (43.8 W x 25.4 D x 4.5 H cm)
  - Weight: 2.25—3.25 lbs (1.0 kg—1.5 kg)
  - Power: 100-240 VAC, 50-60 Hz 18 VA
- **Environmental**
  - Temperature: Operating - 32º-122ºF (0º-50ºC) Storage: 23º-158ºF (-5º-70ºC)
  - Humidity: 20-95% non-condensing
  - MTBF: >65,000 hours @ 86ºF(30ºC)
- **Approvals**
  - Safety: UL, CSA, IEC 950, EN 60950 (73/23/EEC), CE Mark
  - Telecom: 91/263/EEC, EMC: FCC Part 15 Class A, VCCI Class 1
  - Immunity: 89/336/EEC

## Flexibility

- Up to thirty voice channels
- Full drop and insert
- Voice and Data over IP
- High quality, low bandwidth compressed voice over IP or Frame Relay
- All ports and channels are software configurable via the GUI