

## ETERNITY

### The IP-PBX with Seamless Mobility and Universal Connectivity



All progressive organizations are moving to IP-PBXs for the obvious benefits of flexibility, productivity, integration and cost. While migrating to IP Telephony, it is extremely important to remember two important requirements: Mobility and Connectivity. An IP-PBX without these two functions is like a new-generation car without wheels and navigation.

Presenting Matrix ETERNITY - The IP-PBX with Seamless Mobility and Universal Connectivity.

Matrix ETERNITY provides true mobility to its users by allowing them to use their mobile phones as PBX extensions. Not only users can make and receive calls, they can also use most of the PBX functions like Transfer, Forward, Voice Mail, Directory and Conference using their mobile phones from within and outside office. This seamless mobility means complete freedom from being tied to your desk for internal or external communication.

Further, any IP-PBX worth its name should interface with all-pervasive legacy and new-generation wireless telecom networks like POTS, ISDN, T1/E1, GSM, 3G and CDMA and VoIP. The ETERNITY IP-PBX offers Universal Connectivity with all these networks combining best of both the worlds. Thus, ETERNITY facilitates smooth and natural migration to the new-age IP infrastructure.



 **MATRIX**  
TELECOM SOLUTIONS

ETERNITY ME16S



ETERNITY ME10S

ETERNITY GE12S



ETERNITY GE6S

ETERNITY GE3S

ETERNITY is a family of IP-PBX solutions. Originally designed for enterprise applications, ETERNITY family now includes members suitable for SME and SMB segments. In terms of number of users, the ETERNITY has solution for organizations with starting from 8 to 512 users.

The ETERNITY offers a wide range of flexible call routing functions and convenience features. This flexibility transforms it into a versatile IP Telephony platform. The ETERNITY can be used as a regular office IP-PBX, Hospitality PBX, Group PBX, Universal Gateway, Call Center Switch, PLCC Switch, etc.

ETERNITY ME is the eldest and the biggest in the family and is targeted at enterprises. It comes in two configurations 10 Universal Slots and 16 Universal Slots. In addition to all standard functions, ME supports hot-swapping of cards and redundancy of CPU and Power Supply to meet mission critical applications.

ETERNITY GE is for SME customers having up to 240 users. It is offered in three configurations 3, 6 and 12 Universal Slots. All the cards including CPU and Power Supply are interchangeable.

ETERNITY PE is the youngest and the smallest member of the family designed for Small and Medium Businesses (SMB) customers having up to 48 users. It is offered in two configurations 3 Universal Slots and 6

Universal Slots. Considering the special needs of organizations in this segment, Door-Phone Card is offered in ETERNITY PE. A cost-effective version of ETERNITY PE with 3 slots is offered where ISDN and few other functions are not required.

All the members of the ETERNITY family offer identical functions and features. They provide all the telecom network interfaces for Universal Connectivity. Same user terminals like digital phones, operator consoles, soft-phones and ISDN phones can be used with any ETERNITY IP-PBX. In fact, they all run the same software making ETERNITY the easiest system to expand.

Matrix ETERNITY allows an organization to start with its current configuration needs and expand the system capability in future by adding more cards to its universal slots. The ETERNITY is designed to support cards with homogeneous and hybrid (mix) ports to maximize port utilization.

Most of IP-PBXs in the market support only few standard interfaces like FXS, FXO and ISDN. These products do not support in-skin interfaces for GSM or 3G. Matrix ETERNITY is one of the very few IP-PBXs offering in-skin GSM, 3G and CDMA cards. In addition, ETERNITY also supports T1/E1/PRI and E&M making it capable of interfacing with virtually any network on the planet. Thus, ETERNITY is an "open" and truly "integrated" IP-PBX.

Key features like Multi-Party Conference, Auto-Attendant, Digital Input Port, Digital Output Port, Analog Input Port, Analog Output Port, Remote Programming, and SMDR (CDR) with a large buffer capacity etc. are built into the system. These features normally warrant additional investments in most of the other competitive brands.

#### ETERNITY INTERFACE OPTIONS

Single Line Telephone (SLT)
Digital Key Phone (DKP)
Operator Console (DSS)
IP Phone (SIP Based)
Analog CO Line (TWT)
ISDN BRI (TE/NT)
T1/E1 ISDN PRI (TE/NT)
Mobile (GSM/3G/CDMA)
VoIP Trunk
E&M Line
Magneto Phone
Voice Mail System (VMS)



ETERNITY PE3SS

ETERNITY PE3SP

ETERNITY PE6SP

# IP-PBX

## Integrated Hybrid PBX (IP and Traditional)

Unlike other IP-PBX, Matrix ETERNITY IP-PBX offers connectivity to all legacy and new-generation telecom networks like POTS, ISDN, T1/E1, GSM, 3G and CDMA. This makes ETERNITY a truly 'Universal Communication Platform' that offers flexibility to users to avail specific advantage offered by each of these network. On extension side, it supports Mobile, IP, Digital and Analog extensions.

## Dynamic DNS (DDNS)

Dynamic DNS client automates the discovery and registration of IP addresses on the public network. The remote administrator and the IP clients can always connect to the ETERNITY using Domain Name associated with the dynamic IP. DDNS support ETERNITY IP-PBX to work without a fixed IP on the public network.

## Number of Users

Matrix ETERNITY IP-PBX can register as many as 500 IP users as its Clients. ETERNITY offers complete resilience while registering IP users. The IP user can be registered to the VOIP card or shared between the multiple VOIP cards, installed on the same ETERNITY platform. It employs licensed architecture as per number of user registrations.

## Number of VoIP Calls

Matrix ETERNITY PE VoIP card supports 16 and GE/ME VoIP card supports 32 calls at a time. With Universal Slot Architecture, the VoIP card can be scaled in equivalence to the maximum number of slots available with ETERNITY IP-PBX variants. With ETERNITY ME16S as many as 512 VoIP calls can be possible.

## Feature Transparency

Various system features similar offered to DKP and SLT user can be used by IP user registered to ETERNITY IP-PBX. Features such as Voice Mail, Call Transfer, Call Toggle, Directory Dialing, Call Forward, Call Hold, Do-Not-Disturb, DND override, Call Pickup, Auto Call Back, Barge-in, Raid etc. are available to IP user.

## NAT and STUN Support

NAT allows multiple devices in a LAN to share a single public IP address and automatically creates a firewall between the internal network and the Internet.

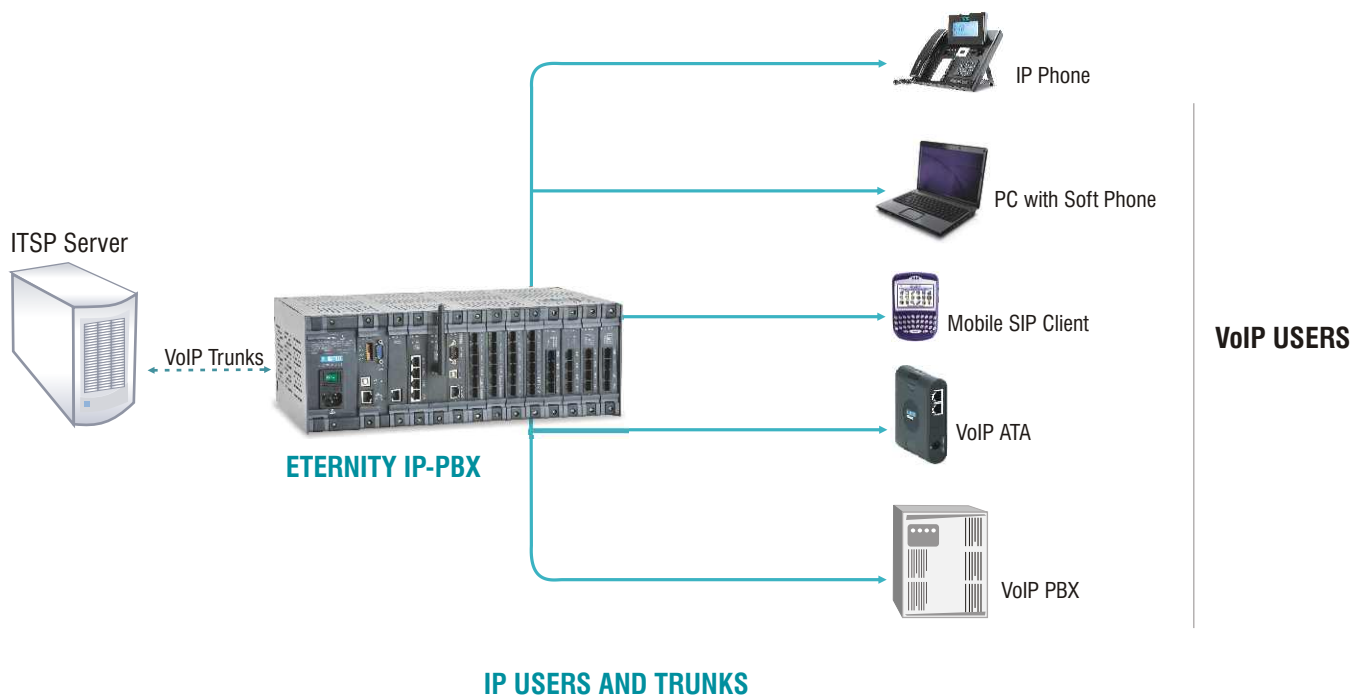
The STUN client allows an IP terminal located behind a Network Address Translator (NAT) to obtain the mapped (public) IP address (NAT address) and port number that the NAT has allocated for connections to a remote host. SIP clients can thereby easily register to the VoIP Card hidden behind the NAT router and corporate Firewalls. The STUN support is critical to establish a VoIP call between SIP clients located behind different type of NATs.

## Registrar Server

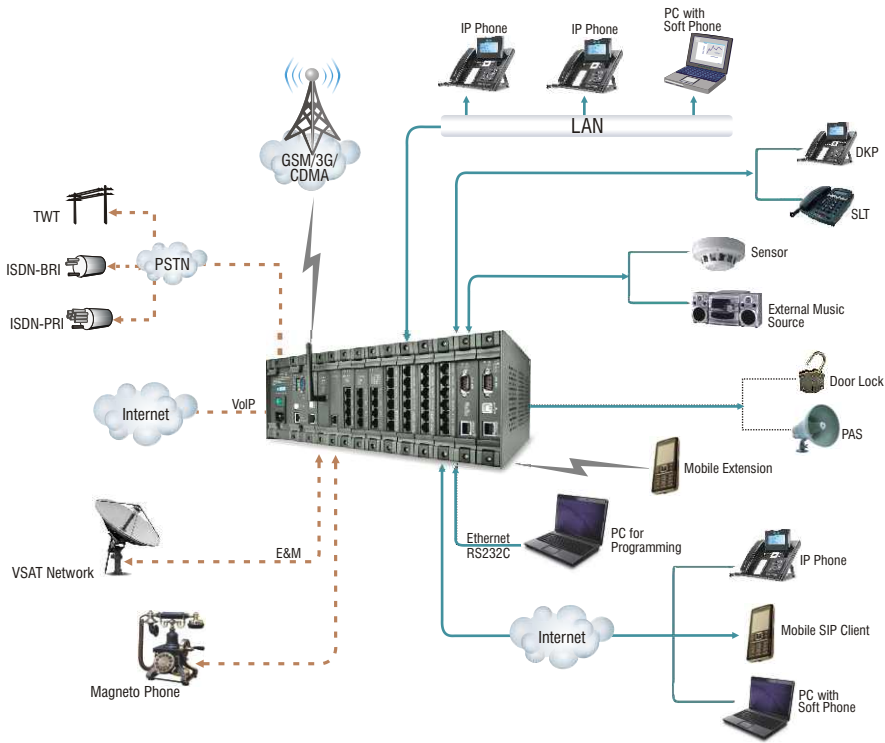
When a SIP user comes online, they get registered to the embedded registrar server of the VoIP card. The registrar authenticates a user and maintains mapping of their current and active IP addresses mapped to a user's SIP URL.

## VoIP Silence Disconnect Timer

It defines the time limit after which calls are disconnected, if no voice packets are received from the SIP clients on the IP Network leads to better bandwidth resources utilization.



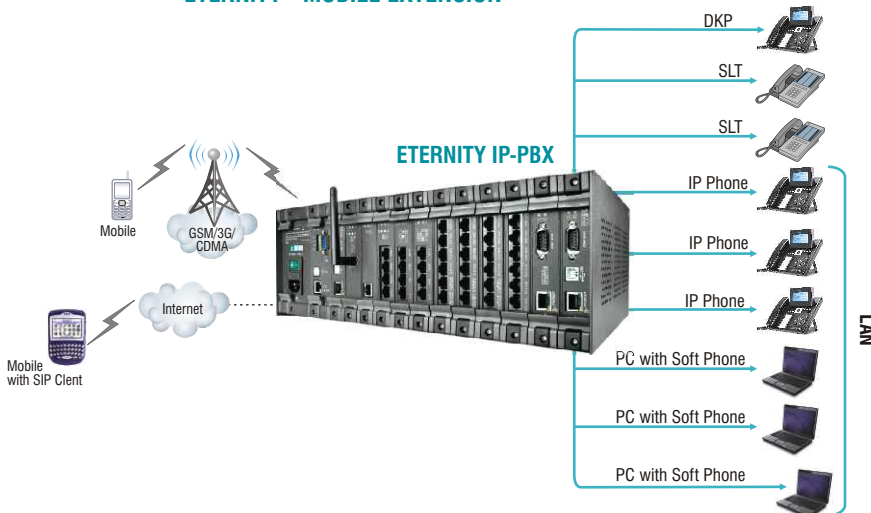
## ETERNITY - UNIVERSAL CONNECTIVITY



## UNIVERSAL CONNECTIVITY - THE TRUE CONVERGENCE

ETERNITY is the true convergence of varied Telecom Networks. It offers connectivity to traditional networks such as PSTN, E&M, Magneto, ISDN BRI and T1/E1/PRI, wireless networks such as GSM, 3G and CDMA and new-generation networks such as VoIP including IP trunks and extensions.

## ETERNITY - MOBILE EXTENSION



### Mobile Phones as Extensions

Matrix ETERNITY IP-PBX provides true mobility to its users by allowing them to use their mobile phones as PBX extensions. Not only users can make and receive calls, they can also use most of the PBX functions like Transfer, Forward, Voice Mail, Directory Dial and Conference from their mobile phones from within and outside office.

## SEAMLESS MOBILITY

### GSM/3G Connectivity

Matrix ETERNITY IP-PBX offers Mobile connectivity with GSM or 3G networks through an optional card using multiple SIM ports. It supports all popular frequency bands of GSM and 3G networks. Use of a particular frequency band is user selectable. The default band is 900+1800 MHz. Important features like Call Back on Mobile Port, Automatic Number Translation, Network Selection and Call Budget are built-in to the system.

### 3G Network Support

Voice communication through 3G network is supported with ETERNITY IP-PBX in the form of an expansion card. It supports 3G frequency bands 850, 1900 and 2100 MHz. With 3G, an organization can experience the Noise-free, Stanch and Crystal Clear Voice Quality, Enhanced Security and Utmost Coverage.



### Mobile Extension Call Management

Following features are supported on Mobile as an extension to the PBX system.

- Make Internal and Outgoing Calls
- Receive Internal Calls and Incoming Calls of Trunk
- DDI Routing (on T1E1PRI)
- Return Call to Original Caller (RCOC)
- Global Directory Dialing
- Personal Directory Dialing
- Raid
- Call Transfer
- Call Forward
- Call Forward (Dual Ring)
- 15 Participants Conference
- Priority
- Forced Release
- Barge-In
- Interrupt Request
- Do-Not-Disturb
- DND Override
- Call Pickup
- Call Toggle
- Call Hold
- Paging

### Dual Ring

This feature allows user to attend desk call on their Mobile handset. Simultaneous ringing on internal extensions as well as on mobile handsets is also possible. Whichever answers first will be able to converse and the other one disconnects. It is a boon to people who keep on traveling and yet can attend their desk calls.

### Automatic DISA

This feature allows a remote user to make an internal or trunk calls using the system resources without dialing DISA login code and password. User can activate/deactivate features of any station and even program the system. This happens automatically, user will get the system access based on the CLI. Such 999 numbers can be programmed.

### Wireless Solution (GSM, 3G, CDMA and IP)

It enables Mobile users to stay connected with the office wherever they go. Existing Mobile user connected through GSM, 3G or CDMA network can work as extensions. With SIP Client support of Mobile can work as an IP extension. Thus, allows unlimited Mobility. These will replace the need of DECT phones completely because of the obvious advantages of wider range connectivity, simple implementation and cost.

## VERSATILE PLATFORM

Matrix ETERNITY IP-PBX is a versatile platform finds place in many applications.

### PBX and KTS

Matrix ETERNITY IP-PBX is a feature-packed communication system with range of useful features to meet any demanding PBX-KTS applications. Not only the features range, but each feature has depth in terms of the flexibility it offers.

### IP-PBX

Matrix ETERNITY IP-PBX can register as many as 500 SIP Clients and supports 32 SIP Accounts. Organizations can avail advantage of internet telephony and experience an extended business reach with reduced operational cost.

### Universal Gateway

With varied interface options and built-in gateway functionality; it can be used as a gateway to any existing PBX to avail the benefits offered by different networks.

### Hotel PBX

Matrix ETERNITY IP-PBX offers host of advance hospitality features which can perform most of the hotel tasks such as Check-In, Check-Out, DND, Wake-Up Alarms, Reminders, Print Check-Out reports etc. making it a complete Hotel PBX. These features are easily managed by a module called Front Desk Management. In addition, it also supports third party PMS and CAS integration for hotelier who requires to avail extra facilities offered by PMS and CAS.

### Group PBX

Matrix ETERNITY IP-PBX supports Group PBX applications. Important features like Flexible Numbering, Station-wise SMDR Reports, Background Music on Station (SLT), Reversal on SLT for connecting PCO on SLT, etc. are available.

### Least Cost Router

Matrix ETERNITY IP-PBX can be helpful to reduce telecom cost with intelligent routing functionality. There are five options for least cost routing is based on: Time, Number, Combination of Time and Number, Carrier Pre-Selection, Service Provider to Service Provider.

Even combinations of the above parameters can be defined for least cost routing. For example, it can programmed to select only a particular trunk line for making STD calls and another trunk to make all local calls during

day-time, but a different trunk for making local calls during night-time. All this happens automatically! It can even be programmed in such a way that for calling any Mobile number, only a particular trunk line is used. With Matrix ETERNITY IP-PBX, you can rest assured that every call being made outside your organisation is always at the least cost!

### Audio Conference Bridge

Matrix ETERNITY IP-PBX supports a maximum of 21 (ETERNITY ME) participants in a single conference without affecting the speech levels. Moreover, it also supports a unique feature which allows participants of a conference to dial into a live conference at a scheduled time just by simply dialing a feature code.

### Video Conferencing and Data Connectivity

Matrix ETERNITY IP-PBX offers video conferencing solutions (H.320) through the ISDN PRI and BRI card. Any standard video conference unit or video phone with suitable ISDN interface can be conveniently integrated with ETERNITY ISDN card. Data connectivity can also be extended to other locations by connecting a suitable router and Ethernet Switch to this ISDN PRI or BRI.



# TARGET CUSTOMERS

## Businesses and Enterprises

Matrix ETERNITY IP-PBX designed specifically for businesses and enterprises. It is Flexible, Modular and Scalable offers Universal Connectivity and range of rich productivity-boosting features. It is an ideal solution for corporate offices, branch offices, factories and warehouses.

## Hospitality PBX

Matrix ETERNITY IP-PBX Hotel and Hospital Management PBX that not just plays a role of communication system, but also actively contributes in the routine functionality of Hotels and Hospitals thereby increase the productivity of its staff.

## Housing Complexes

Meeting communication and security needs of modern Housing Complexes. Matrix ETERNITY IP-PBX a new age communication security system with unique blend of communication, security and convenience functions.

## Service Providers

Matrix ETERNITY IP-PBX with varied interfaces can be connected to various networks. Built-on Linux platform, best-of-breed software protocol stacks are used for digital interfaces like ISDN BRI, T1/E1, ISDN PRI and VoIP SIP, making it a preferred choice for Telecom and Internet Telephony Service Providers.

# PRODUCTIVITY

## Auto-Redial

ETERNITY can be instructed by the user in a very simple way to dial a busy number repeatedly till it gets connected without any user intervention. The system can be set for auto-redial priority as low or high, wherein the redial intervals and the number of redial attempts vary depending on the priority.

## Auto-Answer

This enables an operator to answer any incoming call automatically and saves time required to pick up the handset or pressing speaker key again and again. Further, if headset is used then incoming speech audio can be heard directly.

## Boss Ring

The system can be programmed to provide different ring cadences to the user depending on the call origination. Eight types of ringing cadences can be set for different call types like internal calls, calls from boss, alarms, auto redial, etc., to alert the users about the type of call they are receiving.

## CLI based Routing

The dedicated code detector circuits identify the Caller Line (trunk call) and route the incoming call directly to the respective users (DKP or SLT), if the incoming number matches with CLI table entries. As many as 400 such external numbers can be programmed in Matrix ETERNITY IP-PBX. Users with DKP can have display of caller name, if programmed accordingly.

## Conference Dial-in

This unique feature allows participants of a conference to dial into a live conference at a scheduled time just by simply dialing a code. Certainly, a great time-saving feature!

## Department Call

This feature allows the caller to make a department call by dialing the department code and get response from one of the department group members. Such 16 department groups can be formed and each department is assigned an access code called department code.

## Memory Dialing

Matrix ETERNITY IP-PBX offers memory space of 900 numbers where frequently called numbers can be stored along with the name. User can dial any of these numbers with an access code followed by an index number. It is common for all the users. DKP users have the flexibility of dialing directly by name and hence are not required even to remember index numbers.

## Multi-Stage Dialing

There are many applications which require dialing of a fixed numbers before the actual number. An abbreviated short code can be programmed to eliminate numbers of dialing stages. A convenient feature which processes calls faster and saves time.

## Priority

Certain calls like call from CEO, call from special or private trunk line, call on hotline, etc. requires higher priority of access over others. Matrix ETERNITY IP-PBX allows calls from the senior executives get priority over others while waiting to get connected to a station or trunk.

# COST REDUCTION

## Call Budget on Extensions

It allows you to set a monthly call budget for individual users in order to control the usage. Users with DKP can use the Call Cost Display feature to check allocated and consumed budget values after every call they make. The station is locked by the system if the user exceeds the call budget value.

## Call Budget on Trunk

Service providers offer different schemes to enhance their services. For example, customer can make call free for first 500 minutes, every month. In such cases, ETERNITY allows you to define call budget in terms of amount and minutes on the Trunks i.e. TWT, DS1, BRI, GSM and SIP. Once budget gets exhausted, it will not allow further outgoing calls. Amount and minutes consumed on each trunk port can be cleared either manually or automatically on specified date of every month, to a specified value.

## Call Duration Control

This cost control feature that allows you to have user-specific call duration control with multiple options for each type of call. This feature includes: disconnection of incoming, outgoing, intercom calls, selective long distance or international calls after a pre-defined duration. It gives warning tone after a pre-defined duration to keep track of time and disconnects call if programmed so.

## Common Platform

All the members of the ETERNITY family offer identical functions and features. They provide all the telecom network interfaces for Universal Connectivity. Same user terminals like digital phones, operator consoles, soft-phones and ISDN phones can be used with any ETERNITY IP-PBX. In fact, they all run the same software making ETERNITY the easiest system to expand and maintain.

## CUG over GSM/3G/CDMA

Matrix ETERNITY IP-PBX offers In-skin GSM/3G/CDMA solution with which as many as 32 SIMs can be used. An organization can take an advantage of this with CUG facility offered by service providers. For example there is a workforce of 20 on field and 100 in the office and their requirement is to communicate on day-to-day basis. It is possible to offer 20 CUG SIMs to the field and 8 SIMs can be inserted on the GSM card plugged-in to the system. These 8 SIMs are accessible and shared by all office staff. Hence, any call made out of the organization to field is through CUG SIMs, saves telecom cost. Further, using mobile extension feature, it is possible to make calls through system trunks from the field. Resulting in further reduction of cost and offers centralized call management.

## Toll Control

It is possible to restrict/allow certain numbers and numbers starting with specific prefix based on the four levels of access control.

## VoIP

Varied user terminals such as a Soft-phone, Mobile with SIP client, IP Phones, VoIP ATAs and VoIP Gateways can be registered as users to the VoIP card. Such 500 users can be registered. Extensions to this card can be directly connected through the LAN or connected remotely via internet. Registered users can talk to the system extensions and can also make calls using system trunks i.e. GSM/3G/CDMA, SIP etc. Resulting in complete portability, convenience and huge savings on telecom cost.

## BUILT-IN FUNCTIONS

### Auto-Attendant

This feature allows the caller to directly reach an extension without operator assistance. Different messages like Welcome Message, Dial-By-Name, Dial Extension, Busy, No Reply, Wrong Number Dialed and Transferring to the Operator are played according to the situation. It can handle 5 callers simultaneously, a virtually impossible feat to accomplish for a human operator.

### Call Detail Record with Cost Calculation Reports

The Advanced Search Module allows detailed report generation and printing for all outgoing, incoming and internal calls with strong filtering capability and separate buffer capacity for each category - 6000 outgoing, 5000 incoming and 1000 internal calls.

The structure of the call charges for the calls made by the users can be decided based on the outgoing trunk used for dialing. Options of fixed service charge, unit wise service charge, percentage wise service charge are available. Special charges can be defined for special days like New Year, holidays etc. Moreover, Call rates depending on the time zone can also be defined.

### Caller Line Identification (CLI)

Matrix ETERNITY IP-PBX offers CLI features on IP-Phone, DKP and SLT. It offers the facility to detect CLI on normal telephone lines, ISDN lines, GSM lines and VoIP lines. It can detect both, DTMF and FSK signals for CLI. You can get CLI of external number, internal number and also CLI on transfer of calls. If programmed, even the name of the caller can be displayed on the DKP. The CLI feature can be programmed for each extension individually.

### Calling Line Identity Restriction (CLIR)

Matrix ETERNITY IP-PBX offers the facility of calling line identity restriction. Selected users can deny disclosing their extension identity to others.

### Least Cost Routing (LCR)

This unique function, designed using structured programming, selects the most cost effective trunk from the allotted trunks to make outgoing calls depending upon the time of call and the destination number dialed, resulting in substantial savings.

### Logical Partitioning

In some countries, routing of calls from VoIP to PSTN or Mobile Network is not allowed, whereas in other countries, it is allowed. With this feature, it can be possible to fulfill telecom regulatory requirements of different countries. It is a feature by which routing of calls from VoIP and other Trunk ports, like TWT, T1/E1 ISDN PRI, BRI, E&M and GSM calls can be selectively restricted.

### Multiple Gateways (VoIP)

ETERNITY VoIP card can be configured to connect through different gateways for varied applications. For example an organization has router which is connected to gateway of Internet Service Provider 1 for International (SIP) Calling and Internet Service Provider 2 for branch (Peer-to-Peer) calling. Multiple Gateway feature makes this application possible, maximum such 5 gateways can be assigned.

### Multiple Participants Conference

Matrix ETERNITY IP-PBX supports a maximum of 6 (ETERNITY PE3S), 15 (ETERNITY PE6SP and GE) and 21 (ETERNITY ME) participants in a single conference without compromising the speech quality. Multiple sessions of 3 or many participants can be conducted simultaneously.

## INTEGRATION

### Digital Input Port

Matrix ETERNITY IP-PBX offers DIP where external devices like sensors such as fire alarm, glass break, etc. can be connected.

### Digital Output Port

Matrix ETERNITY IP-PBX provides DOP, thus enabling electrical devices like door lock, fan, AC etc. can be operated. It is a non-energized DOP that can be switched ON/OFF manually or automatically. This DOP can be operated locally as well as remotely.

### DIP-DOP

Matrix ETERNITY IP-PBX GE/ME offers built-in one DIP and DOP each, whereas ETERNITY PE provides this as an option in the form of an expansion card with 1 DIP and 3 DOPs. On activation of a sensor connected to DIP, a hooter connected to DOP can be activated.

### Door-Phone Card (ETERNITY PE)

ETERNITY PE provides an option of connecting three 4-wire door phones. When a visitor presses the door phone button, the internal extension and/or external number programmed rings allowing the extension and/or Mobile user to talk to the visitor. If a Door Lock Release device is connected with DOP, the user can open the door and let the visitor in.

### External Music Port (AIP)

It allows an external music source to be connected to Matrix ETERNITY IP-PBX. Desired music or jingle can be played while a person is kept on hold.

### GSM/3G/CDMA Card

Matrix ETERNITY IP-PBX offers Mobile connectivity with GSM or 3G networks through an optional card using multiple SIM ports.

### Paging Port (AOP)

The Public Address System can be connected to this port which allows any station user to make announcements on external speakers.

### VMS Card

VMS card in Matrix ETERNITY IP-PBX is a full-fledged Voice Mail System designed to provide a variety of voice applications usually supported by any external Voice Mail System. The VMS card utilizes an external USB memory stick as storage media. The default 2 GB USB stick supports up to 36 hours of recording. The VMS card can be configured to work as 8 ports or 16 ports and supports 512 mailboxes. The VMS card can be inserted in any of the universal slots, offering all voice mail features such that can boost productivity of an organization.

### VoIP Card

VoIP card of ETERNITY IP-PBX offers the functionality of IP-PBX with an advantage of converging it to other networks. It has built-in registrar server which can register up to 500 users with maximum 32 SIP Trunks. It also supports behind the NAT and STUN applications.

VoIP card in ETERNITY offers intrinsic benefits of cost and flexibility using the most advanced Session Initiation Protocol (SIP) based Internet telephony. It is designed to support both Peer-to-Peer and Registrar/Proxy supported calls. This multi-channel VoIP interface offers advantage of low-tariff Internet telephony for long distance and international calls. The VoIP card can also be configured to establish calls (Peer-to-Peer) between offices using the existing data network infrastructure. It supports a range of voice Codecs ensuring Quality of Service (QoS) and efficient utilization of bandwidth.



## FLEXIBILITY

### Configuration (Phone/Key Phone / Mobile / Internet)

Programming of the ETERNITY IP-PBX is possible using a normal phone, a key phone, an IP-Phone or a PC. It is also possible to configure the system from a remote location, saving time and cost of providing essential technical support.

### DKP Customize Settings

DKP connected to Matrix ETERNITY IP-PBX can be customized for; Ringer Tunes, Speech Levels, LCD backlit contrast and brightness control etc.

### Flexible Clock Synchronization

This feature allows the user to synchronize the system clock of Matrix ETERNITY IP-PBX with the desired network clock. It is programmable for T1/E1 ISDN PRI port.

### Port Personalities

Matrix ETERNITY IP-PBX ISDN BRI, PRI interface card offers flexibility in terms selection of parameters such as Line Coding, Framing, Signaling Type, Port Orientation whether TE or NT, Caller and Called Number Plan Identification etc. Hence, single hardware for many applications satisfying all telecom standards where it is installed.

### Software Upgradation

The firmware can be conveniently upgraded through a CD. What's more, the software can be upgraded even with a file transferred through mail.

### Universal Slots

All the expansion slots of Matrix ETERNITY IP-PBX are universal in nature. Any card can be inserted in any slot and the system will configure it automatically. This scheme eliminates configuration bottle-necks because any slot can be used for SLT, DKP, Analog Trunk, ISDN BRI, ISDN PRI, GSM, CDMA, 3G, VoIP Server Card and VoIP Trunk Card.

### Localization

Matrix ETERNITY IP-PBX can be configured as per the country telecom standards where it is installed. It comes along with built-in web server functionality called "Jeeves" which supports languages like English, French, Spanish, German, Russian, Portuguese and Italian. Time Zones, Day Light Saving, Date-Time Format, ISDN Variants, CLIP Variants, Impedance, etc., can be set as per specific country telecom requirements.

## SCALABILITY

Matrix ETERNITY IP-PBX offers scalability in all aspects.

### Expansion

Matrix ETERNITY offers PE, GE and ME series of IP-PBX system. The number of TDM users expandable up to 48, 240 and 516 for PE, GE and ME series platforms respectively. However, ETERNITY IP-PBX can register 500 IP users as its clients irrespective of PE, GE or ME.

### Expansion Card

Varied network interface card in different footprints are available with Matrix ETERNITY IP-PBX PE, GE and ME to address a user's exact communication requirement.

### Mixed Card

Matrix ETERNITY IP-PBX provides various expansion cards in combination of TWT, DKP and SLT Ports. It allows the user to select precise configuration saves investment on excess configuration and offers optimum cost of acquisition.

### Software Compatibility Configuration and Up-gradation

Matrix ETERNITY IP-PBX uses identical software structure for PE, GE and ME. Software of one variant for example ETERNITY ME can be used in any of the series variant i.e. ETERNITY ME10S and 16S; this enables easy up-gradation and hassle free maintenance. What's more, configuration files can be copied from one to other i.e. same features and functionalities programmed can be availed from PE to GE to ME.

### Usage of Cards

Matrix ETERNITY offers PE, GE and ME series of IP-PBX system; where ETERNITY PE and GE offers three each and ETERNITY ME offers two variants. Expansion card of one variant can be used in any of the series variant. For an example if you outgrow the ETERNITY GE3S you can unplug the expansion cards from that system and plug them directly into the ETERNITY GE6S or GE12S without need of buying whole new system.

### User Terminals

Same terminals can be used for PE to GE to ME. It includes Digital Key Phones (EON48P, EON48S and EON42S), DSS Consoles (DSS16X4, DSS72), PC based Console (EONSOFT) and IP Phones (SETU VP248PE, VP248SE and VP236S).

## RELIABILITY

Matrix ETERNITY IP-PBX is designed for 24x7, continuous operation and to provide carrier-grade reliability. It meets approval standards like CE, FCC, RoHS and TEC.

### Hot-Swap

This is a special functionality allows replacement of a faulty card, without switching-off the system. It is available with ETERNITY ME.

### Redundancy

Matrix ETERNITY IP-PBX ME10SDC offers redundancy for its all important functional blocks Master, Switch and Power. It supports duplication of the Master card, Switch card and PS48VDC card. In case of failure of Power, Master or Switch card the respective stand-by card takes over smoothly.

### Compact and Sturdy

Matrix ETERNITY IP-PBX compact design leads to smaller foot-print. The wall mountable design is easy to maintain and occupies lesser space. Besides, all the parts have been fixed in specified slots. This 'no moving parts' design leads to higher reliability.

### Technology

It is designed with unique distributed processing architecture with intelligent local processing units for each card. The main processor employs powerful 32-bit ARM RISC processor. Integrated DSP based SLIC and DAA are used for FXS and FXO interfaces. Built-on Linux platform, best-of-breed software protocol stacks are used for digital interfaces like ISDN BRI, T1/E1, ISDN PRI and VoIP SIP.

### High-Density Switching

100% non-blocking, digital technology, Matrix ETERNITY IP-PBX uses 1024X1024 switching matrix, which reduces chip count and real estate.





# CONVENIENCE

## Alarms

The system supports multiple types of alarms on all extensions. These alarms can be set for each day of the week or for a particular date and time, and also can be activated from a remote location. It can be personalized or automated. If the alarm is not acknowledged by the user, the operator receives the return alarm ring. Multiple alarms of the same type can be activated from each extension. Alarm-snooze feature, very similar to that available in mobile handsets, is also supported.

## Background Music

The system allows you to use the DKP as well as SLT as a device to play soft background music. This does not hamper the switching functions of the DKP, thus saving the cost incurred for putting up speakers and wiring. Four types of music tones are built into the system, besides the option of using an external music source like CD player, FM radio, etc.

## Call Back on Mobile Port

This feature is used to respond to the specific incoming call on the mobile port which was disconnected by the caller. In case of an Incoming call on mobile port is disconnected by the caller during period, 'Call Back Timer' configured in the system, the system will initiate the call back from the same port, if the caller's CLI is matching and prefix configured in the 'Trusted Caller List'. When the called party attends the call, it will be established as per the option selected viz. DID call or DISA call or call routed to the Operator.

## Direct Inward Dialing (Voice Guided)

The built-in auto-attendant or Direct Inward Dialing feature performs the task of an operator by greeting the external caller and transferring call to the desired station. Five callers can be handled simultaneously.

## Global Hold

This feature enables any DKP users to retrieve calls directly by pressing programmed DSS key, even if the DKP User kept calling party on hold and goes on-hook.

## Hot Desking

The Object Oriented Programming done for this function allows the extension user to transfer his extension features and facilities to another extension with just a command. It is like carrying your extension wherever you go in the office. The DKP user can perform Hot Desking to another DKP user only, but not to any SLT user and vice versa. This feature is programmable extension-wise and can be activated with user password of a station.

## Hot Outward Dial

This function is of great use for those stations which make more trunk calls than internal calls. As soon as the station user picks up the receiver, user gets access to the desired trunk line, saving time and effort. This function also offers a variant whereby a specified telephone number may be dialed either immediately as the handset is picked up or after a pre-defined delay.

## Live Call Screening

The Customised Information Exchange Protocol allows DKP users to listen an incoming voice mail message for the first few moments. This feature lets the user determine whether it requires his attention or not, giving him the option to either talk to the caller or store the message in the mailbox for later retrieval.

## Menu-Driven Interface from Key-Phones

Key Phones connected to ETERNITY offers menu driven commands for easy access to features and its implementation.

## Return Call to Original Caller (RCOC)

Matrix ETERNITY IP-PBX can be programmed to maintain records of all unsuccessful calls made on GSM, BRI, T1/E1/PRI and VoIP (SIP) Trunks due to No Reply, Busy and such similar conditions. In the event of such a call being returned, it routes the call to the original caller.

## Time Tables and Time Zones

Time tables allow the user to program the system to work differently depending upon the time and day of the week. It allows flexible programming for 3 time zones: Working hours, Lunch hours and Non-working hours.

Each day of the week can be programmed with different time zone limits. Thus long distance dialing access may be denied to certain stations after working hours or trunk calls may directly reach the security office after the office closes, or a specific message may be played on a holiday.

## Voice Guidance for Tones

Matrix ETERNITY IP-PBX offers this unique feature for guiding the users at various tones. Voice Message can be recorded for various tones like dial tone, engaged tone, error tone and ring back tone. Say a user is trying to an extension which is busy. In such case a message "The extension you are trying is busy. Please press 2 for speaking to the extension as soon as it is free", can be played to the user.

## Installation

Matrix ETERNITY IP-PBX is easy to install as it can be mounted in rack, on the wall or table-top. Industry standard RJ45 connectors are provided for various ports, as common with all modern networking products.

## Front-Desk User Wizard

It is a Graphical User Interface for easy and efficient management function of ETERNITY IP-PBX installed in Hotel Mode.

## Installation Wizard

Matrix ETERNITY IP-PBX offers installation wizard to speed up the set-up process of ETERNITY. With Built-in installation wizard and menu driven features on DKP make the programming of ETERNITY - a child's play!

# SECURITY

## Dynamic Lock

It can be possible to change toll control level of any station automatically at set time. For example, it is possible to restrict trunk calls from a station after office hours dynamically.

## Emergency Numbers and Reporting

It allows you to program the emergency number that can be dialed by any user, irrespective of the assigned trunk access rights. Once the user dials an emergency number; for example "911", the operator is immediately informed with a continuous ring. The operator with DKP can have display of the user name, number and the emergency number dialed. This helps the operator to take necessary action.

## Keypad Lock

There is an option of DKP keypad lock (manual) similar to available on Mobile. This avoids dialing of any number from DKP avoids unauthorized use.

## Security Dialer

It allows you to connect any type of sensor like glass break sensor, magnetic sensor, smoke detector, etc. to the digital input port. In case of any emergency, the system dials 3 different numbers and plays a pre-recorded message. Even a hooter can be activated.

## Three Levels of Access - User, SA and SE

Matrix ETERNITY IP-PBX offers three levels of access where each user or station can have their own password to activate/deactivate features. Similarly System has one unique password each for Administrator and Engineer being highest access rights. Offers security at each step!

# MONITORING

## Conversation Recording

The user can use VMS to record his conversation in his mailbox. This helps the user to keep record of the points discussed and agreed upon with business associates. This feature is very useful in situations where recording of verbal agreements, important discussions or instructions, client requirements, etc., is required. It is a boon for the businesses which works on verbal commitment. This feature should be used in accordance with the local laws.

## Room Monitor

This feature allows the station user to listen to the sounds in another room where the DKP is installed without letting the people in that room know about it. You can even monitor the room from your mobile. A very powerful security feature!

## System Activity Log

Matrix ETERNITY IP-PBX maintains a complete system activity log. You can find out when a particular extension entered in programming mode, when a particular card was removed from the system or even when a particular port was not detected by the software of the system. A great utility feature for the system engineer!

## System Debug

Matrix ETERNITY IP-PBX allows system engineer to monitor the state of the software ports and IO operation. It is a very useful feature for SE to identify the error and troubleshoot.

## System Fault Log

Matrix ETERNITY IP-PBX has a functionality of a watch dog, whereby it maintains a log of all faults occurring in the system. Various fault events like Card Absent, RTC Failure, DS1 Signal Loss, BRI Signal Loss, and DKP/SLT absent, etc., are registered in the fault log. On such events, ETERNITY activates the buzzer.

# OPEN INTERFACES

## Call Accounting System Interface

It offers interface for most types of Call Accounting System protocols available worldwide. This facilitates easy integration of the third party call accounting software with Matrix ETERNITY IP-PBX.

## Property Management Software Interface

A Hotel can use a third party Property Management System (PMS) to manage other functions such as accounting, guest status, room status, billing etc. Matrix ETERNITY offers PMS interface which supports full duplex communication over RS232C as well as on Ethernet Port. It accepts strings to perform various tasks such as Check-in/Check-out, Guest-in/Guest-out, Remote Alarms, Guest Name, Do-Not-Disturb, Message Wait, Alarm Status, Room Shift etc. It can also send strings to perform various tasks such as SMDR for Outgoing calls, Mini Bar etc. to the PMS. This integration helps in smooth functioning of the PMS with PBX.

## QSIG

QSIG is an ISDN based protocol used for signaling between two PBX in a private network. It offers feature transparency between two or more PBXs of different make. It offers to users the convenience of sharing telecom resources.

## Voice Mail Integration

Matrix ETERNITY IP-PBX supports Voice Mail Gateway operation by which any stand alone Voice Mail System can be integrated. With simple VMS strings, it can be easily integrated to any third party VMS.

## Virtual Users

It allows sharing of a common extension by multiple users with a distinct virtual extension number to each one of them. So, whenever the virtual extension number is dialed, it will reach the actual extension to which it is mapped. A maximum of 704 (less than the actual number of extensions used) virtual users can be defined. Virtual Station can be assigned all the features same as normal station and can also forward calls to VMS.



# VOICE MAIL SYSTEM

Matrix ETERNITY IP-PBX supports Voice Mail System (VMS) through an optional VMS card. An efficient Voice Mail System can work wonders for your organisation productivity. The one that can provide efficient call management and accurate messaging saves precious time of your employees, yet allowing a non-interfering work environment.

- Auto-Attendant
- Broadcast Message
- Call Taping
- Call Transfer Types
- Conversation Recording
- Customised Mailbox Size
- Dial-By-Name
- Distribution Lists
- Email Notification
- Flexible Graph
- General Mailbox
- Individual Mailboxes
- Information Node
- Live Call Screening
- Message Forward
- Message Nodes
- Message Notification
- Message Verification
- Message Wait Indication
- Multiple Mailboxes on a Single Extension
- Password
- Personalized Greetings
- Redirecting Messages
- Remote Access
- Transfer Node
- Voice Greetings

# USER TERMINALS

## DIGITAL KEY PHONES

'EON', the Digital Key Phone, is a versatile, feature-rich, easy to use station. It supports a host of additional features providing the user fast access to the functions of Matrix ETERNITY IP-PBX at a single touch of a button. Matrix Digital Key Phone (DKP) is available in three variants - EON48P, EON48S and EON42S. All variants are available in two colors - Black and White. These key phones can be used with any variants of ETERNITY PE to GE to ME.

EON48P



### Key Phone Features

#### Adjustable Ringer Volume and Speech Level

User has the option of adjusting the ringer volume level as per the requirement. The added advantage is that both receive and transmit speech levels can also be adjusted by the user.

#### Missed Calls

Details of last 20 missed calls can be viewed on the LCD of the EON. A useful feature for the user to find details of calls missed.

#### DSS Keys

The EON offers keys (24 in EON42S and 16 in EON48) that can be programmed for each user, to access trunk line, SLT, DKP and even features, at a single touch of the key.

#### Tri Colour LEDs for Port Status

Status of other extensions (DKP and SLT) and trunk lines can be displayed on the Digital Key Phone. The status of the user's extension as well as that of other extensions or trunks can be known through the LEDs.

EON48S



#### Executive and Operator Functionality

The EON provides user functionality of Operator or Executive by means of dedicated keys to perform specific task by single touch of buttons.

### EON48 Key Features

- Full-Duplex Speaker Phone
- 2x24 and 6x24 LCD with Swivel, Backlite and Contrast Control
- Message Wait Lamp
- Ringer Lamp
- 16 Programmable Keys
- 17 Touch Sense Keys for Features
- More Direct Station Keys on Optional Attachment (DSS16x4)
- Upright and Horizontal Angles for Desktop Mounting
- Desktop and Wall Mounting
- Call Log

EON42S



#### Last Dialed Calls

Last dialed 16 trunk calls can be stored.

#### Message Paging

User of the EON can page different pre-defined messages, like Meet Me, Congratulations, Meeting Today, etc., to other DKP users. These messages can be programmed by the system engineer.

## EONSOFT

### PC based Digital Key Phone with two numbers of PC based DSS64

EONSOFT offers integration of your PC with Matrix PBX. A product of great utility to those techno-savvy people who has a computer on their desks and do not wish to keep a separate telephone.

### EONSOFT Features

- Automatic Sensing of PC Status
- Automatic Sensing of Software Status
- Operator Mode (with 148 Keys)
- Handset Connectivity
- Help Menu
- Integration with Microsoft Address Book
- Keyboard Macros
- Keyboard and Mouse Operation
- Programmable Tool Tips on Mouse Over
- Shortcut Keys
- Standard Windows User Interface



## OPERATOR CONSOLES

### EON48P with DSS16x4

DSS16x4 is an attachment to EON48S and EON48P. It offers 64 Direct Station Selection Keys.



### EON42S with DSS72

DSS72 is an attachment to EON42S. It offers 72 Direct Station Selection Keys.



## IP PHONES

Matrix SETU is a range of feature-rich, executive IP Phones. They provide intuitive operation for the call management functions. Their standard SIP based design makes them compatible with any SIP infrastructure like Soft Switches, IP PBXs, Registrars and Proxies. The SETU VoIP Phones offer WAN and LAN ports with routing. This makes them ideal for stand-alone applications requiring a PC to work with VoIP Phones. Full-duplex speaker phone, backlit LCD and capacity to handle multiple calls simultaneously are a few of the key strengths of these high-end VoIP Phones. SETU VoIP Phones are available in four variants, each with two color options: Black and White.

**SETU VP248PE** with 6 Lines x 24 Characters LCD Display with PoE

**SETU VP248SE** with 2 Lines x 24 Characters LCD Display with PoE

**SETU VP236SE** with 2 Lines x 24 Characters LCD Display with PoE

**SETU VP236S** with 2 Lines x 24 Characters LCD Display

SETU VP248PE



SETU VP248SE



SETU VP236S



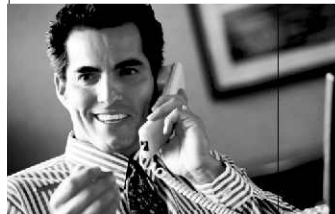
### Key Features

- 3 SIP Accounts
- 2 Ethernet Ports
- Programmable Keys
- Anonymous Call and Selective Call Rejection
- Auto Configuration
- Auto Answer with Headset Interface
- Conference
- DHCP, PPPoE, NAT and STUN
- Peer-to-Peer Calling
- Dialed, Received, Missed and Rejected Call Logs
- G.711, G.722, G.723, G.726 and G.729AB
- LAN and WAN Ports
- Least Cost Routing
- Message Wait Indication
- Multiple Call Handling (4 Calls)
- Phone Book with 100 Entries
- Ringer, Speech and LCD Controls
- Voice Mail Key
- Web Configuration

■ For detailed technical information, please refer ETERNITY IP-PBX Technical Specifications Brochure

### ■ ABOUT MATRIX

An ISO 9001 Company, Matrix is a leader in Telecom and Security solutions for modern businesses and enterprises. An innovative, technology driven and customer focused organization; the company is committed to keep pace with the revolutions in the telecom and security industries. With around 30% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge telecom products like IP-PBX, Universal Gateways, VoIP Gateways and Terminals, GSM Gateways, Access Control and Time-Attendance Systems and Fire Alarm Systems. These solutions are feature-rich, reliable and conform to the international standards. Having global foot-prints in Asia, Europe, North America, South America and Africa through an extensive network of more than 500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of more than 150,000 customers representing the entire spectrum of industries. Matrix has won many awards for its innovative products.



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Due to continuous technology upgradations, product specifications are subject to change without notice.