ETERNITY NENX
Next Generation SOHO IP-PBX

MATRIX
TELECOM SOLUTIONS

Matrix ETERNITY NENX is a small yet powerful phone system for small businesses, offering advanced features and functionalities as available with enterprise grade IP-PBXs. Based on modular architecture and state-of-the-art design, ETERNITY NENX provides connectivity to CO (FXO), GSM/3G and VOIP networks from a single platform. Range of phone options such as Analog, IP and Mobile extensions provides flexibility to communicate from anywhere and at any time. Furthermore, ETERNITY NENX offers integrated voicemail system, multiple auto-attendants and web based remote management.

PRODUCT SPECIFICATIONS			
SYSTEM RESOURCES	**ETERNITY NENX312**	**ETERNITY NENX416**	**ETERNITY NENXIP50**
Compatible Software Server	SARVAM UCS SOHO	SARVAM UCS SOHO	SARVAM UCS SOHO
Analog Trunk Ports	3	4	4
Analog Extension Ports	12	16	2
Ethernet (RJ45) Port (Gigabit)	1	1	1
GSM/3G Ports[1]	2	2	2
SIP Trunks	8	8	8
VoIP Server Module[2]	1	1	1
IP User Ports[3]	50	50	50 (Built-in)
VoIP Channels	8	8	8
Maximum IP to IP Calls (RTP and SRTP)	25	25	25
Maximum IP to IP Calls (Transcoding)	4	4	4
Maximum IP to TDM Calls	8	8	8
Voicemail Channels[4]	4	4	4

Note:

1: Optional Interface.

2: ETERNITY NE VS – VoIP Server Module is factory-fitted in ETERNITY NENXIP50. However, it is optional module in ETERNITY NENX312 and ETERNITY NENX416.

3: By default, ETERNITY NENXIP50 supports registration and configuration of 50 SIP extensions whereas ETERNITY NENX312 and ETERNITY NENX416 supports registration and configuration of 10 SIP extensions only. To register and configure additional SIP extensions, IP Subscriber License must be purchased and activated as per the requirement.

4: Optional functionality, requires license activation.

SARVAM UCS SOHO - Call Management Features:

- Abbreviated Dialing (Global and Personal)
- Access Codes (Programmable)
- Account Codes (Forced)
- Alarm-multiple
- Alarms (Time, Daily, Future Date and Time, Remote)
- Alarm-snooze
- Alternate Number Dialing
- Apple Push Notification Service Support
- Auto Answer
- Auto Attendant
- Auto Call Back
- Auto Redial
- Automatic Number Translation
- Barge-in

- Department Call
- Dialed Number Directory
- Digest Authentication (on SIP)
- Direct Inward System Access (DISA)
- Email Notification (VMS)
- Email to SMS and vice versa
- Emergency Calls Detection and Reporting
- Emergency Conference
- Emergency Number Dialing
- External Call
- External Call Forward (ECF)
- Fax over IP (T.38 Relay and Pass-Through)
- File Transfer Protocol
- Flexible Numbers (Up to 6 Digits)

- NAT and STUN (VoIP)
- Network Selection (GSM)
- Off-Hook Alert (DKP)
- Online SMDR
- Privacy
- PIN Dialing
- Power Fail Transfer
- Programming the System (Using SLT, DKP, Ethernet Port)
- Quick Dial
- Raid
- Real Time Clock
- Remote Alarm
- Remote Call Forward

- BCCH Selection
- Busy Lamp Fields for Trunks
- Call Back on Trunk Ports
- Call Budget on Extensions
- Call Budget on Trunks
- Call Chaining
- Call Cost Calculation
- Call Cost Display
- Call Duration Control
- Call Duration Display
- Call Forward
- Call Hold
- Call Logs
- Call Park (General and Personal Orbit)
- Call Pick Up (Group and Selective)
- Call Progress Tones (Programmable)
- Call Restriction based on IP Address
- Call Taping
- Call Toggle
- Call Transfer (Screened, On Busy, While Ringing, Trunk to Trunk)
- Calling Line Identification & Presentation (CLIP)
- Calling Line Identity Restriction (CLIR)
- Cancel All Station Features
- Class of Service (COS)
- CLI based Routing
- Closed User Group (With/Without Exchange ID)
- Conference – Multiple Participants
- Conference Dial-in
- Conflict Dialing
- Conversation Recording
- COSEC Integration
- Daylight Saving Time (DST)
- Day-Night Mode
- Hold
- Hot Desking
- Forced Answer
- Help Desk
- Hot Outward Dialing (With/Without Number, With/Without Delay)
- Direct Station Selection Console (DSS Console)
- Distinctive Rings
- Do-Not-Disturb (DND)
- DSS Call Pick-up
- Dynamic DNS (DDNS)
- Dynamic Lock (Manual)
- Hotline (Immediate and With Delay)
- Hunting/User Group
- IM (Chat)
- IM to SMS and Vice Versa
- Installation Wizard
- Internal Call
- Internal Call Restriction
- Interrupt Request
- IPv6 Ready
- Intercom
- Incoming CLI Modification
- Last Caller Recall
- Last Number Redial
- Least Cost Routing (Number, Time and Service Provider to Service Provider, Carrier Pre-Selection)
- Live Call Super Vision
- Logical Partitioning
- Maturity (Polarity Reversal, Delay, CPD)
- Meet Me Paging
- Message Wait Indication (LED, Shuttered Dial tone, Voice Message)
- Missed Call Log
- Mobile Port (GSM/3G Port)
- Multi-Stage Dialing
- Music-On-Hold
- Mute
- Remote Programming
- Return Call to Original Caller (RCOC)
- Room Monitor
- Reminder
- Secure RTP
- Selective Port Access
- One Touch Transfer
- Paging (Internal)
- Peer-to-Peer Calling
- Presence Sharing
- Priority (Intercom and Trunk)
- Software Upgrade
- Station Message Detail Record (Incoming, Outgoing and Internal - 12000 Records)
- System Activity Log and Display
- System Administrator (SA) Mode
- System Engineer (SE) Mode
- System Fault Log
- System Log Notification
- System Security (Password/Auto blacklist/White list/Trusted IP addresses/ Interface access restrictions)
- Time Tables
- Time Zone Display
- Toll Control
- Trunk Call Waiting
- Trunk Auto Answer
- Trunk Reservation
- User Absent/Present
- Video Calling
- Virtual Extensions
- Voice Help
- Voice Mail
- Voice Message Applications
- Walk-in Class of Service (Single/Multiple calls)
- Web-based Programming

TECHNICAL SPECIFICATIONS

TECHNOLOGY

Type of Switching	PCM/TDM Digital Switching (100% Non-blocking)
Processor	32-bit RISC

VoIP

Type	DAUGTHER-BOARD MODULE on CPU
VoIP Protocols	SIP, SDP, RTP, SRTP
Network Protocol	IPv6, IPv4, TCP, UDP, DHCP, VLAN, DynDNS, PPPoE, QoS, STUN
Transport Protocol	TCP, UDP, TLS
SIP	Maximum 8 SIP Accounts per System, Out Bound Proxy Support, Display Name, User Name, Password, URL, Proxy URL, Register Interval
VoIP Channels	8
Line Echo Cancellation	G.168 with 32/64/128ms Tail Length
Voice	Dynamic Jitter Buffer (Adaptive), Comfort Noise Generation and Voice Activity Detection
DTMF	RTP (RFC2833), SIP Info, IN-Band
NAT	STUN and NAT Keep Alive
Voice CODECs	G.711 (A-law, µ-Law), G.723, G.729AB, GSM-FR and iLBC
Call Progress Tones	Dial tone, Ring Back Tone, Busy Tone, Error Tone
Fax	T.38 Relay and Pass Through
Quality of Service	SIP QoS and RTP QoS
Security	MD5 Authentication for SIP, Password Protected Configuration by Admin and User
Physical Connector	Ethernet (RJ45) Gigabit Port, Auto MDIX (10/100 base-T)

GSM

Frequency Band (MHZ)	Quad-Band: GSM850, EGSM900, DCS1800, PCS1900
Compliant	ETSI GSM Phase 2/2+
SIM Card	One SIM per GSM Port
SIM Interface	1.8V, 3V
Transmission Power	Class 4 (2W) at GSM850 MHz and EGSM900 MHz Band
	Class 1 (1W) at DCS1800 MHZ and PCS1900 MHZ Band
RF Sensitivity	Better than -106dBm
Protocol	AT Command Interface
External Antenna	One Antenna per 4 GSM Ports, 1.8/3.0*dBi, 50Ω SMA (Male) Connector, Omni Directional with Cable of 3 Meters Length

SLT (ANALOG STATION)

Signaling	Loop Start
Dialing	DTMF and Pulse (10/20PPS)
Off Hook AC Impedance	600/900/Complex
Off Hook Current	40mA Max
Loop Limit	1800Ω Max (Excluding Telephone)
On-Hook Voltage (Tip/Ring)	48V Nominal
DTMF Detection	ITU-T Q.24
Return Loss	>18dB
Longitudinal Balance	>50dB
Transmission Level Adjust	Tx Gain: -10dB to +6dB, Rx Gain: -10dB to +6dB
Ringing	Trapezoidal 60VRMS/25Hz and Sinusoidal 52VRMS/25Hz
REN	3
CLI Presentation	DTMF, FSK ITU-T V.23 and FSK Bellcore 202
Protection	Over Voltage Secondary Protection
Physical Connector	RJ11

CO (TWT - Two Wire Trunk)

Signaling	Loop Start
Loop Limit	1200Ω
Off Hook AC Impedance	600/900/Complex
Pulse Dialing	10/20PPS
DTMF Dialing and Reception	ITU-T Q.23 & Q.24
Return Loss	>18dB
Longitudinal Balance	>50dB
Transmission Level Adjust	Tx Gain: -15dB to +10 dB, Rx Gain: -15dB to +10dB
CLI Reception	DTMF, FSK ITU-T V.23 and FSK Bellcore 202
Call Maturity	Delay and Polarity Reversal
Protection	Over Voltage and Over Current Secondary Protection
Physical Connector	RJ11

3G	
Frequency Band (MHZ)	Quad-Band: GSM850, EGSM900, DCS1800, PCS1900 UMTS A Module: Tri-Band: WCDMA 850/1900/2100 UMTS E Module: Tri-Band: WCDMA 900/1900/2100
Compliant	ETSI GSM Phase 2/2+
SIM Card	One SIM per GSM Port
SIM Interface	1.8V, 3V
Transmission Power	Class 4 (2W) at GSM850 MHz and EGSM900 MHz Band Class 1 (1W) at DCS 1800 MHz and PCS 1900 MHz Band Class 3 (0.25W) at WCDMA 850/1900/2100 MHz Band
RF Sensitivity	< -106dBm at GSM850, EGSM900, DCS1800, PCS1900 < -108dBm at WCDMA2100, WCDMA1900 < -106dBm at WCDMA850
Protocol	AT Command Interface
External Antenna	One Antenna per UMTS(3G) Ports, 1.8/3.0*dBi, 50Ω SMA (Male) Connector, Omni Directional with Cable of 3 Meters Length

POWER SUPPLY	
Inputs	External Adapter – 24VDC, 2.5A
Power Consumption (Typical)	15W
LED Indications	1 LED Single Color (Green) for Power and System Status

VOICEMAIL	
VMS Channels	4
Voicemail Box	Dedicated Mail Box for all Extension users
Factory-fitted Pen Drive	8GB
Voice Recording	Recording up to 1,152 hours with 32GB USB Pen Drive

MECHANICAL			
Model	NENX312	NENX416	NENXIP50
Unit Weight	1.20 kg	1.26 kg	1.16 kg
Dimensions (WxHxD)	320.2 x 51.1 x 208.1 mm		
Type of Shipping Material	Corrugated Box		
Installation	19" Rack Mount, Wall Mount, Table Top		

ENVIRONMENTAL	
Operating Temperature	0°C to +45°C
Operating Humidity	5-95% RH, Non-Condensing
Storage Temperature	-20°C to +65°C
Storage Humidity	0-95% RH, Non-Condensing

ORDERING INFORMATION

SARVAM UCS SOHO – UNIFIED COMMUNICATION SERVER	
SARVAM IPSUB5	License of IP Subscribers for SARVAM UCS to create 5 VoIP subscribers. Common for all types of SOHO, SMB, SME and ENT UCS Servers.
SARVAM VARTA USER5E	License for 5 VARTA UCS soft clients with ESSENTIAL features. SARVAM UCS needs this license to register ANDROID/IOS/WINDOWS DESKTOP UCS clients. This license is not required for hardware IP-phones. Common for all types of SOHO, SMB, SME and ENT UCS Servers.
SARVAM VARTA USER5P	License for 5 VARTA UCS soft clients with PROFESSIONAL features. SARVAM UCS needs this license to register ANDROID/iOS/WINDOWS DESKTOP UCS clients. This license is not required for hardware IP-phones. Common for all types of SOHO, SMB, SME and ENT UCS Servers.
SARVAM VARTA USER5C	License for 5 VARTA UCS soft clients with Premium Collaboration features. SARVAM UCS needs this license to register ANDROID/iOS/WINDOWS DESKTOP UCS clients. This license is not required for hardware IP-phones. Common for all types of SOHO, SMB, SME and ENT UCS Servers.
SARVAM SMS GATEWAY SOHO	License to enable SMS GATEWAY functionality for SARVAM UCS SOHO to connect to third party SMS GATEWAY client (SMPP V3.4) to send/receive SMS over GSM SIM installed on GSM interface card.
SARVAM SMS SERVER SOHO	License to enable SMS SERVER functionality for SARVAM UCS SOHO to connect to any EMAIL client (i.e. Outlook, Gmail, Yahoo). Used to send/receive EMAIL to SMS and vice-versa over GSM SIM installed on GSM interface card. Third-party client software is not required to use this feature.
SARVAM VMS SOHO	License for VOICEMAIL CHANNELS for SARVAM UCS SOHO to support 4 simultaneous voicemail sessions.
SARVAM CTI SOHO	License to enable TAPI 2.2 for SARVAM UCS SOHO to connect to third-party CTI application
ETERNITY NE GSM	GSM Port for Voice Calls. 1 GSM SIM per module. Optional module.
ETERNITY NE GSM 3G	GSM Port for Voice Calls. 1 GSM SIM per module. This module is compatible with ETENRITY NE Plastic Enclosure only. Optional module.
ETERNITY NE VS	8 VOIP CHANNELS to connect 8 SIP Trunks and 50 VoIP Users. Factory-fitted for ETERNITY NENXIP50. Optional module for ETERNITY NENX312/416.
ETERNITY NENX312	SOHO IP-PBX with POTS, GSM and VoIP connectivity. The IP-PBX offers connectivity for 3 Analog trunks, 12 Analog and up to 50 IP Users. SARVAM UCS SOHO is activated by default.
ETERNITY NENX416	SOHO IP-PBX with POTS, GSM and VoIP connectivity. The IP-PBX offers connectivity for 4 Analog trunks, 16 Analog and up to 50 IP Users. SARVAM UCS SOHO is activated by default.
ETERNITY NENXIP50	SOHO IP-PBX with POTS, GSM and VoIP connectivity. The IP-PBX offers built-in 50 IP Users. SARVAM UCS SOHO is activated by default.

COMPLIANCES

ETERNITY NENX COMPLIANCE LIST		
EMI/EMC	Conducted Emission	EN 55032
	Radiated Emission	EN 55032
	Harmonic Current Emission	EN 61000-3-2
	Voltage Flicker	EN 61000-3-3
	Electro-static Discharge	IEC 61000-4-2
	Radiated Susceptibility	IEC 61000-4-3
	Electrical Fast Transient	IEC 61000-4-4
	Surge	IEC 61000-4-5
	Conducted Immunity	IEC 61000-4-6
	Power Frequency Magnetic Field	IEC 61000-4-8
	Voltage Interruption and Dips	IEC 61000-4-11
FCC	Conducted Emission	FCC Part 15 Sub Part B
	Radiated Emission	FCC Part 15 Sub Part B
EC Directives	LVD 2014/35/EU	
	EMC 2014/30/EU	
RoHS Recast RoHS2	2011/65/EU (As per Standard EN 50581:2012)	
Safety	IEC/EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013	
Environment Test	Cold Test	NA
	Dry Heat Test	NA
	Damp Test	NA

Note: Above compliances were tested with ETERNITY NE platform which shall be valid for ETERNITY NENX platforms as well.

ABOUT MATRIX

Established in 1991, Matrix is a leader in security and telecom solutions for modern businesses and enterprises. Matrix, an innovative, technology driven and customer focused organization, is committed to keep pace with the revolutions in security and telecom industries. With more than 40% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products such as Unified Communications, IP-PBX, Universal Gateways, Convergence, VOIP Gateways, GSM Gateways, IP Video Surveillance, Access Control and Time-Attendance. These solutions are feature-rich, reliable and conform to the international standards. Having global footprints in Europe, North America, South America, Africa and Asia through an extensive network of more than 1000 system integrators, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of customers representing the entire spectrum of industries. Matrix has won many national and international awards for its innovative products.