



ATLAS Matrix Business

The Integrated Enterprise Voice Switch

Modern businesses require a completely integrated communication solution. One that offers easy scalability and can grow with growing needs of the organization. Presenting Atlas Matrix, an integrated enterprise voice switch. It is a unique convergence of Innovative switching technology and Intelligent software features.

Intelligence that is embedded in the system to offer prompt and professional response coupled with features that help in efficient call management. Innovative technology used for the design of the system help in the overall reduction in cost of communication. Its 100% non-blocking, PCM-TDM-IP design ensures unrestricted communication from all the users simultaneously.

Atlas Matrix offers a platform with universal slots that can take care of all your future communication requirements. It also offers flexible scalability due to the modular design of the cards.

Get the power of Atlas Matrix on your team because winning is important, not only today but also tomorrow!



■ Atlas Matrix is available in 3 models: (i) MX-6 with 6 universal slots, (ii) MX-10 with 10 universal slots, (iii) MX-16 with 16 universal slots.

Different types of interfaces can be integrated through these universal slots. Trunk Lines (TRK), Single Line Telephones (SLT), Digital Key Phones (DKP), ISDN BRI Lines, T1/PRI Lines, T1/E1 Lines, E&M Tie Lines, GSM Lines and even VoIP Lines* can be interfaced using these universal slots. It offers two optional plug-in voice mail cards.

The unique design of these modular cards for universal slots helps you configure the system exactly as needed.

You buy only what you need, no more, no less. Even for future expansion, you can expand in steps as per your requirements hence making it cost effective. The Atlas Matrix can grow easily and in a cost effective way with your growing communication needs.

All facilities like 4 Digital Key Phone Ports, 24-Party Conference, Auto Attendant, Digital Input Port, Digital Output Port, Analog Input Port, Analog Output Port, Remote Programming, SMDR Buffer with a large capacity etc. are built-in the system.

No hidden costs, simply a comprehensive solution for your communication needs.

Intelligent features like Auto Attendant, CLI (Caller ID) based Routing, Dial by Name not only ensure efficient call management but also help in giving a prompt and professional response to the callers. Features like Least Cost Routing, CLI (Caller ID) based External Call Forwarding, Call Budgeting are provided which help in reducing communication cost. Atlas Matrix helps to enhance productivity in any organization.

Innovative and robust design of Atlas Matrix ensures efficient, reliable and maintenance free communication. Powered by 32-bit controller and distributed processing, the system ensures immediate response and reliability.

Atlas Matrix is a unique mix of Integration, Intelligence and Innovation, making it the ideal communication partner.



Atlas Matrix MX-6



Atlas Matrix MX-10



Atlas Matrix MX-16

■ THE INTELLIGENT ONE

An intelligent system, Atlas Matrix gives you a vital edge in your business with increased productivity and a distinct cost advantage.

Account Codes

A convenience feature. It is especially of great help when account for all calls made for a particular client, needs to be recorded. A unique account code can be assigned to each client. Any call made by anyone from the organization on behalf of a particular client can be recorded under a single account. The Atlas Matrix makes sure that you have a comprehensive list of all the calls made on behalf of each client. There is also an option of forced account code wherein without dialing an account code, the user cannot dial a number. 1000 account codes can be defined in Atlas Matrix.

Alarms

Atlas Matrix offers facility of multiple types of alarms namely Daily, Time and Future Date and Time on each extension. All these alarms can also be activated remotely. What's more, each extension user has the option to activate multiple alarms of each type depending on the requirement. Atlas Matrix even offers the option of alarm-snooze, same as that available in mobile handsets. A convenience feature for all users.

Allowed and Denied Lists

This function avoids misuse of long distance and international dialing to control telephone cost. A comprehensive list of numbers can be included in the Allowed and Denied Lists. However, it allows dialing of a few fixed numbers and restricting dialing of other numbers in the same area. For example, an extension can dial only '22-262-5738' but not any other number starting with '22'. Atlas Matrix offers flexibility of defining 32 allowed and 32 denied lists. Each list can contain 256 numbers each of a maximum of 16 digits.

Auto Redial

Allows a user to keep dialing a person if the called number is busy. The station user can continue with his/her other tasks while the system keeps trying the busy number. The function even allows determining the the priority of auto-redial as low priority or high priority.

Automatic Call Distribution

A smart feature, it automatically distributes incoming calls to an available agent. A very useful feature in call centers and other high call traffic offices.

Boss Ring

The system can be programmed such that if the call is generated from certain important extension, a different ringing cadence is generated at the destination extension. Atlas Matrix offers eight types of ringing cadences that are used for internal calls, calls from boss, alarms, auto redial etc. A very useful feature for senior executives who are short of time and require quick assistance from their associates.

Call Accounting System Interface

Atlas Matrix interfaces with most types of Call Accounting System protocols. This helps in easy integration of third party call accounting software and Atlas Matrix.

Call Budgeting

The maximum usage (dollar amount) can be allocated to each station thus avoiding excess telephone bills at the same time not hampering productivity. The DKP users can use the Call Cost Display feature and find out at any point of time how much call budget they were allocated and at that point of time, how much out of that budget they have consumed.

Call Duration Control

An effective cost control feature that allows you to track misuse of phones in your office. Each extension can be programmed for multiple options. These include incoming, outgoing and intercom calls to be disconnected after a pre-defined duration, selective long distance or international calls to be disconnected after a pre-defined duration.

CLI Based Routing

The dedicated code detector circuits identify the Caller Line (trunk call) and routes the incoming call directly to a specified station. Four hundred external numbers can be programmed in Atlas Matrix. It also lets that station (DKP) know even the name of the caller if programmed accordingly.

Central Ringer / Loud Bella

Atlas Matrix offers a central ringer. In case, an incoming call is not attended by any extension in normal course, the central ringer can be activated. A special buzzer provided on the master card will start ringing. You can also program such that a special alarm set up in the office starts ringing in the office as soon as the central ringer is activated. Once the central ringer is activated, any extension can answer the incoming call by dialing a specific code. A great utility feature in special circumstances like unplanned holiday in office, noisy work environments, etc.

Conference Dial-in

This unique feature allows participants of a conference to dial-in a live conference at a scheduled time just by dialing a code. A great time saving feature!

Department Call

This function is useful when the caller wants to talk to any person in a department and not a particular individual. Atlas Matrix allows 16 department groups to be formed and each department is assigned an access code called a department code.

Emergency Call Detection And Reporting

Emergency Call Detection and Reporting in Atlas Matrix allows you to program the emergency number that can be dialed by any user. This emergency number can be dialed from any extension, even those that do not have trunk access. If any user dials a particular emergency number, for example "911", the operator is immediately informed about the extension from which the number was dialed. This helps the operator to take further course of action.

Flexible Clock Synchronization

This feature allows user to synchronize the system clock of Atlas Matrix to desired network clock. It is programmable for each trunk port.

Hot Outward Dial

This function is of great use for those stations which make more trunk calls as compared to internal calls. As soon as the station user picks up the receiver, he/she gets access to the desired trunk line, saving a lot of time and efforts. This function also offers a variant whereby a specified telephone number may also be dialed as immediately as the handset is picked up or after a pre-defined delay (automatic ring down circuit).

Jeeves

A flexible and user friendly software package, allows programming at the click of the mouse. Graphic User Interface (GUI) software tool for programming the system. It is intuitive and supports many languages like English, French, Italian, German, Portuguese, and Spanish.

Least Cost Routing

It is a unique function designed using structured programming. It selects the most cost effective trunk from the allotted trunks to make outgoing calls depending upon the time of call and the destination number leading to major savings. Four options for least cost routing based on (1) Time, (2) Number, (3) Carrier Pre-Selection and (4) Service Provider to Service Provider are available. Even combinations of the above parameters can be defined for least cost routing. For example, you can program the system to select only a particular trunk line for making long distance 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! You can rest assured that every call being made outside your organization is always at the least cost!

Paging

Messages can be announced to a larger number of people just by lifting the phone and dialing a specific code. Mass communication at its best!

Priority

It allows certain stations, a higher priority of access over others, such that calls from the senior managers get priority while waiting to get connected to a station over others.

Room Monitor

Allows the station user to listen to the sounds in another room where the Digital Key Phone is installed. What's more, you can even monitor the room from your mobile. A very powerful security feature!

Routing

Atlas Matrix allows you to fix a route for all incoming calls so that they go to a particular station, if they are not answered after a specified number of rings, they are sent to another station and so on. Hence no call gets terminated till it is replied properly.

Features

Atlas Matrix offers features like Multi Subscriber Numbers (MSN), Malicious Caller Identification (MCID) Direct Dial In (DDI), Calling Line Identification and Presentation (CLIP) and Calling Line Identification Restriction (CLIR) are in-built. Also other Number Identification features* like Connected Line Identification Presentation (COLP), and Connected Line Identification Restriction (COLR).

Other Call Offering Services* like Call Forward - Unconditional, Busy and No Reply, Call Deflection, Explicit Call Transfer, Call Waiting, Call Hold, Call Completion on Busy Subscriber, Advice on Charge at end of the call and Advice on Charge during the call are also available. It also offers facility* of connecting ISDN Phone, Video Phone or other Video Conferencing equipment.

Security Dialer

The Atlas Matrix allows you to connect any type of sensors 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. The called person can also be asked to confirm that the message has been heard by him. Even an alarm can be activated in case of emergency.

SMDR Reports (Outgoing, Incoming and Internal)

The Advanced Search Module allows detailed reports for each outgoing, incoming and internal calls, to be generated and printed for better analysis. Filters for selecting what calls to be stored and filters for different types of analysis are available in Atlas Matrix. Separate buffer capacity of calls is available each for 6000 outgoing, 5000 incoming and 1000 internal calls.

Tenant Groups / Tenant Service

Atlas Matrix allows 8 separate tenant groups to be formed with flexible numbering and time tables. Separate incoming and outgoing trunks can be defined for each tenant group. Ideal for shared offices in business centers and housing complexes.

Time Tables

The system can work differently depending upon the time of the day. It allows flexible programming for 3 time zones namely (1) Working hours, (2) Lunch hours and (3) Non-working hours, individually, for all 7 days in a week. Long distance dialing access may be denied to certain stations after working hours or trunk calls may directly reach security office after the office shuts down or a specific message is played on a holiday.

Virtual Users

The Atlas Matrix offers virtual users that allows for sharing of an extension by multiple users. It offers option of mapping this virtual extension number to actual extensions. So whenever the virtual extension number is dialed, it will reach the actual extension to which it is mapped. A maximum of 640 (less the actual number of extensions used) can be defined as virtual users.

Voice Mail Integration

Atlas Matrix offers a generalized integration such that it can be easily integrated with voice mail system of any other brand. However, the handshake is possible only if the voice mail system also supports the integration operation. Please check for exact details regarding this handshake with the supplier of the voice mail system.

Voice Prompts For Tones

The Atlas Matrix offers this unique feature of guiding the users at various tones. Voice prompts can be recorded for various tones like dial tone, busy tone, error tone and ring back tone. For example, if a user dials an extension and the extension is busy, a message 'The called extension is busy. Please dial 2 for auto call back,' can be played. An extremely user friendly feature offering a world of convenience.

■ A FULLY INTEGRATED SOLUTION

The Atlas Matrix is the most integrated solution for all your communication needs. A unique convergence of the latest switching technology with intelligent software programming, Atlas Matrix offers a completely reliable communication set-up for your organization.

24-Party Conference

The Atlas Matrix possesses a PCM Conference Call Circuit that uses a total of 8 digital conferencing circuits. This supports maximum of 24 parties in a single conference without affecting the speech levels. This feature allows even multiple conferences to be conducted simultaneously. Dial-in Conference is also possible. Using Dial-in feature, the users, at a specified time can directly enter the conference by entering their passwords.

Digital Key Phones

The Digital Key Phone (E45) as part of the Atlas Matrix, can be offered to any number of stations with the addition of extra cards. Maximum 128 Digital Key Phones can be connected to Atlas Matrix depending on the system capacity.

4 Digital Key Phone Ports

Two models of Atlas Matrix namely MX-10 and MX-16 offer 4 Digital Key Phone ports as part of the standard equipment. It possesses a 2 wire full-duplex Digital Subscriber Network Interface Circuit (offers range up to 4km). Additional Digital Key Phones can be easily connected by adding additional ports.

Background Music

The system allows you to use the DKP as well as SLT as a device to play background music as well. 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-in the system, besides the option of using an external music source like CD player, FM radio, etc.

Caller Line Identification (CLI)

Atlas Matrix offers CLI features on both DKP and SLT. It offers the facility to detect CLI on ISDN lines and normal telephone 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 DKP. Atlas Matrix also offers the flexibility of programming the CLI feature for each extension individually.

Calling Line Identity Restriction (CLIR)

Atlas Matrix offers the facility of calling line identity restriction. Selected users can deny disclosing their extension identity to others.

Compact And Sturdy Design

Atlas Matrix's compact design leads to smaller footprint. The wall mountable design is easy to maintain and occupies less space. This 'no moving parts' design leads to higher reliability.

Dedicated DTMF

Atlas Matrix offers dedicated DTMF circuit for each user making it 100% non-blocking even while dialing. This is a critical parameter for organizations expecting heavy call traffic. This is what makes Atlas Matrix a 100% non-blocking system in the truest sense.

Digital Key Phone + Single Line Telephone

Atlas Matrix allows flexibility in selecting the number of Digital Key Phones and Single Line Telephones in the system as per the needs of an organization.

Direct Inward System Access (DISA)

Direct Inward System Access (DISA) allows a user to access the systems resources from a remote location. Thus a user can make calls to and from any of the stations, activate/deactivate features of any station and even program or administer the system.

Direct Outward System Access (DOSA)

Direct Outward System Access (DOSA) allows a user to access the systems resources from a remote location. Thus a user can make calls to any external number, from a remote location, using the trunk lines connected to the system. This is a password protected access to ensure security.

External Music Port

The external music port allows an external music source to be connected to Atlas Matrix. Desired music or message can be played while a person is on hold.

Hot Desking

The Object Oriented Programming done for this function allows the extension user to transfer his extension to another extension just with a command. Its akin to carrying your extension wherever you move. Both DKP and SLT users can activate this feature. DKP user can hot desk his extension with another DKP user and SLT user can hot desk his extension with another SLT user. This feature is programmable per extension and can be activated by use of a personal password.

Hotel Motel Features

Atlas Matrix offers comprehensive hotel motel features built-in the system. The system also offers integration with Property Management Software (PMS) used in hotels. For further details, please refer to Hotel Motel brochure of Atlas Matrix.

Public Address System (PAS)

The Public Address System Port allows any station user to make announcements on external speakers.

System Activity Report

Atlas Matrix maintains a complete system activity log. You can find out when a particular extension entered 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!

Voice DID

The built-in auto-attendant feature performs the task of an operator by greeting the external caller and transferring calls to the desired station. Five callers can be processed simultaneously.

Voice Mail Connectivity

All voice mail features can be accessed in Atlas Matrix by inserting an integrated voice mail (VMS) card to the Atlas Matrix.

Voice Message Applications

Atlas Matrix has built-in voice modules. They can be used for various voice applications like Station Greetings, Reminders, Toll Control, Multiple Trunk Auto Attendant, DID Greetings, DID Guidance, Security Dialer, Message Wait, Alarm, Help and Music-on-Hold.



■ THE INNOVATIVE ONE

A system built after intensive R&D efforts, the Atlas Matrix is designed with features after understanding the needs of the modern business. Thus offering you the advantage to use technology for increased productivity and convenience. A futuristic system, the Atlas Matrix will serve you for years to come.

12 kHz/16 kHz Metering (not used in North America)

Atlas Matrix can calculate your telecommunication cost more accurately as it is able to sense the pulse of the call sent by the Central Office Exchange. This leads to your knowing for sure how much you are spending.

Distributed Processing

Atlas Matrix employs a multi-processor architecture, wherein each card has its own dedicated micro-controller, EPROM and RAM. This processor is responsible for local processing of events and commands. The master processor manages all the peripherals. This technology enhances flexibility and reliability.

E&M Connectivity

E&M card can be used to connect Atlas Matrix to routers, VSAT, voice-data multiplexers, etc. This card facilitates integrating Atlas Matrix into your Wide Area Network (WAN). E&M cards can also be used to expand the configuration of any existing PBX/KTS system. Atlas Matrix supports 2 wire / 4 wire E&M connectivity. It also supports Type IV and Type V E&M.

Expandability

All models of Atlas Matrix are expandable that allow you to keep adding extra cards to increase the number of stations as your organization keeps growing. The greatest advantage is that the same expansion cards can be used for the MX-10 and MX-16 models of the Atlas Matrix.

GSM Connectivity

Atlas Matrix supports GSM connectivity by means of an optional GSM card. Important features like Automatic Number Translation, Network Selection and supplementary services like Call Hold, Call Waiting, Call Swap, Conference and Out Dial are built-in.

GPAX Features

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

High Density Switching

Built on PCM/TDM, non-blocking, digital technology, Atlas Matrix uses 256 x 256 digital switching that reduces chip count and real estate. MX-10 and MX-16 use 512 x 512 digital switching matrix.

Integrated Conference Circuits

Atlas Matrix employs a single powerful digital conferencing IC with speech level control instead of traditional, bulky cards.

ISDN Connectivity

You can connect ISDN BRI (2B+D) as well as ISDN PRI (23B+D or 30B+D) lines to the system.

Remote Programming

Atlas Matrix can be engineered for change in its programming from a remote location also. This does not even require a PC or any other specialized device at the site.

Subscriber Loop Integrated Circuits (SLIC)

Station port hardware uses DSP based advanced Subscriber Loop Integrated Circuits (SLIC), and offers programmable line parameters.

Surface Mount Technology (SMT)

The Surface Mount Technology (SMT) is the current semiconductor packaging technology that offers reduction in real estate resulting in less heat generation and low power consumption. This in turn improves reliability.

T1/PRI Connectivity

T1/PRI lines can be connected to Atlas Matrix through an optional card.

Universal Slots

All the expansion slots of Atlas Matrix 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, trunk, ISDN or any other circuit. Thus, allowing flexible configurations.

Upgrading Software

The programming of the software can be conveniently upgraded through a CD. What's more, the software can be upgraded even with a file transferred through mail. A boon for system engineers!

VoIP Connectivity*

VoIP lines can be connected to Atlas Matrix through an optional card. Users can use these lines directly from their stations.

Atlas Matrix E45 Digital Key Phone

The Digital Key Phone is a feature-rich, easy to use station.

The Atlas Matrix E45 supports a host of additional features providing the user fast access to the functions of Atlas Matrix at single touch of a button. E45 is available in two colors, black and white.



20 DSS Keys

The E45 offers 20 soft keys that can be programmed for each user, to access trunk line, SLT, DKP and even feature, at a single touch of the key.

Adjustable Ringer Volume and Speech Level

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

Tri Colour LEDs for Port Status

Status of other extensions (DKP and SLT) and trunk lines can be displayed on the E45. The status of the user's extension as well as that of other extensions or trunks can be known through the LEDs.

Last Dialed Calls - Call History

Last 16 dialed calls can be stored in E45.

Message Paging

User of the E45 can page any of the pre-defined messages to other DKP users. Different messages like Meet Me, Congratulations, Meeting Today, etc., can be paged to other DKP users. These messages can be programmed by the system engineer.

Missed Calls

Details of last 5 missed calls can be viewed on the LCD of the E45. A useful feature for the user to find out who called in his absence.

E45 Features

- 13 Feature Keys
- 2 Line x 16 Character LCD
- 20 DSS Keys
- Absent/Present Settings
- Auto Answer
- Adjustable Ringer Volume Level
- Adjustable Speech Level
- Background Music (BGM)
- Call Duration Display
- Call Chaining
- Call Cost Display
- Dialed Number Directory
- Directory Dialing by Name
- Tri Colour LEDs for Port Status
- Forced Answer
- Hands Free Operation
- Headset Connectivity
- Key Pad Lock
- Last Dialed Calls
- Live Call Screening
- Menu based Settings
- Message Paging
- Missed Calls List
- Multiple Ringer Tones
- Mute
- Off-hook Alert
- Personal Settings
- Quick Dial
- Room Monitor
- Text Message Reply
- Time Zone Display

ESoft PC based Digital Key Phone

An innovation from Atlas, the ESoft offers integration of your PC with your DKP/SLT. A feature of great utility to those techno savvy people who have computer on their desks and do not wish to keep a separate telephone.



Forced Answer

This feature enables the caller to force the called party (on E45 or ESoft) to answer the call by making the destination station's speaker go Off-Hook. This is useful when the called party is not responding to the call in spite of the station ringing continuously.

Help Menu

The ESoft offers a user friendly help menu for ease of operation.

Integration with Microsoft Address Book

The ESoft is integrated with Microsoft address book. This helps the users to directly call the numbers stored in the

address book at a click of the mouse. Keyboard and Mouse Operation. The ESoft can be operated both, through keyboard and with mouse.

Shortcut Keys

Shortcut keys can be defined for different functions so that they can be used easily.

Tools Tips on Mouse Over

Tool tips shall be displayed on mouse over. These tips can be programmed for each key. It can help the user to know details about a particular key. It is also useful in intuitive operation of the ESoft.

Additional Features

Available in ESoft

- Automatic Sensing of PC Status
- Automatic Sensing of Software Status
- Executive Mode (with 20 DSS Keys)
- Handset Connectivity
- Help Menu
- Integration with Microsoft Address Book
- Key Board Macros
- Key Board and Mouse Operation
- Programmable Tool Tips
- Shortcut Keys
- Standard Windows User Interface
- Tool Tips on Mouse Over

(The ESoft offers all the features offered by the E45 and in addition to those, offers other user friendly features.)

Accessories

E45	Digital Key Phone
DSS6	Direct Station Selection Console with 64 keys
ESoft	PC based Digital Key Phone with two numbers of PC based DSS64
C-4P	Stand-alone external voice mail system for 4 ports
C-2P	Stand-alone external voice mail system for 2 ports
PFT8	Microcontroller based intelligent Power Fail Transfer module for 8 analog trunk lines
CallAuditor	Call Monitoring and Controlling Software

E45



ESoft



DSS64



PFT8



VOICE MAIL FEATURES

Atlas Matrix offers an option of card based internal voice mail. Two options are available. 8 ports card and 4 ports card. This card can be inserted in any of the universal slots offering all voice mail features that can boost productivity of any organization.

Message Wait Indication

Indication can be provided to the extension (both DKP and SLT) user regarding any new message in the mailbox. There are three ways to indicate new message. (1) Change in dial tone (stuttered dial tone), (2) LED indication on the telephone (both DKP and SLT with message wait LED) and (3) Voice message before dial tone on lifting the handset.

Call Recording

The system utilizes a Customized Information Exchange Protocol where in, it allows users to record conversations without any indication. Calls made to or received from selected external numbers, can be recorded. This feature is possible both on DKP and SLT. A very helpful feature to document important voice conversations. This feature should be used in accordance with the local laws.

Conversation Recording

User can record his conversation in his mailbox. This helps the user to keep record of the points discussed and agreed with. This feature can be activated both for DKP and SLT extensions. A plus for businesses that work on verbal commitments. This feature should be used in accordance with the local laws.

Live Call Screening

The Customized Information Exchange Protocol allows DKP users to listen to 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 mailbox for retrieval in future.

Voice Mail Features

Auto and Manual Mode
Auto Attendant
Broadcast Message
Call Forward on Voice Mail
Call Record
Call Transfer Types
Configuration Reports
Conversation Recording
Customized Mailbox Size
Dial By Name
Distribution Lists

Flexible Graph
Individual Mailboxes
Information Node
Live Call Screening
Message Forward
Message Nodes
Message Notification
Message Verification
Message Wait Indication
Multiple Mailboxes on a Single Extension

Parallel Printer Port
Personalized Greetings
Programming through Jeeves
Redirecting Messages
Remote Programming
Serial Communication Port
System Security (Password)
Traffic and Utilization Reports
Transfer Nodes
Voice Greetings
Voice Memo

FEATURES

12 kHz/16 kHz Metering	Customer Emergency Services	Paging (Internal and External)
Abbreviated Dialing (Global & Personal)	Identification Dialing	PLCC Applications
Abbreviated Dialing (Free)	Customer Name	PMS Interface
Access Codes (Programmable)	Date and Time Format	Printer Port
Account Codes	Daylight Saving Time	Priority (Intercom and Trunk)
Account Codes (Forced)	Department Call	Privacy
Alarms (Time, Daily, Future Date & Time)	Digital Input Port	Programmable Access Codes
Alarm-Snooze	Digital Output Port	Programming the System (Using SLT, DKP, Ethernet Port, Serial Port, Jeeves)
Alarm-Multiple	Direct Inward Dialing (DID)	Public Address System Port
Allowed and Denied Lists	Direct Inward System Access (DISA)	Quick Dial
Alternate Number Dialing	Direct Outward System Access (DOSA)	Raid
Analog Input Port	Distinctive Rings	Real Time Clock
Analog Output Port	Do Not Disturb (DND)	Real Time Clock Synchronization
Auto Attendant (Multiple Languages)	Do Not Disturb (Remote)	Region Code
Auto Call Back (Busy, No Reply)	Dynamic Lock (Auto and Manual)	Remote Alarm
Auto Redial	E&M Connectivity	Remote Call Forward
Automated Control Applications	Emergency Call Detection and Reporting	Remote Programming
Background Music (DKP, SLT)	Emergency Dialing	RS232C Ports
Barge-In	External Call	Security Dialing and Reporting
Behind the PBX Applications	External Music Port	Selective Trunk Access
Boss Ring	Flash Timer	Self Ring Test
Call Accounting System (CAS) Interface	Flexible Clock Synchronization	Station Groups
Call Budget	Flexible Numbers	Station In-Service/Out-Service
Call Cost Calculation	Forced Call Disconnection	Station Message Detail Recording (SMDR)
Call Duration Control	GPA Applications	Station Message Detail Recording (Incoming, Outgoing, Internal)
Call Follow Me	Helpdesk	System Activity Log and Display
Call Forward (Busy, No Reply, Dual Ring, Busy or No Reply, To external number)	Hold	System Debug
Call Forward (Remote)	Hot Desking	System Fault Log and Display
Call Park (General and Personal Orbit)	Hotline (Immediate and With Delay)	System Security (Passwords)
Call Pick Up (Group and Selective)	Hot Outward Dialing (With/Without Number, With/Without Delay)	Time Tables
Call Progress Tones	Hotel-Motel Features	Toll Control
Call Splitting	Incoming Call Management	Trunk Access Groups
Call Record	Internal Call	Trunk Auto Answer
Call Transfer (Screened, On Busy, While Ringling, Trunk to Trunk)	Internal Call Restriction	Trunk Connectivity (BRI)
Calling Line Identification and Presentation (CLIP)	Interrupt Request	Trunk Connectivity (E&M)
Calling Line Identity Restriction (CLIR)	ISDN-BRI Connectivity	Trunk Connectivity (E1)
Calling Line Identification-Station (DKP and SLT)	ISDN-PRI Connectivity	Trunk Connectivity (GSM)
Calling Line Identification-Trunk (Analog, ISDN, T1/E1)	Last Caller Recall	Trunk Connectivity (PRI)
Central Ringer	Last Number Redial	Trunk Connectivity (T1)
Class of Service (CoS)	Least Cost Routing (Number, Time, Combination, Carrier Pre-Selection and Service Provider to Service Provider)	Trunk Connectivity (VoIP*)
Closed User Group	Live Call Screening	Trunk Landing Groups
CLI based Routing	Live Call Supervision	Trunk Parameters
Closed User Group (With/Without Exchange ID)	Master Time Zone	Trunk Reservation
Communication Ports	Maturity (12 kHz/16 kHz, Delay, CPD, Polarity Reversal, Connect)	Upgrading the Software
Conference-3 Party	Meet Me Paging	User Security (Password)
Conference-24 Party	Message Wait	Virtual Stations
Conference Dial-in	Mobile Ports	Voice Help
Conference-Multiple	Music on Hold	Voice Mail Integration
Conflict Dialing	Name Programing (Station, Trunk)	Voice Message Applications
Continued Dialing	Operator (Single, Multiple)	Voice Prompts for Tones
Conversation Recording	Override	Walk-in Class of Service

*Check Availability

TECHNICAL SPECIFICATIONS

FXO (CO Lines) Port

Off Hook Line Impedance	: 600 Ohm
Loop Limit	: 1500 Ohm
Pulse Dialing	: 10PPS +/- 5%, Make/Break = 33:67
DTMF Dialing and Reception	: As per ITU-T Q.23 & Q.24
CLI Reception	: DTMF, FSK ITU-T V.23 and FSK Bellcore 202
Call Maturity	: Delay, Polarity Reversal, 12 kHz or 16 kHz SPM
Protection	: Built-in Secondary Protection as per EN55024 Standard
Connections	: Amphenol 36-Way Connector (20-Pair Cable, 0.5 mm/0.019 ")

FXS (Stations Lines) Port

Loop Limit	: 1200 Ohm Max. (Excluding Telephone)
Loop Current	: 39 mA (Max.)
Ring Voltage	: 60 Vrms@25 Hz
Off Hook Line Impedance	: Resistive 600 Ohm and Complex [350 Ohm +(1000 Ohm //0.21 u-F)] as per FCC Part 68
Pulse Detection	: 10 PPS +/- 5%, Make/Break = 33:67
DTMF Detection	: As per ITU-T Q.24
CLI Presentation	: DTMF, FSK ITU-T V.23 and FSK Bellcore 202
Protection	: Built-in Secondary Protection as per EN55024 Standard
Connections	: Amphenol 36-way connector for (20-pair cable, 0.5 mm/0.019 ")

Digital Key Phone (DKP) Port

Interfaces	: Single Pair for Speech, Signaling and Power
Channels	: 2B+D
Signaling	: Proprietary Protocol
Loop Limit	: 150 Ohm
Protection	: Built-in Secondary Protection. External Primary Protection Required.

BRI Trunks	
Channels	: 2B+D
Personality	: Network (NT)* and Terminal (TE)
Signaling	: Euro ISDN ETSI DSS1 CTR3 (NET3), ITU-T Q.921, Q.931, US National ISDN-1, German 1TR6, France VNx, Australian TS-013, TS-031
Countries Variants	: Europe, USA, Germany, France, UK, Australia, China, Hong Kong, Korea, Singapore
Supplementary Services*	: Euro ISDN, US Nation ISDN
PRI Trunks	
Channels	: 23B+D and 30B+D
Personality	: Network (NT)* and Terminal (TE)
Signaling	: Euro ISDN ETSI DSS1 CTR4 (NET5), ITU-T Q.921, Q.931, US National ISDN-2, German 1TR6, France VNx, Australian TS-014, TS-038
Countries Variants	: Europe, USA, Germany, France, UK, Australia, China, Hong Kong, Korea, Singapore
Supplementary Services*	: Euro ISDN, US Nation ISDN
E1 CAS	
Bit Rate	: 2048 kbps +/- 50 ppm
Line Coding	: HDB3
Signaling	: ITU-T Q.400, Q.421, Q.422, Q.424, Q.440-Q.442, Q.450, Q.457-458, Q.466 and Q.471-Q-476 and MFC-R2
Alarms	: 1.431, G.732, ETSI 300-233
Connection	: RJ45 (120 Ohm)
Country Variants*	: Argentina, Bahrain, Bolivia, Brazil, Chile, China, Columbia, Czech Republic, Honduras, India, Indonesia, Korea, Malaysia, Panama, Singapore, Thailand
T1 RBS *	
Bit Rate	: 1544 kbps
Line Coding	: AMI and B8ZS
Signaling	: Using ABCD Signaling includes EIA-464 B/ E&M, Wink Start, FXS Ground Start, FXS Loop Start, FXO, DTMF, MF-R1
Alarms	: ANSI T1.231
Performance	: ANSI T1.403, ANSI T1.231, AT&T TR54016
Connection	: RJ45 (120 Ohm)
GSM Trunks	
GSM Band	: Quad-band 850/900/1800/1900
Protocol	: AT Command Interface
Antenna	: 1 Antenna for 4 GSM Ports, 2.5 dBi, SMA (Female), 50 O Omni Directional
SIM Card	: One per GSM Port
E&M Trunks	
Type	: Type IV and Type V
Signaling	: Pulse 10 PPS, Pulse 20 PPS, DTMF
Signaling Protocol	: Normal, Delay, Wink, CCS Signals
Speech Interface	: 2-Wire and 4-Wire
Transmission	
Return Loss	: More than 20 dB
Insertion Loss	: Less than 1 dB
Inter-channel cross-talk	: Less than -65 dBm
Idle channel noise	: Less than -65 dBmOp
Longitudinal Balance	: Better than 40 dB
Mechanical	
Dimensions (W x H x D)	: MX-6 - 32.0 x 33.0 x 29.9 cm (12.5 " x 12.9 " x 11.7 ") MX-10 - 48.2 x 33.0 x 29.9 cm (19.0 " x 12.9 " x 11.7 ") MX-16 - 52.3 x 33.0 x 29.9 cm (20.5 " x 12.9 " x 11.7 ")
Unit Weight	: MX-6 - 7.6 kg (16.7 lb) MX-10 - 8.3 kg (18.3 lb) MX-16 - 10.5 kg (23.1 lb)
Shipping Weight	: MX-6 - 11.7 kg (25.8 lb) MX-10 - 12.3 kg (27.1 lb) MX-16 - 15.0 kg (33.0 lb)
Installation	: MX-6 - Wall Mount, Table Top, 19 " Rack (Optional) MX-10 - Wall Mount, Table Top, 19 " Rack MX-16 - Wall Mount, Table Top
Power Supply	
Mains	: Option 1 90-265 V AC, 47-63 Hz Option 2 -48 V DC +/- 20%
Power Consumption (Typical)	: MX-6 - 50 W MX-10 - 70 W MX-16 - 100 W
Analog Input Port	: 0.7 Vrms, Isolated, Push-Type Connector
Analog Output Port	: 0.7 Vrms, Isolated, Push-Type Connector
Digital Input Port	: Loop Sensing-Open/Close, 5 mA, Push-Type Connector
Digital Output Port	: VDC Max = 60 V DC, IDC Max = 0.15 A, Push-Type Connector
Type of Switching	: PCM/TDM, Digital Switching (100% Non-blocking)
Type of Control	: CMOS Micro-controller with SPC, Distributed Processing Architecture
Environment	
Operating Temperature	: -10 °C to 50 °C (14 °F to 122 °F)
Operating Humidity	: 5-95% RH, Non-Condensing
Storage Temperature	: -40 °C to 85 °C (-40 °F to 185 °F)
Storage Humidity	: 0-95% RH, Non-Condensing

Compliances

Immunity

ESD	: EN 61000-4-2
EFT	: EN 61000-4-4
Surge	: EN 61000-4-5
Conducted Disturbance	: EN 61000-4-6
Radiated Immunity	: EN 61000-4-3
Power Frequency Magnetic Field	: EN 61000-4-8
Voltage Interruption and Dips	: EN 61000-4-11

EMC (Emissions)

Conducted Emission	: CISPR 22 Class A, FCC part 15 Subpart B, Class A
Radiated Emission	: CISPR 22 Class A, FCC part 15 Subpart B, Class A
Harmonic Current Emission	: EN 61000-3-2
Voltage Flicker	: EN 61000-3-3

EC Directives

R&TTE 1999/5/EC
LVD 73/23/EEC
EMC 89/336/EEC

Mechanical

Vibration Test	: IEC 68-2-6
Shock Test	: IEC 68-2-27

Safety

IEC 60950 3rd Edition (1999)

SYSTEM CAPACITY AND RESOURCES

Hardware	Application	MX-6	MX-10	MX-16
Total Universal Card Slots		6	10	16
Maximum TWT Trunks	PSTN/CO Line Connectivity	48	80	128
Maximum DS1 Trunks	PRI/E1/T1 Line Connectivity	8	8	8
Maximum BRI Trunks	Basic Rate Interface (BRI) Line Connectivity	32	32	32
Maximum Analog Phone	Phone, Modem, Fax Connectivity	188	272	464
Maximum Digital Phones (DKP)	Digital Key Phone Connectivity	128	128	128
Maximum DSS64 Console per DKP		2	2	2
Maximum E&M Trunks	E&M Card Connectivity	48	80	128
Ethernet Port	Web Programming	1	1	1
USB Port		1	1	1
Parallel Printer Port	Printer Connectivity	1	1	1
Analog Input Port	External Music	1	1	1
Analog Output Port	Public Address System	1	1	1
Digital Input Port	Sensors/Panic Switches	1	1	1
Digital Output Port	Door Lock, Relay Port, etc.	1	1	1
Security Dialer	Emergency Dialing	1	1	1
Voice Modules	Auto Attendant & Other Voice based Applications	16 modules of 16 sec		
DTMF Decoders		Separate for each Port		
DTMF Encoders		Separate for each Port		
Redundancy	Control, Switch and Power Supply	—	Yes	—

EXPANSION CARDS FOR MX-6 / MX-10 / MX-16

SLT32	32 SLT Ports Card
SLT16	16 SLT Ports Card
SLT8	8 SLT Ports Card
TRK8	8 TRK Ports Card
TRK8+SLT24	8 TRK Ports and 24 SLT Ports Card
TRK4+SLT12	4 TRK Ports and 12 SLT Ports Card
DKP16	16 DKP Ports Card
DKP8	8 DKP Ports Card
BRI8	8 ISDN BRI Ports Card
BRI4	4 ISDN BRI Ports Card
DS1 DUAL	2 DS1 Ports Card
DS1 SINGLE	1 DS1 Port Card
E&M8	8 E&M Ports Card
E&M4	4 E&M Ports Card
VMS	Internal Voice Mail Card
GSM8	8 GSM Ports Card
GSM4	4 GSM Ports Card
VoIP*	VoIP SIP Card

