

## TECHNICAL SPECIFICATIONS



### MATRIX ETERNITY NENX312

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/4G and VoIP networks from a single platform. A 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 an integrated voicemail system, multiple auto-attendants, and web-based remote management.

Parameters	Specifications
<b>TECHNOLOGY</b>	
Type of Switching	PCM/TDM Digital Switching (100% Non-Blocking)
Processor	32-bit RISC
Compatible Software Server	SARVAM UCS SOHO (In-built)

<b>PORTS</b>	
Analog Trunk Ports	3*
Analog Extension Ports	12*
Ethernet Port	10/100 RJ45
VoIP Channels	8

GSM/3G/4G Ports	2 <sup>α</sup>
SIP Trunks	8
VoIP Server Module	1
IP Users Ports	50 <sup>β</sup>
Maximum IP to IP Calls (RTP and SRTP)	25
Maximum IP to IP Calls (Transcoding)	4
Maximum IP to TDM Calls	8
Voicemail Channels	4

\*: In-Built  
α: Optional  
β: Scalable

GSM	
GSM/3G/4G Ports	2
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 DCS 1800 MHz and PCS 1900 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/25 Hz

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 +10dB 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 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

VOICEMAIL	
VMS Channels	4
Voicemail Box	Dedicated Mail Box for all Extension users
Factory-fitted Pen-Drive	8 GB
Voice-Recording	Up to 1152 Hours with 32 GB Pen-Drive
Max. IP to IP Call	25
Max. IP to TDM Call	8

VoIP	
Type	DAUGHTER-BOARD MODULE on CPU
Voice CODECs	G.711 (A-law, $\mu$ -law), G.723, G.729AB, GSM-FR, iLBC
VoIP Protocols	SIP, SDP, RTP, SRTP
Network Protocol	IPv6, IPv4, TCP, UDP, DHCP, VLAN, DynDNS, PPPoE, QoS, STUN
Transport Protocol	UDP, TCP, 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
Call Progress Tones	Dial tone, Ring Back Tone, Busy Tone, Error Tone
LAN	1 x 10/100 Mbps
Voicemail	Yes
T.38 Fax	Yes
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 910/100 base-T)

MECHANICAL	
Max. External Storage	32 GB
Unit Weight	1.20 kg
Dimensions (W x H x D)	320.2 x 51.1 x 208.1 mm
Type of Shipping Material	Corrugated Box
Installation	19" Rack Mount, Wall Mount, Table Top

POWER SUPPLY	
Inputs	24 V DC 2.5Amp
Power Consumption	15 W
LED Indications	One Antenna per UMTS (3G) Ports, 1.8/3.0*dBi, 50Ω SMA (Male) Connector, Omni Directional with Cable of 3 Meters Length

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

COMPLIANCE LIST		
EMI/EMC	Conducted Emission	EN55032
	Radiated Emission	EN55032
	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 + A2:2013	
Environment Test	Cold Test	NA
	Dry Heat Test	NA
	Damp Test	NA

**Note: Specifications are subject to change without prior notice**

## **ABOUT MATRIX**

Established in 1991, Matrix is a leader in Security and Telecom solutions for modern organizations. Matrix offers a comprehensive range of solutions for IP Video Surveillance, Access Control, Time-Attendance, and Telecom applications. The solutions are designed to meet the communication and security requirements of large enterprises having offices in multiple locations, SMEs, and SMBs.

As an innovative, technology-driven, and customer-focused organization, Matrix is committed to keeping pace with the revolutions in the Security and Telecom industries. With around 40% of its human resources dedicated to the development of new products, Matrix has launched over 60 cutting-edge products and solutions.

IP Video Surveillance includes solutions like Video Management Systems, Network Video Recorders, and IP Cameras. Likewise, solutions in Access Control and Time-Attendance include Visitor Management Solutions, Elevator Access Control, Panels, Door Controllers, and Readers.

We offer Telecom Solutions such as Unified Communications, IP-PBX, Universal Media Gateways, VoIP and GSM Gateways, and Communication Endpoints. All these solutions are feature-rich, reliable, and conform to international standards.



### **MATRIX COMSEC**

Head Office

394-GIDC, Makarpura, Vadodara-390 010, India.

Ph: +91 265 6137222

E-mail: [Inquiry@MatrixComSec.com](mailto:Inquiry@MatrixComSec.com)

Factory

19-GIDC, Waghodia, Dist. Vadodara-391 760,  
India.

[www.matrixtelesol.com](http://www.matrixtelesol.com)