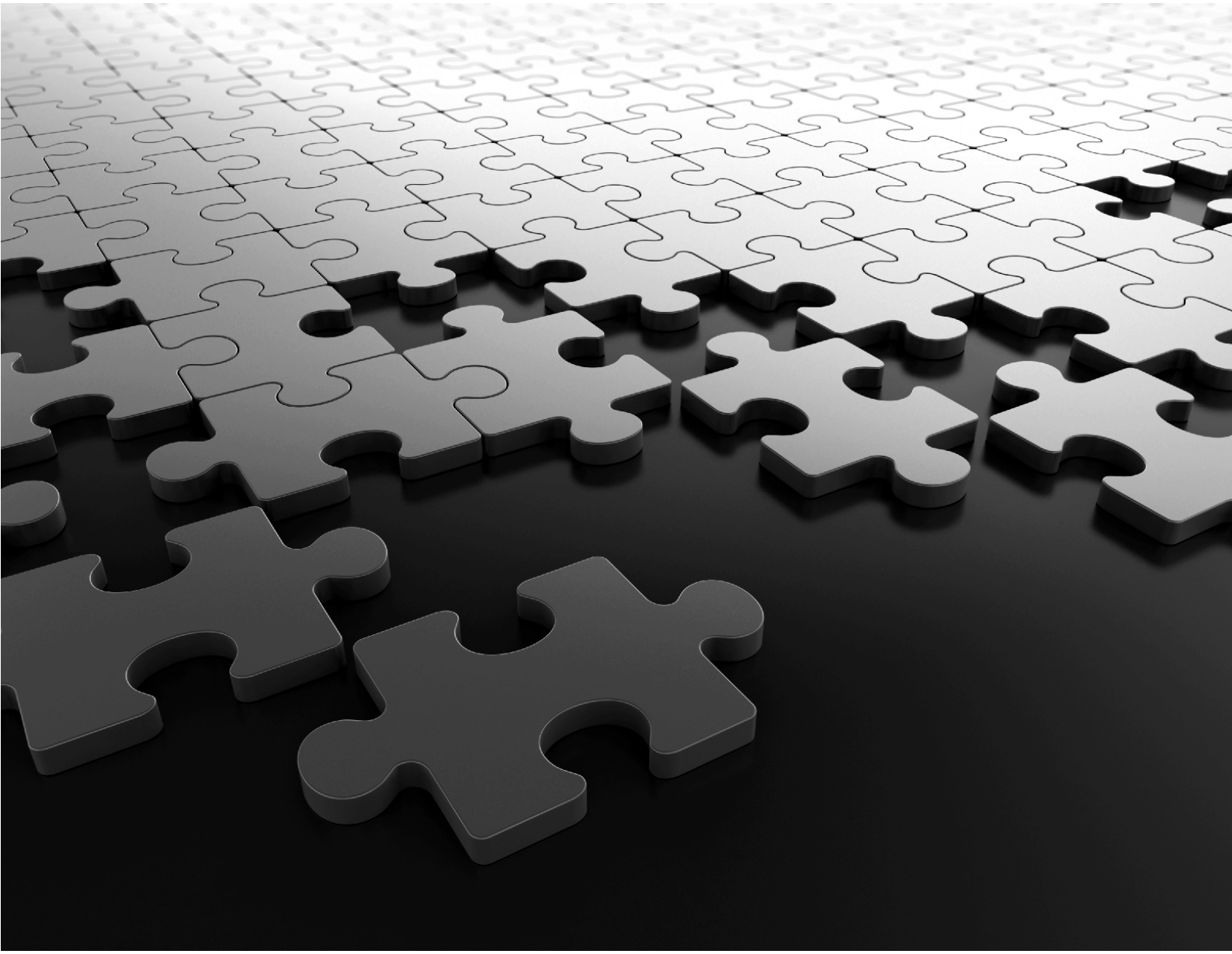
VISION
System Manual



MATRIX
TELECOM SOLUTIONS

MATRIX
TELECOM SOLUTIONS

VISION

The Office Communicator

System Manual

Documentation Disclaimer

Matrix Comsec reserves the right to make changes in the design or components of the product as engineering and manufacturing may warrant. Specifications are subject to change without notice.

This is a general documentation for all models of the product. The product may not support all the features and facilities described in the documentation.

Information in this documentation may change from time to time. Matrix Comsec reserves the right to revise information in this publication for any reason without prior notice. Matrix Comsec makes no warranties with respect to this documentation and disclaims any implied warranties. While every precaution has been taken in the preparation of this system manual, Matrix Comsec assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein.

Neither Matrix Comsec nor its affiliates shall be liable to the purchaser of this product or third parties for damages, losses, costs or expenses incurred by the purchaser or third parties as a result of: accident, misuse or abuse of this product or unauthorized modifications, repairs or alterations to this product or failure to strictly comply with Matrix Comsec's operating and maintenance instructions.

Copyright

All rights reserved. No part of this system manual may be copied or reproduced in any form or by any means without the prior written consent of Matrix Comsec.

Version 1
Release date: December 13, 2012

Contents

Section 1: Introduction ***1***

Welcome *3*
Packing List *4*
Warranty Statement *5*
Introducing the System *6*
Protecting the System *9*
Installing the System *11*
Getting Started *13*

Section 2: Features and Facilities ***15***

Abbreviated Dialing *17*
Alarms *20*
Allowed and Denied Lists *22*
Alternate Number Dialing *25*
Auto Call Back *28*
Auto Redial *30*
Barge-In *34*
Behind the PBX Applications *35*
Boss Ring *37*
Call Duration Control (CDC) *38*
Call Forward *42*
Call Park *44*
Call Pick Up *45*
Call Progress Tones *46*
Call Splitting *49*
Call Transfer *51*
Calling Line Identification and Presentation (CLIP) *53*
Cancel Station Features *56*
Class of Service (COS) *57*
Communication Port *62*
Conference *64*
Configuration Report *67*
Continued Dialing *75*
Department Call *76*
Dial by Name *78*
Direct Inward Dialing (DID) *81*
Direct Outward System Access *86*
Distinctive Rings *91*
Door Phone *92*
Dynamic Lock *94*
External Call *96*
External Call Forward (ECF) *97*
External Music *99*
Flash Timer *100*
Flexible Numbers *101*
Hold *103*
Hotline *104*
Internal Call *106*
Internet Ready Port *107*
Interrupt Request *109*
Last Number Redial *110*
Least Cost Routing (LCR) *111*
Live Call Supervision *118*
Music on Hold *119*
Operator *121*
Paging *122*
Power Down Mode *123*

Privacy *124*
Programming the System *128*
Programming using Phone Wizard *131*
Raid *136*
Real Time Clock (RTC) *137*
Relay Port *138*
Remote Programming *143*
Scheduled Dialing *145*
Security Dialer *147*
Selective Trunk Access *150*
Station Group *151*
Station Message Detail Recording *155*
Station Parameters *163*
System Parameters *165*
System Security (Passwords) *166*
Time Table *167*
Toll Control *169*
Trunk Access Groups *173*
Trunk Landing Groups *178*
Trunk Parameters *181*
Trunk Reservation *184*
User Security (User Password) *185*
Voice Message Applications *186*
Walk-in Class of Service *191*

Section 3: Appendices ***192***

Appendix A: Technical Specifications *194*
Appendix B: Feature Commands *195*
Appendix C: Programming Commands *198*
Appendix D: Troubleshooting *206*
Appendix E: Regulatory Information *208*
Glossary *210*
Index *211*

Section 1: Introduction

Welcome

Welcome to the world of telecom solutions from Matrix and thanks for purchasing a Matrix product.

We want you to get the maximum performance from our product. If you run into technical difficulties, we are here to help. But please consult this system manual first.

If you still can't find the answer, gather all the information or questions that apply to your problem and, with the product close to you, call your dealer. Matrix dealers are trained and ready to give you the support you need to get the most from your Matrix product. In fact, most problems reported are minor and can be easily solved over the phone.

In addition, technical consultation is available from Matrix engineers every business day. We are always ready to give advice on application requirements or specific information on installation and operation of our products.

The system manual is divided in following sections:
Section 1: Introduction
Section 2: Features and Facilities
Section 3: Appendices

We suggest the first time users to read this system manual in the following sequence.
- Section 1
- Section 2 (in the given below hierarchy)
  - Introducing the System 6
  - Installing the System 11
  - Protecting the System 9
  - Internal Call 106
  - External Call 96
  - Music on Hold 119
  - Hold 103
  - Call Transfer 51
  - Call Pick Up 45
  - Call Forward 42
  - Call Splitting 49
  - Auto Call Back 28
  - Last Number Redial 110
  - Auto Redial 30
  - Alternate Number Dialing 25
  - Call Park 44
  - Interrupt Request 109
  - Barge-In 34
  - User Security (User Password) 185
  - Programming the System 128
  - Programming using Phone Wizard 131

Packing List

The ideal sales package for VISION is as mentioned below:

Sr. No.	Item Name	Quantity
1	VISION Unit	1
2	Battery Cable	1
3	Wall Mounting Template	1
4	Screw Grips	2
5	M7/30 Screws	2
6	Warranty Card Set	1
7	VISION CD (System Manual, Quick Start and User Card)	1
8	VISION Quick Start and User Card (printed copy)	1

- Please make sure that these components are present.
- In any of the above items is missing or damaged, please contact the dealer/reseller who sold you the system.

=X=X=

Warranty Statement

Matrix Comsec Pvt. Ltd. (Matrix) warrants to its consumer purchaser any of its products to be free of defects in material, workmanship and performance for a period of 15 months from date of manufacturing or 12 months from the date of installation which ever is earlier.

During this warranty period, Matrix will at its option, repair or replace the product at no additional charge if the product is found to have manufacturing defect. Any replacement product or part/s may be furnished on an exchange basis, which shall be new or like-new, provided that it has functionality at least equal to that of the product, being replaced. All replacement parts and products will be the property of Matrix. Parts repaired or replaced will be under warranty throughout the remainder of the original warranty period only.

This limited warranty does not apply to:

1. Products that have been subjected to abuse, accident, natural disaster, misuse, modification, tampering, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product or if the model or serial number has been altered, tampered with, defaced or removed.
2. Products which have been damaged by lightning storms, water or power surges or which have been neglected, altered, used for a purpose other than the one for which they were manufactured, repaired by customer or any party without Matrix's written authorization or used in any manner inconsistent with Matrix's instructions.
3. Products received improperly packed or physically damaged.
4. Products damaged due to operation of product outside the products' specifications or use without designated protections.

Warranty valid only if:

- Primary protection on all the ports provided.
- Mains supply is within limit and protected.
- Environment conditions are maintained as per the product specifications.

Warranty Card:

- When the product is installed, please return the warranty card with:
  - Date, signature and stamp of the customer
  - Date, signature and stamp of the channel partner

- Matrix assumes that the customer agrees with the warranty terms even when the warranty card is not signed and returned as suggested.

The Purchaser shall have to bear shipping charges for sending product to Matrix for testing/rectification. The product shall be shipped to the Purchaser at no-charge if the material is found to be under warranty. The Purchaser shall have to either insure the product or assume liability for loss or damage during transit.

Matrix reserves the right to waive off or make any changes in its warranty policy without giving any notice.

If Matrix is unable to repair or replace, as applicable, a defective product which is covered by Matrix warranty, Matrix shall, within a reasonable time after being notified of the defect, refund the purchase price of the product provided the consumer/purchaser returns the product to Matrix.

In no event will Matrix be liable for any damages including lost profits, lost business, lost savings, downtime or delay, labor, repair or material cost, injury to person, property or other incidental or consequential damages arising out of use of or inability to use such product, even if Matrix has been advised of the possibility of such damages or losses or for any claim by any other party.

Except for the obligations specifically set forth in this Warranty Policy Statement, in no event shall Matrix be liable for any direct, indirect, special, incidental or consequential damages whether based on contract or any other legal theory and where advised of the possibility of such damages.
Neither Matrix nor any of its distributors, dealers or sub-dealers makes any other warranty of any kind, whether expressed or implied, with respect to Matrix products. Matrix and its distributors, dealers or sub-dealers specifically disclaim the implied warranties of merchantability and fitness for a particular purpose.

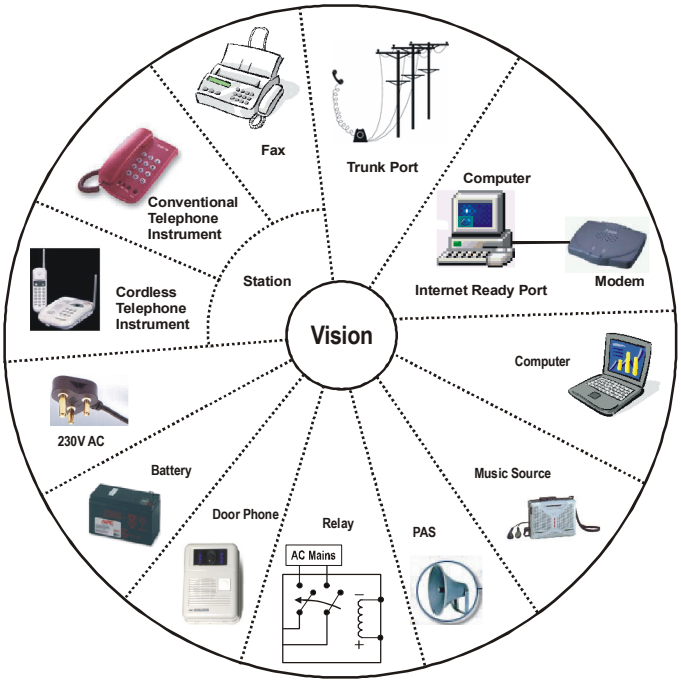
This warranty is not transferable and applies only to the original consumer purchaser of the Product. Warranty shall be void if the warranty card is not completed and registered with Matrix within 30 days of installation.

All legal course of action subjected to Vadodara (Gujarat, India) Jurisdiction only.

Introducing the System

The VISION is a versatile PBX system specifically designed for small offices, banks, Schools, big departmental stores, hospitals and other such places. The VISION is shown in the figure given below:

The VISION offers a number of extra interfaces as shown below:



The VISION series from Matrix offers three models viz.

- VISION-206 Standard.
- VISION-308 Standard.
- VISION-309 Premium.

Features of VISION-206 Standard and VISION-308 Standard:

- Efficient Power Supply based on Switched Mode Power Supply Scheme.
- Wide Input Voltage Range- 90-265VAC, 47-63Hz.
- Built-In Battery Charger.
- Internet Ready Port.
- Supports On-site programming as well as Remote programming.
- Compatible with any type of telephone instrument.
- Supports basic features like:
- Alarms
- Auto Call Back
- Barge-in
- Internal Dialing
- Hold/Toggle
- Call Forward
- Call Park
- Call Pick Up
- Call Transfer
- Class of Service
- Distinctive Rings
- Executive-Secretary (Hotline)
- Flexible Numbers
- Hotline
- Hunting Schemes
- Interrupt Request
- Last Number Redial
- Music on hold
- On site programming
- Power Down Stations
- Programmable Feature Access
- Programmable Access to Programming of System
- Pulse and DTMF dialing

It also supports advanced features like:

- Abbreviated Dialing
- Alternate Number Dialing
- Automatic Call Disconnector
- Auto Day/Night Mode
- Auto Redial
- Auto Shut dynamic Lock
- Boss Ring
- Call Privacy
- CLIP (Caller Line Identification and Presentation)
- CLI based ECF
- CLI based Routing
- Conference
- DID
- DOSA
- External Call Forwarding
- Flashing on Trunk
- Group Call
- Least Cost Routing
- Live Call SuperVISION
- Programmable Timers
- Programmable Trunk Access
- Raid
- Schedule Dialing
- Selective Trunk Access
- Toll Control
- Trunk Groups
- Walk-in Class of Service

More advanced features available in VISION-309 Premium:

- Auto-Attendant
- Computer Connectivity
- Dial by Name
- Digital Input Port
- Door Lock
- Door Phone
- External Music Port
- Inbound Call Analysis
- PAS Port
- Relay Port
- Security Dialer
- SMDR
- Voice Guidance

=X=X=

Protecting the System

The VISION does not work in isolation with the environment. It is connected to the environment in following ways.
- Power is fed to the system for functioning of the system.
- Being a PBX system, trunk lines and stations are also connected to the system.
- System also has other interfaces like External Music, PAS, DIP, Computer, Relay Port. Hence there are chances that heavy voltages can enter the system through these interfaces.
- The system should be protected from static charges that could find their way through the system components.

If the system is protected from these interfaces, 100% satisfactory and trouble free performance of the system is guaranteed.

Protecting the System from heavy voltages from the mains:
The VISION is designed to work with input voltages ranging between 90 to 265VAC, 47-63Hz. The Power Supply of VISION is designed on switch mode design and hence support such a wider range of operating voltage.
However to protect the system from abrupt changes in the input voltage, use of CVT is recommended. CVT of 100VA or 150VA is recommended.

Protecting the System from heavy voltages on the trunk lines and the overhead stations:
The VISION can get damaged if heavy voltages enter the system from trunk lines or from overhead stations.
These heavy voltages could be due to:
- Heavy voltage line falling on the CO line or on the overhead stations cable.
- Thunderbolts.
- Short-circuit of trunk lines or overhead station cables with electric cables.

It is necessary to protect the VISION from these voltages. The protection can be in the form of some protection devices like GDTs, MOVs, Fuses, etc. These protection devices are in-built for each trunk in the system.

These devices work satisfactorily only if they are properly earthed. It is recommended that VISION is provided a separate telecom earth. A dedicated terminal marked ‘ETH’ is provided on the MDF of the system to which the telecom earth should be connected. Telecom earth is a dedicated earth only for the PBX. The advantage of having a dedicated earth is that there is no risk of back voltage. There are chances that if the earth is not perfect, instead of providing protection to the system, it may damage the system.

Protecting the System from static charges:
While installing the system or servicing the system, care must be taken to provide a path to the static charges. It is advisable for the system engineer to touch a grounded object before touching the system before installation or maintenance.

Protecting the System from heavy voltage on the communication cable:
The VISION provides a communication port to which a computer can be connected. It is recommended to run the cable connecting both the devices through the conduit carrying telephone cables or through a separate conduit. By fluke if an electrical wire carrying heavy voltage shorts with this cable, heavy voltages can damage the communication port.

Protecting the System from heavy voltage on the External music port:
The external music port of the VISION should be protected from:
- Heavy voltages on the cable connecting the VISION and the external music source due to shorting with any electrical wire.
- An audio signal, which is not as per the specifications, is fed to this port. Please refer ‘Music on Hold’ for specifications.

Protecting the System from heavy voltage on the PAS port:
The PAS port of the VISION should be protected from:
- Heavy voltages on the cable connecting the VISION and the amplifier/speaker due to shorting with any electrical wire.
- Faulty Amplifier.

Protecting the System from heavy voltage on the DIP:
The DIP of the VISION should be protected from:
- Heavy voltages on the cable connecting the VISION and the panic switch or the sensor.
- Faulty panic switch or the sensor.

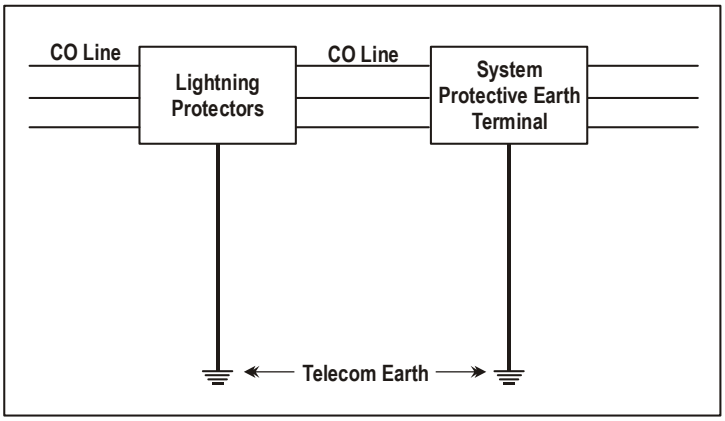
Protecting the System from heavy voltage on the Relay Port:

The Relay port of the VISION should be protected from:

- Heavy voltages on the cable connecting VISION and the Equipment/Doorlock/Contactor connected to it.
- Faulty or overrated Contactor/Equipment/Doorlock.

Protecting the System from Lighting:

Protecting the system from high current surges is achieved by installing primary protection device. A lightning protector is a primary protection device which is used to prevent a dangerous surge from entering the building and damaging the system. For equipment installed in a more exposed environment, it is necessary to protect the system with primary protectors such as PPMs. With the development of electronic equipment, problems due to lighting surges have increased. A dangerous surge can occur if a telephone line comes in contact with a power line. A lightning protector should be installed on an outside (CO) line to prevent a dangerous surge from entering the building and damaging the system. The best place for the insertion of the primary protection is the cable entry point of the building, shelter or equipment housing.



This is not always possible but every attempt should be made to place the primary protection as close as possible to the entry point of the cables into the building, shelter or equipment housing. Hence, the system should be installed with lighting protectors. In addition, grounding (connection to earth ground) is very important to protect the system.

=X=X=

Installing the System

Precautions:

Before installing the System, please read the following precautions carefully:

- Do not open the system in power-ON condition.
- Do not plug/unplug any card in power-ON condition. This may damage the system. Warranty does not cover such damages.
- The VISION uses CMOS parts. These parts are sensitive to electro-static discharges. Observe anti static rules strictly.
- Do not install this product near water, for example near a bathtub, washing bowl, kitchen sink, laundry tub, swimming pool, etc.
- Slots on enclosure are for proper ventilation. They will protect the system from overheating. Never cover the slots.
- Never place this product on heated place or any other equipment.
- Never push objects of any kind inside this product. This may short-circuit various parts.
- Operate these products only with 90-265VAC, 47-63Hz supply and if you are not sure about supply voltage, contact authorized dealer. It is advisable to give proper, stabilized power.
- This product is equipped with a plug having a third (ground) pin, which fits only into a grounding-type outlet. This is a safety feature. If you are unable to insert the plug into the outlet, ask an electrician to replace the obsolete outlet. Do not defeat the purpose of the grounding type plug.
- Unplug this product from electric wall outlet in following cases and contact authorized service personnel.
- Liquid spills on to the product.
- Product exposed to rain or water.
- Product does not operate normally by following operating instructions.
- Product dropped from height.
- Product exhibits unusual change in performance.
- Never do telephone wiring during a lightening storm.
- Avoid using telephone other than a cordless type during an electric storm. There may be a remote risk of electric shock from lightening.
- Never use a telephone to report gas leaks if it is near to gas leak.
- Do not touch non-insulated telephone wires or terminals before disconnecting at the network interface.
- Please connect a Telecom earth to the system (to the port marked ‘ETH’ on the MDF).
- The protection device, GDT protects the system efficiently only if it is provided good telecom earth. Please note that protection device protects the system, however they do not guarantee 100% protection from lighting storm, induced voltages, etc. Please note that warranty does not cover such damages.
- Please note that these products are designed to work efficiently at temperature ranging from 0^{o}C to 45^{o}C (32^{o} to 113^{o}Fahrenheit) with 95% relative humidity, non-condensing.

Site Selection

- The VISION should always be installed at a place equi-distant from all the stations. This reduces the cabling cost and also makes cabling network less complicated.
- It should preferably be installed at 3.5 feet height (approx.) in airy, dust free and moisture free place. An installation at this height makes preventive or curative maintenance task easy.
- *It is advisable that the system should be installed away from any source of electromagnetic noise such as any radio equipment, heavy transformers, faulty electric chokes of tube-lights, any device having a faulty coil* etc. This will reduce any problem arising due to electromagnetic effect.

Cabling

- Select a good quality telephone cable (with 0.5 mm conductor diameter) for internal cabling as well as for over-head cabling.
- Ensure separate cable conduits for both electrical and telephone cables.
- Take care that cables are not left open on the ground where they may get damaged due to entanglement in the foot or due to pressure from other heavy objects.
- Avoid long length cables and at the same time keep number of joints to a minimum i.e. strike a balance between the two. This will help you to find out a cable fault easily.

Power Supply

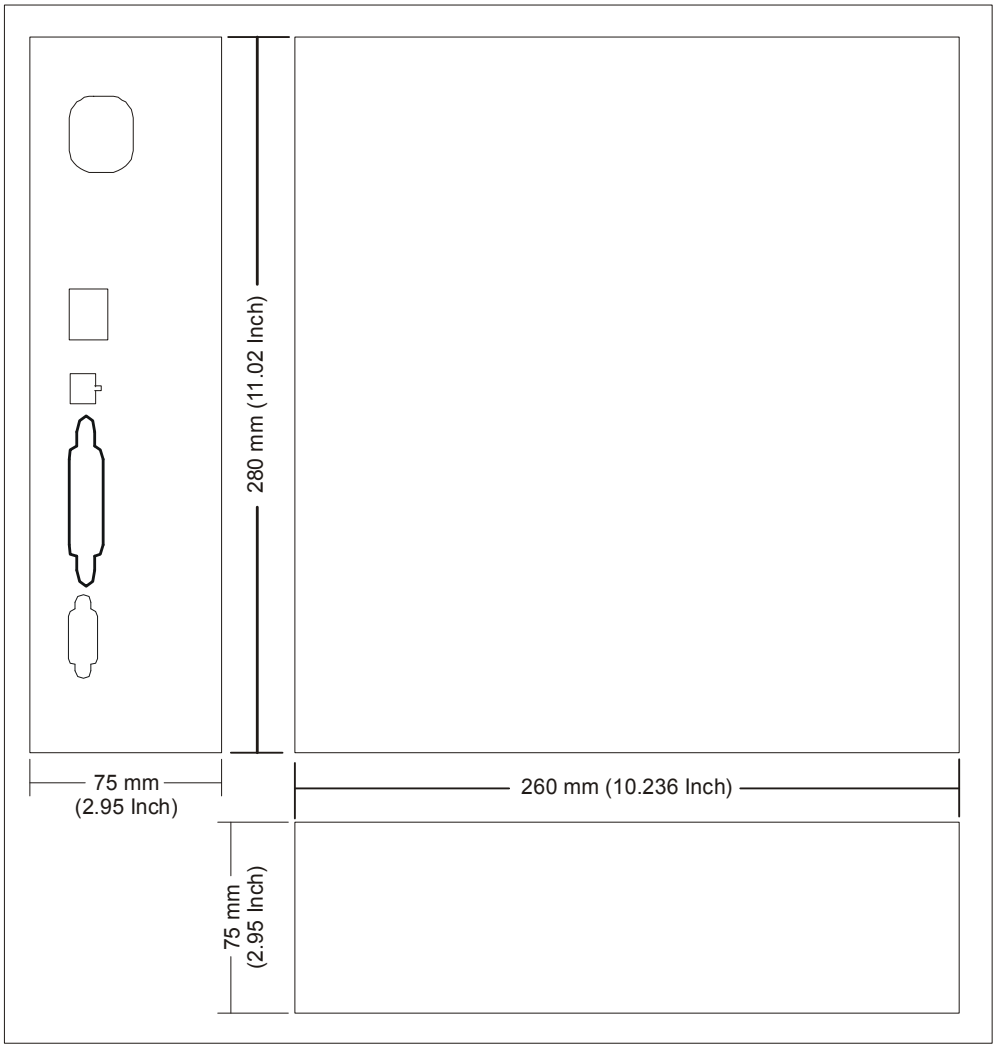
- The VISION operates on 90-265VAC, 47-63Hz supply. Arrange for a separate power point and switch, close to the system.
- Power Supply for the VISION must be separate from other heavy electrical loads like Air-Conditioners, Heaters, Welding Machines, Electrical Motors, Heavy Transformers, Tube Lights having faulty Chokes, Electric Bell and other such noise generating equipments.

- Please ensure that the system is properly earthed. For more details, please refer Protecting the System.

Installation

- Unpack the box. Get satisfied with the contents and the condition of all the parts. In case of short supply or damaged parts, please contact the source from where you purchased the system immediately.
- Please refer to the Mechanical Dimensions given at the end of this topic. To know the pitch of mounting holes.
- Check the mains voltage at the power plug from where the supply is to be given to the system. It should be as per the specifications. Earth the system properly.
- Connect 2 conventional telephone instruments directly at the MDF.
- Connect the power cord to the power plug. Ensure proper contacts. Switch 'ON' the system. Observe the reset cycle on the front panel of the system.
- Reset Cycle: On power ON, all the LEDs on the front panel glow in a sequence. The system follow reset cycle. Then after the system gives dial tone to all the stations.
- Check for dial tone on the telephone instruments connected to the system.
- Switch 'OFF' the system. Remove the power cord of the system from the power plug.
- Remove the telephone instruments connected to the system for testing purpose.
- Now connect all the trunk and station cables to the system.
- Ensure proper telecom earth on MDF for best protection.
- Tag each wire pair with respective Station/Trunk number. Different color tags for Trunk/Station can be used for better identification.
- Now again power the system for final switch ON. Ensure proper contacts.
- To use other interfaces like Computer, External Music, Security Dialer and Public Address System (PAS), please refer respective topics in this manual.

VISION Mechanical Drawing



=X=X=

Getting Started

Switching ON the VISION

Switch ON the system. The reset cycle can be seen on the front panels of all the cards of the system. Test the system for proper functioning by making internal calls to other stations and by making trunk calls.

Stations

Standard telephones instruments like Rotary phone, Pulse-tone switchable push-button phone, Feature phone, CLI display phone or a Cord-less phone can be connected to the VISION. Hence, it is not necessary to buy all new phones. Existing, old but working telephones can also be used.

Trunk Lines

Analog trunk lines can be connected to the system. Please ensure telecom earth to the system.

How to make a perfect earth?

- Dig a pit of area 2 feet x 2 feet x 6 feet. (lxbxd). Please refer to the figure on the next page.
- Get a copper plate of size 1.5 feet x 1.5 feet x 0.25 feet.
- Connect a copper strip of size 1-inch wide, 3 mm thick and 6 feet length at the center of the copper plate by welding or nuts and bolts.
- Insert a G.I pipe onto the copper strip till it reaches the copper plate.
- Place this set up into the pit and ensure that at least 4 inch of the G.I pipe is above the ground level.
- Fill the pit 1-inch layer of charcoal and salt in 3:1 ratio at the bottom and then with the soil.
- Connect a bare 14 SWG copper wire (double) on the top of the copper strip and run it to the exchange room and connect it on the bus bar.
- Bus bar is a copper strip 4-inch long with 6 nos. of screws and nuts mounted on it. It has to be fixed on the wall in the exchange room.
- The earth wire of the system should be connected to this bus bar.
- It is recommended to water the earth at regular intervals.

Testing the Installation.

- In the Power ON mode the system is ready for use with predefined values for variables like extension's flexible numbers, timers and other programmable parameters.
- It is required to check the functioning of the system by testing all the extensions and the trunk.
- Test all extensions for dial tone, ring back tone, speech and ring one by one.
- Test functioning of the trunk by dialing outside number from one of the extensions and checking the trunk tones and speech. Ring on the trunk can be tested by asking your friend to dial your number.

How to make an Internal Call?

- Lift the handset.
- Dial the desired extension's flexible number.
- The called extension rings. You get a Ring Back Tone.
- Speech is established when the called party lifts the handset.

Important Points:

- Hands free Operation is also possible if a speakerphone is used.
- The extensions having access to internal call will only be able to make Internal Calls.

How to make External Call?

- Lift the handset.
- Dial Trunk Access Code.
- Dial the external Telephone Number.

Important Point:

- The extensions having access to trunk and higher Toll control will only be able to make External Calls.

Answering Calls

When a call is placed to your extension, if the caller is an internal caller then your extension rings as Trin....Trin.....Trin.....Trin..... This is called double ring. If the caller is an external caller, the extension on which the trunk call lands rings as Trin..... Trin..... This is single ring. These two types of rings differentiate an internal caller from an external caller.

Programming the System

Many a times it happens that the default settings do not meet our requirements and there is need to program the system. Programming is possible only from System Engineer/System Administrator mode. For more details, please refer Programming the System.

=X=X=

Section 2: Features and Facilities

Abbreviated Dialing

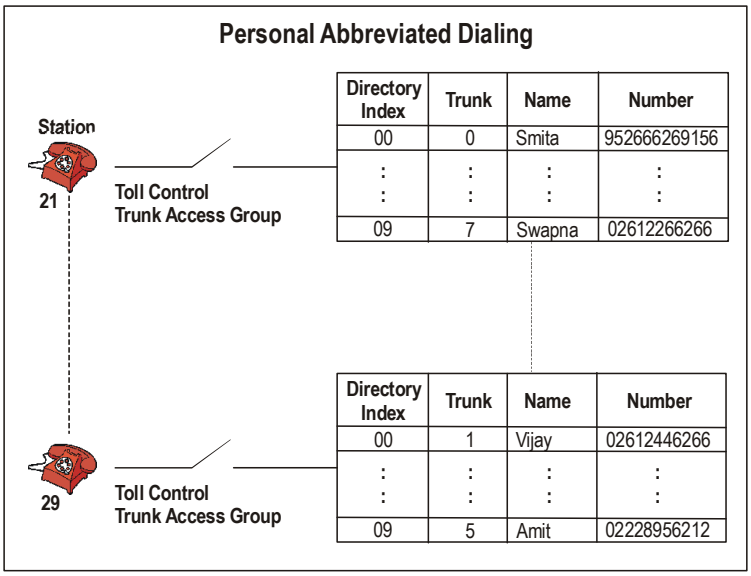
What's this?

- Frequently called numbers can be stored in the system. These numbers can be dialed using specific codes. This is called Abbreviated Dialing. It is also known as Memory Dialing.
- This helps save time while dialing such frequently used numbers.
- An abbreviated number is dialed through its directory index.

The VISION offers two types of abbreviated dialing:
- Personal Abbreviated Dialing.
- Global Abbreviated Dialing.

Personal Abbreviated Dialing

- Each user is allocated memory space called personal memory to store 10 numbers of his own choice. This is called Personal Abbreviated Dialing. These numbers are dialed out using access codes 800-809.
- The numbers stored in the personal memory of a user are dialed out.
- Each user can store up to 10 numbers of his choice in his personal memory.
- User can change these numbers anytime from his station without consulting the System Administrator or the System Engineer.
- The location codes for Personal Abbreviated Dialing are 00-09. Hence the access codes are 800 to 809.
- Personal Abbreviated Dialing is allowed to all the users.
- The system checks Trunk Access Group and Toll Control allowed list and denied list before dialing the Personal Abbreviated number. Hence for Personal Abbreviated Dialing, Trunk Access Group, Toll Control allowed list and Toll Control denied list should be programmed properly.
- A printout of station parameters will show the telephone numbers programmed in the personal directory by the station user.



How to use Personal Abbreviated Dialing?

1	Lift the handset.	Dial tone
2	Dial ***8-Directory Index.***	Number Dialed out.

How to program Personal Abbreviated Dialing?

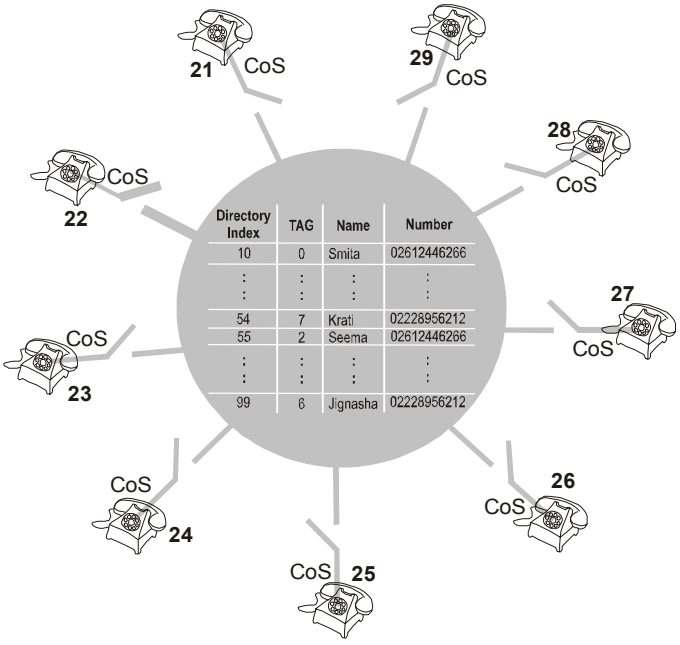
1	Lift the handset.	Dial tone
2	Dial ***18-Location Code-Trunk Access Code-Number-#****	Confirmation tone
3	Replace the handset.	

In the above command
Location code is from 00 to 09.
Trunk Access Code is 0, 5, 61, 62.
Number is the telephone number, which is to be abbreviated.

Example:
To program telephone number 0265-2630555 at directory index 00 with trunk access code '62', dial
18-00-62-02652630555.
Once this location is programmed with the number, dial ***800*** to call the number.

Global Abbreviated Dialing

- Besides personal memory, 90 numbers can be stored in a common memory space called global memory.
- These numbers are dialed out using Access codes 810-899. This is called Global Abbreviated Memory.
- The numbers stored in the global memory of the system are dialed out.
- Global directory can be programmed either by the System Administrator or the System Engineer.
- The global directory is common for all the users.
- Maximum 90 numbers can be stored in the global directory. Location codes for global directory are from 10 to 99. Hence the access codes for global abbreviated dialing are 810 to 899.
- Global Directory is divided into two parts i.e. Global Directory Part 1 and Global Directory Part 2.
- A user can dial these numbers irrespective of his Toll Control and Trunk Access Group. However these numbers can be dialed only if the user is allowed this feature from Class of Service.
- Telephone numbers of fire, police, branch offices or such other places can be stored in global directory part 1 and its access be given to all the users so that any user can access this facility.
- Long distance numbers can be stored in global directory part 2 and its access be given to selected users.
- In case of long distance numbers, complete numbers with preceding codes should be entered.



How to use Global Abbreviated Dialing?

1	Lift the handset.	Dial tone
2	Dial ***8-Location Code.***	Number Dialed out.

Example: To program telephone number of police i.e. 100 at location code 10. Dial ***1301-1-10-100#*.*** To call Police Station user has to dial ***810.***

How to program?

Step 1: Make a list of telephone numbers to be stored in global directory.
Step 2: Program the telephone numbers in appropriate part at various locations using command ***1301.***
Step 3: Clear the numbers from a various locations using command ***1301*** (if wrongly programmed).
Step 4: Set Trunk Access Group using command ***1302.***

Step 1
Take a piece of paper and a pen and make a list of telephone numbers.

Step 2
Use following command to program a telephone number in Global Directory list:
1301-1-Location Code-Number-#*

Where,
Location Code is from 10 to 99.
Global Directory part 1 is from 10 to 54.
Global Directory part 2 is from 55 to 99.
Number is the telephone number (maximum 16 digits).

Step 3

Use following command to clear a number in a particular global directory index:
1301-1-Location Code-#*
Where,
Location Code is from 10 to 99.

Use following command to clear the number in all the global directory indexes:
1301-*-#

Step 4

Use following command to set Trunk Access Group for particular location:
1302-1-Location Code-Trunk Access Group
Where,
Location Code is from 10 to 99.
Trunk Access Group is from 0 to 7.

Use following command to set same Trunk Access Group for all locations:
1302-*-Trunk Access Group

Important Points:

- To know programming details, please refer Configuration Report.
- Pause can be entered while storing the telephone number if required. A code '#3' can be used as Pause digit. Suppose, a string of digits 265 Pause 2556575 is to be stored then it should be programmed as 265#325556575.

Relevant Topics:

1. Class of Service (COS) 57
2. Trunk Parameters 181
3. Alternate Number Dialing 25
4. Trunk Access Groups 173

=X=X=

Alarms

What's this?

The VISION offers four different types of alarms satisfying most of the needs. They are:
- Duration Alarm
- Time Alarm
- Daily Alarm
- Remote Alarm

Duration Alarm

- You can ask the VISION to remind you after some specific time.
- On expiry of the set time, your station starts ringing (different ring cadence).
- When you lift the handset, you get music/voice message.
- Only one reminder can be set at a time on one station. The latest set alarm supersedes all the previous timings.
- All stations can set duration alarm for same duration simultaneously.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***161-Minutes.***	Confirmation tone
3	Replace the handset.	

Minutes is from 00 to 99.

Example:
Dial ***161-09*** to set a reminder after 9 minutes.

Time Alarm

- You can ask the VISION to remind you at some specific time.
- At the set time, your station starts ringing (different ring cadence).
- When you lift the handset, you get music/voice message.
- Only one time alarm can be set at a time on one station.
- All stations can set time alarm for same time simultaneously.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***162-Hours-Minutes.***	Confirmation tone
3	Replace the handset.	

Hours-Minutes is in 24-hour format.

Example:
Dial ***162-1630*** to set a reminder at 4.30PM.

Daily Alarm

- You can ask the VISION to remind you daily at some specific time.
- At the set time, your station starts ringing (different ring cadence).
- When you lift the handset, you get music/voice message.
- Only one daily alarm can be set at a time on one station. The latest set alarm supersedes the previous one.
- All stations can set daily alarm for same time simultaneously.
- If the station is engaged at the time of alarm then the station gets alarm when the station becomes free.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***163-Hours-Minutes.***	Confirmation tone
3	Replace the handset.	

Example:
Dial ***163-1230*** to set a daily reminder for break at 12.30PM.

Remote Alarm

- You can set alarm for some other station from your station.
- At the set time, the station starts ringing (different ring cadence).
- When the station on which alarm is set, lifts the handset, he gets music.
- Only one time alarm/duration alarm/daily alarm can be set at a time on one station. The last set alarm supersedes all the previous timings.
- You can set all types of alarms on a station simultaneously from any station.
- Secretary can use this feature to remind her boss of his appointments.
- To cancel remote alarm for any station, dial ***164-Station-0***. Here, station refers to the station on which remote alarm was earlier set.
- This feature can be used only if allowed from Class of Service.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***164-Station-1-Minutes.*** (Duration Alarm)	Confirmation tone
	Dial ***164-Station-2-Hours-Minutes.*** (Time Alarm)	
	Dial ***164-Station-3-Hours-Minutes.*** (Daily Alarm)	
	Dial ***164-Station-0.*** (To cancel Remote Alarm)	
3	Replace the handset.	

Where,
Station is a flexible number of the extension.
Example:
To set a daily wake up alarm at 5.30 am on station 23 from station 26, dial ***165-23-3-0530*** from station 26.

Cancel Alarms

What's this?
- You can ask the VISION to cancel all the pending alarms.
- Dialing ***160*** from the station will cancel all the alarms set on that station. Suppose time alarm, duration alarm and daily alarm all are set on station 23. Now, if you dial ***160*** from the station, all the alarms will be cancelled.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***160.***	Confirmation tone
3	Replace the handset.	

Example:
To cancel the alarms set on station 26, dial ***160*** from station 26.
To cancel remote alarm set on station 26 from station 23, dial ***164-26-0*** from station 23.

How to program?

Alarm and Remote Alarm are a programmable features. Please refer Class of Service (COS) for details on how to allow Alarm and Remote Alarm to a user.

Timer of Relevance:
Alarm Ring Timer-Time for which the station gets alarm ring.
Command: ***3013-Seconds***
Default: 45 seconds.
Valid Range: 000 to 255 seconds.

Important Point:
- A station gets alarm ring for 45 seconds. This is called Alarm Ring Timer and is programmable.

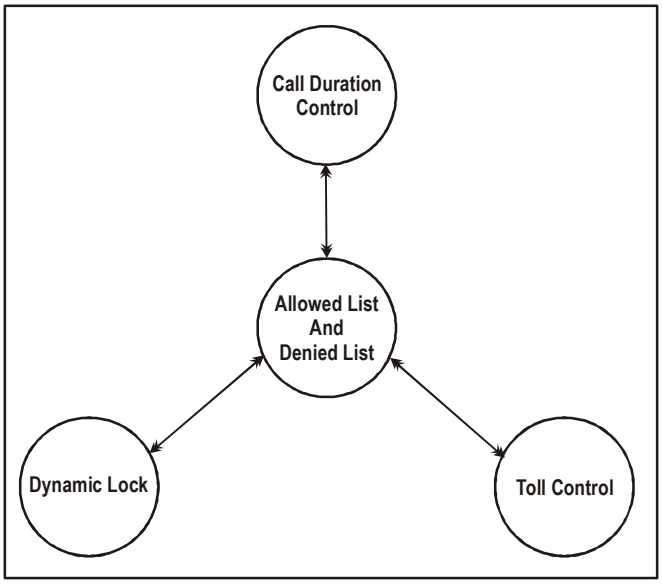
Relevant Topics:
1. Class of Service (COS) 57
2. Voice Message Applications 186

=X=X=

Allowed and Denied Lists

What's this?

Allowed list and Denied list is a group of number strings. VISION uses these lists to support three different features viz. Toll Control, Dynamic Lock and Call Duration Control.



Association of Allowed list and Denied list with Toll Control:
When the number is dialed from a station, the VISION compares the dialed number string with the number strings in allowed list and denied list.

Association of Allowed list and Denied list with Dynamic Lock:
If the user locks the station and thereafter dials a number from his station, the VISION compares the dialed number string with the number strings in allowed list and denied list for the locked status.

Association of Allowed list and Denied list with Call Duration Control:
If Call Duration Control feature is set on a station, the VISION compares the dialed number string with the number strings in allowed list and denied list for Call Duration Control (CDC) condition. The VISION disconnects the call if the number string dialed by the station matches with the denied list for CDC condition.

How it works?

- Maximum 8 allowed lists could be formed.
- Maximum 8 denied lists could be formed.
- Maximum 16 entries (i.e. number strings) can be programmed in one allowed or one denied list.
- Each entry (i.e. one number string) can have maximum of 16 digits.
- Number string can be a complete telephone number, area code or few initial digits of a telephone number.
- An allowed and a denied list should be assigned to each station depending upon the feature and the requirement.

Default Allowed List look as below:

Location/ List	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
0	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Default Denied List look as below:

Location/ List	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
0	0	1	2	3	4	5	6	7	8	9	B	B	B	*	#	F
1	0	95	98	96	B	B	B	B	B	B	B	B	B	*	#	F
2	0	95	98	B	B	B	B	B	B	B	B	B	B	*	#	F
3	0	B	B	B	B	B	B	B	B	B	B	B	B	*	#	F
4	00	B	B	B	B	B	B	B	B	B	B	B	B	*	#	F
5	B	B	B	B	B	B	B	B	B	B	B	B	B	*	#	F
6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

How to program?

Step 1: Take a pen, paper and decide which number strings are to be programmed in allowed list and the denied list.
Step 2: Program the number strings in the allowed list using command ***1202***.
Step 3: Program the number strings in the denied list using command ***1204***.

Allowed Lists and Denied Lists can be set to default value using command 1201 and 1203.

Take printout of system parameters to know the number string programmed in Allowed Lists and Denied Lists.

Step 1
Take a pen and a paper. Decide which of the above-mentioned three features are to be used. Make the Allowed and Denied Lists accordingly.

Step 2
Use following command to program numbers in the allowed list:
1202-1-Allowed List-Location Index-Number-#*
Where
Allowed list is from 0 to 7.
Location Index is from 00 to 15.
Number is a complete telephone number, truncated telephone number or an area code.

Use following command to program same numbers in all the allowed lists:
1202-*-Location Index-Number-#*

Use following command to default all number strings in the allowed list:
1201-1-Allowed List-#
Where,
Allowed List is from 0 to 7.

Use following command to default all number strings in all the allowed lists:
1201-*-#

Step 3
Use following command to program numbers in the denied list:
1204-1-Denied List-Location Index-Number-#*
Where
Denied list is from 0 to 7.
Location Index is from 00 to 15.
Number is a complete telephone number, truncated telephone number or an area code.

Use following command to program same numbers in all the denied lists:
1204-*-Location Index-Number-#*

Use following command to default all number strings in a denied list:
1203-1-Denied List-#
Where,
Denied List is from 0 to 7.

Use following command to default all number strings in all the denied lists:
1203-*-#

Example 1:
Program Allowed List and Denied List for following constraints:
- Allow all numbers except 'ISD'.
- Only local calls should be allowed in dynamic lock condition.
- All calls starting with '95' and '0' should get disconnected after 180 seconds.

Solution:
First examine the default lists.
- This condition can be fulfilled using default denied list 5.
- This condition can also be fulfilled using default denied list 1.
- This condition can also be fulfilled using default denied list 3.

Since all the constraints can be satisfied with default lists then there is no need to program these lists.

Example 2:
Program Allowed List and Denied List for following constraints:
- Allow all numbers except 'ISD'.
- Only local calls should be allowed in dynamic lock condition.
- Disconnect all calls starting with '0' after 180 seconds except calls starting with '022'.

Solution:
First examine the default lists.
- This condition can be fulfilled using default denied list 5.
- This condition can also be fulfilled using default denied list 1.
- In this case default denied list 4 could be used (since it contains 0). However an allowed list should be programmed to program 022 in allowed list.

Use following command to program 022 in allowed list 4.
1202-1-4-00-022-#*

However, 022 can be programmed in any of the allowed lists.

Important Point:
- To know programming details, please refer Configuration Report.

Relevant Topics:
1. Toll Control 169
2. Dynamic Lock 94
3. Call Duration Control (CDC) 38

=X=X=

Alternate Number Dialing

What's this?

- The VISION tries alternate numbers if the dialed number is busy.
- Many times when we make a call, we find that the called number is busy. Hence we try alternate numbers. We keep trying all the alternate numbers of the person till the call gets through and we talk to the person. This is very frustrating and time-consuming. Alternate Number Dialing rescues us from this sheer wastage of time. We need not keep dialing the alternate numbers. Instead we simply need to Redial the number or set Auto-redial for the number. Doing so, the system tries alternate numbers. If Auto-Redial is requested, the system gives you the ring when the number goes through.

How to use it?

The station user simply has to Redial or Auto-Redial the last number. The system automatically tries alternate numbers.

How it works?

- Global Directory is used to accomplish this feature.
- An Alternate group number should be assigned to a number in the Global Directory.
- An Alternate group number can be from 00 to 99.
- Suppose two numbers programmed at index 10 and 11 are to be used as Alternate numbers then both the numbers should be programmed as one group.
- Doing so, when a station user dials an external number, the system checks for it in the global directory. If the number is busy and if the user tries Redial then the system automatically opts for Alternate Number dialing. It tries next number available in the Alternate group. If this number is also busy, it tries next number in the group. All the numbers are tried in this way. This continues as long as the user tries redial.
- If the user tries Auto-Redial, the system tries for all the numbers in the group one by one. If any of the number is through, it gives the ring to the caller. If all the numbers are busy in the group then the system sets Auto-Redial for the last number dialed and waits for RBT from the called end. It informs the caller when the call is through by giving a ring.

For example, ABC Ltd. has four telephone numbers viz. 2640459, 2631235, 2635589 and 2565590 and all are to be used as Alternate Numbers then these four numbers should be programmed in the global directory from index 10 to 13. All these numbers should be assigned one Alternate group say 00. Doing so, all these numbers act as an Alternate Numbers for each other. Whenever a user dials any of these numbers and tries Redial or Auto-Redial, Alternate Number dialing logic gets activated i.e. when a user dials 2640459 and if it is busy and if the user tries redial then the system automatically dials 2631235. This is repeated every time a redial is tried.

If no alternate number is available for a main number is the global directory then the system redials the last dialed number while trying redial feature or Auto Redial feature.

How to program?

Step 1: List down the Numbers to be programmed in an alternate group.
Step 2: Assign an unique Alternate Number group to all the numbers using command ***1303.***

The Global Directory without assigning alternate number group looks as shown below:

Index	Main Number	TAG	Alternate Number Group
10	022281110001	0	
11	011234567890	3	
:	:	:	
:	:	:	
99	033298765432	4	

Step 1
List down the Numbers to be programmed in an Alternate group on a piece of paper.

Step 2
Use following command to assign Alternate group number:
1303-1-Index-Alternate Group Number
Where,
Index is from 10 to 99.

Alternate Group Number is from 00 to 99.

The Global Directory after assigning Alternate Group Number looks as shown below:

Index	Main Number	TAG	Alternate Number Group
10	022281110001	0	00
11	022234567890	3	00
12	022281110002	0	00
:	:	:	:
:	:	:	:
98	0332987654321	2	01
99	033298765432	4	01

Use following command to clear all the Alternate Group numbers:
1303-*-#

Example:
Program the system for following constraints:
- ABC Ltd. has five telephone numbers viz. 2640075, 2640076, 2640077, 2635151 and 2635173.
- XYZ Ltd. has three telephone numbers viz. 2788856, 2788896, 2788857.

Step 1
For ABC ltd. Make a table as shown below:

Index	Number	TAG	Alternate Number Group
10	2640075	0	00
11	2640076	0	00
12	2640071	0	00
13	2635151	0	00
14	2535173	0	00
15	2788856	0	05
16	2788896	0	05
17	2788857	0	05

(If the global directory is not programmed then please program the global directory as explained in the topic Abbreviated Dialing).

Step 2
Use following command to program Alternate Group number:
1303-1-10-00
1303-1-11-00
1303-1-12-00
1303-1-13-00
1303-1-14-00
1303-1-15-05
1303-1-16-05
1303-1-17-05

Important Points:
- Alternate Numbers are used during Redial and Auto-redial. Hence all the timers related to these features should be programmed properly.
- If Auto-Redial is set for a number having Alternate numbers, the system tries all the Alternate numbers first and then sets the Auto-Redial for the last number dialed.
- One number can have one or more than one Alternate number. Maximum 90 alternate numbers can be assigned to a number.
- Alternate number works even when abbreviated dialing is used. Suppose user dials ***810*** and if the dialed out number is busy then on trying Redial system tries alternate number related alternate number related to ***810.***
- Alternate number is allowed to all the stations.
- Stations not having access to Global Directory can also use Alternate Number dialing.

Relevant Topics:

1. Abbreviated Dialing 17
2. Last Number Redial 110
3. Auto Redial 30

=X=X=

Auto Call Back

What's this?

VISION offers two types of Auto Call Back viz. Auto Call Back-On Busy and Auto Call Back on No-Reply.

Auto Call Back-On Busy

What's this?

- Station user need not keep dialing busy station repeatedly.
- Station user can request Auto Call Back by dialing '2' during busy tone.
- When the requested station becomes free it rings. Simultaneously station that requested Auto Call Back also starts ringing.
- Whosoever answers first gets ring-back tone, whereas other end keeps ringing.
- Once the ring is answered, ring-back tone stops and speech is established.
- Auto Call Back can also be requested on busy trunk.

To Set ACB-On Busy

1	Lift the handset.	Dial tone
2	Dial ***Station.***	Busy tone
3	Dial ***2.***	Confirmation tone
4	Replace the handset.	

If Auto Call Back ring is not answered within 30 seconds, it stops and Auto Call Back request gets cleared. This is called Auto Call Back Ring Timer and is programmable.

To Cancel ACB-On Busy

1	Lift the handset.	Dial tone
2	Dial ***102.***	Confirmation tone
3	Replace handset.	

Example:
Station 23 is busy. To enable Auto Call Back, dial 2 during busy tone.
If you have wrongly dialed 23 and want to cancel Auto Call Back request, dial ***102*** to cancel it.

Auto Call Back-On No Reply

What's this?

- Station user need not keep trying "No-Reply" station repeatedly.
- Station user can set ACB-No Reply.
- When the station user for whom ACB request was made returns to his desk and picks up the handset the station that requested ACB rings.
- Both the stations come in speech when the station that requested ACB answers the call.

To Set ACB-on No Reply

1	Lift the handset.	Dial tone
2	Dial ***Station.***	Ring Back Tone
3	Dial ***Flash-2.***	Confirmation tone

To Cancel Auto Call Back

1	Lift the handset.	Dial tone
2	Dial ***102.***	Confirmation tone

How to program?

Auto Call Back is a programmable feature. Please refer Class of Service (COS) for details on how to allow Auto Call Back to a user.

Timer of Relevance:
Auto Call Back Ring Timer-Time after which the Auto Call Back ring on the station stops:
Command: ***3014-Seconds***

Default: 30 seconds.
Valid Range: 000 to 255 seconds.

Important Points:
- Only one ACB-On Busy request is entertained at a time.
- Only one ACB-On No Reply request is entertained at a time.
- The last ACB request supersedes all other previous ACB requests.
- ACB-On Busy and ACB-on No Reply can be used simultaneously.

Relevant Topic:
1. Class of Service (COS) 57

=X=X=

Auto Redial

What's this?

- The VISION helps you to get through a busy external number by dialing the number repeatedly.
- Many times when we make a call, we find that the called person is busy. Hence we have to try the same number again and again to contact him. This is very frustrating and time-consuming. Auto Redial rescues us from this sheer wastage of time. You need not keep trying busy number repeatedly. You can ask the VISION to keep trying the number. The VISION will give you ring when the call goes through.
- The VISION also allows multiple Auto Redial. Three different numbers can be set for Auto Redial simultaneously.

How to use it?

Single Auto Redial

1	Lift the handset.	Dial tone
2	Dial ***Trunk Access Code.***	Trunk dial tone
3	Dial ***Number.***	Busy tone
4	Disconnect.	
5	Lift the handset.	Dial tone
6	Dial ***77.***	Confirmation tone
7	Replace handset.	

Example:
Dialed number 0265-2630555 is busy. To use Auto Redial feature, disconnect and dial ***77.***

Multiple Auto Redial

1	Lift the handset.	Dial tone
2	Dial ***Trunk Access Code.***	Trunk dial tone
3	Dial ***Number.***	Busy tone
4	Disconnect.	
5	Lift the handset.	Dial tone
6	Dial ***77.***	Confirmation tone
7	Replace handset.	Auto Redial set for one number.
8	Repeat step 1 to 7.	Auto Redial set for second number.
9	Repeat step 1 to 7.	Auto Redial set for third number.

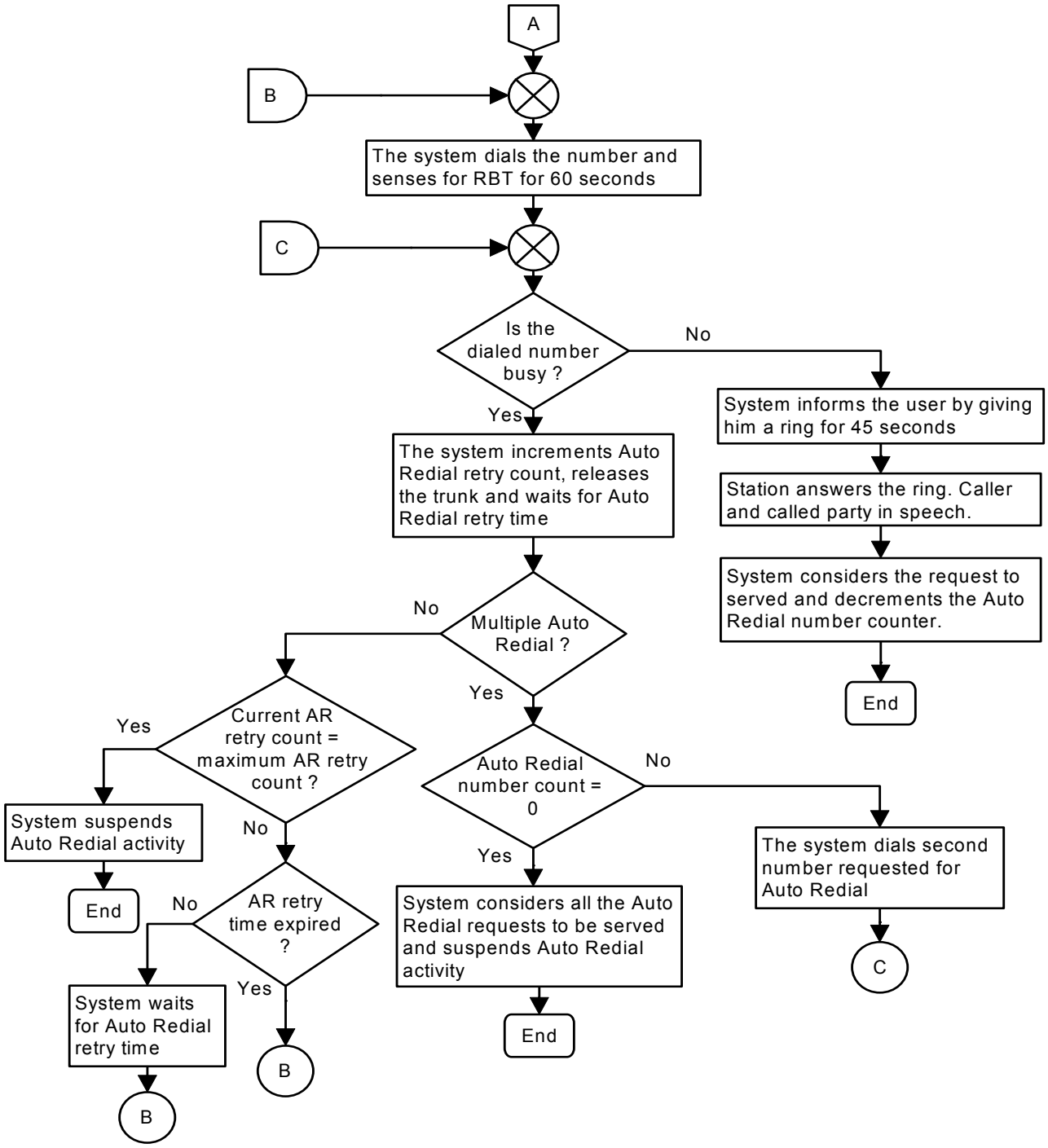
Example:
- Dialed number 28010101 is busy. To set auto redial Disconnect and dial ***77.***
- Dialed number 02228101011 is busy. To set second auto redial, disconnect and dial ***77.***
- Dialed number 01126384589 is busy. To set third auto redial, disconnect and dial ***77.***

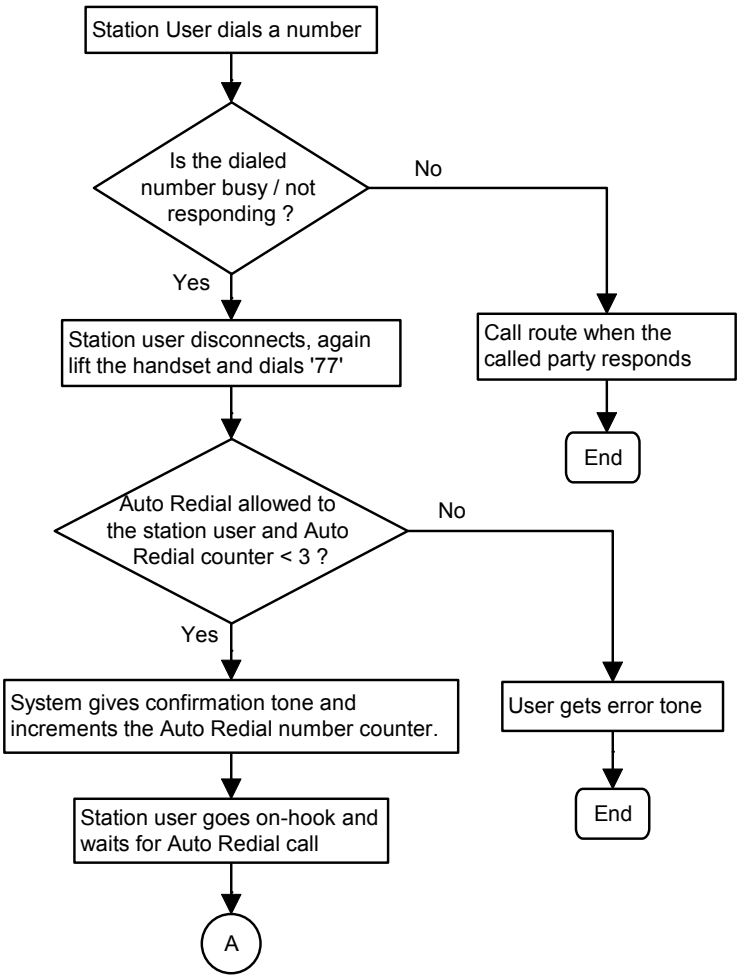
To cancel Auto Redial

1	Lift the handset.	Dial tone
2	Dial ***70.***	Confirmation tone
3	Replace the handset.	

Example:
Dialed number 0265-2630555 was busy. Auto Redial was requested. To cancel Auto Redial request, the station user should dial 70.

How it works?


A
B
The system dials the number and senses for RBT for 60 seconds
C
Is the dialed number busy ?
No
Yes
System informs the user by giving him a ring for 45 seconds
Station answers the ring. Caller and called party in speech.
System considers the request to served and decrements the Auto Redial number counter.
End
The system increments Auto Redial retry count, releases the trunk and waits for Auto Redial retry time
No
Multiple Auto Redial ?
Yes
Yes
Current AR retry count = maximum AR retry count ?
Auto Redial number count = 0
No
System suspends Auto Redial activity
End
No
AR retry time expired ?
Yes
Yes
System considers all the Auto Redial requests to be served and suspends Auto Redial activity
End
The system dials second number requested for Auto Redial
C
No
System waits for Auto Redial retry time
B
B



How to program?

Auto Redial is a programmable feature. Please refer Class of Service (COS) for details on how to allow Auto Redial to a user.

Timers of Relevance:
Auto Redial Dial Tone Wait Timer-Time for which the VISION waits before executing Auto Redial.
Command: ***3031-Seconds***
Default: 3 seconds.
Valid Range: 000 to 255 seconds.

Auto Redial RBT Wait Timer-Time for which VISION waits to sense RBT from the PSTN after dialing the requested number:
Command: ***3032-Seconds***
Default: 60 seconds.
Valid Range: 000 to 255 seconds.

Auto Redial Ring Timer-Time for which the station that has requested Auto Redial rings in case of Auto Redial Call:
Command: ***3033-Seconds***
Default: 45 seconds.
Valid Range: 000 to 255 seconds.

Auto Redial Retry Interval-It specifies the time between two AR dials.
Command: ***3029-Seconds***
Default: 30 seconds.
Valid Range: 000 to 255 seconds.

Auto Redial Retry Count-It specifies the number of times the VISION tries the same number.
Command: ***3030-Count***
Default: 5.
Valid Range: 000 to 255.

Auto Redial Number Count-It specifies the number of external numbers that can be for AR simultaneously from one station. Auto Redial Number Count is 3 and it is non-programmable.

Important Points:
- Three numbers can be requested for Auto Redial at a time from one station.
- More than one station can attempt auto redial/multiple auto redial simultaneously.
- The system uses the same trunk access group used while dialing the number the first time. If the number was dialed using group 0, the system takes one of the free trunks from group 0 for auto redial.
- The system suspends auto redial if there is any activity (ringing/speech/dialing) on the station that requested auto redial. It resumes as soon as the station becomes free.
- Frequency and timings are critical for Auto Redial to work.
- In case of multiple Auto Redial selective cancellation of Auto Redial for a particular number among the numbers set cannot be done.
- If multiple Auto Redial is set, all the Auto Redial request of a station are cancelled on using cancel Auto Redial code.

CAUTION

Auto-Redial does not work in following cases:
- If the trunk lines do not support standard tones.
- If trunk condition is poor and various tones cannot be detected properly.
- If the called party lifts within 3 seconds after the ring starts on his phone.

Relevant Topics:
1. Class of Service (COS) 57
2. Alternate Number Dialing 25
3. Voice Message Applications 186

=X=X=

Barge-In

What's this?

- When your call is urgent and you cannot wait for the called person to become free, you can land in his conversation after intimating him.
- While landing, you get ring back tone and the called person gets beeps for 10 seconds. This timer is called Barge-In timer. This timer is programmable.
- During the beeps, the called person can dial '***Flash***' to answer your call.
- If the called party does not respond during these 10 seconds, caller forcefully gets connected with the called person. The third party is put on hold, gets music, and hence cannot listen to your conversation.
- Disconnect once your talk is over. This will automatically restore the original talk of the called person with the held-up party.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***Station.***	Busy tone
3	Dial ***3.***	RBT. The called person gets beeps.
4	The system connects to the destination after 10 secs. Start talking after the RBT stops.	
5	Replace the handset on completion of talk.	

How to program?

Barge-In is a programmable feature. Please refer Class of Service (COS) for details on how to allow Barge-In to a user.

Timer of Relevance:
Barge-In Timer-Timer after which the caller gets connected to the called party:
Command: ***3016-Seconds***
Default: 10 seconds.
Valid Range: 000 to 255 seconds.

Important Points:
- Barge-In can be used only if it is enabled for a station.
- Barge-In works even when the destination is talking on the trunk line.
- Barge-In works if the called person is in 2-way, normal speech.
- Barge-In is ineffective if the called person is having call privacy from Barge-In.
- Barge-In can also be used after putting one party in hold. An important trunk call can be transferred to a busy station after putting the calling party in hold and barging-in on the busy destination to inform him about his call. This is most advantageous feature for the operator while transferring calls.

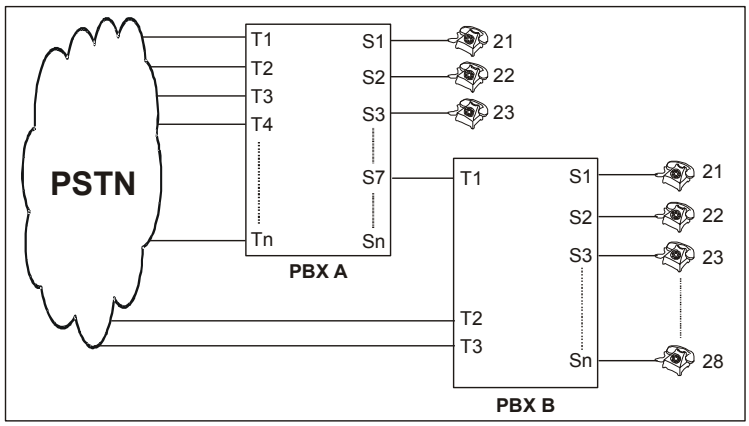
Relevant Topics:
1. Class of Service (COS) 57
2. Privacy 124

=X=X=

Behind the PBX Applications

What's this?

Many times, small and medium range PBX systems are connected behind some bigger PBX systems. Such applications are used mainly to expand the existing capacity of the big PBX already in use. Stations coming from the big PBX are used as trunks of the small PBX. There could also be some PSTN trunks coming directly on the smaller PBX. Such configurations are known as 'Behind the PBX' application.



In such situations, it is not easy to implement toll control restrictions.

Consider a simple event
Station 21 of PBX B in the figure above is not given long distance dialing facility. It has access to all the trunks. Now when he wants to use T2 or T3, which are directly coming from PSTN, he dials '0'. He gets PSTN dial tone and dials the number.

But when he does similar procedure on T1, he gets error tone. Because, in this case when station 21 grabs T1 by dialing a code, he gets dial tone of the PBX A. Now when he again dials '0' to grab PSTN dial tone, PBX understands it to be a long distance call and since station 21 is not allowed long distance calls, the system rejects dialing on trunk and gives error tone to station A.

Hence now if station 21 of PBX B is to be allowed external dialing through T1, he should be given long distance dialing access. If this is done then station 21 may make long distance calls on T2 and T3.

The VISION solves this problem by providing programmable PBX Expansion count for each trunk. This count is the number of digits to be ignored before toll control check is begun. The PBX Expansion count is same as the number of PBXs connected between the main PBX and the last subscriber.

In the figure shown, the PBX Expansion count of T1 should be kept 1 and for T2 and T3, it should be kept '0'.

CAUTION
For all normal applications, keep this PBX Expansion count to 0 for all the trunks. Otherwise, outside dialing may be hampered. LCR and SMDR will also be affected.

The VISION supports PBX Expansion count for each trunk.

How to program?

Use following command to program PBX Expansion count for a trunk:
3201-1-Trunk-PEC Count
Where,
Trunk is the software port number from 0 to 2.
PEC Count = PBX Expansion Count from 0 to 9.
By default, PEC for all trunks is 0.

Example:
Program PBX Expansion Count = 1 for trunk port 2.
3201-1-2-1

Use following command to program same PBX expansion count for all trunks:
3201-*-PEC Count

=X=X=

Boss Ring

What's this?

This feature helps the user to identify the caller. A person in the organization having higher hierarchy can be assigned this feature. Whenever a person having access to Boss Ring calls any other person in the organization, the called station rings differently. This helps the called party to identify the caller.

How to program?

Boss Ring is a programmable feature. Please refer Class of Service (COS) for details on how to allow Boss Ring to a user.

Important Point:

- Boss Ring is same as Alarm Ring.

Relevant Topics:

1. Distinctive Rings 91
2. Class of Service (COS) 57

=X=X=

Call Duration Control (CDC)

What's this?

- Call Duration Control (CDC) helps the customer to restrict the duration of the calls whether, incoming or outgoing external calls. This feature disconnects incoming or outgoing external calls after a set time.
- People tend to talk about sports, movies, politics and such other subjects over telephone. Now, these topics are generally not related to business. Moreover, such topics tend to take more time than the business talk for which the call was originally made. If duration of each call can be restricted, people will talk to the point and not drift to other unproductive talk. There are many advantages:
  - Reduction in telephone bills.
  - Trunks will be easily available for other outgoing calls. More business calls can be made during working hours leading to more business.
  - Your trunks remain free for incoming calls. More customers can call.
  - People spend more time on the actual job on hand rather than on telephone. This means increased productivity.

How to use it?

- Call Duration Control can be set for each station.
- Call Duration Control for External Outgoing calls can be enabled/disabled.
- Call Duration Control for Incoming calls can be enabled/disabled.
- Call Duration Control for Internal calls can be enabled/disabled.
- Enabling CDC for different types of calls, defining the CDC timer, assigning allowed and denied lists, etc. forms a table called CDC Table. Each CDC table looks like:

Parameter	Value
Internal Call Control	Yes/No
Incoming Call Control	Yes/No
Outgoing Call Control	Yes/No
Allowed List	List Number from 0 to 7
Denied List	List Number from 0 to 7
CDC Timer	000-999 seconds
CDC Disconnection Flag	Yes/No

- Maximum four CDC tables can be programmed.
- One such table can be assigned to the station user.
- All CDC tables are available by default, which satisfies most of the requirements. Hence these tables can be directly assigned to the stations.
- ***By default,***

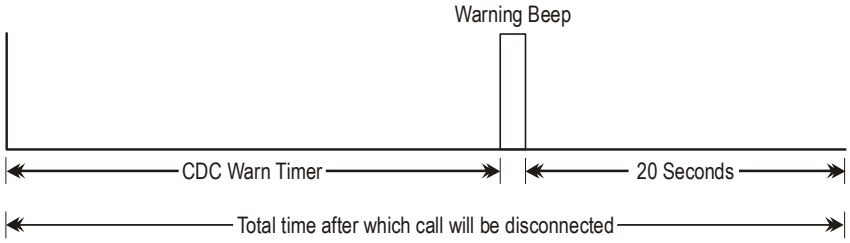
CDC Table	Meaning
0	CDC Off for all calls
1	CDC ON for outgoing STD and ISD calls
2	CDC ON for Outgoing 95, 98, STD and ISD calls
3	CDC ON for all outgoing calls

- However for special types of requirements, customized Allowed Lists and Denied Lists should be programmed and should be assigned to a CDC table. Then after this CDC table should be assigned to a station. Please refer Allowed and Denied Lists for more details.
- For example, to disconnect all calls starting with '0' except those starting with '022', program an allowed list with string '022' and denied list with string '0' and assign these lists to the CDC table.
- ***By default, CDC table 0 is assigned to each station.***

How it works?

- VISION uses Allowed Lists and Denied Lists to support this feature.
- When a call is made, the system compares each digit of the dialed number string with the number strings in Allowed List and Denied List.
- If the dialed number string matches with any of the number strings available in allowed list, the system treats CDC to be OFF and does not disconnect the call.
- If the dialed number string matches with any of the number strings available in denied list, the system treats CDC to be ON and disconnects the call after CDC timer (Provided CDC Disconnection flag is enabled).

- If the dialed number matches with a number string that is available in both allowed and denied list then allowed list is given priority and the system treats CDC to be OFF.
- The system gives warning beep to the user on expiry of the CDC timer. The call continues for another 20 seconds after the beep and gets disconnected if the disconnection flag is enabled. This timer is fixed.
- If the disconnection flag is disabled then the system does not disconnect the call but reloads the CDC timer again. The system gives warning beeps every time the CDC timer is matured. This helps the user to know the duration for which he has been talking.



How to program?

Step 1: Take a pen and a paper pad. Decide the types of Call Duration Controls to be programmed for each station.
Step 2: If the requirement can be met by using default CDC tables, assign a default CDC table to a station using command ***4920.***
Step 3: If the requirement cannot be met by default CDC tables then program all the parameters of a CDC table like Enable CDC for Outgoing call/Incoming call, disconnection flag, CDC timer, etc. This programs one complete CDC table. Program remaining three CDC tables likewise, if required.
Step 4: Assign the CDC table to the station using command ***4920.***
Step 5: A CDC table can be set to default using command ***4901.***

By default, all stations are assigned CDC table 0.

Step 1
Take a pen and a paper pad. Decide the type of calls viz. Outgoing or Incoming for which CDC is to be enabled.

Step 2
Use following command to assign a CDC table to a station user:
4920-1-Station-CDC table
Where,
Station is from 00 to 08.
CDC table is from 0 to 3.

Use following command to assign same CDC table to all stations:
4920-*-CDC Table

Step 3
Use following command to enable/disable CDC for Outgoing Call in a CDC table:
4910-1-CDC Table-Code
Where,
CDC Table is from 0 to 3.

Code	Meaning
0	CDC for Outgoing Call is to be disabled
1	CDC for Outgoing Call is to be enabled

Use following command to enable/disable CDC for Outgoing Call in all CDC tables:
4910-*-Code

Use following command to enable/disable CDC for Incoming Call in a CDC table:
4911-1-CDC Table-Code
Where,
CDC Table is from 0 to 3.

Code	Meaning
0	CDC for Incoming Call is to be disabled
1	CDC for Incoming Call is to be enabled

Use following command to enable/disable for Incoming Call in all CDC tables:
4911-*-Code

Use following command to enable/disable CDC for Internal Call in a CDC table:
4912-1-CDC Table-Code
Where,
CDC Table is from 0 to 3.

Code	Meaning
0	CDC for Internal Call is to be disabled
1	CDC for Internal Call is to be enabled

Use following command to enable/disable for Internal Call in all CDC tables:
4912-*-Code

Use following command to assign disconnection flag:
4913-1-CDC Table-Disconnection Flag
Where,
CDC Table is from 0 to 3.

Disconnection Flag	Meaning
0	Call is not disconnected
1	Call is disconnected

Use following command to assign same disconnection flag to all CDC tables:
4913-*-Disconnection Flag

Use following command to assign CDC Timer:
4914-1-CDC Table-CDC Timer
Where,
CDC Table is from 0 to 3.
CDC Timer is from 000 to 999 seconds.

Use following command to assign same CDC Timer to all CDC tables:
4914-*-CDC Timer

Use following command to assign Allowed List to a table:
4915-1-CDC Table-Allowed List
Where,
CDC Table is from 0 to 3.
Allowed List is from 0 to 7.

Use following command to assign same Allowed List to all the tables:
4915-*-Allowed List

Use following command to assign Denied List to a table:
4916-1-CDC Table-Denied List
Where,
CDC Table is from 0 to 3.
Denied List is from 0 to 7.

Use following command to assign same Denied List to all the tables:
4916-*-Denied List

Step 4
Go to step 2 above.

Step 5
Use following command to default a CDC table:
4901-1-CDC Table-#
Where,
CDC Table is from 0 to 3.

Use following command to default all the CDC Tables:
4901-*-#

Step 6
To know programming details, please refer Configuration Report.

Example 1:
Program station 21 (software port number 00) for following constraints:
Disconnect all calls after 180 seconds.

Solution:
Assign default CDC table 3 to station 21.
4920-1-00-3
Since default CDC Timer is 160 seconds and 20 seconds are adds as warning time the calls will get disconnected after 180 seconds. Hence no programming is required.

Example 2:
Program station 22 (software port number 01) for following constraints:
Disconnect all calls starting with '0' after 240 seconds except calls starting with '022'.

Solution:
As observed this type of requirement cannot be met by any of the default CDC tables. Hence, customize CDC Table 1 and assign it to station 22.

- Program the number '0' in denied list 7 and '022' in allowed list 7. (This step is necessary because default allowed and denied lists does not contain such as option whereby 022 is available in allowed list and 0 is available in denied list).
  1202-1-7-00-022-#*
  1203-1-7-00-0-#*
- Assign this allowed list to CDC table 1.
  4915-1-1-7
- Assign this denied list to CDC table 1.
  4916-1-1-7
- Assign CDC Timer of 220 seconds (not 240 seconds because 20 seconds are added to CDC Timer for actual disconnection).
  4914-1-1-220
- Other parameters are already available by default hence no need to reprogram them.
- Assign CDC table 1 to station 22.
  4920-1-01-1

Important Point:

- It is possible to disconnect specific outgoing calls. For example it is possible to disconnect all calls to 022-28765432 after 180 seconds.

Relevant Topic:

1. Allowed and Denied Lists 22

=X=X=

Call Forward

What's this?

In an organization people might move from one place to another to accomplish a job. They do not sit at fixed places. A user might go to his colleague's desk to work on a project they are doing jointly. A manager might go on the production floor or remain in conference room for few hours. In such situations, a user cannot afford to miss his calls. He would like to attend his calls from his new location. To fulfill this requirement, VISION offers a facility called 'Call Forward'.

Access to Call Forward is programmable and hence can be allowed or denied to a user. Please refer topic Class of Service (COS) for details on how to enable this feature on a particular station.

How to use it?

Call Forward-All calls to another Station.

One can forward all the calls of his station to another station where he might be temporarily shifted.

1	Lift the handset.	Dial tone
2	Dial ***131-Station.***	Confirmation tone
3	Replace the handset.	

Example:
If Station 23 wants to forward his calls to Station 24, he should dial ***131-24***.

Call Forward-Follow Me

Suppose you went to your co-worker's place and you want that all calls coming on your station should now come to your co-worker's station, then this feature could be of help.

1	Lift the handset.	Dial tone
2	Dial ***132-Your Station-Your User Password.***	Confirmation tone
3	Replace the handset.	

Example:
My station is 23 and user password is 1212. At present I am at station 21. I want that all my calls on station 23, should come to station 21 then I should dial ***132-23-1212*** from station 21.

Call Forward-If No Reply

One can forward all the calls if he does not answer the call within 30 seconds. This timer is called Ring back timer: Transfer on no-reply. This timer is programmable.

1	Lift the handset.	Dial tone
2	Dial ***133-Station.***	Confirmation tone
3	Replace the handset.	

Example:
Station User 23 wants that if he does not answer the calls within 30 seconds the calls should go to Station 24 (his colleague), he should dial ***133-24***.

Call Forward-If Busy

One can forward all the calls to his station if he is busy with some other station when the call arrives.

1	Lift the handset.	Dial tone
2	Dial ***134-Station.***	Confirmation tone
3	Replace the handset.	

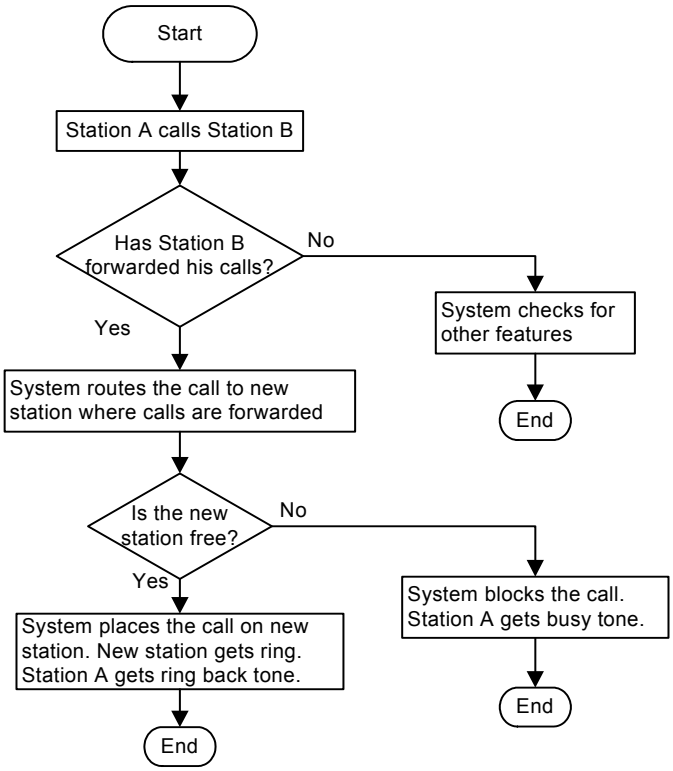
Example:
If station 23 wants to forward all his calls to station 24 when he is busy, he should dial ***132-24.***

Cancel Call Forward

1	Lift the handset.	Dial tone
2	Dial ***130.***	Confirmation tone
3	Replace the handset.	

How it works?

The following flow chart explains the logic:



How to program?

Call Forward is a programmable feature. Please refer Class of Service (COS) for details on how to allow Call Forward to a user.

Timer of Relevance:
Ring Back Timer: Forward on No-Reply-Time after which the call gets forwarded.
Command: ***3018-Timer***
Default: 15 seconds.
Valid Range: 000 to 255 seconds.

Important Point:

- Only one type of call forward features viz. Call Forward if busy, Call forward if no reply etc. can be enabled at one point of time.

Relevant Topic:

1. Class of Service (COS) 57

=X=X=

Call Park

What's this?

- You can free, yourself from current call to attend to other calls.
- The current caller gets parked and gets music.
- While a call is parked, you are totally freed from the call.
- You may use other system features like Call Pick Up, Call Follow Me, etc.
- After completing the current call, retrieve the parked call.

How to use it?

To Park a call

1		Speech with trunk (or station).
2	Dial ***Flash.***	Feature tone
3	Dial ***7.***	Call Parked.

To retrieve the Parked call

1	Lift the handset.	Dial tone
2	Dial ***17.***	Speech.

How to program?

Call Park is a programmable feature. Please refer Class of Service (COS) for details on how to allow Call Park to a user.

Timer of Relevance:
Call Park Timer-Time after which the call comes back to the station that has parked the call.
Command: ***3015-Timer***
Default: 45 seconds.
Range: 000 to 255 seconds.

Important Points:
- If you don't retrieve the call within 45 seconds, the call comes back to you automatically. Your station starts ringing. This timer is called Call Park Timer and is programmable.
- If you are busy for longer period of time (more than 45 seconds) and:
- If the parked party is an internal party (a station), then the call gets disconnected.
- If the parked party is an external party and if trunk call beeps are enabled then system hunts the station for another 45 seconds. The caller gets RBT whenever the station gets call waiting beeps. There after the call gets disconnected.
- If the parked party is an external party and if trunk call beeps are disabled the system hunts the station for RBT timer and there after disconnects the call.

Relevant Topic:
1. Class of Service (COS) 57

=X=X=

Call Pick Up

- You can answer calls of your colleague or co-worker without physically going to his station. You can use this feature to answer even trunk calls ringing on other stations.
- VISION offers two types of call pick up facility viz. Call Pick Up-Group and Call Pick Up-Selective.

Call Pick Up-Group

- Calls of any station within your group can be answered simply by dialing '4' after lifting the handset.
- Maximum 10 call pick up groups can be formed.
- In case more stations are ringing, the station with the least port number will be picked up first.
- This feature can be used when people performing same job sit in groups and intragroup call pick up is to be allowed whereas inter group call pick up is to be restricted.
- All stations can use this feature.
- ***By default, all stations are in the same group.***

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***4.***	Speech.

Call Pick Up-Selective

- Call of any ringing station can be answered by dialing 12-station's flexible number after lifting the handset.
- This is useful when more than one stations are ringing and you want to answer one of them selectively.
- For selective call pick up, it is not necessary for the station to be in the same pick up group.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***12-Station.***	Speech.

How to program?

Step 1: Decide number of call pick up groups to be formed.
Step 2: Program the station in call pick up group using command ***4301***.
Step 3: Assign a Class of Service group with call pick up selective feature enabled.

Step 1
Decide the number of call pick up groups to be formed.

Step 2
Use following command to program a station in call pick up group:
4301-1-Station-Call Pick Up Group
Where,
Station is the software port number from 00 to 08.
Call Pick Up Group is from 0 to 9.

Use following command to program all stations in same call pick up group:
4301-*-Call Pick Up Group

Step 3
Please refer Class of Service (COS) for details on how to allow Call Pick Up selective feature to the user.

Relevant Topic:
1. Class of Service (COS) 57

=X=X=

Call Progress Tones

The VISION gives various tones in different situations. This is how the VISION responds to dialing of codes and commands.

Dial Tone

When you lift the handset you get dial tone. Dial tone stays for 7 seconds. This Dial Tone Timer is programmable. After that error tone starts.

- Sound: Tooooooooooo

Use following command to program the Dial Tone Timer:
3001-Seconds
Range = 001 to 255 seconds.
Default = 007 seconds.

Ring Back Tone

When you dial internal number and if that number is free, you will get the ring back tone. The ring back tone continues for 45 seconds. This Ring Back Tone Timer is programmable.

- Sound: Turroo... Turrroo

Use following command to program the Ring Back Tone Timer:
3002-Seconds
Range = 001 to 255 seconds.
Default = 045 seconds.

Busy Tone (Engage Tone)

High pitch beeps with equal on and off periods. When you dial any station that is busy, you get busy tone. Busy tone continues for 7 seconds. This timer is programmable.

- Sound: Toooooo.....Tooooooo

Use following command to program the Busy Tone timer:
3003-Seconds
Range = 001 to 255 seconds.
Default = 007 seconds.

Error Tone

The Error Tone is made of fast beeps. When you perform some wrong operation or try using a feature without access, you get error tone.

- Sound: Too…Too…Too…Too

Use following command to program the Error Tone timer:
3004-Seconds
Range = 001 to 255 seconds.
Default = 030 seconds.

Internal Call Waiting Tone

Short beep followed by longer off duration repeated every second. This is also known as intrusion tone. Busy user gets this tone over his speech when some other station attempts interrupt request/barge-in.

- Sound: Beep.……Beep

The user gets this tone till the Interrupt request timer or the barge in timer.

External Call Waiting Tone

This tone is of two ticks followed by a longer off time of approximately 3 seconds. Busy programmed destination station gets this tone when there is a fresh TELCO call.

- Sound: Beep...Beep……...Beep...Beep

This tone continues for transfer-On busy timer.

Feature Tone

Short beep followed by a longer off duration repeated every second. The feature tone is given to the user when he has one party as held party and tires to access a feature same time as dial tone. By default, feature tone remains for 7 seconds.

- Sound: Beep… Beep

Feature Confirmation Tone

This tone is continuous, fast beeps. The VISION confirms successful usage of features with this tone. The confirmation tone remains for 7 seconds. This is called Feature Confirmation Tone Timer and is programmable.

- Sound: Beep... Beep... Beep

Use following command to program the Feature Confirmation Tone Timer:
3005-Seconds
Range = 001 to 255 seconds.
Default = 003 seconds.

Programming Tone

Short beeps followed by a longer off duration repeated every second. It is exactly same as the feature tone. The VISION prompts you to enter fresh commands during programming with this tone.

Programming Inter Digit Timer

This timer signifies the time for which the VISION waits between accepting two digits from the SE/SA. This timer is loaded when the SE/SA dials first digit and waits for the seconds digit.

Use following command to program Programming Inter Digit Timer:
3006-Seconds
Range = 001 to 255 seconds.
Default = 015 seconds.

Programming Error Tone

This tone is exactly same as the Error Tone. This tone is given when some wrong programming command is dialed. This tone remains for 3 seconds. This Programming Error Tone timer is programmable.

- Sound: Too…Too…Too…Too

Use following command to program the Programming Error Tone Timer:
3007-Seconds
Range = 001 to 255 seconds.
Default = 003 seconds.

Programming Confirmation Tone

This is exactly same as the feature confirmation tone. This tone is continuous, fast beeps. During programming, this tone indicates that valid command is received by the system and it has taken necessary action. This tone remains for 3 seconds. This is called Programming Confirmation Tone Timer and is programmable.

- Sound: Beep... Beep... Beep

Use following command to program the Programming Confirmation Tone Timer:
3008-Seconds
Range = 001 to 255 seconds.
Default = 003 seconds.

Tone Specifications:

Name	Frequency	Cadence
Dial tone	512Hz	Continuous
Ring Back Tone	512Hz	400ms on, 200ms off, 400ms on, 200ms off
Busy Tone	512Hz	750ms on, 750ms off
Error Tone	512Hz	250ms on, 250ms off
Internal Call Waiting Tone	512Hz	50ms on, 2950ms off
Trunk Call Waiting Tone	512Hz	10ms on, 50ms off, 50ms on, 2850ms off
Feature Confirmation Tone	512Hz	50ms on, 50ms off

Name	Frequency	Cadence
Programming Tone/Feature Tone	512Hz	10ms on, 900ms off
Programming Confirmation Tone	512Hz	50ms on, 50ms off
Programming Error Tone	512Hz	250ms on, 250ms off

=X=X=

Call Splitting

What's this?

- This feature enables you to talk to two persons alternately.
- Call Splitting is also known as Hold-Consult or Hold-Toggle.

How to use it?

Call Splitting can be used in any of the following three combinations:
- Two Stations
- One Station and one Trunk
- Two trunks

Call Splitting between two stations:

1	Speech with Station.	
2	Dial ***Flash.***	Dial tone. Called station goes on Hold.
3	Dial ***Another Number.***	Ring Back Tone
4		Speech with the station when the call is answered.
5	Dial ***Flash-1.***	Speech with held party.

Call Splitting between a station and a trunk:

1	Speech with Station.	
2	Dial ***Flash.***	Dial tone. External party goes on Hold.
3	Dial ***Another Number.***	Ring Back Tone
4		Speech with the station when the call is answered.
5	Dial ***Flash-1.***	Speech with held party.

Call Splitting between two trunks:

1	Speech with Station.	
2	Dial ***Flash.***	Dial tone. Trunk goes on Hold.
3	Dial ***8.***	Feature tone
4	Dial ***0, 5, 61, 62.***	Trunk dial tone
5	Dial ***Telephone Number.***	Ring Back Tone
6		Speech with called party when the call is answered.
7	Dial ***Flash-1.***	Speech with held party.

How to program?

Call Splitting is a programmable feature. Please refer Class of Service (COS) for details on how to allow Call Splitting to a user.

Important Points:
- Only one of the two persons will be in conversation with you at a time. The third person is on hold. He gets music and cannot hear your conversation.
- When in speech with a station and getting external call waiting tone, you can dial Flash to answer the trunk call. The station is put on hold and gets music. Now, you can split between the two persons.
- Interrupting station can also be answered very much in the same way as described above. Your current call is put on hold and speech with the interrupting station is established. Once again, you can split between the two persons.
- Conference can be invoked to include both the parties by dialing ***Flash-0.***
- A is in speech with B. A holds B and calls C. A and C are in speech. B is the hold party. Now A wants to call external party. A can make an external call by dialing ***Flash-8***. Dialing ***Flash-8*** parks B, puts C on hold and issues dial tone to A. Now A can dial a trunk access code 0, 5, 61 or 62 to grab a trunk. A can have conference between himself station C and the external party.
- You can also transfer the active person (one who is in conversation with you) to the third person.
- You can also park the current person by dialing '***Flash-7***'.
- You can release the past party by dialing '***Flash-2***'.
- You can release the hold party by dialing '***Flash-3***'.
- Access to Call Splitting is programmable.

Relevant Topics:

1. Conference 64
2. Call Transfer 51
3. Call Park 44
4. Class of Service (COS) 57

=X=X=

Call Transfer

What's this?

VISION offers four types of call transfer:
- Call Transfer-Screened
- Call Transfer-While Ringing
- Call Transfer-On Busy
- Call Transfer-Trunk-to-Trunk

Call Transfer-Screened

- This is normal call transfer and the most widely used.
- Operators can use this method to transfer incoming calls.

How to use it?

1	Speech with trunk.	
2	Dial ***Flash.***	Dial tone
3	Dial ***Station.***	Ring Back Tone
4	Wait for the Station to answer.	Speech when ring answered.
5	Put the handset.	Call is transferred.

Call Transfer-While Ringing

- Transfer a call without waiting for the destination to answer.
- An operator can use this feature when there are other calls pending and she cannot wait for the station to respond to intimate the call.
- This is also known as "Wait For Ring Transfer".
- If the called station does not respond to the ring within 45 seconds, the call comes back to the station that transferred the call. This is same as Ring back tone timer.
- If the station that transferred the call is free at the time of call return, caller gets ring.
- If the station that transferred the call is busy at the time of call return and if it was an internal call transfer then the caller gets error tone.
- If the station that transferred the call is busy at the time of call return and if it was a trunk call transfer then the system gives beeps to the station who transferred the call [provided privacy against beeps is not enabled].

How to use it?

1	Speech with trunk.	
2	Dial ***Flash.***	Dial tone
3	Dial ***Station.***	Ring Back Tone
4	Put the handset.	

Call Transfer-On Busy

What's this?

- Transfer a call on a station already in speech with some other person.
- Operators can transfer calls without even checking for the status of the destination station.
- This is also known as "Blind Transfer".
- The busy destination station gets intrusion tone. He can speak to the calling person by dialing '*Flash*'.
- A call can be transferred on busy station only if it is not programmed with call privacy from trunk call.
- If the called station does not respond to the intrusion tone within 45 seconds, the call comes back to the station that transferred the call.
- If the station that transferred the call is free at the time of call return, caller gets ring.
- If the station that transferred the call is busy at the time of call return and if it was an internal call transfer then the caller gets busy tone.
- If the station that transferred the call is busy at the time of call return and if it was a trunk call transfer then the system waits for the station to become free. The caller gets ring back tone.

How to use it?

1	Speech with trunk.	
2	Dial ***Flash.***	Dial tone

3	Dial ***Station.***	Busy tone
4	Dial ***5.***	Ring Back Tone
5	Disconnect.	Call will be transferred on the busy station and it will get intrusion tone.

Call Transfer-Trunk-to-Trunk

An external call can be transferred on another trunk line.

- The operator need not remain in speech. Two external persons can speak through the VISION.
- In case a colleague has not come to the office, his incoming calls can be transferred on his residence's phone line or on his mobile.
- In case a remote colleague is not having long distance or international dialing facility from his present location. He can dial his office and request the operator to connect him to the desired number.
- A warning tone is given after DOSA inactivity timer. To extend the call, either of the person has to dial a digit
- in tone (DTMF). Dialing of '***#0***' terminates the call and both the trunks get released.

How to use it?

1		3-way mode as described in call splitting.
2	Dial ***Flash.***	Feature tone
3	Dial ***6.***	Station disconnects. Trunk 1 and Trunk 2 remain in speech.

How to program?

Call Transfer is a programmable feature. Please refer Class of Service (COS) for details on how to allow Call Transfer to a user.

Important Points:

- Internal station calls can also be transferred to some other station.
- While waiting for the station to answer, you can abandon the transfer by dialing ***Flash***. The ring on the station is stopped and you get connected to the person on hold.

Relevant Topics:

1. Class of Service (COS) 57
2. Privacy 124
3. Conference 64
4. Direct Outward System Access 86

=X=X=

Calling Line Identification and Presentation (CLIP)

What's this?

- The VISION identifies the caller. Caller's telephone number is displayed on the LCD of the Telephone Instrument. This enables the user to be prepared before answering the call. The Caller's telephone number is also stored in the Incoming SMDR buffer of the system. It appears in the incoming SMDR report. The VISION also provides a facility to route selected incoming calls to particular stations.

How it works?

- The VISION senses the digits sent by PSTN during the ringing phase. It sends this information to the landing station/ operator along with the ringing signal. The telephone number of the caller is displayed on the LCD of the telephone instrument. The system also stores this information in its memory. When the operator transfers the call to a station, the system sends this information to the transferred station.
- The incoming telephone number is stored in the Incoming SMDR buffer also. This telephone number appears in the Incoming SMDR buffer in the space provided.
- On arrival of an incoming call, the system identifies the calling party's number and compares it with the numbers in the CLI table. (The CLI table is constructed by the system internally when the programming is done). If the number is present in the CLI table, the call is routed according to CLI programming else the number is routed according to normal trunk landing group programming. This is called CLI based routing. CLI based routing can be enabled/ disabled during day/night time separately.
- VISION offers a facility to forward a call to an external number based on the CLI numbers. Using this feature it is possible to forward a call from a known destination to a desirable destination.
- VISION offers a facility to display calling party's number or held party's number (while transferring) or both. If the option to display both the calling party's number and the held party's number is selected then on the LCD, calling party's number is displayed first followed by held party's number. The calling party could be internal or external.

How to program?

The telephone numbers of all the incoming calls will be displayed; no programming is required for it. However if CLI based routing is required then the system needs to be programmed.
Step 1: Program the port type of the station as CLI port using command ***4101.***
Step 2: Enable/disable CLI based routing during day time using command ***1602.***
Step 3: Enable/disable CLI based routing during night time using command ***1603.***
Step 4: Program the telephone numbers to be routed directly to the stations using command ***1604.***
Step 5: Program the destination when the incoming call is to be routed using command ***1605.***
Step 6: Program the external phone number where the call is to be routed using command ***1606***.
Step 7: Program the CLI transfer mode using command ***1607.***
Step 8: Default CLI parameters using command ***1601.***

Step 1
Please refer 'Station Parameters' for more details.

Step 2
Use following command to enable/disable CLI based routing during day time:
1602-Code
Where,

Code	Meaning
0	Disable CLI based routing
1	Enable CLI based routing

By default, CLI based routing is disable during day time.

Step 3
Use following command to enable/disable CLI based routing during Night time
1603-Code
Where,

Code	Meaning
0	Disable CLI based routing
1	Enable CLI based routing

By default, CLI based routing is disable during night time.

Step 4

Use following command to program the incoming telephone number in a CLI table:

1604-1-Index-Telephone Number-#*

Where,

Index is from 00 to 24.

Telephone Number is the calling party's telephone number (Maximum 16 digits). Terminate the command with #*. Old telephone numbers can be overwritten by new telephone numbers.

Use following command to clear all the telephone numbers from the CLI table:

1604-*-#

Step 5

Use following command to assign destination type and destination for the incoming telephone number in the CLI table:

1605-1-Index-Destination Type-Destination

Where,

Index is from 00 to 24.

Destination Type	Meaning
0	If call is to be routed to particular station
1	If call is to be routed to a station group
2	If call is to be routed to external number

Destination	Meaning
00-08	Port Number of the station
00-15	Station Group
00-07	Trunk Access Group Number

Use following command to assign same destination type and destination for all the incoming telephone numbers in the CLI table:

1605-*-Destination Type-Destination

Step 6

Use following command to program the destination number for CLI based ECF:

1606-1-Index-Destination Number

Where,

Index is from 00 to 07.

Destination Number is the telephone number (maximum 16 digits) where the calls are to be forwarded. On using above command a table shown below will be created in the system's memory automatically.

Index	Caller's Telephone Number	Destination Type	Destination	ECF Destination
00	022-8585858	2	0	2656565
01	011-7575757	2	0	2782085
02	020-5889988	2	0	2662266
:	:	:	:	:
:	:	:	:	:
07	033-5656565	0	0	

Step 7

Use following command to program the CLI transfer mode:

1607-Code

Where,

Code	Meaning
0	Calling Party's Number is displayed (whether internal caller or external caller).
1	Held Party's number is displayed (whether internal caller or external caller).
2	Both calling party and held party's number is displayed.

Step 8
Use following command to default the CLI parameters:
1601-#

On issuing above command:
- CLI based routing turns OFF.
- All entries in the CLI table are cleared.
- Routine destination is cleared.
- Number string in the ECF destination is also cleared.

Example:
- During day time calls from Rakesh (03325656565) should land on 201 (software port 04). Calls from Mahesh (022-27878787) should land on 205, 206, 207. Calls from Suresh (011-28111000) should be forwarded to 2656575.
- Make a station group (01) containing station 205, 206 and 207.
- Program the CLI numbers to be forwarded to external numbers in indexes from 00 to 07 and remaining from
- indexes 08 onwards.
- Make a TAG containing all the three trunks using command 1113.

1602-1

1604-1-00-01128111000
1604-1-08-03325656565
1604-1-09-02227878787
1605-1-00-2-0
1605-1-08-0-04
1605-1-09-1-01

1606-1-00-2656575

On giving above commands, a table as shown below is formed.

Index	Caller's Telephone Number	Destination Type	Destination	ECF Destination
00	01128111000	2	00	2656575
:	:	:	:	:
:	:	:	:	:
08	0332656565	0	04	
09	02227878787	1	01	

Timer of Relevance:
CLI Based routing Ring Timer-It specifies the time for which a station rings if the call is routed to it based on.
Command: ***3019-Seconds***
Default: 15 seconds.
Valid Range: 000 to 255 seconds.

Important Points:
- CLI based external call forwarding is possible only for first eight indexes (00-07) of CLI table.
- Maximum 25 CLI numbers can be routed to desired destinations.
- If the call is routed to a station and if the station is busy/not responding, the call is routed to its normal trunk landing group.
- The VISION supports DTMF based CLI only.
- To know programming details, please refer Configuration Report.

Relevant Topics:
1. Station Group 151
2. Trunk Landing Groups 178
3. External Call Forward (ECF) 97
4. Station Parameters 163

=X=X=

Cancel Station Features

What's this?

- Features like Alarms, Auto Call Back, Call Follow-Me, Call Forward, Hot Line, Hot Outward Dialing and Walk in Class of Service can be cancelled from the station.
- The VISION supports separate cancellation code for each feature. But it is desirable to have a master command to cancel all the features with a single command.
- All stations can avail this facility.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***100.***	Confirmation tone
3	Replace the handset.	

=X=X=

Class of Service (COS)

What's this?

- For the purpose of utilizing the features of a PBX, all users in an organization are not equal. Some users are important and their time is more valuable. Further, their nature of job also differs. Keeping this diversity in mind, it is imperative that the features they need from a system differ from person to person.
- The feature requirements can also vary from time to time. For example, the features required during day time and during night time need not be the same.
- It is the system's responsibility to allow or deny a feature access to a user depending on his needs. The system should support flexible allocation of features to different users. This accessibility of different features for a user is known as his Class of Service (COS).

How it works?

The VISION supports very flexible COS programming. Each user can be assigned different COS depending on his and the organization's needs. All the features supported by the system are presented in the form of a list.

Each feature in the list is identified with a 2-digit number. Following table lists all the features with feature index to be used during programming:

Feature Index	Feature Name
00	Internal Call
01	Hold and Transfer
02	Selective Call Pick Up
03	Auto Call Back
04	Call Park
05	Global Directory Part-I
06	Global Directory Part-II
07	Continued Dialing
08	SE Programming Access
09	SA Programming Access
10	Dynamic Lock
11	Call Forward (Always, Busy, No-Reply, Follow-Me)
12	Hot Line
13	Auto Redial
14	Alarm
15	Remote Alarm
16	Interrupt Request
17	PAS
18	Door Phone
19	Relay Port
20	Trunk-to-Trunk Transfer
21	Barge-In
22	Conference
23	Privacy from DID
24	Privacy from Trunk Beeps
25	Privacy from Barge-In and Interrupt Request
26	Privacy from Raid
27	Boss Ring
28	Live Call superVISION
29	Raid
30	DOSA

Relevant features from this list can be selected and put in a group. One can make few feature access groups depending upon the requirement. First group contains none of the features. Second group contain only internal dialing. Third group contain very common features like Call Pick Up, Call Transfer, Internal Dialing etc. Fourth group contain more advanced features and so on. Eight group contain all the features.

By default, in all the 8 COS groups a set of features is allowed based on common requirement. Default COS groups chart is attached herewith:

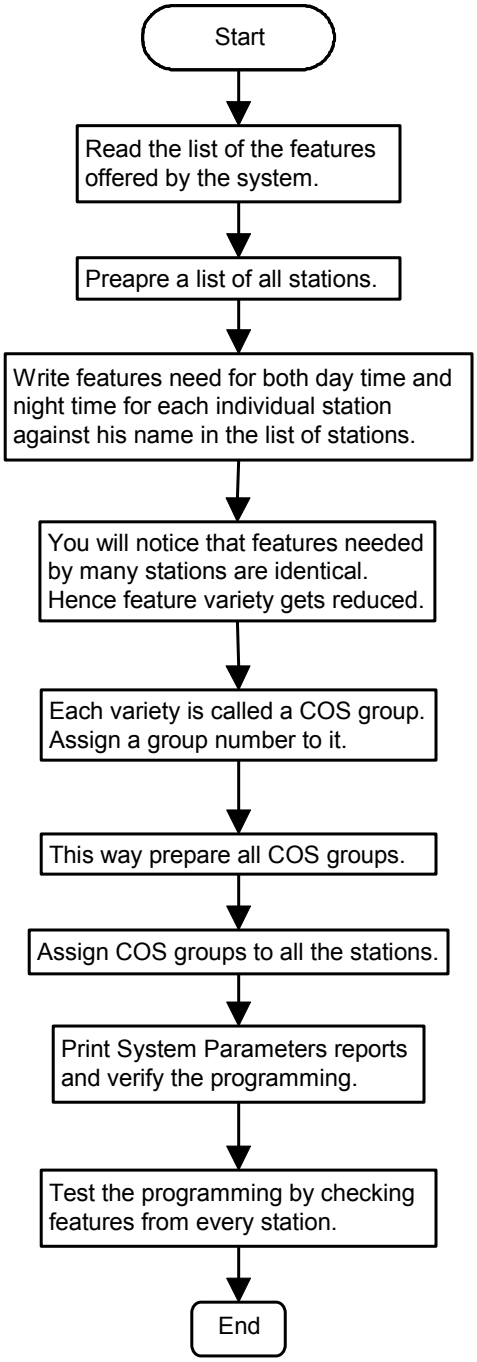
Group	0	1	2	3	4	5	6	7
00	N	Y	Y	Y	Y	Y	Y	Y
01	N	N	Y	Y	Y	Y	Y	Y
02	N	N	Y	Y	Y	Y	Y	Y
03	N	N	Y	Y	Y	Y	Y	Y
04	N	N	Y	Y	Y	Y	Y	Y
05	N	N	Y	Y	Y	Y	Y	Y
06	N	N	Y	Y	Y	Y	Y	Y
07	N	N	Y	Y	Y	Y	Y	Y
08	N	N	N	Y	Y	Y	Y	Y
09	N	N	Y	Y	Y	Y	Y	Y
10	N	N	N	Y	Y	Y	Y	Y
11	N	N	N	Y	Y	Y	Y	Y
12	N	N	N	Y	Y	Y	Y	Y
13	N	N	N	Y	Y	Y	Y	Y
14	N	N	N	Y	Y	Y	Y	Y
15	N	N	N	N	Y	Y	Y	Y
16	N	N	N	N	Y	Y	Y	Y
17	N	N	N	N	Y	Y	Y	Y
18	N	N	N	N	Y	Y	Y	Y
19	N	N	N	N	Y	Y	Y	Y
20	N	N	N	N	Y	Y	Y	Y
21	N	N	N	N	N	Y	Y	Y
22	N	N	N	N	N	Y	Y	Y
23	N	N	N	N	N	N	Y	Y
24	N	N	N	N	N	N	Y	Y
25	N	N	N	N	N	N	Y	Y
26	N	N	N	N	N	N	Y	Y
27	N	N	N	N	N	N	Y	Y
28	N	N	N	N	N	N	N	Y
29	N	N	N	N	N	N	N	Y
30	N	N	N	N	N	N	N	Y

Now, these groups can be allocated to the users depending upon the hierarchy of the user in the organization. A user can be assigned different COS groups for day time and night time. Once these groups are assigned to the users, the user's COS table looks like:

Station Number	COS Group for Day Time	COS Group for Night Time
00	7	1
01	6	4
02	4	4
03	3	3
04	6	4
:	:	:
:	:	:

Following points are relevant:
- Maximum 8 feature groups can be formed (0-7).
- Each feature can be enabled or disabled in each group.
- 2nd group is the default COS group.

The following flowchart elaborates this procedure.



How to program?

Step 1: Decide the number of COS groups to be used.
Step 2: Prepare list of the features required in each COS group and program it using command ***4602.***
Step 3: Default the features in COS group using command ***4601*** (if required).
Step 4: Assign COS group to a station during day time using command ***4610.***
Step 5: Assign COS group to a station during night time using command ***4611.***

Step 1
Take a pen and a paper pad and decide the number of groups to be formed and what all features are to be assigned to each group.

Step 2
Use following command to enable/disable a feature in a COS group:
4602-1-COS Group-Feature Index-Code
Where,
COS Group is from 0 to 7.
Feature Index is from 00 to 30.

Code	Meaning
0	Feature Disabled
1	Feature Enabled

Use following command to enable/disable a feature in all the COS groups:
4602-*-Feature Index-Code

Please note that default COS groups meet most of the requirements and hence above commands are seldom used.

Step 3
Use following command to default all features in a COS group:
4601-1-COS Group-#
Where,
COS Group is from 0 to 7.

Use following command to default all features in all the COS groups:
4601-*-#

Step 4
Use following command to assign a COS group to a station during day time:
4610-1-Station-COS Group
Where,
Station is the software port from 00 to 08.
COS Group is from 0 to 7.

Use following command to assign a COS group to all stations during day time:
4610-*-COS Group

Step 5
Use following command to assign a COS group to a station during night time:
4611-1-Station-COS Group
Where,
Station is the software port from 00 to 08.
COS Group is from 0 to 7.

Use following command to assign a COS group to all stations during night time:
4611-*-COS Group

Example:
Make a COS group ‘5’ having features like Internal Call, Hold, Selective Call Pick Up, Auto Call Back, Remote Alarm, Conference and Call Park.
4602-1-5-00-1
4602-1-5-01-1
4602-1-5-02-1

4602-1-5-03-1
4602-1-5-15-1
4602-1-5-22-1
4602-1-5-04-1

Important Point:

- To know programming details, please refer “Configuration Report”.

Relevant Topic:

1. Time Table 167

=X=X=

Communication Port

What's this?

- The VISION has a communication port (DB-9 connector), which is used to download the configuration reports SMDR Outgoing and SMDR incoming (ICA) reports on to the computer.
- The communication port uses RS-232C protocol.
- Pin details of the COM ports:

Pin No.	Details
1	V+
2	RXD
3	TXD
4	NC
5	GND
6	V+
7	NC
8	NC
9	NC

Communication Port

- The Communication port parameters are fixed and not programmable. These are Baud Rate = 9600 bps, Data bits = 8, Start bit = 1, Stop bit = 1, Parity bit = 0 and Flow control = none.
- On giving print command, corresponding configuration report is downloaded on the computer.

How to use it?

- To communicate with the computer, install communication software like ProComm, Bitcomm, Xtalk, Mirror, etc. However if you have Windows 95 or Windows NT then its in-built software viz. HyperTerminal can be used. For details, please refer section "Connecting VISION with computer using HyperTerminal".
- Connect the communication port of the VISION with the communication port of the computer using Matrix communication cable. Please contact Matrix dealer or Matrix Comsec Pvt. Ltd. for Matrix communication cable. *(Matrix communication cable has 9-pin D-type female connector on both the sides and is 10 meters* long).

Connecting VISION with Computer

- Start your computer and go to command prompt. You get C:\>. Type CD ProComm. You get C:\ProComm>. Type ProComm. You get C:\ProComm>ProComm. Press Enter. The computer runs the ProComm Software and you get a full screen showing ProComm.
- Press Esc. You get a Status bar at the bottom of the screen.
- Press ALT-P to set the communication port of the computer for following settings:
  - Baud rate = 9600 bps.
  - Start bit = 1.
  - Stop bit = 1.
  - Parity bit = none.
- These settings are available in the option '11'. Hence press '11' and press enter.
- Now press '20' if you have connected the cable to COM port 1 (where normally a mouse is connected) and press enter.
- Press '21' if you have connected the cable to COM port 2 and press enter.
- To save the changes made in the settings, press 24.
- After some time you get a screen with a status bar at the bottom.
- Press ALT+F1 to create a file to store data. On pressing ALT+F1 the computer asks you a file name. Give appropriate filename and press enter. The status bar at the bottom now shows **LOG OPEN**.
- Now on giving printing commands, the reports get downloaded on the computer (you can see them on the screen). These reports can be saved in a file and can be retrieved, edited, deleted, printed, etc.
- To come out of the DOS mode, press ALT-X.
- Suppose you have stored the configuration reports in a filename viz. <Sumer> and you want to retrieve this file. Then go to command prompt, type CD ProComm press enter and then type EDIT <filename>. Now you can edit, delete and print this file.

Connecting VISION with Computer using HyperTerminal ASSUMPTIONS:

- Your computer has Microsoft Windows and has a facility of HyperTerminal under accessories option.
- You are using a communication port other than the one used for Mouse.

PROCEDURE:

Start the Computer.	You get **Desktop Menu** on the screen.
Click on **Start > Program > Accessories > HyperTerminal**.	You get a dialog box viz. **C:\Program\Accessor....** on the screen.
Double click on **HyperTerminal** icon.	You get a dialog box viz. **New connection-HyperTerminal** asking to give name for new connection.
Give the name you desire and press <Enter>.	You get a dialog box viz. **'Phone Number'**.
No need to enter any phone number but change the settings of **'Connect to'** using its options to '**Direct to COM Port 2** or **Other Port** and click **OK.**	You get a dialog box viz. **'Port Settings'**.
Set **Bits per Second** to 9600, **Data Bits** to 8, **Parity Bit** to None, **Stop bits** to 1, **Flow Control** to None and Click **OK.**	You get a dialog box having options like **File, Edit, View, Call, Transfer,** etc.
Click on **Transfer.**	You get **Pop Down Menu.**
Click on **Capture Text.**	You get a dialog box asking file name.
Give filename with path or **Browse** to store in your desired folder. In the desired folder create a text file. To do so right click **New > New text documents** and click on it, give a file name say <prog. as on xx.xx.xx>. Now type the same file name in the File name block and click **Open.**	You get a dialog box viz. **Capture Text.**
Click on **Start** button of the window.	Now the communication port is ready to receive the data from the EPABX.
Click on **File** > **Properties > Settings** and change **Emulation** option to VT100 and click **OK.**	You again get the dialog box having options like **File, Edit, View, Call, Transfer, etc.**
Now enter the programming mode in the AutoAttendant and give the printing commands.	You get the desired reports on the screen.
After getting the reports on the computer, click on **Transfer > Capture Text > Stop** and click on **Stop.** Click on **File > Exit.**	All the data has been received by the computer and is stored in the given filename.
Computer asks a question, **Do you want to disconnect?**	Click on **Yes.**
Computer asks a question, **Do you want to save this session?**	Click on **Yes.** You come back to the desktop menu.
To print the file, open that file again in wordpad or notepad. Give the print command.	You get the print out. Keep it with you for reference.

Relevant Topic:

1. Configuration Report 67

=X=X=

Conference

What's this?

The VISION offers the facility of 3-party conference. 3-Party conference can be conducted at a spur of the moment without much prior planning. If a user is talking to some one and he feels he should include a third person in his present talk and have a conference, he can do so without disconnecting his present talk. All he has to do is to hold present person, dial the third person and then dial conference code.

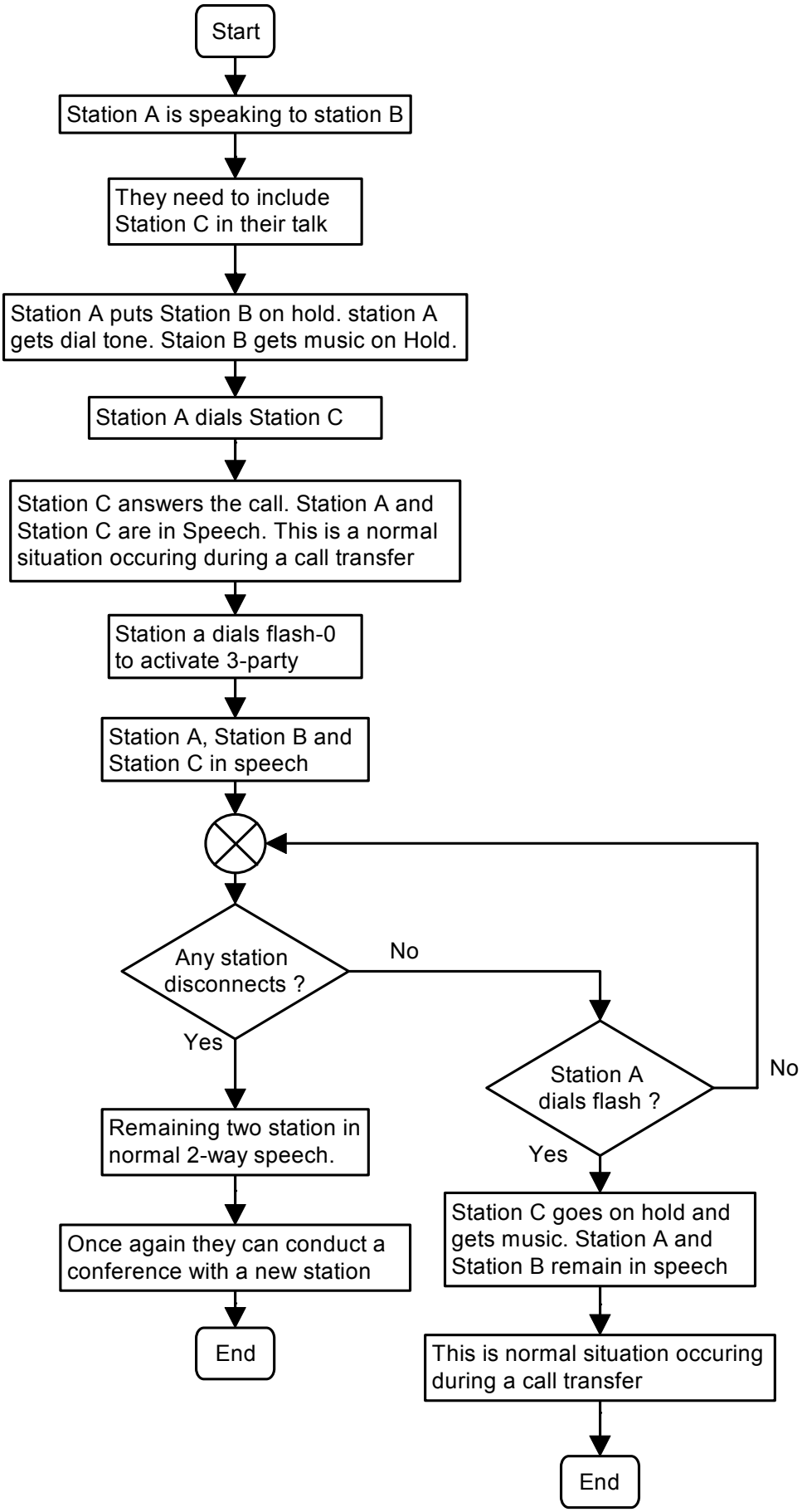
Following three combinations are allowed in 3-party conference:
- All three stations.
- Two stations and one trunk.
- One station and two trunks.

How to use it?

1		3-way mode as described in call splitting.
2	Dial ***Flash-0.***	3-way speech.

How it works?

Flow chart on the next page explains these steps.


Start
Station A is speaking to station B
They need to include Station C in their talk
Station A puts Station B on hold. station A gets dial tone. Staion B gets music on Hold.
Station A dials Station C
Station C answers the call. Station A and Station C are in Speech. This is a normal situation occuring during a call transfer
Station a dials flash-0 to activate 3-party
Station A, Station B and Station C in speech
Any station disconnects ?
No
Yes
Station A dials flash ?
No
Yes
Remaining two station in normal 2-way speech.
Once again they can conduct a conference with a new station
End
Station C goes on hold and gets music. Station A and Station B remain in speech
This is normal situation occuring during a call transfer
End

It is possible to have Conference-Unsupervised

- This feature enables the operator to connect two trunks through the system and get herself free from the discussion.
- Suppose you are at city A. Your two colleagues are at city B and city C. Now using this feature, you being at City A person can make conference with City B person and City C person and once in conversation, if you disconnect then City B person and City C person can talk to each other.

How to use it?

1		3-way mode as described in call splitting.
2	Dial ***Flash-0.***	3-way speech.
3	Dial ***Flash.***	One of the trunks goes on hold. Operator is in speech with other trunk.
4	Dial ***Flash-6.***	Trunk1-Trunk2 speech.

For more details, please refer Call Splitting and Call Transfer.

How to program?

Conference is a programmable feature. Please refer Class of Service (COS) for details on how to allow Conference to a user.

Important Points:

- Unsupervised calls are same as DOSA calls. The unsupervised call shall get disconnected after time = DOSA Inactivity Timer + DOSA Wait Timer. Hence to continue as unsupervised conference, it is mandatory for the user to dial any digit after the warning beeps.
- To disconnect the call it is advisable to dial '***#0***'.

Relevant Topics:

1. Class of Service (COS) 57
2. Call Splitting 49
3. Call Transfer 51
4. Direct Outward System Access 86

=X=X=

Configuration Report

What's this?

The VISION supports downloading the system's configuration form of a report. This report is useful for:
- Verifying whether the programming done is correct.
- Storing it for future reference.

How it works?

- A Configuration report can be generated on a computer.
- Configuration report can be generated only after entering SE mode.
- The report can be reachieved, printed or mailed.
- Pure ASCII text format is used for report.
- No graphics are used.

How to use it?

Use following command to download configuration report:
1100

A printout of all config report is attached herewith.

Relevant Topic:
1. Communication Port 62

```
                System Parameters as on Sun 26-08-07 at 00:02

--------------------------------------------------------------------------------
                            Feature Groups
                  Grp : 0 1 2 3 4 5 6 7                    Grp : 0 1 2 3 4 5 6 7
Internal Call         : N Y Y Y Y Y Y Y  Hold & Transfer       : N N Y Y Y Y Y Y
Selective CPU         : N N Y Y Y Y Y Y  Auto Call Back        : N N Y Y Y Y Y Y
Call Park             : N N Y Y Y Y Y Y  Global Dir-1           : N N Y Y Y Y Y Y
Global Dir-2          : N N Y Y Y Y Y Y  Flashing On Trunk     : N N Y Y Y Y Y Y
SE Programming        : N N Y Y Y Y Y Y  SA Programming        : N N Y Y Y Y Y Y
Dynamic Lock          : N N N Y Y Y Y Y  Call Forward          : N N N Y Y Y Y Y
Hot Line              : N N N Y Y Y Y Y  Auto Redial           : N N N Y Y Y Y Y
Alarm                 : N N N Y Y Y Y Y  Remote Alarm          : N N N N Y Y Y Y
Interrupt Request(IR): N N N N Y Y Y Y  PAS                    : N N N N Y Y Y Y
Door Phone            : N N N N Y Y Y Y  Relay Port             : N N N N Y Y Y Y
Trk-To-Trk Transfer   : N N N N Y Y Y Y  Barge-In (BI)         : N N N N N Y Y Y
Conference            : N N N N N Y Y Y  Privacy From DID       : N N N N N N N N
Privacy From Trk Beep: N N N N N N N N  Privacy From BI-IR    : N N N N N N N N
Privacy From Raid     : N N N N N N N N  BOSS Ring              : N N N N N N Y Y
Live Call Supervision: N N N N N N N Y  Raid                   : N N N N N N N Y
DOSA                  : N N N N N N N Y

                            System Timers
Dial Tone(DT) : 007 Sec                 Ring Back Tone(RBT) : 045 Sec
Busy Tone(BT) : 007 Sec                 Error Tone(ET) : 030 Sec
Confirmation Tone(CT): 003 Sec          Programming(PGM) Inter-Dig : 015 Sec
PGM ET : 003 Sec                        PGM CT : 003 Sec
Internal Inter-Dig : 007 Sec            Trunk 1st Dig : 025 Sec
Trunk Inter-Dig : 006 Sec               Pause : 003 Sec
Alarm Ring : 045 Sec                    ACB Ring : 030 Sec
Call Park : 045 Sec                     Barge-In : 010 Sec
Interrupt Request : 045 Sec             No Reply Forward : 030 Sec
CLI Based Routing Ring : 015 Sec        DOSA Inactivity : 060 Sec
DOSA Worn : 015 Sec                     DID Inactivity : 060 Sec
DID Answer Wait : 005 Sec               DID Music : 005 Sec
DID Beep : 005 Sec                      DID Ring : 030 Sec
DID BT : 005 Sec                        DID ET : 005 Sec
AutoRedial(AR) Retry Interval : 015 Sec AR Retry Count : 005
AR DT wait : 003 Sec                    AR RBT Wait : 060 Sec
AR Ring : 045 Sec                       Redial : 002 Sec
Door Phone Ring : 030 Sec               Relay Port ON : 060 Sec
Relay Port OFF : 060 Sec                DIP Retry Count : 003
DIP Retry Interval : 001 Min

System Day-Night Mode : Auto Mode
              Day  : Sun   Mon   Tue   Wed   Thr   Fri   Sat
Auto Day Start Time : 00:00 09:00 09:00 09:00 09:00 09:00 09:00
Auto Day End Time   : 00:00 18:00 18:00 18:00 18:00 18:00 18:00

System Operator  : 00                   System Music : Internal
Door Phone(DP)   : Absent               DP Day-Night Station Group : 00-01
Call Transfer CLI Display : Caller Only
Internet Ready Port : Inactive

DIP Port : Inactive     DIP Status : Normally Open     DIP TAG : 0
DIP Numbers :

--------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.16                            Page : 1
```

```
                System Parameters as on Sun 26-08-07 at 00:02
--------------------------------------------------------------------------------
                            Trunk Access Group (TAG)
TAG No       : 0      1      2      3      4      5      6      7
TAG Trunks   : 012-   0---   1---   2---   ----   ----   ----   ----
TAG Rotation : On     On     On     On     On     On     On     On
TAG LCR Type : None   None   None   None   None   None   None   None

                            Time Zone LCR Table
Tz No    : 0     1     2     3
Tz Start : 00:00 00:00 00:00 00:00
Tz End   : 23:59 23:59 23:59 23:59
Tz SP    : 0123  0123  0123  0123

                            Number LCR Table
I  Number           Sp    I  Number           Sp    I  Number           Sp
0                   0123  1                   0123  2                   0123
3                   0123  4                   0123  5                   0123
6                   0123  7                   0123  8                   0123
9                   0123

                            Mix LCR Table
          Tz No     : 0     1     2     3
          Tz Start  : 00:00 00:00 00:00 00:00
          Tz End    : 23:59 23:59 23:59 23:59
I  Number \ Sp      :
0                     0123  0123  0123  0123
1                     0123  0123  0123  0123
2                     0123  0123  0123  0123
3                     0123  0123  0123  0123
4                     0123  0123  0123  0123
5                     0123  0123  0123  0123
6                     0123  0123  0123  0123
7                     0123  0123  0123  0123
8                     0123  0123  0123  0123
9                     0123  0123  0123  0123

                    Call Duration Control (CDC) Groups
I Out-Going  In-Coming  Internal  Disconnect   OG AL-DL  Timer(Sec)
0    Off        Off        Off         No         7  7      160
1    On         Off        Off         Yes        4  4      160
2    On         Off        Off         Yes        2  2      160
3    On         Off        Off         Yes        0  0      160

Relay Port Mode : 1
ON Time Table  :
               :
               :
               :
OFF Time Table :
               :
               :
               :

--------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.16                          Page : 2
```

System Parameters as on Sun 26-08-07 at 00:02

Allowed - Denied List

II	AL0	DL0	AL1	DL1
00		0		0
01		1		95
02		2		98
03		3		96
04		4		94
05		5		
06		6		
07		7		
08		8		
09		9		
10				
11				
12				
13		*		*
14		#		#
15		F		F
II	AL2	DL2	AL3	DL3
00		0		0
01		95		95
02		98		
03		94		
04				
05				
06				
07				
08				
09				
10				
11				
12				
13		*		*
14		#		#
15		F		F
II	AL4	DL4	AL5	DL5
00		0	0	00
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13		*		*
14		#		#
15		F		F

MATRIX VISION Software : V1.16 Page : 3

```
                System Parameters as on Sun 26-08-07 at 00:02
-------------------------------------------------------------------------------
                                Allowed - Denied List
II  AL6               DL6               AL7               DL7
00
01
02
03
04
05
06
07
08
09
10
11
12
13                    *
14                    #
15                    F

                                Station Groups
GrpNo Destinations    Timers          Continuous      Rotation
00    00  01  02  03  15  15  15  15  Off Off Off Off Off
01    00  01  02  03  15  15  15  15  Off Off Off Off Off
02    00  01  02  03  15  15  15  15  Off Off Off Off Off
03    00  01  02  03  15  15  15  15  Off Off Off Off Off
04    00  01  02  03  15  15  15  15  Off Off Off Off Off
05    00  01  02  03  15  15  15  15  Off Off Off Off Off
06    00  01  02  03  15  15  15  15  Off Off Off Off Off
07    00  01  02  03  15  15  15  15  Off Off Off Off Off
08    00  01  02  03  15  15  15  15  Off Off Off Off Off
09    00  01  02  03  15  15  15  15  Off Off Off Off Off
10    00  01  02  03  15  15  15  15  Off Off Off Off Off
11    00  01  02  03  15  15  15  15  Off Off Off Off Off
12    00  01  02  03  15  15  15  15  Off Off Off Off Off
13    00  01  02  03  15  15  15  15  Off Off Off Off Off
14    00  01  02  03  15  15  15  15  Off Off Off Off Off
15    00  01  02  03  15  15  15  15  Off Off Off Off Off

                                Department Groups
3980->Station Grp 00, 3981->Station Grp 00
3982->Station Grp 00, 3983->Station Grp 00

-------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.16                              Page : 4
```

```
              System Parameters as on Sun 26-08-07 at 00:02
--------------------------------------------------------------------------------
                          CLI Base Routing

Index  CLI Number        Landing Dest    ECF Number
 00
 01
 02
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24

CLI Routing Day Flag   : Off
CLI Routing Night Flag : Off


                          Voice Module

Vm Total Time : 240 Sec
Vm Partition  : 13

Vm App  :  00  01  02  03  04  05  06  07  08  09  10  11  12
Part No :  00  01  02  03  04  05  06  07  08  09      11


                          Schedule Dialing

Index Time  TAG  Number
0     00:00  0
1     00:00  0
2     00:00  0
3     00:00  0
4     00:00  0
5     00:00  0
6     00:00  0
7     00:00  0
--------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.16                          Page : 5
```

```
               System Parameters as on Sun 26-08-07 at 00:02
--------------------------------------------------------------------------------
                          SMDR PARAMETERS
--------------------------------------------------------------------------------
 Outgoing Call Storage Filters
--------------------------------------------------------------------------------
 Outgoing Call Store = On
 Numbers:
 00                  01 1                02 2
 03 3                04 4                05 5
 06 6                07 7                08 8
 09 9                10 0                11 *
 12 #                13 F                14 00
 15 95
 Duration = 00:00
 Call Split Flag = On
 Store Call at Station = Originator
 Calls in Buffer = 000/500
--------------------------------------------------------------------------------
 Incoming Call Storage Filters
--------------------------------------------------------------------------------
 Incoming Call Store = On
 Normal = On , DID = On , Unanswered = On , DIDUnanswered = On
 Answer Time = 00:00, Speech Time = 00:00
 Call Split Flag = On
 Store Call at Station = Originator
 Calls in Buffer = 000/250
--------------------------------------------------------------------------------
 Outgoing Call Printing Filters
--------------------------------------------------------------------------------
 Online Printing = Off
 Single Line Telephone = All
 Trunk = All
 Date = All
 Time = All
 Number =
 Duration = 00:00
--------------------------------------------------------------------------------
 Incoming Call Printing Filters
--------------------------------------------------------------------------------
 Online Printing = Off
 Single Line Telephone = All
 Trunk = All
 Date = All
 Time = All
 Ans Duration = 00:00
 Speech Duration = 00:00
 Call Type-> Normal: Yes, DID: Yes, UnAnswered: Yes, DIDUnAnswered: Yes
--------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.16                          Page : 6
```

System Parameters as on Sun 26-08-07 at 00:03

Global Main Memory

II	TAG	Number	ANG	II	TAG	Number	ANG
10	0		-	11	0		-
12	0		-	13	0		-
14	0		-	15	0		-
16	0		-	17	0		-
18	0		-	19	0		-
20	0		-	21	0		-
22	0		-	23	0		-
24	0		-	25	0		-
26	0		-	27	0		-
28	0		-	29	0		-
30	0		-	31	0		-
32	0		-	33	0		-
34	0		-	35	0		-
36	0		-	37	0		-
38	0		-	39	0		-
40	0		-	41	0		-
42	0		-	43	0		-
44	0		-	45	0		-
46	0		-	47	0		-
48	0		-	49	0		-
50	0		-	51	0		-
52	0		-	53	0		-
54	0		-	55	0		-
56	0		-	57	0		-
58	0		-	59	0		-
60	0		-	61	0		-
62	0		-	63	0		-
64	0		-	65	0		-
66	0		-	67	0		-
68	0		-	69	0		-
70	0		-	71	0		-
72	0		-	73	0		-
74	0		-	75	0		-
76	0		-	77	0		-
78	0		-	79	0		-
80	0		-	81	0		-
82	0		-	83	0		-
84	0		-	85	0		-
86	0		-	87	0		-
88	0		-	89	0		-
90	0		-	91	0		-
92	0		-	93	0		-
94	0		-	95	0		-
96	0		-	97	0		-
98	0		-	99	0		-

MATRIX VISION Software : V1.16c Page : 7

=X=X=

Continued Dialing

What's this?

- Continued Dialing allows a station to dial the desired external number, wait for the called party to answer and then dial additional digits.
- This helps users to access services like Auto Attendant, Voice Mail and Interactive Voice Response (IVR).
- This also helps in using features like Call Waiting provided by service providers.

How to use it?

1		Speech with trunk.
2	Dial ***Flash.***	Dial tone
3	Dial ***#.***	Dial tone stopped. Speech with trunk.
4	Dial ***Desired Code.***	

Example:

To use Call Waiting facility of Telco exchange from any station, perform following steps:

1	Dial ***Flash-#.***	This informs the system to pass the dialed digits on the trunk line.
2	Dial ***Flash-2.***	Speech with second call.
3	Dial ***Flash-#.***	This informs the system to pass the dialed digits on the trunk line.
4	Dial ***Flash-1.***	Speech with first call.
5	Dial ***Flash-#.***	This informs the system to pass the dialed digits on the trunk line.
6	Dial ***Flash-2.***	Speech with second call.

How to program?

Continued dialing is a programmable feature. Please refer Class of Service (COS) for details on how to allow Continued Dialing to a user.

Important Point:

- The system allow dialing the code within 10 seconds after dialing #. If the code to be dialed on trunk line is disabled after 10 seconds of dialing the system considers it to invalid code and does not pass it on the trunk line. This time of 10 seconds is fixed and not programmable.

Relevant Topics:

1. Class of Service (COS) 57
2. Flash Timer 100

=X=X=

Department Call

What's this?

Many times it is required to call any one of the persons in a department (group). It is not important to talk to a particular person. The caller just wants any member of the group. VISION offers flexibility to the group of stations belonging to a particular department. This group is called department group. The call made to this group using a code is called Department Call. The access code used to make such call is called Department Number. Hence now the caller has to dial only the Department Number. However, the caller can even access individual station of the group by dialing the station number.

Department Call is allowed from any station. Department call can also be made through DID. Hence if the caller is making a call to you for the first time and wants some information about your company then he may dial the Information Department instead of dialing any particular station or waiting for the operator.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***Destination Number 3980 or 3981 or 3982 or 3983.***	Ring Back Tone (The call lands on the programmed station within the department group).

Example:
To access any of the free stations in a group 0, dial ***3980.***

How it works?

- Maximum 4 department groups can be formed. Groups are given numbers from 0 to 3.
- These groups can be accessed by dialing department numbers 3980 to 3983.

How to program?

Step 1: Decide the number of department groups to be used.
Step 2: Program station groups accordingly.
Step 3: Program station group as department group using command ***4801.***

Step 1
Decide the number of department groups to be used.

Step 2
Program station groups for the purpose. Please refer 'Station Group' for details.

Step 3
Use following command to program station group as department group:
4801-1-Department Group-Station Group
Where,
Department group is from 0 to 3.
Station Group is from 00 to 15.

Use following command to program same station group to all department groups:
4801-*-Station Group

Example:
Program station group 00 as department group 0 and department group 1 whereas station group 01 as department group 2 and department group 3.
4801-1-0-00
4801-1-1-00
4801-1-2-01
4801-1-3-01

Important Points:
- Department Call is allowed through DID also.
- To know programming details, please refer Configuration Report.
- Call transfer-Screen is only possible on a department group.

Relevant Topics:

1. Station Group 151
2. Direct Inward Dialing (DID) 81

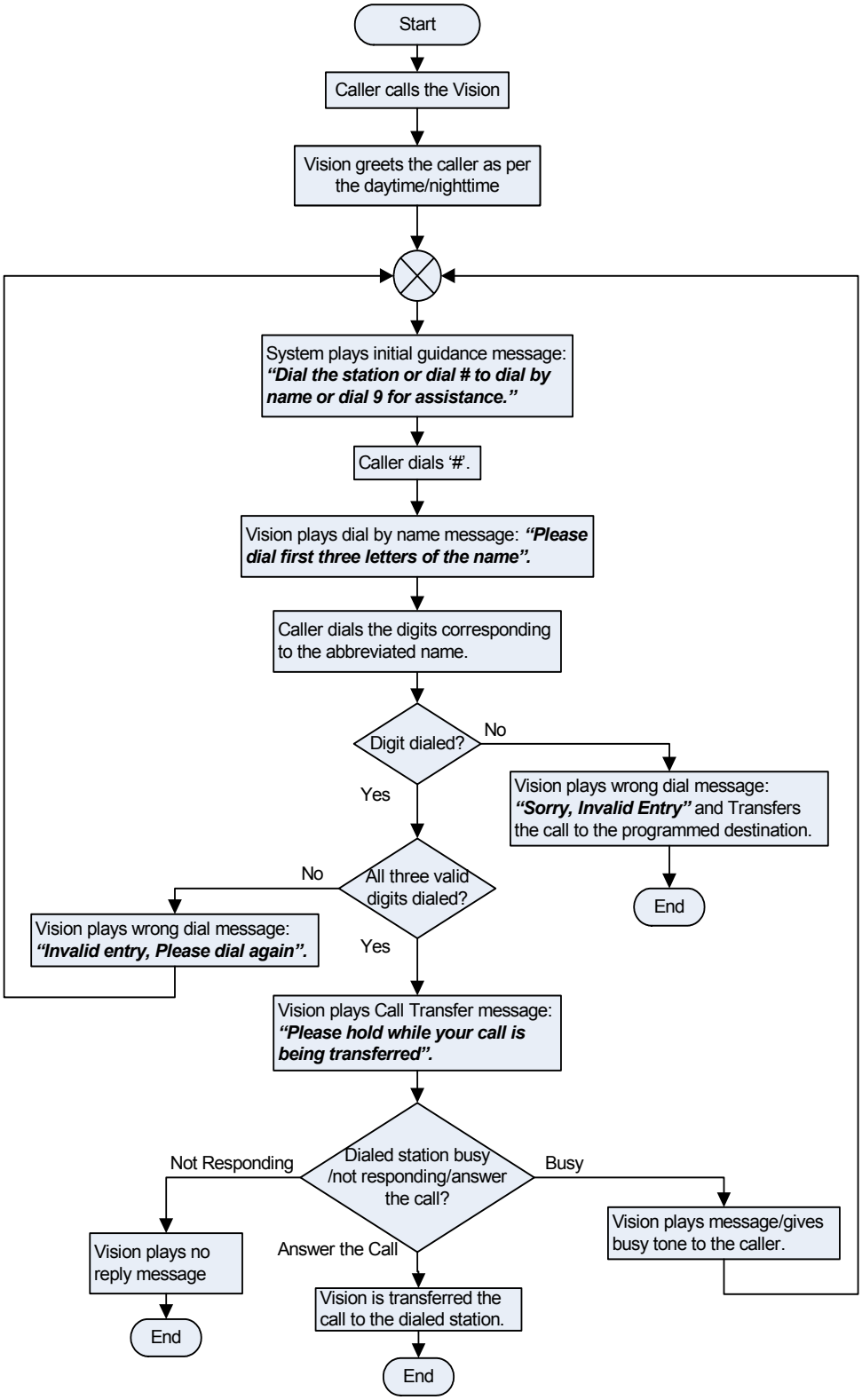
=X=X=

Dial by Name

What's this?

A caller can reach the desired person in an organization by dialing the name of the person. This helps the caller to access the desired person by his name in case his station number is forgotten. This is an advanced feature of an auto-attendant (DID).

How it works?



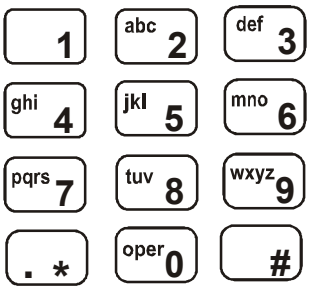
How to use it?

- Call the VISION.
- Dial '#'.
- Dial first three letters of the name of the person you wish to call.
- VISION transfers the call to the dialed station.

How to program?

Step 1: Program the Station name using command ***4103.***
Step 2: Activate Voice Guidance on the trunks.

Step 1
Use following command to program the station name:
4103-1-Station-Name
Where,
Station is the software port number of the station from 00 to 08.
Name is the alphanumeric string of three characters.



Use following command to clear a station name:
4103-1-Station-#
Where,
Station is the software port number of the station from 00-08.

Use following command to clear all the station names:
4103-*-#

Step 2
Please refer 'Voice Message Applications' for more details.

Example 1:
Program station name 'Sumer' for station 21 (s/w port 00).
4103-1-00-786
(786 should be dialed because '7' corresponds to 'S', 8 corresponds to 'U' and '6' corresponds to 'M').

Example 2:
Program station name 'Prakash' for Station 22 (s/w port 01).
4103-1-01-772

Important Points:
- It is mandatory to program the station name if this feature is to be used.
- It is advisable to abbreviate the name of the station user to his first three alphabets. For example, Abbreviate Ganesh to Gan, Hiren to Hir, Sagar to Sag, etc.
- However, a station user's name can be abbreviated to any desirable acronym with maximum of three letters. (All the alphabets are allowed).
- It is advisable that the SE programs the station names in such a manner that no acronym corresponds to two different names.
- If in an organization, two persons have a same name then a suitable acronym should be given to each of them to avoid any confusion. It is also possible to include such typical case in the Dial by Name message itself, which is programmable. For Example, the message could be recorded as: "Please dial first three letters of the name of the person you wish to talk. For Sumer Mehra dial 786 and for Sumer Mehta dial 728".
- Please note that VISION does not distinguish between two names having same dialing digits. For example, VISION cannot distinguish between Kaushik and Jatin because caller would dial 528 in both the cases. Such combination is not allowed. VISION will not allow programming of same name or names with common codes.

- The caller should have telephone instrument with alphabets printed on the keys.
- VISION checks the dialed station name for its validity. If the dialed number is not valid, it plays wrong dial message and asks the caller to dial again.
- This feature can only be used to DID.

Relevant Topics:

1. Direct Inward Dialing (DID) 81
2. Station Parameters 163

=X=X=

Direct Inward Dialing (DID)

What's this?

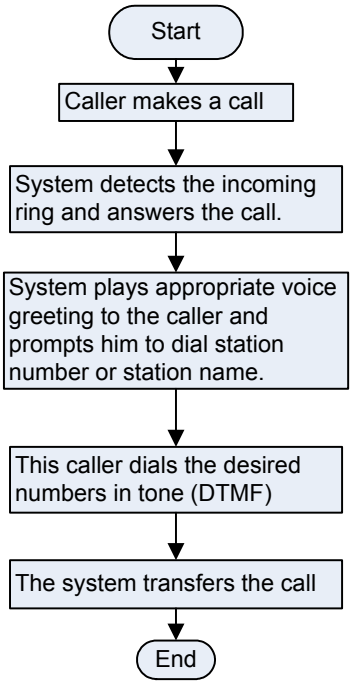
The System can perform the task of an operator by greeting the external caller and transferring the call to the desired station. This facility is called Direct Inward Dialing (DID).

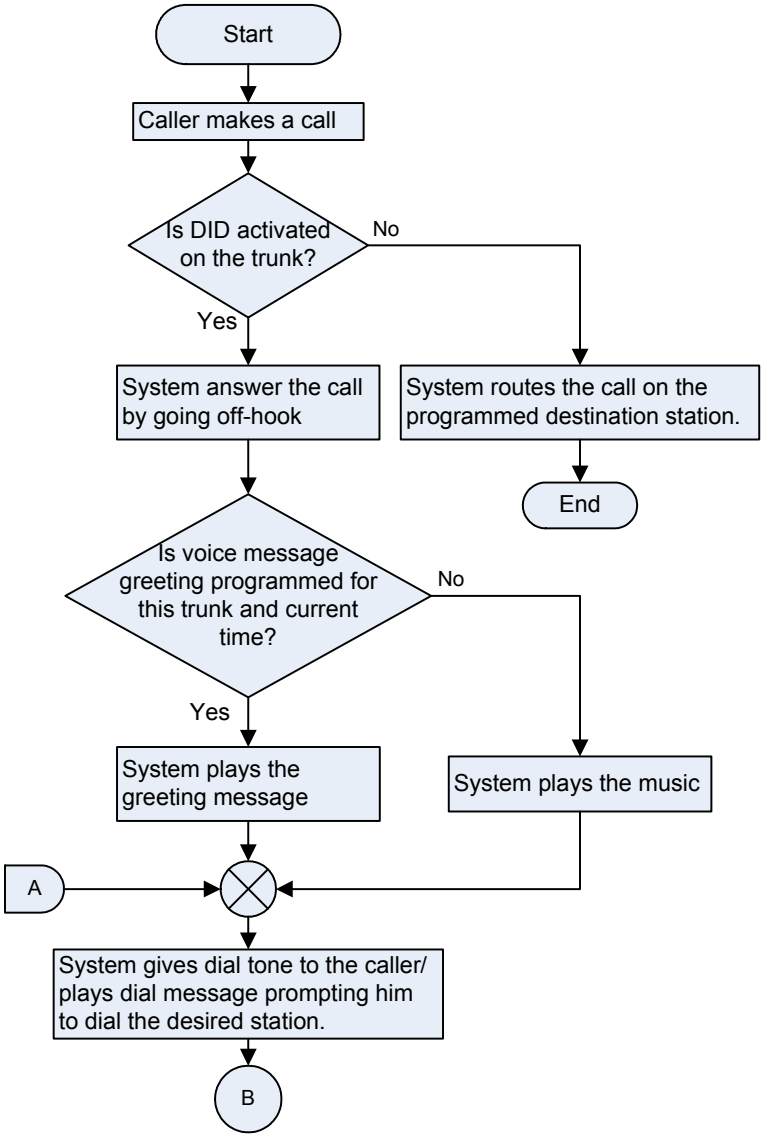
By using this facility, frequent callers can reach desired stations by dialing the station numbers or dialing the station name from their phone. DID offers following advantages:

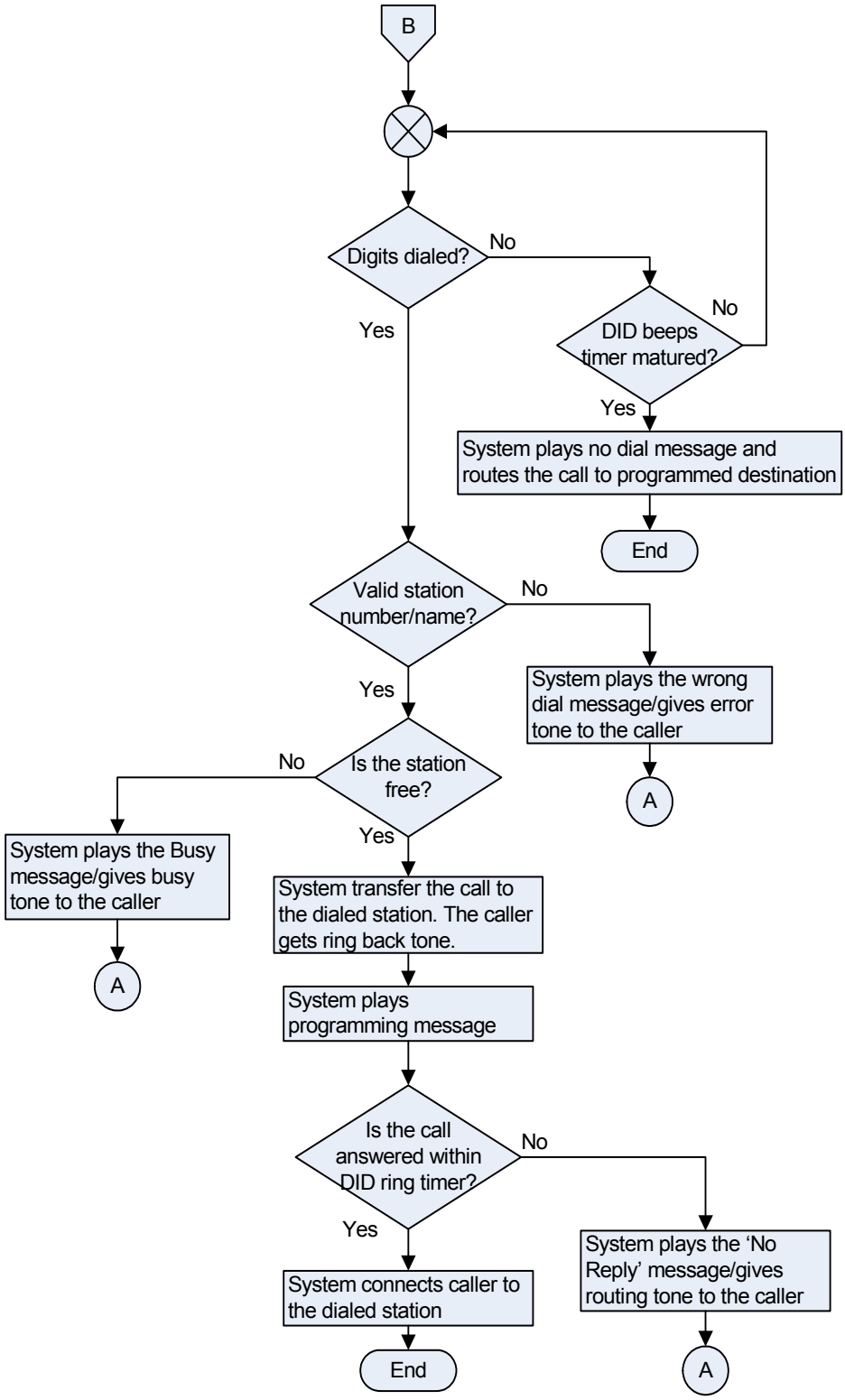
- Reduces traffic burden on the operator.
- Calls are transferred faster, which saves the caller's time.
- Useful even during non-working hours and holidays.
- Give professional image to the company.

How it works?

Flow charts given below depict the logic, the system follows for DID call. First flow chart gives an over all view of it whereas second flow chart gives the detailed logical structure.




Start
Caller makes a call
Is DID activated on the trunk?
No
Yes
System answer the call by going off-hook
System routes the call on the programmed destination station.
End
Is voice message greeting programmed for this trunk and current time?
No
Yes
System plays the greeting message
System plays the music
A
System gives dial tone to the caller/ plays dial message prompting him to dial the desired station.
B



How to program?

Step 1: Enable/Disable DID on trunk/s during daytime using command ***3501.***
Step 2: Enable/Disable DID on trunk/s during nighttime using command ***3502.***
Step 3: Enable/Disable Voice Guidance for DID on trunk/s during daytime using command ***3503.***
Step 4: Enable/Disable Voice Guidance for DID on trunk/s during nighttime using command ***3504.***
Step 5: Program the DID timers using command ***3022-3028.***
Step 6: Record DID voice message. (if required).

Step 1

Use following command to activate DID on a trunk during day time:

3501-1-Trunk-Code

Where,

Trunk is the software port from 0 to 2.

Code	Meaning
0	DID Deactivated
1	DID activated

Use following command to activate DID on all trunks during day time:

3501-*-Code

Step 2

Use following command to activate DID on a trunk during night time:

3502-1-Trunk-Code

Where,

Trunk is the software port from 0 to 2.

Code	Meaning
0	DID Deactivated
1	DID activated

Use following command to activate DID on all trunks during night time:

3502-*-Code

By default, DID is OFF on all trunks during day time and night time.

Step 3

Use following command to activate Voice Guidance for DID on a trunk during day time:

3503-1-Trunk-Code

Where,

Trunk is the software port from 0 to 2.

Code	Meaning
0	Voice Guidance for DID deactivated
1	Voice Guidance for DID activated

Use following command to activate Voice Guidance for DID on all trunks during day time:

3503-*-Code

Step 4

Use following command to activate Voice Guidance for DID on a trunk during night time:

3504-1-Trunk-Code

Where,

Trunk is the software port from 0 to 2.

Code	Meaning
0	Voice Guidance for DID deactivated
1	Voice Guidance for DID activated

Use following command to activate Voice Guidance for DID on all trunks during night time:

3504-*-Code

By default, Voice Guidance for DID is ON on all trunks during day time and night time.

Step 5

Use following commands to set the various timers:

Timer Name	Command	Default (Sec.)	Valid Range
DID Inactivity Timer	***3022-Seconds***	60	000 to 255
DOSA/DID Answer Wait Timer	***3023-Seconds***	05	000 to 255
DOSA/DID Music Timer	***3024-Seconds***	05	000 to 255
DOSA/DID dial tone time and DOSA/DID Beeps Timer	***3025-Seconds***	10	000 to 255

Timer Name	Command	Default (Sec.)	Valid Range
DID Ring Timer	***3026-Seconds***	30	000 to 255
DOSA/DID Busy Tone Timer	***3027-Seconds***	05	000 to 255
DOSA/DID Error Tone Timer	***3028-Seconds***	05	000 to 255

DID Inactivity Timer:

- It signifies the time after which the system disconnects the trunk call if not replied by any station. To elaborate, When a DID call arrives to a system, the system attends the call after DID answer wait timer. If no digit is dialed then the call goes to the landing destination. The system waits for the call to be answered by a station for DID Inactivity timer. On expiry of the DID inactivity timer, the system disconnects the call.

DOSA/DID Answer Wait Timer:

- It signifies the time after which the system answers a DID call.

DOSA/DID Music Timer:

- It signifies the time for which the system plays music after answering the call.

DOSA/DID Dial Tone Timer:

- It signifies the time for which the system gives dial tone to the caller to dial a station number.

DOSA/DID Beeps Timer:

- It signifies the time for which the system gives beeps to the caller to grab the trunk line or dial the station name. This timer is same as DOSA/DID Dial Tone Timer.

DID Ring Timer:

- It signifies the time for which the station rings when reached through DID.

DOSA/DID Busy Tone Timer:

- It signifies the time for which the system gives busy tone to the caller if the station dialed by the caller is busy.

DOSA/DID Error Tone Timer:

- It signifies the time for which the system gives error tone to the caller if the caller dials invalid codes.

Example:
Activate DID for a trunk (Software port number 2) during Day time and Night time.
3501-1-2-1
3502-1-2-1

Step 6
Please refer Voice Message Applications for more details.

Relevant Topics:
1. Time Table 167
2. Voice Message Applications 186
3. Privacy 124

=X=X=

Direct Outward System Access

What's this?

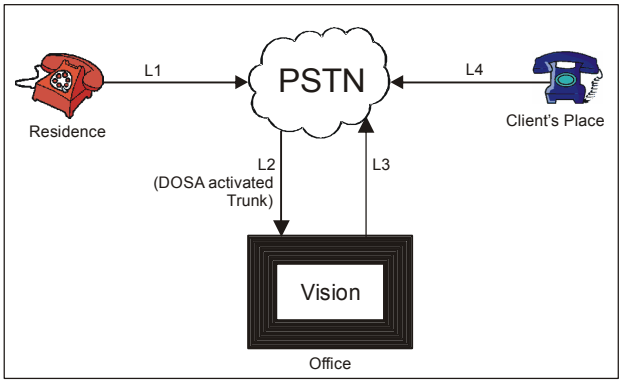
DOSA enables the user to use the system resources for making outgoing call from anywhere outside the office. This facility is generally used to make long distance calls.

How to use DOSA facility?

- Dial a DOSA activated trunk.
- On getting PBX dial tone, dial ***1-Station Number-User Password***. You get DOSA dial tone (Short beeps).
- On getting DOSA dial tone, dial '0', '5', '61' or '62' to grab another trunk to get P&T dial tone.
- On getting P&T dial tone, dial the telephone number.
- Dial any digit to continue the talk.
- Dial '***#0***' to disconnect the call.
- You are still logged in the system. You can make another call by grabbing P&T line.
- Dial '***#0***' to end the DOSA session.

How it works?

- To make one DOSA call, minimum two trunk lines are used (L2 and L3 in figure). Hence, these should be connected to the PBX. However, in all four trunk lines are (L1, L2, L3 and L4 in figure) used while using this facility as shown below.



- When a caller dials a DOSA activated trunk, two trunk lines (L1 and L2) are used. Then the caller grabs the third trunk (L3) and dials a telephone number where fourth line (L4) is used.
- In DOSA call, speech quality may deteriorate since the length of the path increase.

How to program DOSA facility?

Step 1: Enable/disable DOSA on trunk/s during day time and night time using command ***3601*** and ***3602.***
Step 2: Assign a COS group with DOSA enabled to a station to which DOSA call is to be allowed.
Step 3: Set DOSA Inactivity Timer using command ***3020.***
Step 4: Set DOSA Warn Timer using command ***3021.***

Step 1

Use following command to enable DOSA on a trunk during day time:
3601-1-Trunk-Code
Where,
Trunk is the software port from 0 to 2.

Code	Meaning
0	DOSA deactivated
1	DOSA activated

Use following command to enable DOSA on all the trunks during day time:
3601-*-Code

Use following command to enable DOSA on a trunk during night time:
3602-1-Trunk-Code

Where,

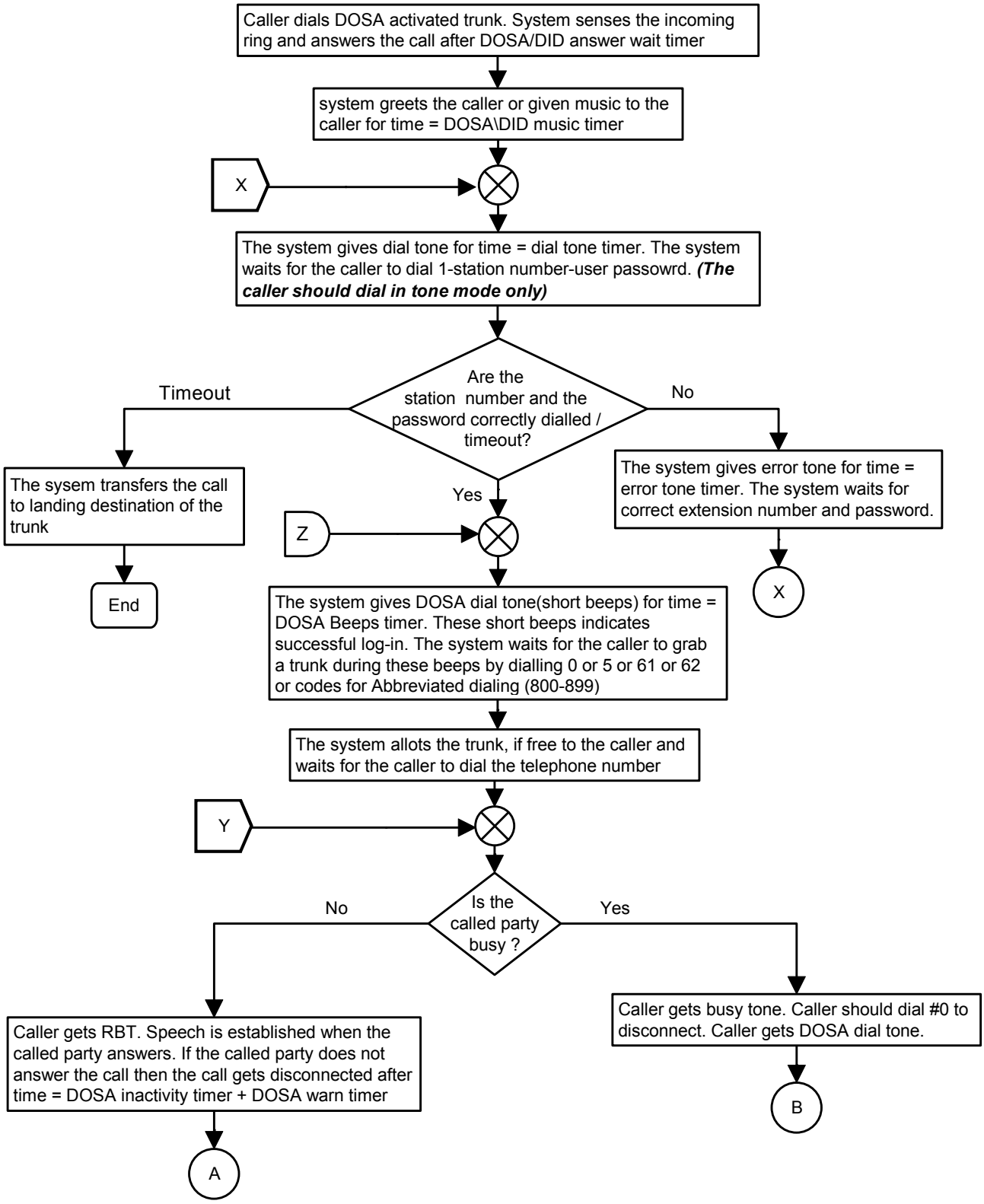
Code	Meaning
0	DOSA deactivated
1	DOSA activated

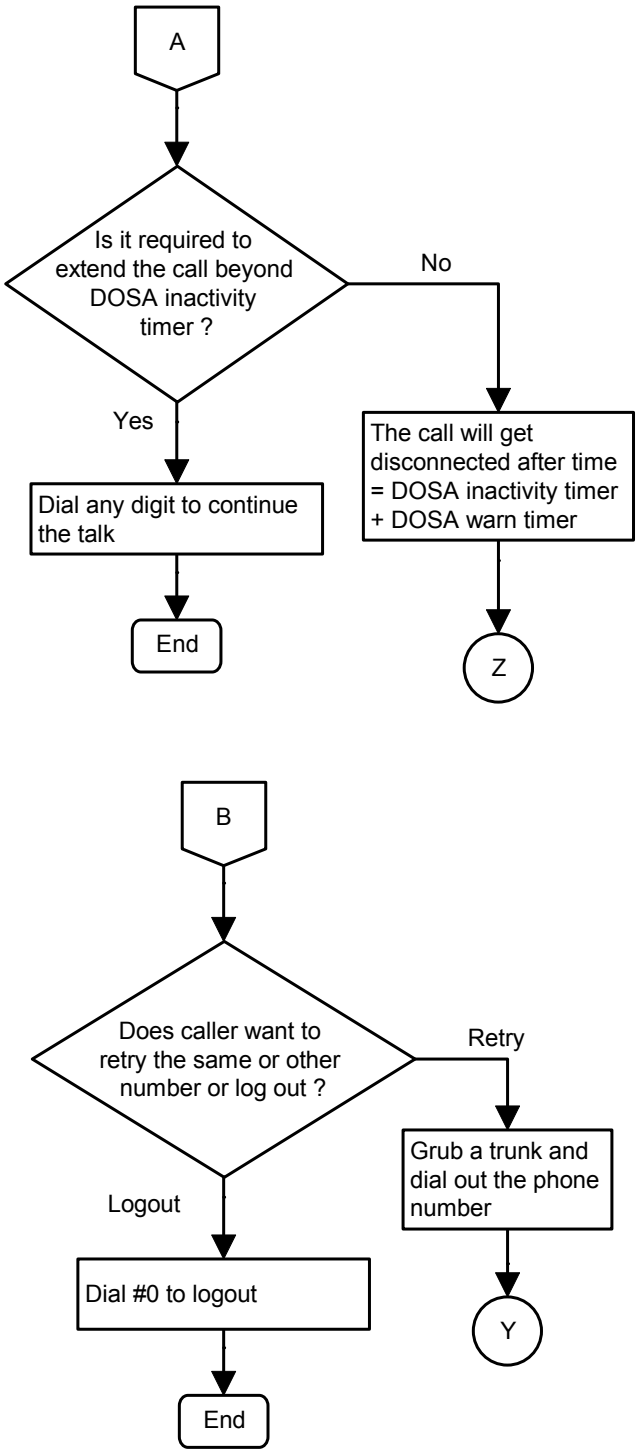
Use following command to enable DOSA on all the trunks during night time:
3602-*-Code

Step 2
Assign a COS group with DOSA enabled to a station. For more details, please refer 'Class of Service (COS)'.

Step 3
DOSA Inactivity Timer-Time after which the system gives warning beeps to the caller:
Command: ***3020-Seconds***
Default: 60 seconds.
Valid Range: 000 to 255 seconds.

Step 4
DOSA Warn Timer-Time after which the system disconnects the call.
Command: ***3021-Seconds***
Default: 15 seconds.
Valid Range: 000 to 255 seconds.


Caller dials DOSA activated trunk. System senses the incoming ring and answers the call after DOSA/DID answer wait timer
system greets the caller or given music to the caller for time = DOSA\DID music timer
X
The system gives dial tone for time = dial tone timer. The system waits for the caller to dial 1-station number-user passowrd. (The caller should dial in tone mode only)
Are the station number and the password correctly dialled / timeout?
Timeout
No
Yes
The sysem transfers the call to landing destination of the trunk
End
The system gives error tone for time = error tone timer. The system waits for correct extension number and password.
X
Z
The system gives DOSA dial tone(short beeps) for time = DOSA Beeps timer. These short beeps indicates successful log-in. The system waits for the caller to grab a trunk during these beeps by dialling 0 or 5 or 61 or 62 or codes for Abbreviated dialing (800-899)
The system allots the trunk, if free to the caller and waits for the caller to dial the telephone number
Y
Is the called party busy ?
No
Yes
Caller gets RBT. Speech is established when the called party answers. If the called party does not answer the call then the call gets disconnected after time = DOSA inactivity timer + DOSA warn timer
A
Caller gets busy tone. Caller should dial #0 to disconnect. Caller gets DOSA dial tone.
B



Example:
Station : 23 (software port 02)
Trunk : 0
COS group : 7 (DOSA enabled)
COS group : 4 (DOSA disabled)
Disable DOSA during day time
Enable DOSA during night time
3601-1-0-0
3602-1-0-1
4610-1-02-4
4611-1-02-7

Important Points:

- DOSA facility can be enabled on one or more trunks.
- DOSA can be enabled/disabled for day and night modes independently.
- DOSA inactivity timer is the time for which a line remains active even after the call is finished if the user forgets to log out by dialing '#0'. Hence it is advisable to program this timer for optimum period.
- Because of poor line conditions, it is possible that DOSA facility may not work.
- A DOSA call gets stored in the buffer just like other calls and it is indicated by a letter 'O' in the remarks' column.
- Abbreviated Dialing is allowed through DOSA.

DOSA facility allows remote users to make long distance calls. It is advisable for all the users to understand the power and cost implication of this facility and hence enable this facility very carefully. It is strongly recommended to protect this facility with a unique password.

Relevant Topics:

1. Voice Message Applications 186
2. Class of Service (COS) 57

=X=X=

Distinctive Rings

What's this?

The VISION offers four different types of rings.

Following six situations are possible:
1. Internal Call.
2. Trunk Call.
3. Alarm Call.
4. Auto Call Back Call.
5. Door Phone Call.
6. Programming.
7. Boss Ring.

Four ring types available are:

Ring Index	Ring Type	Ring Cadence (msec.)								Situation
		ON	OFF	ON	OFF	ON	OFF	ON	OFF	
1	Single	750	2250	-	-	-	-	-	-	Internal Call
2	Double	400	400	400	1800	-	-	-	-	Trunk Call
3	Triple	400	200	400	200	400	1400	-	-	Alarm/DoorPhone/Boss Ring
4	Fast	500	1000	500	1000	500	1000	-	-	ACB/Prog.

=X=X=

Door Phone

What's this?

Door phone is very similar to ordinary phone except that it does not have a hook-switch and dialing keypad. Instead, it normally has a key to be used as doorbell. Doorphone is installed in place of Doorbell. It is very useful accessory with a PBX in flats, bungalows, offices, etc.

VISION offers a facility to program Doorphone port as normal station.

How it works?

- When a visitor arrives at the house and presses the door phone key, the PBX senses the doorbell and starts special triple ring on the stations of door phone group. The LED on the doorphone flickers.
- The station user inside the house hears the ring. The ring cadence is different which helps to the station user to identify it as door phone call.
- The station user answer the call. The LED on the key of Door Phone turns steady ON.
- The Door Phone circuit is activated and two-way speech is established between the visitor and the station that answered the call.
- The owner verifies identity of the visitor by speaking to him.
- He goes to open the door. If door-lock is installed, the owner can open the lock by dialing a code.
- ***The owner can speak to the Door Phone even when there is no ring by dialing 3996 after lifting the handset.***

How to install a Door Phone?

Matrix door phone works on two wires. Following steps describe the procedure of installing the door phone:

- Decide on a proper location for mounting the door phone. It is advisable to put it on the wall at a height of 5 feet. Height and distance from the door are two important parameters that can affect quality of speech.
- Arrange a separate pair of wires from the PBX to the door phone.
- Connect one end of the cable to the door phone and other end to the 'Door Phone' port.

How to program?

Use following command to program door phone port:
1701-Code
Where,

Code	Meaning
1	Door Phone port used for Door Phone application
0	Door Phone port used as station

VISION 309P, software port for Doorphone port is 08.
By default, Doorphone port is used as station.

Use following command to assign station group as door phone group for daytime:
1702-Station Group
Where,
Station Group is from 00 to 15.

Use following command to assign station group as door phone group for night time:
1703-Station Group
Where,
Station Group is from 00 to 15.

Timer of Relevance:
Door Phone Ring Timer-This timer signifies the total time for which the stations in the station group would be ring when there is a call from Door Phone:
Command: ***3035-Seconds***
Default: 30 seconds.
Valid Range: 000 to 255 seconds.

Important Points:

- Door Phone port is available in Premium models only.
- The door phone port is marked 'DP' on the MDF.
- Access to door phone is programmable. Please refer 'Class of Service (COS)' for more details.

- Door Phone LED flickers, when Door Phone switch is pressed. It turns steady ON when the call is routed and while in speech.
- Door Phone LED turns OFF, when Door Phone goes idle. It remains OFF in Door Phone idle condition.
- The ring cadence on the stations programmed in door phone group is different from other rings. The door phone ring is of triple cadence. Thus, station the user knows beforehand that the call is from the door phone.
- The visitors can be kept on hold.
- It is possible to do conference with Door Phone.
- Door Phone call can be picked using general pickup or selective pickup code.
- Calls cannot be forwarded to a Door Phone station.
- Door Phone parameters are printed alongwith system parameters.
- To know programming details, please refer Configuration Report.

Relevant Topic:

1. Station Group 151

=X=X=

Dynamic Lock

What's this?

- A user can lock his station to avoid misuse of local and long distance dialing in his absence.
- When a user locks his station, his toll control changes to limited dialing or no dialing.
- The lock operates with a 4-digit password. Each user has his personal password called User Password.
- Station can be locked manually or automatically.
- If manual lock is selected, then user should lock the station while leaving his work place by dialing the required code. On returning back to work place, he can unlock the station.
- If automatic lock is selected, the system locks the station after a set time automatically.
- The timer starts from the time when the station is unlocked.

How to use it?

To Select Auto or Manual Lock

1	Lift the handset	Dial tone
2	Dial ***143-User Password-Minutes***	Confirmation tone

- User Password is a 4-digit secret code. ***By default, User Password is 1111.***
- Minutes specify time in minutes after which the station gets locked automatically.
- Set minutes to 00 for manual locking. By default, it is manual lock.
- Range for time is 00 to 99 minutes. 00 for manual locking and 01-99 for auto locking.

To Lock the station

1	Lift the handset.	Dial tone
2	Dial ***140.***	Confirmation tone

To Unlock the station

1	Lift the handset.	Dial tone
2	Dial ***141-User Password.***	Confirmation tone

- Once the station is locked, you will be able to dial the numbers depending on the dynamic toll control.

To Change user password

1	Lift the handset.	Dial tone
2	Dial ***144-Old User Password-New User Password.***	Confirmation tone

- In case you forget your password, do not panic. Contact the System Administrator (SA) or the System Engineer (SE). He can clear your password to its default value. Refer System Security (Passwords) for more details.

How to program?

Dynamic Lock is a programmable feature. Please refer Class of Service (COS) for details on how to allow Dynamic Lock to a user.

Step 1
Decide whether you want to use Manual or Auto Dynamic lock.

Step 2
If you decide to use Manual Dynamic Lock set the parameter 'minutes' in the command ***143-User Password-Minutes*** to 00.

Use command ***140*** and ***141-User Password*** to lock the station and unlock the station.

Step 3
If you decide to use Auto Dynamic Lock, set the parameter 'minutes' in the command ***143-User Password-Minutes*** to a desirable value. Use the command ***141-User Password*** to unlock the station.

Step 4
Change your user password to avoid misuse of your station.

Relevant Topics:

1. Toll Control 169
2. User Security (User Password) 185

=X=X=

External Call

How to make External Call?

- Lift the handset.
- Dial trunk access code.
- Dial the external Telephone Number.

Important Points:

- The stations having access to trunk will only be able to make External Calls.
- The station with higher Toll Control will only be able to make External Calls.

Relevant Topics:

1. Toll Control 169
2. Trunk Access Groups 173

=X=X=

External Call Forward (ECF)

What's this?

It is possible to divert the calls on your personal trunk line to your residence or your mobile number. This facility of diverting your incoming trunk calls is known as External Call Forwarding or ECF in short.

How to program?

Step 1: Decide the trunk of which the calls are to be forwarded.
Step 2: Assign a trunk access group to be used to forward these calls.
Step 3: Assign the destination number where the calls are to be forwarded.

Step 1
Use following command to enable/disable ECF on a trunk during day time:
3701-1-Trunk-Code
Where,
Trunk is the software port number (0-2) of the trunk of which the calls are to be forwarded.

Code	Meaning
0	ECF disabled
1	ECF enabled

Use following command to enable/disable ECF on all trunks during day time:
3701-*-Code

Use following command to enable/disable ECF on a trunk night time:
3702-1-Trunk-Code
Where,
Trunk is the software port number (0-2) of the trunk of which the calls are to be forwarded.

Code	Meaning
0	ECF disabled
1	ECF enabled

Use following command to enable/disable ECF on all trunks during night time:
3702-*-Code
By default, ECF is off on all the trunks.

Step 2
Use following command to assign trunk group to forward the calls of a trunk:
3703-1-Trunk-Trunk Access Group
Where,
Trunk is the software port number (0-2) of the trunk of which the calls are to be forwarded.
Trunk Access Group is the trunk Access group number for 0 to 7 through which the calls are to be forwarded.

Step 3
Use following command to assign destination number where the calls are to be forwarded for a trunk:
3704-1-Trunk-Telephone Number-#*
Where,
Trunk is the software port number (0-2) of the trunk of which the calls are to be forwarded.
Telephone Number is the number (maximum 16 digits) where the calls are to be forwarded.

Example:
Calls on trunk 0 during night time are to be forwarded to 02653630555 using trunk access group 1.

Use following command to program this requirements:
3702-1-0-1
3703-1-0-1
3704-1-0-02562630555-#*

Important Points:

- ECF calls are same as DOSA calls. The ECF call shall get disconnected after time = DOSA Inactivity Timer + DOSA Wait Timer. Hence to continue as ECF call, it is mandatory for the user to dial any digit after the warning beeps.
- To disconnect the call it is advisable to dial '***#0***'.

Relevant Topics:

1. Trunk Access Groups 173
2. Direct Outward System Access 86

=X=X=

External Music

What's this?

VISION provides a facility to give external music to the users by way of connecting an external music source. It is possible to give external music to the station and external callers while they are kept on hold. For more details, please refer 'Music on Hold'.

=X=X=

Flash Timer

What's this?

Flash is used extensively as one of the digits for accessing various features. Flash is actually momentarily breaking of the station current loop. If this break time is of optimum level, the VISION senses it rightly as a flash. But, if the time is more, it can be wrongly taken as disconnection. On the other hand, if the flash timer is set to a higher value, a genuine disconnection will take longer time. Some are known to use longer flash time. You have to program the station flash timer with little higher value than the flash timer used by the telephone connected to it.

How to program?

Use following command to program flash timer:
4102-1-Station-Flash Timer
Where,
Station is from 00 to 08.
Flash Timer is from 100 to 900.

Use following command to program same flash timer for all the stations:
4102-*-Flash Timer
By default, Flash timer is 600 msec.

Relevant Topics:
1. Call Transfer 51
2. Call Splitting 49
3. Conference 64

=X=X=

Flexible Numbers

What's this?

VISION offers flexibility to assign a number of your choice to a station. This code is called flexible number. For example, to access first station having software port 00, one has to dial 21. It is possible to change this code to any other number of your choice.

The system loads default access codes (flexible numbers) to all the stations on first power ON. Later on the stations can be assigned desired flexible numbers.

How to program?

Use following command to program the flexible number for a station:
4201-1-Station-Flexible Number-#*
Where,
Station is from 00 to 08.
Flexible Number can be of 1, 2, 3 or 4 digits.
Terminate the command using #* is flexible number is of less than four digits.

Use following command to default the flexible numbers of all the stations:
4201-*-#

A typical table of default flexible numbers looks like:

Software Port	Flexible Number
00	21
01	22
02	23
03	24
04	25
05	26
06	27
07	28
08	29

Use following command to clear the flexible numbers of all the stations:
4201-*-0

Example:
Software port 00 to 03 should be assigned flexible numbers as 31 to 34 and software port from 04 to 07 should be assigned flexible numbers as 21 to 24.
4201-1-00-31#*
4201-1-01-32#*
4201-1-02-33#*
4201-1-03-34#*
4201-1-04-21#*
4201-1-05-22#*
4201-1-06-23#*
4201-1-07-24#*

Important Points:
- Flexible numbers are the codes dialed from dial phase to call another station. These flexible numbers should be unique and should not match with any other station or any of the features available from the dial phase.
- It is possible to have single digit, 2-digit, 3-digit and 4-digit flexible numbers.
- It is also possible that few stations have single digit, few have 2-digit, few have 3-digit and remaining have four digit flexible Numbers.
- It is not possible to give any station, a flexible number '1'.
- Flexible number having common digits can't be assigned to another station. For example if 3101 is used then 310 can't be used/programmed. Same way if 3111 is used then 311 can't be used/programmed.

- Same flexible number cannot be assigned to two different stations. For example you if have used 211 for one station then 211 can’t be assigned to any other station.
- It is possible to clear the flexible number of all the stations.
- When the flexible number of a station is cleared, one cannot call that station. However the station will null flexible number can make calls as usual.
- Use flexible numbers for all the features used from User mode. Software port numbers are to be used only during for SE mode or SA mode.

=X=X=

Hold

What's this?

This feature allows the user to talk to other station or external party without releasing the present party. This feature is also called Consultation-Hold.

How to use it?

1		Speech with Party A.
2	Dial ***Flash.***	Party A goes on Hold and gets Music on Hold. Caller gets dial tone.
3	Dial ***Station/Trunk Access Code.***	Speech with dialed station or trunk dial tone.

Important Point:

- If party A is a trunk and another trunk is to be accorded then dial 80 or 85 or 861 or 862 after dialing Flash.

Relevant Topics:

1. Call Splitting 49
2. Call Transfer 51
3. Conference 64

=X=X=

Hotline

What's this?

VISION offers three types of hotline viz. Hotline-Internal, Hotline-Trunk and Hotline-External Number.

Hotline-Trunk

- You get connected to any of the free trunk from the desired trunk access group, the moment you lift the handset.
- This feature is useful when you are making more number of trunk calls compared to internal calls. Once this feature is enabled, as soon as you lift the handset you get the trunk dial tone after the set time.
- This feature is also called Hot Outward Dialing (HOD).

To set Hotline-Trunk

1	Lift the handset.	Dial tone
2	Dial ***151-Trunk Access Code.***	Confirmation tone

Example:
To simulate dialing of trunk access code 62 immediately on lifting the handset, dial ***151-62.***

Hotline External Number

- You get connected to a desired external number the moment you lift the handset.
- This feature is useful when you are making call to a particular external number many times in a day. Once this feature is enabled, as soon as you lift the handset, the system dials the telephone number and you get connected to the external person.
- This feature is also called Hotline with Number.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***152-Trunk Access Code-Number.***	Confirmation tone

Example:
Let us activate Hotline for external number 0265 2630555. Let us assume trunk access group code '62'. Dial following code to set this feature:
152-62-02652630555-#*

Hotline Internal

- Hotline-Internal helps avoiding repeated dialing of a station number.
- Simply by lifting the handset, the caller gets connected to the programmed station.
- In an office environment, it is found that a boss calls his secretary or his co-worker frequently. This feature could be of great help to him.
- This feature is also called Boss-Secretary feature.

To set Hotline-Internal

1	Lift the handset.	Dial tone
2	Dial ***153-Station.***	Confirmation tone

Example:
The boss needs to speak to his secretary (station number 22) many times in a day. He can avoid repeated dialing by activating the Hotline Internal feature from his station:
153-22.

Delayed Hotline

After lifting the handset you do not get connected to the station immediately but get regular dial tone. If the user does not dial anything during this short dial tone, the PBX places the hotline call to the station. This delay timer allows the user to dial other numbers without cancelling hotline.

To Set Hotline Timer

1	Lift the handset.	Dial tone
2	Dial ***154-Seconds.***	Confirmation tone

- The default value of hot line timer is 3 seconds and its range is 2-9 seconds.
- The hotline timer cannot be set to 0 or 1 second.

Cancel Hotline

1	Lift the handset.	Dial tone
2	Dial ***150.***	Confirmation tone

- Please note that the cancellation code must be dialed from the PBX dial tone. If the Hotline timer is 1 second, you have to be very quick in dialing the code.

How to program?

Hotline is a programmable feature. Please refer Class of Service (COS) for details on how to allow Hotline to a user.

Important Point:
- Only one type of Hotline can be activated on the same station at the same time.

Relevant Topics:
1. Class of Service (COS) 57
2. Toll Control 169

=X=X=

Internal Call

How to make an Internal Call?

- Lift the handset.
- Dial the desired station's flexible number.
- The called station ring.
- Speech is established when the called party lifts the handset.

Important Points:

- Hands free Operation is also possible if a speakerphone is used.
- The stations having access to internal call will only be able to make Internal Calls.

=X=X=

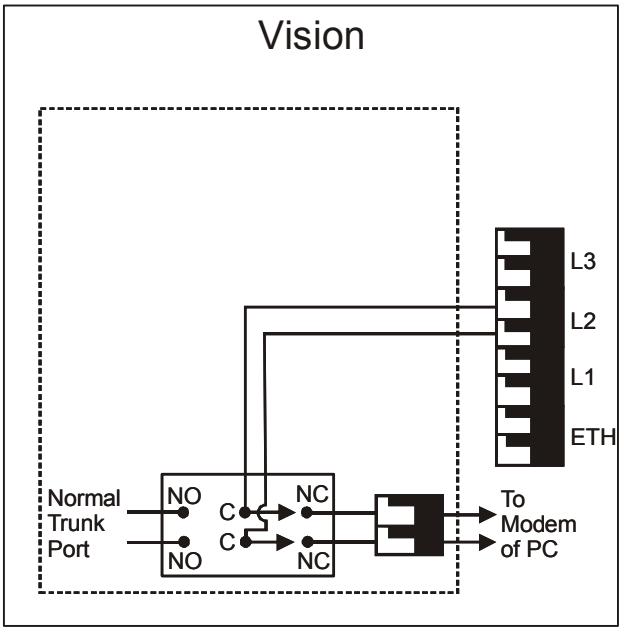
Internet Ready Port

What's this?

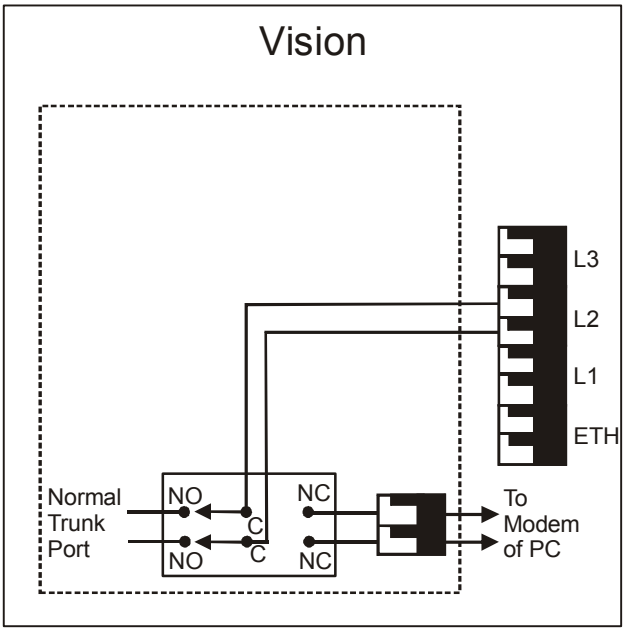
- The VISION offers a dedicated port to surf the Internet. This port is called Internet Ready Port. The modem of the PC used to surf the Internet should be connected to this Internet Ready Port. Whenever giving is to be done a command should be issued which will connect trunk 2 directly to this port.
- The user need not require direct trunk connection up to computer or does not even need to dial the trunk access code in the dial up sequence.

How it works?

- On issuing Internet ready code, trunk 2 gets directly connected to Internet Ready Port. Now trunk 2 is not
- accessible to the stations. This code shall be accepted by the system only when trunk 2 is free.
- On completion of surfing, when a command to cancel this feature is issued, trunk 2 gets diverted to trunk port2. Now it becomes accessible to the stations.
- Internet Ready Port active (Command ***2101-1***).



- Internet Ready Port Inactive (Command ***2101-0***).



How to program?

Use following command to activate/deactivate Internet Ready Port:
2101-Code
Where,

Code	Meaning
0	Deactivate Internet Ready Port
1	Activate Internet Ready Port

By default, Internet Ready Port is Inactive.

Important Points:
- This command is allowed from SA mode/SE mode.
- Please note that trunk2, marked L2 on the MDF can only be diverted to Data port.
- To know programming details, please refer Configuration Report.

Relevant Topics:
1. Class of Service (COS) 57
2. Station Parameters 163
3. Trunk Parameters 181

=X=X=

Interrupt Request

What's this?

- When your call is urgent and you cannot wait for the called person to become free, you can land in his conversation after intimating him.
- While landing, you get ring back tone and the called person gets beeps for 45 seconds.
- During the beeps, the called person can dial '***Flash***' to answer your call. He can talk to you while his previous
- partner is put on hold and gets music.
- Replace your handset once your talk is over. This will automatically restore his original speech with the held up party.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***Station.***	Busy tone
3	Dial ***5.***	RBT. The called person gets beeps.
4	The destination dials ***'Flash'.***	Speech with the called person.

How to program?

Interrupt Request is a programmable feature. Please refer Class of Service (COS) for details on how to allow Interrupt Request to a user.

Timer of Relevance:
Interrupt Request Timer-Time for which the station on which interrupt request is made gets the beeps:
Command: ***3017-Seconds***
Default: 45 seconds.
Valid Range: 000 to 255 seconds.

Important Points:
- Interrupt Request works even when the destination is talking on a trunk line.
- Interrupt Request is ineffective if the called person is having call privacy from Interrupt Request.
- The called party can toggle both the calls.
- Interrupt Request can also be used after putting one party in hold. An important trunk call can be transferred to a busy station after putting the calling party in hold and interrupting the busy destination to inform him about his call. This is most advantageous feature for the operator while transferring calls.

Relevant Topics:
1. Class of Service (COS) 57
2. Privacy 124

=X=X=

Last Number Redial

What's this?

- This feature redials the last external number dialed, be it a station or an external number.
- This feature saves time during retrying a busy external number. It is same as REDIAL button of the telephone instrument.
- This feature is also known as Last Number Redial (LNR).

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***7.***	Silence
3	The system grabs a trunk.	Trunk dial tone
4	The system inserts pause.	
5	The system dials out the last number.	

How to program?

Last Number Redial is a programmable feature. Please refer Class of Service (COS) for details on how to allow last number Redial to a user.

Timer of Relevance:
Redial Wait Timer-It signifies the time for which the system waits once the user dials '7'. The Auto Redial code is 77. Hence, if user wants to try redial when he presses 7, the system waits for inter digit timer and then gives confirmation tone. This timer can reduce the time. This timer can be reduced to 0 if Auto Redial is not used.
Command: ***3034-Seconds***
Default: 2 seconds.
Valid Range: 000 to 255 seconds.

Important Point:
- The system uses the same trunk access code you used for dialing the number last time.

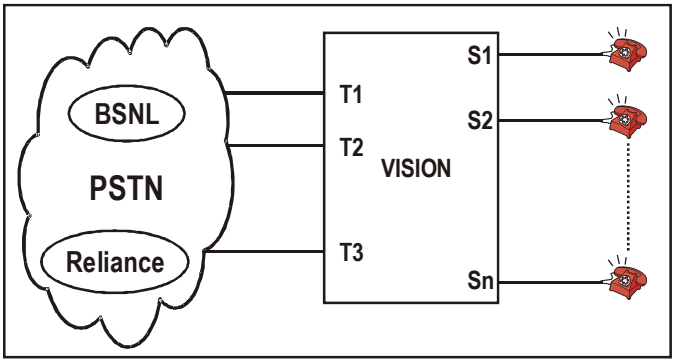
=X=X=

Least Cost Routing (LCR)

What's this?

Different basic service providers offer different rates for different times of the day and the destination numbers. For example, Reliance may offer cheaper rates compared to BSNL for calls made during peak hours. i.e. 09.00 to 22.00. Whereas BSNL may offer cheaper rates as compared to Reliance during off peak hours i.e. 22.00 to 09.00.

Least cost routing logic is used to select the cheapest trunk from the total allotted trunks to the station to make outgoing calls. This way, the cost of outgoing calls can be minimized, by selecting the most economical trunk depending upon the time of call and the destination number.



Above diagram shows that few trunks of both BSNL and Reliance are interfaced with VISION. Here it would be desirable to use LCR facility if these service providers offer different rates.

VISION offers three different types of LCR logic.
Time based LCR-This logic is used when different SPs provide different rates during different timings of the day. This logic uses online dialing. In online dialing, the digits dialed by the user are directly passed on the trunk.

Number based LCR-This logic is used when different SPs provides different rates for different areas, different phone numbers. For example, BSNL provides cheaper rates for a call made from Baroda to Delhi as compared to Reliance. This logic uses Store and Forward dialing. In Store and Forward dialing, the digits are first stored in a memory location and then these are dialed on the trunk.

Mixed LCR-This logic is used when the rates of service providers differ both time wise and number wise. For example, BSNL provides cheaper rates for a call made from Baroda to Mumbai during peak hrs (09.00 to 22.00) as compared to Reliance. Whereas Reliance provides cheaper rates for a call made from Baroda to Delhi during off peak hours (22.00 to 09.00). This logic uses Store and Forward dialing. In Store and Forward dialing, the digits are first stored in a memory location and then these are dialed on the trunk.

How to program?

Step 1: Decide the type of LCR to be programmed to a trunk access group viz. No LCR, Time zone wise LCR, Number wise LCR or Mixed LCR using command ***3401.***
Step 2: Assign the service provider code to each trunk using command ***3402.***
Step 3: Program the LCR table as per the LCR type selected using commands ***3412, 3413*** or ***3422, 3423*** or ***3432, 3433*** and ***3434.***

Step 1
Decide the LCR type i.e. whether no LCR, Time wise LCR, Number wise LCR or Mixed LCR.
Use following command to program LCR type for a trunk access group:
3401-1-Trunk Access Group-LCR Type
Where,
Trunk Access Group is from 0 to 7.

LCR Type	Meaning
0	No LCR
1	Timezone wise LCR
2	Number wise LCR
3	Mixed LCD (Timezone wise + Number wise)

Use following command to program LCR type for all Trunk Access Groups:
3401-*-LCR Type

Step 2
Use following command to assign service provide code to each trunk:
3402-1-Trunk-SP Code
Where,
Trunk is a software port from 0 to 2.
SP Code is from 0 to 3.

Use following command to assign same service provider to all trunks:
3402-*-SP Code

Step 3
Timezone wise LCR
If time wise LCR is to be used make following table on a plain paper.

Timezone Index	Service Provider in hierarchical order of increasing cost			
0	1	1	0	3
1	2	1	3	0
2	1	2	3	0
3	0	1	2	3

In the above table for different time zones, program the service providers in hierarchical order of increasing cost.
For example, If we have four service providers BSNL (SP#0), TATA (SP#1), Reliance (SP#2) and Hughes (SP#3) and if for time zone 0 (08.00 to 22.00) the services of Reliance are cheapest followed by TATA, BSNL and Hughes then the first row in the table would appear as shown in the table.

Use following command to program Time Zone Index:
3412-1-Time Zone Index-Start Time-End Time
Where,
Time Zone Index is from 0 to 3.
Start time is the time in HH:MM format when the time zone starts.
End Time is the time in HH:MM format when the time zone ends.

The Time Zone table looks like:

Timezone Index	Start Time	End Time
0	HH:MM	HH:MM
:	:	:
:	:	:
3	HH:MM	HH:MM

Use following command to program the **Service Provider (SP)** sequence for the each Time Zone:
3413-1-Time Zone Index-SP0-SP1-SP2-SP3
Where,
Time Zone Index is from 0 to 3.
SP0: Cheapest service provider.
SP1: Cheaper service provider.
SP2: Cheap service provider.
SP3: Costly service provider.

Please note that it is mandatory to complete this command. If fewer number of service providers are used, then repeat the cheapest service provider for remaining SPs.

Use following command to default Time Zone wise LCR table:
3411-*-#
Default time zone is 00:00 to 23:59.
Default service provider sequence is from 0 to 3.

The default time zone wise LCR table would look like:

Timezone Index	Service Provider in hierarchical order of increasing cost			
00:00-23:59	0	1	2	3
00:00-23:59	0	1	2	3
00:00-23:59	0	1	2	3
00:00-23:59	0	1	2	3

Numberwise LCR

If Number wise LCR is to be used, make following table on a plain paper.

Number Index	Service Provider in hierarchical order of increasing cost			
0	1	3	0	2
1	2	1	3	0
:	:	:	:	:
9	Blank	Blank	Blank	Blank

In the above table for Number Index (number string in Number Index 0 can be a complete telephone number, a truncated number or an area code), program the service providers in hierarchical order of increasing cost. For example, if we have four service providers viz. BSNL (SP#0), TATA (SP#1), Reliance (SP#2) and Hughes (SP#3) and if for area code 022, the services of TATA are cheapest followed by hughes, BSNL and Reliance then the first row in the table would appear as shown.

Use following command to program Number Index:
3422-1-Number Index-Number String-#*
Where,
Number Index is from 0 to 9.
Number string can be a complete telephone number, a truncated telephone number or an area code. Number string is of maximum 16 digits.
By default, no number string is programmed in Number Index.

The number string table looks like:

Number Index	Number String
0	(16 Digits Allowed)
1	(16 Digits Allowed)
:	:
8	(16 Digits Allowed)
9	(16 Digits Allowed)

Use following command to program the **Service Provider (SP)** sequence for the each number index:
3423-1-Number Index-SP0-SP1-SP2-SP3
Where,
Number Index is from 0 to 9.
SP0: Cheapest service provider.
SP1: Cheaper service provider.
SP2: Cheap service provider.
SP3: Costly service provider.
Please note that it is mandatory to complete this command. If fewer number of service providers are used, then repeat the cheapest service provider for remaining.

Use following command to default Number wise LCR table:
3421-*-#

The default number wise LCR table would look like:

Number Index	Service Provider in hierarchical order of increasing cost			
Blank	0	1	2	3
Blank	0	1	2	3
:	:	:	:	:
Blank	0	1	2	3

Mixed LCR

If mixed LCR is to be used, make following table on a plain paper.

No. Index/ TZ Index	0(022)	1(011)	2(033)	.....	9(95)
0 (08 to 12)	0,2,3,1	3,0,1,2	3,1,2,0	.....	0,1,2,3
1 (12 to 16)	1,2,0,3	0,2,3,1	2,3,1,0	.....	2,1,3,0
2 (16 to 20)	0,2,3,1	3,1,2,0	0,1,2,3	.....	0,1,2,3
3 (20 to 24)	3,0,2,1	1,0,3,2	2,3,1,0	.....	2,0,3,1

Suppose we have four basic service providers viz. BSNL (SP#0), TATA (SP#1), Reliance (SP#2) and Hughes (SP#3).

For Area code 022 (Number String 00) in time zone 08.00-12.00, (time zone 0), BSNL provides cheapest services followed by TATA, Hughes and reliance. Then the first entry in first row would be as shown.

For Area code 011(Number String 01) in time zone 08.00-12.00 (time zone 0), Hughes provides cheapest services followed by BSNL, Reliance & TATA, then the second entry in first row would be as shown.

For Area code 022(Number String 00) in time zone 12.00-18.00 (time zone 1), cheapest services are offered by Reliance followed by TATA, BSNL and Hughes. The 1st entry in 2nd row would be as shown in the table.

Use following command to program Time Zone Index for Mixed LCR:
3432-1-Time Zone Index-Start Time-End Time
Where,
Time Zone Index is from 0 to 3.
Start Time is the time in HH:MM format when the Time zone starts.
End Time is the time in HH:MM format when the Time zone ends.
By default, Time zone is 00.00 to 23.59.

The time zone table looks like:

Time Zone Index	Start Time	End Time
0	HH:MM	HH:MM
1	HH:MM	HH:MM
2	HH:MM	HH:MM
3	HH:MM	HH:MM

Use following command to program Number Index for Mixed LCR:
3433-1-Number Index-Number String-#*
Where,
Number Index is from 0 to 9.
Number string can be a complete telephone number, a truncated telephone number or an area code. Number string is of maximum 16 digits.
By default, Number String is 'Blank'.

The number string table look like:

Number Index	Number String
0	(16 digits allowed)
1	(16 digits allowed)
:	:
9	(16 digits allowed)

Use following command to program the **Service Provider (SP)** sequence for the each Time Zone:
3434-1-Number Index-Time Zone Index-SP0-SP1-SP2-SP3
Where,
Number Index is from 0 to 9.
Time Zone Index is from 0 to 3.
SP0: Cheapest service provider.
SP1: Cheaper service provider.
SP2: Cheap service provider.
SP3: Costly service provider.

Please note that it is mandatory to complete this command. If fewer number of service providers are used, then the repeat the cheapest service provider for remaining SPs.

Use following command to default Mixed LCR table:
3431-*-#
Default Number Index is 'Blank'.
Default Time Zone is 00:00 to 23:59.
Default Service Provider sequence is from 0 to 3.

Default mixed LCR table is shown below:

No. Index/TZ Index	Blank	Blank	Blank	.....	Blank
00:00 to 23:59	0 to 3	0 to 3	0 to 3	.....	0 to 3
00:00 to 23:59	0 to 3	0 to 3	0 to 3	.....	0 to 3
00:00 to 23:59	0 to 3	0 to 3	0 to 3	.....	0 to 3
00:00 to 23:59	0 to 3	0 to 3	0 to 3	.....	0 to 3

Example 1:
- Three trunks viz. One trunk of BSNL, one of Hughes and one of Reliance are connected to the VISION.
- BSNL is cheapest during 08.00 to 16.00 followed by Hughes and Reliance.
- Hughes is cheapest during 16.00 to 20.00 followed by BSNL and Reliance.
- Reliance is cheapest for 20.00 to 23.00 followed by BSNL and Hughes.
- BSNL is cheapest for 23.00 to 08.00 followed by Reliance and Hughes.

Service providers can be assigned SP numbers as:
BSNL = SP0
Reliance = SP1
Hughes = SP2

Use following command to assign SP number to trunks:
3402-1-0-0
3402-1-1-1
3402-1-2-2

Use following command to program time zone LCR type for the trunk access group:
3401-1-0-1

Use following command to program LCR time zones:
3412-1-0-0800-1600
3412-1-1-1600-2000
3412-1-2-2000-2300
3412-1-3-2300-0800

Use following commands to assign service providers for the respective time zone:
3413-1-0-0-2-1-0
3413-1-1-2-0-1-3
3413-1-2-1-0-2-1
3413-1-3-0-1-2-0

With above programming the time zone LCR table will look as below:

Time Zone Index	Service Providers in hierarchical order of increasing cost			
08:00 to 16:00	0	3	2	0
16:00 to 20:00	3	0	2	3
20:00 to 23:00	2	0	3	2
23:00 to 08:00	0	2	3	0

Example 2:
- Three trunks, one trunk of BSNL, one of Hughes and one of Reliance are connected to VISION.
- BSNL is cheapest for Baroda-Mumbai call followed by Reliance and Hughes.
- Reliance offers cheapest service if a local is made to 2665555 from 2630555 followed by Hughes and BSNL.
- Hughes offers cheapest service for Baroda-Delhi call followed by BSNL and Reliance.

Service providers can be assigned SP numbers as
BSNL = SP0.
Reliance = SP1.
Hughes = SP2.

Use following command to assign SP numbers to each trunk:
3402-1-1-0
3402-1-2-1
3402-1-3-1

Use following command to program number wise LCR type:
3401-1-0-2

Use following command to program number index for LCR:
3422-1-0-022-#*
3422-1-1-665555-#*
3422-1-2-011-#*

Use following command to assign SPs for respective numbers:
3423-1-0-0-1-2-0
3423-1-1-1-2-0-1
3423-1-2-2-0-1-2

With above programming the Number LCR table will look as below:

Number Index	Service Providers in hierarchical order of increasing cost			
022	0	2	3	0
2665555	2	3	0	2
011	3	0	2	3
Blank	0	1	2	3

Example 3:
- Three trunks, one trunk of BSNL, one of Hughes and one of Reliance are connected to VISION.
- BSNL is cheapest for Baroda-Mumbai call during 08.00 to 20.00 followed by Hughes and Reliance.
- Reliance is cheapest for Baroda-Delhi call during 20.00 to 08.00 followed by BSNL and Hughes.

Service providers can be assigned SP numbers as:
BSNL = SP0.
Reliance = SP1.
Hughes = SP2.

Use following command to assign SP numbers to each trunk:
3402-1-0-0
3402-1-1-1
3402-1-2-2

Use following command to define LCR type:
3401-1-0-3

Use following command to program time zone index in mixed LCR:
3432-1-0-0800-2000
3432-1-1-2000-0800

Use following command to program number index in mixed LCR:
3433-1-0-022-#*
3433-1-1-011-#*

Use following command to assign SPs for respective number wise and zone wise LCR:
3434-1-0-0-0-2-1-0
3434-1-1-1-1-0-2-1

The table will look as below:

No. Index/TZ Index	022	011	Blank	.....	Blank
08:00-20:00	0,3,2,0	0,3,2,0	0,3,2,0	.....	0,3,2,0
20:00-08:00	2,0,3,2	2,0,3,2	2,0,3,2	.....	2,0,3,2
00:00-23:59	0 to 9	0 to 9	0 to 9	.....	0 to 9
00:00-23:59	0 to 9	0 to 9	0 to 9	.....	0 to 9

Important Point:
- To know programming details, please refer Configuration Report.

Relevant Topics:
1. Trunk Access Groups 173
2. Trunk Parameters 181
3. Real Time Clock (RTC) 137

=X=X=

Live Call Supervision

What's this?

A person with higher hierarchy in an organization can know to which destination his subordinate is making a call.

How it works?

The number dialed by a station is stored in the system's memory. When the boss requests live call supervision for a station, the system retrieves the last external number dialed by the station (which is to be supervised) and presents it on the LCD of the requesting station.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***199-Station.***	Confirmation tone
3	Disconnect.	Station rings. The number is displayed on the LCD of the CLI phone.
4	Lift the handset.	Dial tone

How to program?

Live Call Supervision is a programmable feature. Please refer Class of Service (COS) for details on how to allow Live Call Superivsion to a user.

Important Points:

- This feature can be used even when the station that is to be supervised is in speech with an external party.
- This feature is supported with CLI phone only.

Relevant Topics:

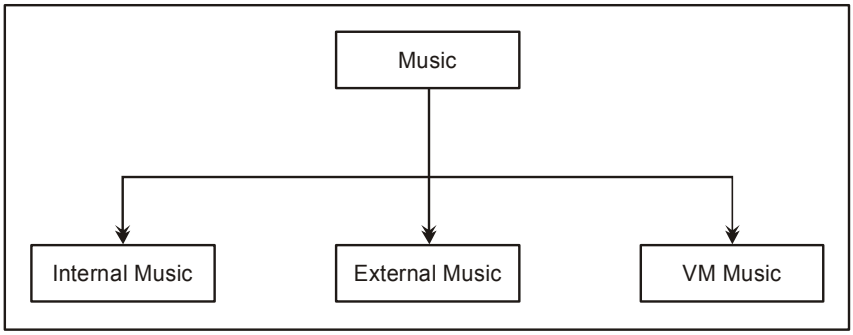
1. Station Parameters 163
2. Class of Service (COS) 57

=X=X=

Music on Hold

What's this?

Whenever a person is put on hold while his call is being transferred or otherwise, the person gets music. VISION supports three types of music sources.

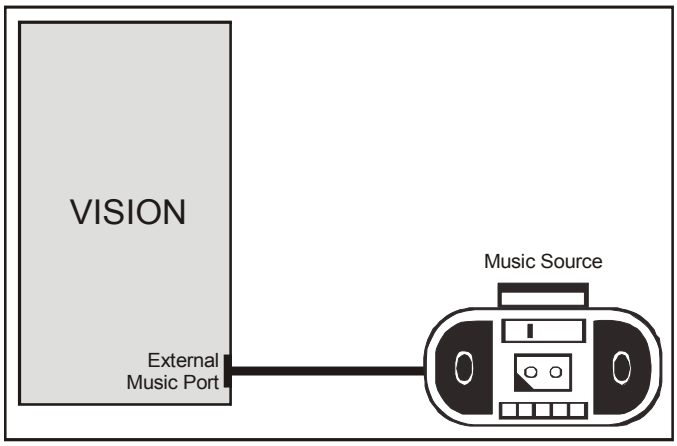


Internal Music Source

VISION offers a 16-tune hold on music.

External Music Source

A hold-on music of your choice can be played while you keep a person on hold. The VISION supports an external music interface marked 'Music'. This interface can handle un-amplified, isolated, analog speech signal from an external music source.



The specifications of an external music interface are given below:

Specification	Value
Interface Type	Audio Signal
Frequency	300Hz to 3400Hz
Maximum Voltage	0.707 Vrms across 600 Ohms
DC Bias	Not more than 10VDC
Isolation	Internal Transformer
Source Impedance required	600 Ohms
Termination provided	600 Ohms

Any external device meeting above specifications can be connected with the system. The volume must be set to a level such that the music is not very low or very loud. The volume of the signal coming from this device must never increase beyond the specified limits.

The external music port is an audio input port and no electrical signal of higher value than the specified limit should be applied to this port. This may result in permanent damage to the system. Matrix warranty does not cover damages resulting from improper use.

VM Music

A music of your choice can be recorded in the Voice Module and the same can be played while keeping a trunk/station on hold.

How to program?

Use following command to select music source:
1102-Code
Where,

Code	Meaning
0	Internal Music
1	External Music
2	VM Music*

***** This command will be assigned only after programming VM for music on hold application.

Important Points:

- On inserting the audio signal jack of the external music source, the internal hold on music stops and the hold party gets external music. The hold party can be trunk or a station.
- To know programming details, please refer Configuration Report.

Relevant Topic:

1. Voice Message Applications 186

=X=X=

Operator

What's this?

- Operator is a person who handles more number of calls at a time. She acts a link between the caller and the called person.
- Any station can be interpreted as Operator.

How it works?

- When any station presses '9' the system diverts the call to the operator he is assigned.

How to program?

Use following command to program the Operator station:
1101-Station
Where,
Station is from 00 to 08.
By default, Operator station is 00.

Example:
Program station 28 (software port 07) as operator.
1101-07

Important Point:
- To know programming details, please refer Configuration Report.

Relevant Topic:
1. Station Parameters 163

=X=X=

Paging

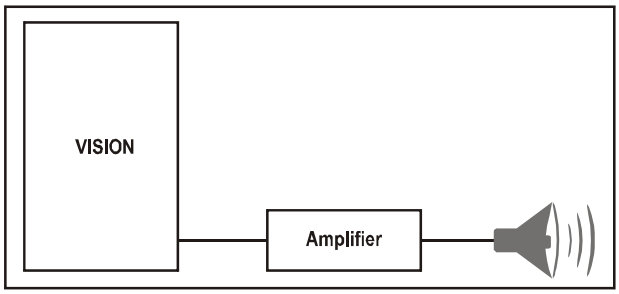
What's this?

- A station can deliver a message to a mass of people just by lifting your handset and dialing a code.
- This feature is helpful when it is required to call few people for meeting.
- This feature is of great use in factories, offices, etc. where it is not feasible to provide a station to every individual. In such cases, if you need to call somebody you can just make an announcement naming him to come and see you or call you.
- This can also be used for mass communication.

How to make connection for the PAS port?

The VISION supports one audio output port for personal address/public address.

- If personal address is to be made, a speaker of 4Ohms/8Ohms can be directly connected to the PAS port.
- Please take care to keep the jumper J6 on the card in A-B position.
- If public address is to be made, an external amplifier with matching speaker should be connected to the PAS port. The jumper J6 should be in B-C position.
- Connect a good quality amplifier and matching speaker to the audio port marked PAS as shown in the figure given below:



- Keep the distance between the PBX and the amplifier to reduce noise pick up.
- Use shielded cable for connecting the system with the amplifier.
- The specifications of the PAS port are given below:

Specifications	Value
Interface Type	Audio Signal
Frequency	300Hz to 3400Hz
Maximum Voltage	0.707Vrms across 600Ohms
Source Impedance	600Ohms
Termination Required	600Ohms
DC Bias	None
Isolation	Internal Transformer

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***3998.***	Start Announcement.

Example:

To announce a message, dial ***3998*** from your station and start announcement.

How to program?

PAS is a programmable feature. Please refer Class of Service (COS) for details on how to allow PAS to a user.

Important Points:

- It is possible to hold PAS activity and attend another call.
- It is possible to have conference with PAS port as one of the parties.
- It is possible to toggle between paging port and another party (trunk or station).

=X=X=

Power Down Mode

What's this?

- During power failure, it is desirable to have trunk lines available directly on few stations. This is known as power Down Mode. When mains power returns, normal operation resumes. Change over from normal to power down operation and back is automatic.
- During power failure condition, calls can be made from these stations. Also the incoming calls lands on respective stations. This way, your link with the outside world is retained even during dark-outs.

How it works?

Following block diagram shows the power fail transfer function for one port.

Figure 1: Normal Condition

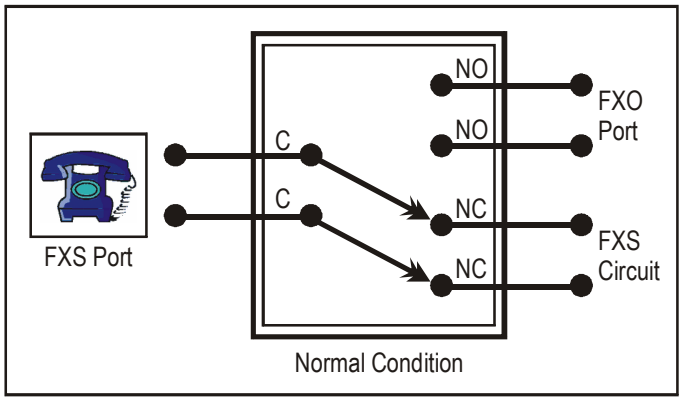
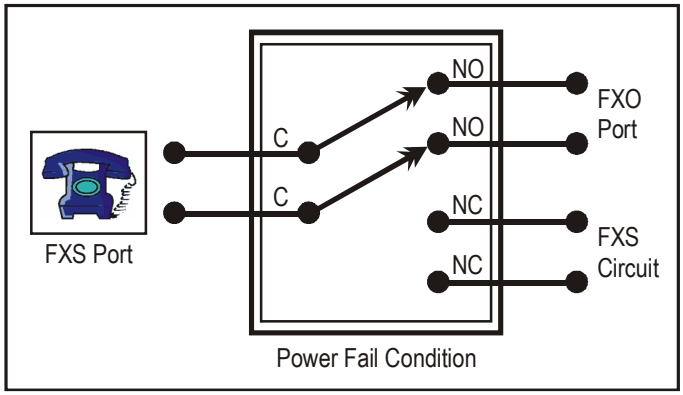


Figure 2: Power Fail Condition



Important Points:

- During power down mode, by default, Trunk 1 gets connected to station 21, Trunk 2 gets connected to station 22, whereas Trunk 3 gets connected to station 23.

Trunk	Power Down Station
L1	21
L2	22 and Data Port
L3	23

- At the time of power failure/Power return ongoing calls will be disconnected.

Relevant Topics:

1. Installing the System 11
2. Appendix D: Troubleshooting 206

=X=X=

Privacy

What's this?

- While two stations are in speech, it is desired that no third person can listen their talk i.e. privacy of their conversation is maintained.
- However if few important stations are allowed to use features like interrupt request, barge-in and raid, they can intrude other's conversation. Also if DID is activated, outside caller can reach any station or if there is a call from another trunk line, it will interrupt your conversation by giving intrusion tone. Some times this is very annoying and undesirable. VISION provides privacy against all these types of intrusions. This is known as Privacy.

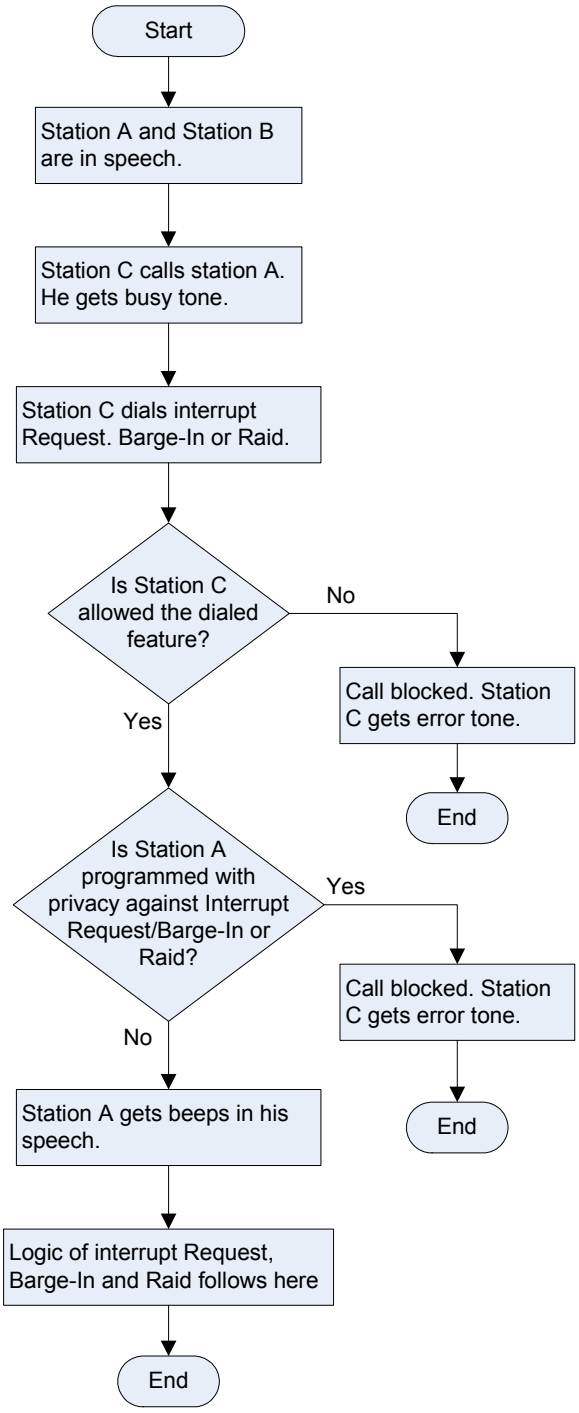
There are four types of intrusions against whom a user might wish privacy:
1. Privacy from Interrupt Request and Barge-In.
2. Privacy from Raid.
3. Privacy from Trunk call intrusion.
4. Privacy from DID call.

These four types are provided as programmable features in the Class of Service groups. A user can be assigned any combination of above four privacy flags by selecting an appropriate Class of Service group. If it is required that no other station can raid you then the corresponding feature i.e. Privacy-Raid in the Class of Service should be enable. Likewise, other feature should be enable or disable as per the requirement.

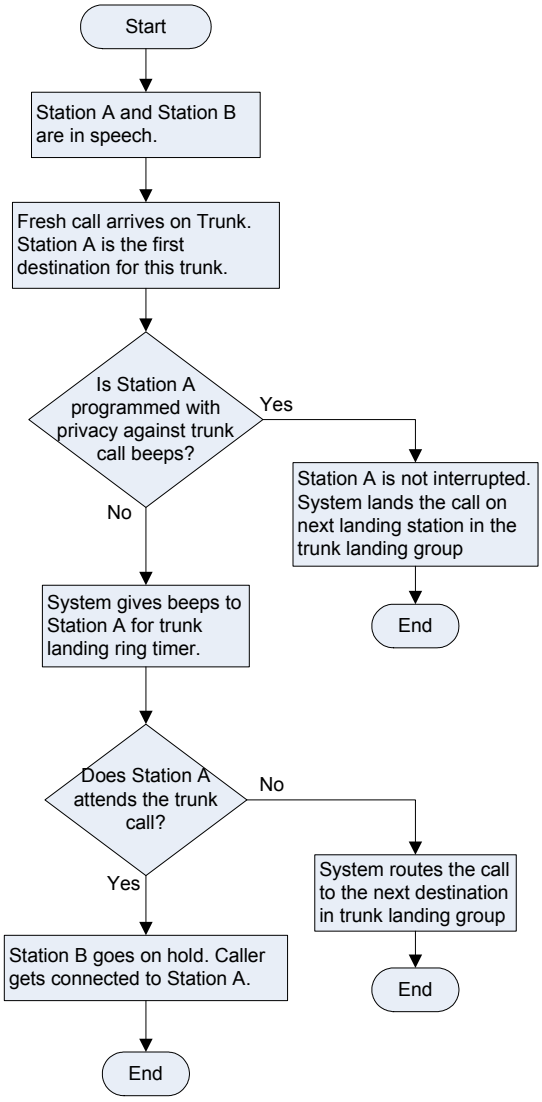
How it works?

Following flow charts depicts the series of events in which it works.

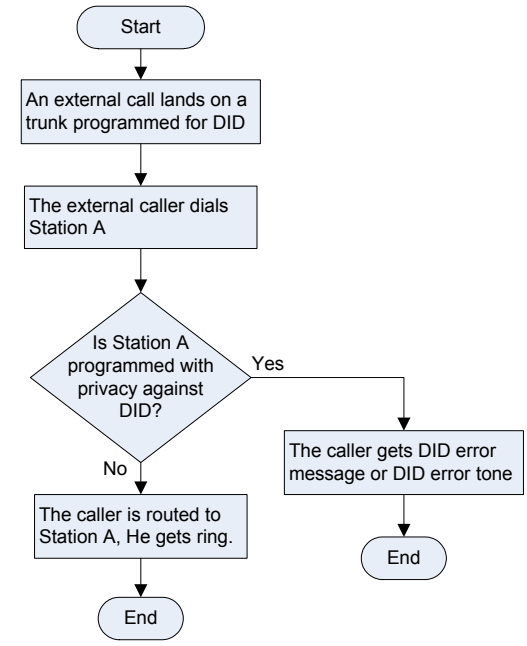
Privacy from Interrupt/Barge-In/Raid



Privacy from Trunk Calls



Privacy from DID Calls



How to program?

Call Privacy is a programmable feature. Please refer Class of Service (COS) for details on how to allow Call Privacy to a user.

Example:
Program station 21 such that no other station can Raid it.
Assign it a Class of Service group with call Privacy-Raid enabled.

Relevant Topic:
1. Class of Service (COS) 57

=X=X=

Programming the System

What's this?

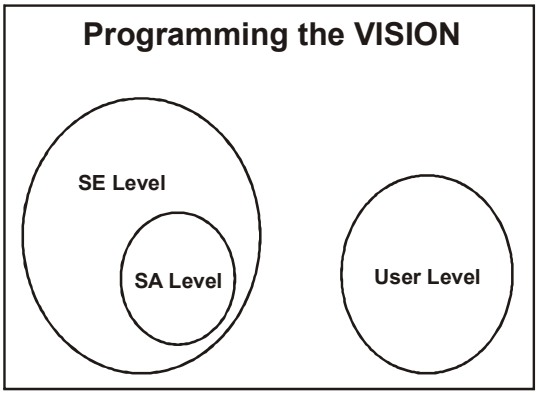
VISION is a flexible system and can be programmed to suit your needs. Programming can be done at three levels:

- System Engineer Level
  At this level, System Engineer does the programming. This is called System Engineer mode.
- System Administrator Level
  At this level, System Administrator does the programming. This is called System Administrator mode.
- User Level
  At this level, User does the programming for himself for features like Alarms, Personal memory. For more details, please refer respective chapters.

VISION has fixed number of station ports and trunk ports each port has a hardware port, a software port and a flexible number associated to it. Following table clarifies this in more details.

Flexible Number (Default)	Hardware Port Number	Software Port Number
21	01	00
22	02	01
23	03	02
24	04	03
25	05	04
26	06	05
27	07	06
28	08	07
29	09	08

- All the programming either from SE/SA mode is based on software port. Whereas the user programming like Personal Memory, Dynamic Lock, etc. is based on flexible number.
- Hardware port number is not used anywhere.
- A software port number can be assigned any flexible number.
- The relation between hardware and software port is fixed and not programmable.



How it works?

System Engineer (SE) Mode

- SE mode allows SE to program the system for main basic functions like assigning flexible numbers to the stations, programming destinations for trunk lines, Activation of DOSA facility on few lines, assigning feature access levels to stations, etc.
- In this mode, only SE can do programming.
- All the commands are allowed from SE mode.
- This mode is password protected so that no other person can make any unauthorized alterations and subsequent misuse of features and facilities.
- System engineer is a person who programs the system as per the need. He is the person who makes major alternations in the system. No other person can change the system settings without his knowledge provided the password is kept secret. Depending upon the organization structure, a person is designated as system engineer.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***1#91-SE Password.***	Programming tone

- SE password is 4-digit secret code used to avoid unauthorized access to SE mode.
- ***By default, SE password is 1234.***
- In case the SE password is forgotten, the same can be set to its default value. For more details, please refer chapter 'System Security (Passwords)'.
- System gives programming tone on entering SE mode.
- If the SE password is not entered correctly, system gives error tone.
- Only one person can enter SE mode at a time.
- To exit SE, dial '**00**' from the programming tone. You get Matrix dial tone.

System Administrator (SA) Mode

- SA mode allows SA to change few system settings without entering the SE mode. It is a subset of the full blown SE mode and hence supports only a few programming commands.
- In this mode, only SA or SE can do programming.
- This mode is password protected so that no other person can make any unauthorized alterations and subsequent misuse of features and facilities.
- System Administrator is a person who carries out routine jobs like taking SMDR printouts, making operator absent/ present, etc. Generally an operator in an organization is selected as a System Administrator.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***1#92-SA Password.***	Programming tone

- SA password is a 4-digit secret code used to avoid unauthorized access to SA mode.
- ***By default, SA password is 1111.***
- In case the SA password is forgotten, the same can be set to its default value from the System Engineer (SE) mode.
- System gives programming tone on entering SA mode.
- If the SA password is not entered correctly, system gives error tone.
- Only one person can enter SA mode at a time.
- To exit SA, dial '***00***' from the programming tone. You get Matrix dial tone.
- Following programming commands are allowed from the SA mode:
  - SMDR Reports Printing Commands.
  - Day to Night and Night to Day switching command. (if programmed in manual mode).
  - Configuration Reports commands.
  - Scheduled Dialing Number string command.
  - Internet Ready Port command.
  - Global Abbreviated Dialing command.

Important Points:

- Programming can be done at the site from any station without opening the system. However, the station from which programming is to be done should access to programming mode.
- Station 21 is always given access to programming mode.
- System can also be programmed from a remote end from anywhere in the world. For more details, please refer chapter Remote Programming.
- Programming is accomplished by dialing separate codes (string of digits) for different settings. This eliminates need for entering long and confusing programming sequences. Programming commands are broken into two parts: Codes and Values.
- The system continues to function normally even during programming. This allows the SE or SA to change the settings without disturbing any communication.
- The SE mode and the SA mode are password protected so that no other person can make any unauthorized alterations and subsequent misuse of features and facilities.

Steps for programming

It is advisable to program the system in following hierarchy. One may skip undesirable features' programming.

- Real Time Clock (RTC) 137
- Time Table 167
- Flexible Numbers 101
- Class of Service (COS) 57

- Trunk Access Groups 173
- Toll Control 169
- Call Pick Up 45
- Station Group 151
- Privacy 124
- Trunk Parameters 181
- Direct Inward Dialing (DID) 81
- Least Cost Routing (LCR) 111
- Trunk Landing Groups 178
- Calling Line Identification and Presentation (CLIP) 53
- Operator 121
- Station Message Detail Recording 155
- Direct Outward System Access 86
- Voice Message Applications 186
- Department Call 76
- Paging 122
- External Call Forward (ECF) 97

Relevant Topics:

1. System Security (Passwords) 166
2. Remote Programming 143

=X=X=

Programming using Phone Wizard

What's this?

- Matrix supports a special mode for quickly programming some of the Basic Features like Setting Current Date, Setting Current Time etc of VISION. This is called Phone Wizard.
- These basic programming parameters and other parameters for advanced programming of features like DID, DOSA, etc with default values are also provided in other chapters.

How it works?

- Like normal programming method, it will be required to enter the programming mode to start programming. For Phone Wizard Programming mode, SE Programming should be allowed from COS (Class of Service)
- Wizard Programming mode can be entered from station-21 irrespective of COS.
- Wizard command can be of 2 or 3 digits.
- Wizard Exit command is "0".

How to program?

- To enter programming mode, dial:
  1#98-SE Password. Default password is '1234'.

The Wizard consists of commands for following parameters:
- System Parameters
- Extension Parameters
- Trunk Parameters

System Parameters
Following parameters are programmed:
- Set Current Date
- Set Current Time
- Set New SE Password
- Set New SA Password

Set Current Date
Command: ***27-Date-Month-Year-Day***
Where,
Date is from 01 to 31, Month is from 01 to12, Year is from 00 to 99 (Base year is '2000'. Enter '07' for year '2007')
Day is from 1 to 7 (1 = Sunday)
For details, please refer chapter Real Time Clock (RTC).

Example:
To program the system for date, day and year say
14-12-2007,
Dial ***27-14-12-07-6***

Set Current Time
Command: ***28-Hour-Minute***
Where,
Hour is from 00 to 23.
Minute is from 00 to 59.

Time has three parameters: hour, minute and seconds. Above command has only two parameters. Third parameter will be taken as '00' whenever new time is programmed.
For details, please refer chapter Real Time Clock (RTC).

Example:
To program system for time of 17:00 hours,
Dial ***28-1700***

Set New SE Password
Command: ***291-New SE Password***
Where,
SE Password is a 4 digits number string.

Valid digits are from 0-9. SE password can not be less than 4 digits.
For details, please refer chapter System Security (Passwords).

Example:
To change the SE Password from '1234' to '6789',
Dial ***291-6789.***

Set New SA Password
Command: ***292-New SA Password***
Where,
SA Password is a 4 digits number string.
Valid digits are from 0-9. SA password can not be less than 4 digits.
For details, please refer chapter System Security (Passwords).

Example:
To change the SA Password from '1111' to '3456',
Dial ***292-3456***

Extension Parameters
Following parameters are programmed:
- Class Of Service
- Toll Control
- Clear All The Features
- Flash Timer For Extension
- Flexible Number
- Operator Extension

Class of Service (COS)
Command: 31-Ext-Day COS Group-Night COS Group
Command for All Extensions: ***31-*-Day COS Group-Night COS Group***
Where,
Ext is flexible number of the extension. Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4 digits.
Day COS group is from 0 to 7
Night COS Group is from 0 to 7
For details, please refer chapter Class of Service (COS).
When above chapter is used, separate commands are used to assign Day time COS and Night time COS to a Station.

Example:
To assign COS group '4' for Day time and '6' for Night time to the Extension '23' use following command:
31-23-4-6

Toll Control
Command: ***32-Ext-Day AL/DL List-Night AL/DL List***
Command for All extensions: ***32-*-Day AL/DL List - Night AL/DL List***
Where,
Ext is flexible number of the extension. Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4 digits.
Allowed List (AL) is from 0 to 7.
Denied List (DL) is from 0 to 7.
For details, please refer chapter Toll Control.

Example:
To program AL/DL List number 3 for Day time and 4 for Night time for extension '25':
Dial ***32-25-3-4***

Clear All the Features
Command: ***343-Ext***
Where,
Ext is the flexible number of a extension. Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4 digits.

This is same as using Access code '100'. But this code can be use by a user whereas command '343' can be used by SE only.
For details, please refer chapter Cancel Station Features.

Flash Timer for Extension
Command: 36-Ext-Flash Timer Count
Command for All Extensions: ***36-*-Flash Timer Count***
Where,
Ext is the flexible number of an extension. Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4 digits
Flash Timer Count is from 3 to 9 (Count 1 implies 100ms) i.e Flash Timer Count is 6 then Flash timer is 600ms.
For details, please refer chapter Flash Timer.

Example:
To program Flash timer of 800ms for Extension 25:
Dial ***36-25-8***

Flexible Number
Command: ***37-Software Port No.-Flexible Number-#****
Command to load Default Flexible Numbers: ***37-*-0***
Where,
Software Port number is from 00-08.
Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4. Two stations can not have the same flexible number.
For details, please refer chapter Flexible Numbers.

Example:
To assign Software port number 13 for the Flexible number 25,
Dial ***37-13-25-#****

Operator Extension
Command: ***391-Ext***
Where,
Ext is the flexible number of an extension. Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4 digits.
For details, please refer chapter Operator.

Example:
To program extension 25 as an Operator Extension,
Dial ***391-25***.

Trunk Parameters
Following parameters are programmed:
- Enable/Disable And Dial Type
- DID On/Off
- DOSA On/Off
- Trunk Landing Destination For Day Mode
- Trunk Landing Destination For Night Mode
- Hunt Timer
- Hunting Scheme

Enable/Disable and Dial Type
Command: ***41-Trunk-Enable/Disable Flag- Dial Type***
Command for All Trunks: ***41-*-Enable/Disable Flag- Dial Type***
Where,
Trunk is from 0 to 2.
Enable/Disable flag
0 : Disable
1 : Enable

Dial type can be Pulse or Tone type
0 : Pulse

1 : Tone.
For details, please refer chapter Trunk Parameters.

Example:
To Enable the trunk-2 and program it for Dialing type as 'Pulse type',
Dial ***41-2-1-0***

DID On/Off
Command: ***43-Trunk-Day Code-Night Code***
Where,
Trunk is from 0 to 2
Day code/Night Code
0 : Disable
1 : Enable
For details, please refer chapter Direct Inward Dialing (DID).

Example:
To program the Trunk-2 for not allowing DID facility in Day time and allowing only during Night time,
Dial ***43-2-0-1***

DOSA On/Off
Command: ***45-Trunk-Day Code-Night Code***
Where,
Trunk is from 0 to 2.
Day Code/Night Code
0 : Disable
1 : Enable
For details, please refer chapter Direct Outward System Access.

Example:
To program the Trunk-2 for not allowing DOSA facility in Day time and allowing only during Night time,
Dial ***45-2-0-1***

Trunk Landing Destination for Day Mode
Command: ***47-Trunk-Ext1-Ext2-Ext3-Ext4***
Command for All Trunks: ***47-*-Ext1-Ext2-Ext3-Ext4***
Where,
Trunk is from 0 to 2.
Ext1 to Ext4 are the flexible numbers. Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4 digits. Maximum four destinations can be programmed for one trunk.
For details, please refer chapters Station Group and Trunk Landing Groups.

Example:
To assign Extension numbers 21,22 and 23 as Trunk landing extensions for a Trunk 1 for Day Time, Dial
47-1- 21-22-23

Trunk Landing Destination for Night Mode
Command: ***48-Trunk-Ext1-Ext2-Ext3-Ext4***
Command for All Trunks: ***48-*-Ext1-Ext2-Ext3-Ext4***
Where,
Trunk is from 0 to 2.
Ext1 to Ext4 are the flexible numbers. Flexible number is a 4 digit number string. Flexible number can be of 1,2,3 or 4.
For details, please refer chapters Station Group and Trunk Landing Groups.

Example:
To assign Extension numbers 24, 25, as Trunk landing extensions for a Trunk 1 for Night Time, Dial
48-1-24-25

Hunt Timer
Command: 212-Timer
Where,
Timer is from 01-99 seconds.

For details, please refer chapter Station Group.

Notes:
- Hunt Timer is defined as the 'Time' for which an Extension rings when a call lands on that station. It is similar to parameter, 'ring timer'. On expiry of this 'Time', next station of the Station Group assigned to the Trunk will ring.
- For example, Maximum four stations can be programmed for one trunk. Now if the CO office gives ring for 90 seconds and the Hunt Timer programmed is 18 seconds; then all four stations will get ring for 18 seconds each. Refer command '46' for more detail. Default is 18 seconds.

Example:
To program the time for Hunt timer as 20 second,
Dial ***212-20***

Hunting Scheme
Command: ***46-Trunk-Day Hunting Scheme-Night Hunting Scheme***
Command for All Trunks: ***46-*-Day Hunting Scheme-Night Hunting Scheme***
Where,
Trunk is from 0 to 2.
Hunting Scheme is from 0 to 3.
0 : Hunting Off
1 : Round Robin
2 : Delayed Simultaneous
3 : Immediate Simultaneous
For details, please refer chapters Station Group and Trunk Landing Groups.

Different hunting schemes are explained below:
Hunting Off: The call lands on the programmed extension and only that extension would ring.

Round Robin: The call lands on the programmed extension, rings on that extension for time = hunt timer, then it goes to next defined extension, again rings there for time = hunt timer and so on. Hence, this scheme is called routing robin.

Delayed Simultaneous: The call lands on programmed extension, the extension rings for time = hunt timer. Then all the extensions starts till the call is answered. The call can be answered from any of the ringing extensions.

Immediate Simultaneous: The call lands on programmed extensions and all the extensions start ringing simultaneously till the call is answered. Any extension can answer the call.

Example:
To program the system so that the call on trunk-1 lands in round robin fashion on programmed extensions during daytime and lands simultaneously on these extensions during night time, Dial
46-1-1-3

=X=X=

Raid

What's this?

- Without knowledge of the called busy station, one can enter his conversation by using this feature.
- The raided station does not come to know that it has be raided unless the person who has raided speaks something.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***Station.***	Busy tone
3	Dial ***4.***	Speech.
4	Start talking.	

How to program?

Raid is a programmable feature. Please refer Class of Service (COS) for details on how to allow Raid to a user.

Important Point:
- If a station is programmed with privacy against raid, it cannot be raided. Please refer Privacy for details.

CAUTION!
Raid is a sensitive feature. The System Engineer should restrict access to this feature. If a user is allowed the access to raid, he should use this responsibly.

Relevant Topics:
1. Class of Service (COS) 57
2. Privacy 124

=X=X=

Real Time Clock (RTC)

What's this?

Various features and facilities provided by the VISION use date and time parameters. Such facilities work properly only if the system is set with correct date and time values. These features are:

- Alarms
- SMDR
- Time Table

The VISION is equipped with built in Real Time Clock (RTC) circuit. This circuit is to be set once with current date, day and time values. It then updates itself regularly to keep track of the parameters. However, please note that the RTC circuit can drift over a long period. Hence it is recommended to check and reset RTC values at least once every month to correct this drift.

How to program?

Use following command to set date parameters:
1001-Date-Month-Year
Where,
Date = 01 to 31 (leading zero must in case of single digit date).
Month = 01 to 12 (leading zero must in case of single digit month).
Year = Year in two digits from 00 to 99.

Use following command to set day of the week:
1002-Day
Where,

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7

Use following command to set time:
1003-Hours-Minutes
Where
Hours = Hours in 24-hours format in two digits from 00 to 23 (leading zero must).
Minutes = Minutes in two digits from 00 to 59 (leading zero must).

Example:
Set the system with 1st April 2003, Monday at 9:00AM.

Use following commands:
1001-01-04-03
1002-2
1003-0900

=X=X=

Relay Port

What's this?

- VISION provides one non-energized relay port, which can be, switched ON/OFF manually or automatically.
- The relay port can be operated locally as well as remotely.
- The external device that can be operated by this relay port should conform to the specifications of this port.
- In practical use, a load of 80-100W like a fluorescent tube-light, incandescent lamp, etc. can be operated directly through this port without the need of a contactor.
- If heavy-duty devices like a 3-phase Water Pump, Air-Conditioner, Neon Lamps, etc. is to be operated through this port then a contactor of adequate rating should be used.
- VISION remembers the state of relay during power failure. Suppose, a water pump is being controlled using this feature and if while it is running, power failure occurs then the operator need not turn the water pump again on restoration. VISION will retain the last state and will switch ON the water pump on power restoration.

How it works?

- Relay Port deactivated.
- Total Manual.
- Duration based Auto OFF.
- Duration based Auto ON.
- Duration based Auto ON and Duration based Auto OFF.
- Time based Auto OFF.
- Time based Auto ON.
- Time based Total Auto.

The switching mechanism and application of each mode is given in the table below:

Mode Type	Switch ON Mechanism	Switch OFF Mechanism	Application
Relay Port Deactivated	--	--	No Activity.
Total Manual	Manual	Manual	Any gadget can be operated at any time as per the requirement. A typical application could be switching ON/OFF office lights.
Duration based Auto OFF	Manual	Automatic	A gadget can be switched ON manually and switched OFF automatically after some programmed time once the command is issued. A typical application could be doorlock.
Duration based Auto ON	Automatic	Manual	A gadget can be switched ON automatically and switched OFF manually. A typical application could be turning ON Air-Conditioner in the office. The user can issue command to switch ON the AC after some programmed time since the command is issued.
Duration based Auto ON/OFF	Automatic	Automatic	A gadget can be switched ON and OFF based on duration on based Auto ON and Auto OFF Timer. Typical application could be fancy lights operated during festivals.
Time based Auto OFF	Manual	Automatic	A gadget can be switched ON manually and switched OFF automatically as per reply port timetable. Typical application could be glow-sign board. Generally, glow-sign boards are switched OFF at midnight irrespective of when they are switched ON.
Time based Auto ON	Automatic	Manual	A gadget can be switched ON automatically as per the relay port timetable and switched OFF manually. Typical application could be porch lights. Porch Lights can be switched ON at a set time easily in the morning and can be switched OFF when required.
Time based Total Auto	Automatic	Automatic	A gadget can be switched ON and OFF as per the relay port timetable. Typical application could be School Bell.

- In duration based Auto ON, the duration timer starts immediately on completion of command.
- In duration based Auto OFF, the duration timer starts on getting manual ON command.
- The relay port has a Dual Pole Dual Throw (DPDT) type of relay. However it is used as single pole dual throw relay (SPDT). As shown in the figure in normal condition the contact terminal (pole) of the relay rests on 'NO' terminal (If relay port is programmed as active high.), which is NC (not connected to any other part of circuit). When the user issues a command to turn ON the relay, the coil of this relay gets energized, which throws the contact terminal (pole)

of the relay to ‘NC’ terminal. This closes the path as shown in figure 2 and turn ON the device connected to it or energized the coil of the contactor, as the case may be. When the user issues a command to turn OFF the relay, the coil gets de-energized which throws the contact terminal to `NO’ position. This opens the circuit path, which in turn, turns OFF the device connected to it.

Figures shown below depicts the operation of Relay Port:

Figure 1: Switch OFF Condition

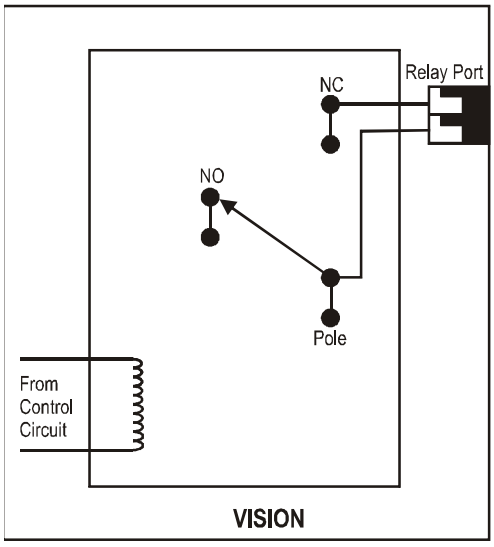
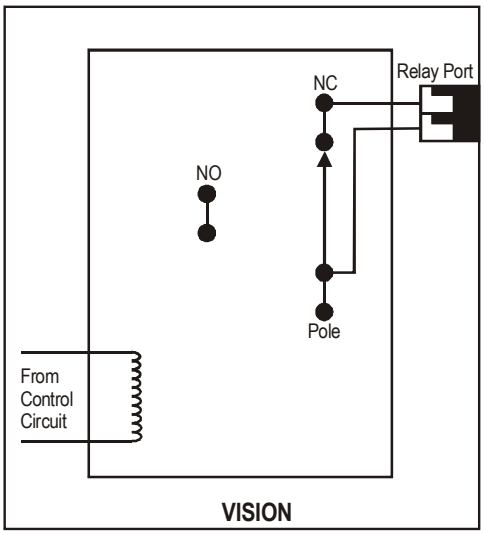


Figure 2: Switch ON Condition



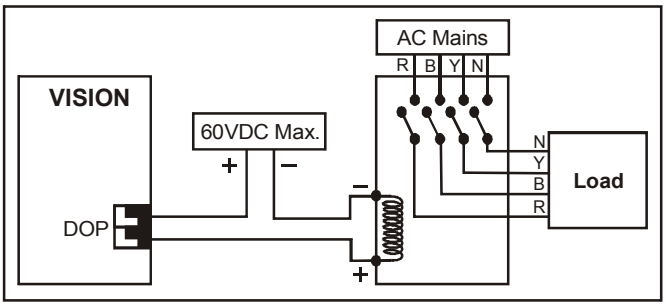
How to use it?

1	Lift the handset.	Dial tone
2	Dial ***3990*** (Relay OFF).	Confirmation tone
3	Dial ***3991*** (Relay ON).	Confirmation tone

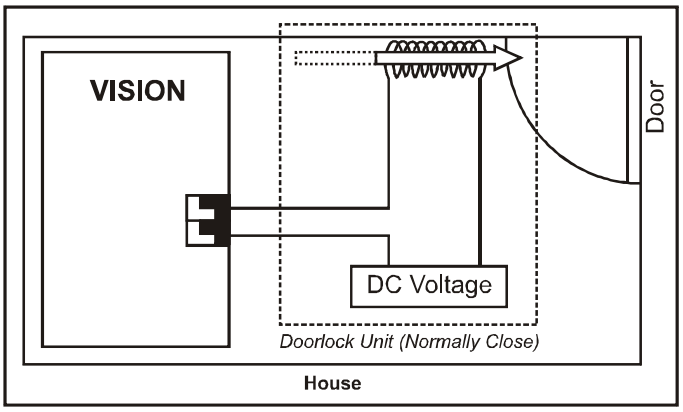
The above commands are applicable only when relay port is programmed for any of the mode. Total manual, duration based Auto OFF, Duration based Auto ON, time based Auto ON, Time based Auto OFF.

How to connect external devices to relay port?

A 3-Phase load can be connected to the Relay Port as shown below:



A door lock should be connected to the relay port as shown below:



Technical specifications of relay port:

- The external devices that can be operated by this relay port should conform to the specifications of it.
- The specifications of these relay ports are given below:

Contact Arrangement	1 Normally Open
Contact Rating (Resistive Load)	24VDC@2A, 120VAC@1.0A
Maximum Switching Voltage	120VAC, 60VDC
Operate Time	10ms
Release Time	10ms
Expected Electrical life	100,000 Operations
Expected Mechanical life	10,000,000 Operations

How to program?

Step 1: Program mode of operation of relay port using command ***1801.***
Step 2: Program 'ON' time in relay port table using command ***1802.***
Step 3: Program 'OFF' time in relay port table using command ***1803.***
Step 4: Program the relay port 'ON' duration timer using command ***3036.***
Step 5: Program the relay port 'OFF' duration timer using command ***3037.***
Step 6: Operate the relay if programmed for total or partial manual mode using command ***3990*** and ***3991.***

Step 1

Use following command to program the mode of the relay port:
1801-Mode
Where,

Mode	Mode Type
0	Relay Port Deactivated
1	Total Manual
2	Duration Based Auto OFF
3	Duration Based Auto ON
4	Duration Based Auto ON and Duration Based Auto OFF
5	Time Based Auto OFF
6	Time Based Auto ON

Mode	Mode Type
7	Time Based Total Auto

By default, Relay port is programmed for manual operation.

Step 2

Use following command to program the ON time in the relay port table:
1802-1-Index-Switch ON Time
Where,
Index is from 00 to 23.
Switch ON Time is in HH-MM-SS, 24-hour format.

Use following command to clear an ON time entry from the relay port table:
1802-1-Index-#
Where,
Index is from 00 to 23.

Use following command to clear all the ON time entries from the relay port table:
1802-*-#

Step 3

Use following command to program OFF time in the relay port table:
1803-1-Index-Switch OFF Time
Where,
Index is from 00 to 23.
Switch OFF Time is in HH-MM-SS, 24 hour format.

Please note that OFF time should be greater than ON time. Also the system makes each entry in ascending order of time i.e. morning activities time should be programmed before evening time activities.

Use following command to clear an OFF time entry from the relay port table:
1803-1-Index-#
Where,
Index is from 00 to 23.

Use following command to clear all the OFF time entries from the relay port table:
1803-*-#

On using commands, the relay port table would look as shown below:

Index	Switch ON Time	Switch OFF Time
00	HH:MM:SS	HH:MM:SS
01	HH:MM:SS	HH:MM:SS
02	HH:MM:SS	HH:MM:SS
03	HH:MM:SS	HH:MM:SS
:	:	:
23	HH:MM:SS	HH:MM:SS

Step 4

Use following command to program relay port ‘ON’ duration timer:
3036-Seconds
Where,
Seconds is from 000 to 255.
By default, Relay port ‘ON’ duration timer is 60 seconds.

Step 5

Use following command to program relay port ‘OFF’ duration timer:
3037-Seconds
Where,
Seconds is from 000 to 255.
By default, Relay port ‘OFF’ duration timer is 60 secs.

Step 6
Use following command to operate relay if used in total manual/Partial manual mode:
***3990*:** To turn OFF the relay.
***3991*:** To turn ON the relay.

Example:
Program VISION for following constraints:
A school wants to ring the school bell at following times:

ON Time	OFF Time
07:00:00	07:00:45
07:20:00	07:20:30
08:00:00	08:00:30
08:30:00	08:30:30
09:00:00	09:00:30
09:30:00	09:30:45
10:15:00	10:15:45
10:45:00	10:45:30
11:15:00	11:15:30
11:45:00	11:45:30
12:15:00	12:15:45

Issue following commands:
1801-7

1802-1-00-070000
1802-1-01-072000
1802-1-02-080000
1802-1-03-083000
1802-1-04-090000
1802-1-05-093000
1802-1-06-101500
1802-1-07-104500
1802-1-08-111500
1802-1-09-114500
1802-1-10-121500

1803-1-00-070045
1803-1-01-072030
1803-1-02-080030
1803-1-03-083030
1803-1-04-090030
1803-1-05-093045
1803-1-06-101545
1803-1-07-104530
1803-1-08-111530
1803-1-09-114530
1803-1-10-121545

Relevant Topics:
1. Real Time Clock (RTC) 137
2. Class of Service (COS) 57

=X=X=

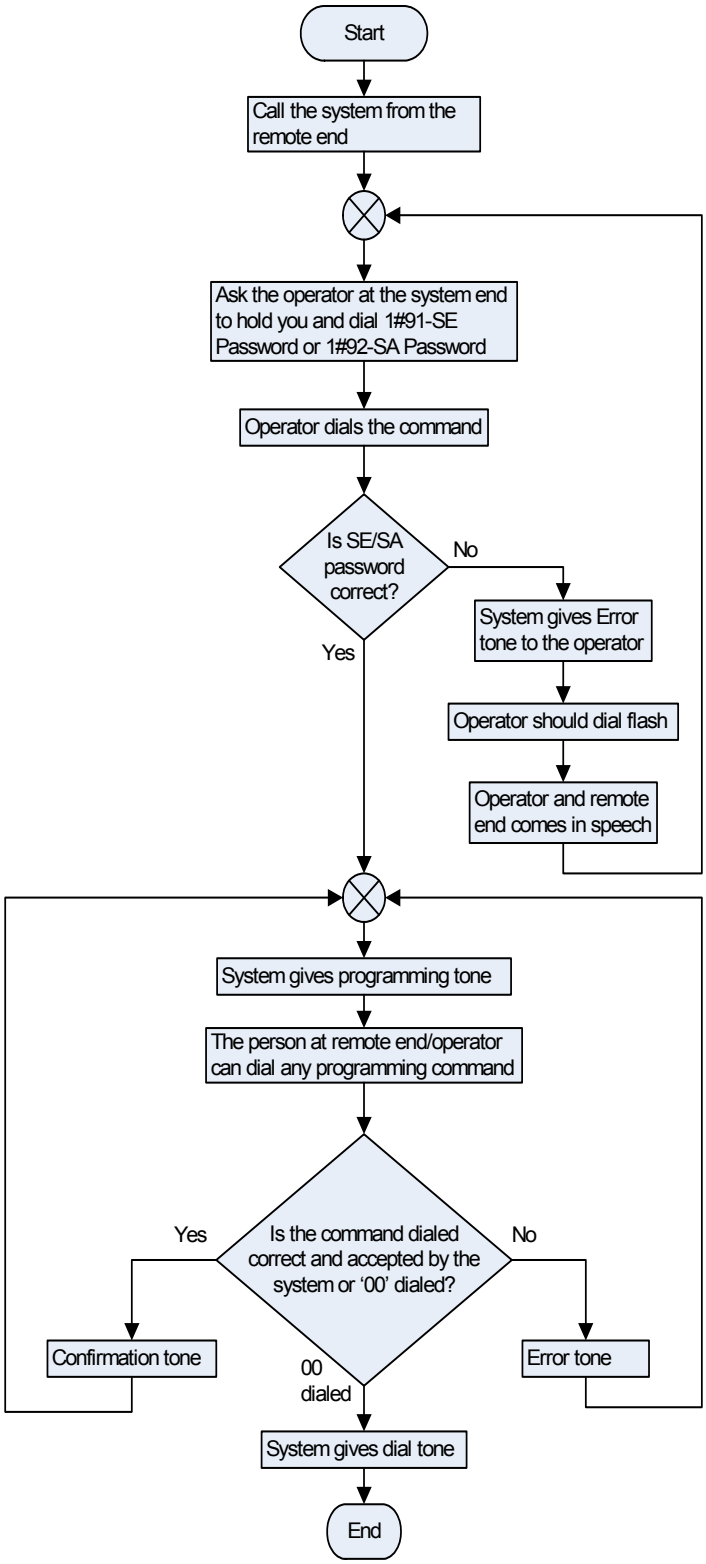
Remote Programming

What's this?

One can program VISION from any remote location. The remote user can program the system using the same commands as used by a normal local station to program the system.

How it works?

Following flow chart depicts the process:



Important Point:

- When ‘00’ is dialed to come out of SE mode the remote end goes on hold. The operator at the system end should dial ‘***Flash***’ to retrieve the remote end.

Relevant Topic:

1. Programming the System 128

=X=X=

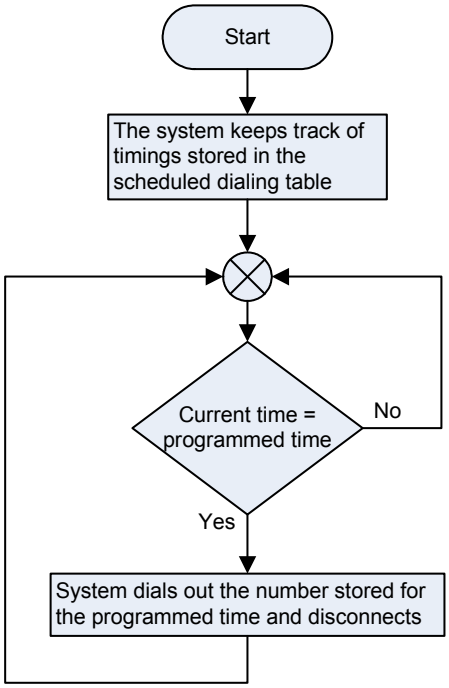
Scheduled Dialing

What's this?

- The system can be programmed to dial out a pre-defined number on a trunk at a programmed time.
- Eight different numbers can be dialled out at a pre-set time.
- This facility is of great use in offices, house, work-place, etc. where people tend to forget locking the out dial facility, long distance dialing facility on their trunk line after making a call. This facility can be used to dial out the locking codes for out-dial facility, long distance dialing facility, etc. The lock codes for these facilities should be programmed in the system along with the time at which these codes should be dialled out.

How it works?

Following flowchart explains how this feature works:



How to program?

Step 1: Program a number to be dialed in the Scheduled Dialing table using command ***2002.***
Step 2: Program the trunk access group to be used to dial the number programmed using command ***2003.***
Step 3: Program the time at which the number is to be dialed using command ***2004.***
Step 4: Default all the parameters of the Scheduled dialing using command ***2001*** (if required).

On using above commands, a table shown below is formed:

No. Index	Number	TAG	Time
0	1611912112	0	09:00
1	1611912111	0	18:00
:	:	:	:
7	:	:	:

Step 1

Use following command to program a number in the scheduled dialing table:
2002-1-Number Index-Number-#*
Where,
Number Index is from 0 to 7 (Maximum eight different numbers can be dialed).
Number is the number to be dialed. The number can have maximum 16 digits.

Use following command to clear all the numbers in the scheduled dialing table:
2002-*-#

Step 2
Use following command to program trunk access group for the number to be dialed out:
2003-1-Number Index-Trunk Access Group
Where,
Number Index is from 0 to 7.
Trunk Access Group is from 0 to 7.

Step 3
Use following command to program time at which the number is to be dialed out:
2004-1-Number Index-Time
Where,
Number Index is from 0 to 7.
Time is in Hour-Minute, 24-hour format.

Step 4
Use following command to default all the parameters related to Scheduled dialing:
2001-#

By default:
- ***No numbers are programmed in the Scheduled dialing table.***
- ***Trunk Access Group = 0.***
- ***Scheduled Time = 00:00.***

Important Points:
- If this facility is used to lock the STD facility on the trunk line. Then it is advisable to program only one trunk with STD facility in the trunk access group because while dialing out the number the system selects the free trunk from the trunk access group.
- To know programming details, please refer Configuration Report.

Relevant Topics:
1. Real Time Clock (RTC) 137
2. Trunk Access Groups 173

=X=X=

Security Dialer

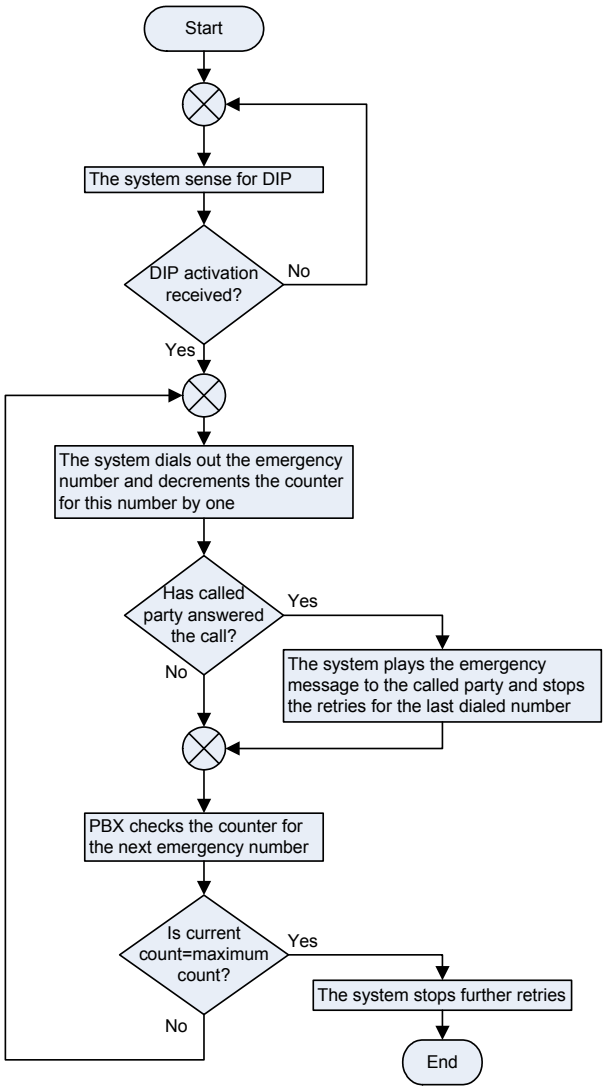
What's this?

- The VISION offers a security feature, which dials out three different numbers one by one in case of emergency. In each case, when the called party answers the call, it delivers a pre-recorded message. This feature is called 'Security Dialer'.
- This feature finds its application in Banks, Offices, Departmental stores, Houses, Commercial places, Schools, etc.

How it works?
To accomplish this feature, the VISION supports a Digital Input Port marked 'DIP' on the MDF. An Emergency switch, output of a Smoke detector, Glass break detector, Fire Alarm, etc. can be connected as an activator. Whenever the DIP gets activated, the VISION considers it to be an emergency condition and dials out a number assigned for Emergency situation. When the called party answers the call, the VISION delivers a pre-recorded Emergency message. If the called party is busy, the system tries another Emergency number and tries to deliver emergency message. This is repeated for all the three emergency numbers. If the Emergency message is delivered to all the emergency numbers, and the acknowledgment is obtained this activity is suspended otherwise the system keeps trying all the unserved requests for programmed number of trials. The system considers the request to be served when the called party answers the call, and gives acknowledgment.

This feature could be of great help in Banks. When the Banks are raided by the burglars, all the employees of the bank are made standstill. In such a situation, if the cashier presses the Emergency Alarm (which could be placed quite close to the cashier), the burglars would not come to know whereas the system would dial out the Emergency number, which could be of Police, Security Agency and another branch office.

Following flowchart explains this in more detail:



How to program?
Step 1: Enable/disable the DIP using command ***1901.***
Step 2: Program the DIP as Active High/Active Low using command ***1902.***
Step 3: Program the trunk access group for making external call using command ***1903.***
Step 4: Program the emergency phone number where the call is to be made using command ***1904.***
Step 5: Program the number of trials to be made for one emergency number using command ***3038.***
Step 6: Program the time gap after which the system should try another number using command ***3039.***
Step 7: Assign a voice module part containing Emergency message foe DIP application.

Step 1
Use following command to active/inactive DIP:
1901-Code
Where,

Code	Meaning
0	DIP is inactivate
1	DIP is active

Step 2
- Dip port can be programmed as Active high or Active low depending upon the application.
- 'Active High' state signifies that the DIP is normally close. This contact can be opened by giving a command or automatically as per the programmed timings or by any emergency activation.
- 'Active Low' state signifies that the DIP is normally open. This contact can be closed by giving a command or automatically.

Use following command to program the DIP as Active High or Active Low:
1902-Code
Where,

Code	Meaning
0	DIP programmed as Active Low
1	DIP programmed as Active High

Step 3
Use following command to assign a Trunk Access Group to a DIP:
1903-Trunk Access Group
Where,
Trunk Access Group is from 0 to 7.

Step 4
Use following command to program the Emergency phone number where the call is be made:
1904-Index-Emergency Phone Number-#*
Where,
Index is from 0 to 2.
Emergency Phone Number is number string of maximum 16 digits where the call is to be made.

The programming table would look as shown below:

Index	Emergency Number
0	100
1	2631500
2	2781555

Step 5
Use following command to program the number of trials to be made for one emergency number:
3038-Count
Where,
Count is the number of trials to be made for one emergency number from 000 to 255.
By default, 3 trial are made for on emergency number.

Step 6
Use following command to program the time gap between two trials:
3039-Duration
Where,
Duration is the time duration after which the system should try for the next number.
Duration is in minutes from 000 to 255.
By default, system tries for next number after every 1 minute.

Step 7
Please refer 'Voice Message Applications' on how to assign an Emergency message for DIP Application.

Important Points:
- This feature works on tone sensing. It is possible that there could be lot of disturbances on the trunk line and tones may not be sensed properly. In such case, it is possible that the system might consider an immature call as a served request. Hence it is advisable to install dedicated security devices to ensure 100% security.
- If three emergency numbers are programmed then the system first tries the first number. Then after the programmed time duration, it tries second number. If all three numbers are found busy then system starts a fresh from first number again.
- ***If the called party dials '0' during the message, the system considers it to be an acknowledgment and suspends dialing that particular emergency number.***
- To know programming details, please refer Configuration Report.

Relevant Topic:
1. Voice Message Applications 186

=X=X=

Selective Trunk Access

What's this?

- The station user can access a particular trunk by dialing a code. The VISION provides a facility to assign trunk access code viz. 0, 5, 61 and 62 to a group of trunks. It is possible to program groups containing only one trunk. Thereby, it is possible to access a particular trunk.
- It is possible to access first trunk (L1) by dialing '61', second trunk (L2) by dialing 62 and third trunk (L3) by dialing '5'.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***61 or 62.***	Dial tone of the trunk.
3	Dial desired external number.	

By default, Any of the free trunks can be accessed by dialing '0' or '5'.
By default, L1 can be accessed by dialing 61, L2 can be accessed by dialing 62.

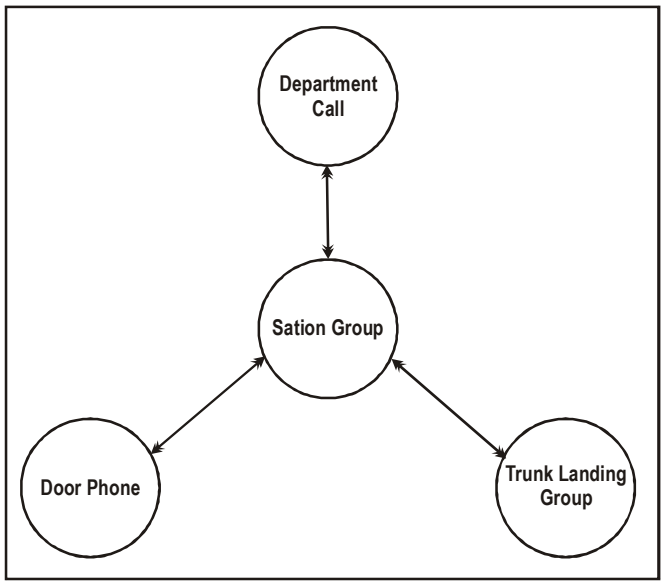
Relevant Topic:
1. Trunk Access Groups 173

=X=X=

Station Group

What's this?

Station group is a group of stations. The destinations in this group can be used as destinations for incoming call or destinations for door phone call or destinations for department call.



A station group can be programmed as trunk landing group or as door phone group or as department group.
Same station group can also be assigned for all the three features viz. Trunk Landing, Department Call and Door Phone.

How it works?

- Maximum sixteen station groups can be formed.
- Maximum 4 stations can be programmed in each station group.
- The time for which each station rings can be programmed.
- The sequence in which various stations in the group should ring can be arranged.
- The number of stations that should ring at a time can be programmed.
- Once a station receives a ring, it can be set to ring continuously till the call matures. Such a station continues ringing even when other stations of the group are hunted. This is called "Continuous" ringing and can be programmed for each station.
- If the call is not answered even after hunting the last station, the system will loop back and start from the first station once again till the ring from the exchange expires.
- A fresh call can start hunting either from the first station of the group or from the station when the terminated previous call. This method is called Rotation Method and can be set for each group. If rotation method is enabled, the fresh call will land on the destination next to the one, which received the last call. This would enable equal distribution of incoming calls to all the destinations within the group. If the rotation method is disabled, the fresh call will always land on first station of the station group.
- Any station can answer the call using call pick up feature.
- Any station group can be programmed as Department group.
- Any station group can be programmed as Doorphone group.
- Any station group can be programmed as Trunk Landing Group.

How to program?

Step 1: Decide the number of station groups to be formed, decide the sequence in which the stations should be arranged. Program these parameters using command ***4702.***
Step 2: Define ring timer for which each station should ring using command ***4703.***
Step 3: Decide whether the station should get continuous ring and program it using command ***4704.***
Step 4: Program the rotation type for the station group using command ***4705.***
Step 5: It is possible to default a station group using command ***4701.***

Each group entry in the station group table looks like:

	Dest0	Dest1	Dest2	Dest3
Station Number				
Ring Timer				
Continuous Ring				
Rotation Method	Yes or No			

Step 1
Use following command to program station group:
4702-1-Station Group-Destination Index-Station
Where,
Station Group is from 00 to 15.
Destination Index is from 0 to 3.
Station is a software port number is from 00 to 08.

Use following command to program same station for all station groups:
4702-*-Destination Index-Station

Step 2
Use following command to program the time for which each station in the group should ring:
4703-1-Station Group-Destination Index-Timer
Where,
Station Group is from 00 to 15.
Destination Index is from 0 to 3.
Timer is in seconds from 00 to 99.

Use following command to program the ring timer for stations with same destination index for all the station groups:
4703-*-Destination Index-Timer

Step 3
Use following command to program continuous or non-continuous ring for a destination in the group:
4704-1-Station Group-Destination Index-Continuous Ring
Where,
Station group is from 00 to 15.
Destination Index is from 0 to 3.

Continuous Ring	Meaning
0	The station rings for the time set
1	The station rings the call matures

Use following command to program continuous or non-continuous ring for stations with same destination index in all the station groups:
4704-*-Destination Index-Continuous Ring

Step 4
Use following command to program rotation method for a station group:
4705-1-Station Group-Rotation Method
Where,
Station group is from 00 to 15.

Rotation Method	Meaning
0	Fresh call should always land on the first station within the group
1	Fresh call lands on station following the rotation method

Use following command to program rotation method for all the station groups:
4705-*-Rotation Method

Step 5
Use following command to assign default stations to a station groups:
4701-1-Station Group-#
Where,

Station group is from 00 to 15.

Use following command to assign default stations to all station groups:
4701-*-#
By default, stations 00 to 03 are available in all Station groups. Ring timer is set to 15. Group rotation is on.

Example 1:
- Program the system for following constraints.
- Marketing department is frequently accessing by callers using DID facility.
- Marketing department in a company has four stations viz. 21, 22, 23 and 24 (s/w ports 00, 01, 02 and 03).
- The stations should ring in a sequence viz. 21, 22, 23, 24.
- Station 21 should ring for 20 seconds.
- If no reply, 21 should continue ringing and 22 should also ring for 10 seconds.
- If no reply, 21 should continue ringing and 23 should also ring for 15 seconds.
- If still no reply, 21 should continue ringing and 24 should also ring for 20 seconds.
- Call traffic should be distributed equally on all four destinations.

The requirement is for department call. Hence a station group for this purpose should be formed.

Use following command:
4702-1-00-0-00
4702-1-00-1-01
4702-1-00-2-02
4702-1-00-3-03
4703-1-00-0-20
4703-1-00-1-10
4703-1-00-2-15
4703-1-00-3-20

4704-1-00-0-1
4704-1-00-1-0
4704-1-00-2-0
4704-1-00-3-0
4705-1-00-1

To program this station group as department group, please refer Department Call.

Example 2:
Program a station group to meet following requirements
- A company has eight stations 21, 22, 23, 24, 25, 26, 27, 28 (Software port numbers 00, 01, 02, 03, 04, 05, 06, 07).
- Call on trunk 1 should land on station 21, 22, 23, 24 in day time and on station 21, 22, 27, 28 in night time.
- In day time, each station should ring for 20 seconds. Calls should always land on station 21 first.
- In night time, station 21 and 22 should ring continuously. Station 27 and 28 should ring for first 30 seconds along with station 21 and 22.

The requirement is for trunk landing. Two station groups one for day time and other for night time should be formed to meet the requirement.

Use following commands:
4702-1-01-0-00
4702-1-01-1-01
4702-1-01-2-02
4702-1-01-3-03

4703-1-01-0-20
4703-1-01-1-20
4703-1-01-2-20
4703-1-01-3-20

4704-1-01-0-0
4704-1-01-1-0
4704-1-01-2-0

4704-1-01-3-0
Refer Trunk Landing Groups to assign a station group to a trunk station group 1 can be assigned to trunk 1 for daytime.

4702-1-02-0-00
4702-1-02-1-01
4702-1-02-2-06
4702-1-02-3-07

4703-1-02-0-30
4703-1-02-1-30
4703-1-02-2-30
4703-1-02-3-30
4704-1-02-0-1
4704-1-02-1-1
4704-1-02-2-0
4704-1-02-3-0

4705-1-02-0

Refer Trunk Landing Groups to assign a station group to a trunk station 2 can be assigned to trunk 2 for night time.

Example 3:
Program a station group for following constraints. Door Phone call should land on station 22, 23, 26, 25. All stations should ring continuously.

Use following commands:
4702-1-03-0-01
4702-1-03-1-02
4702-1-03-2-05
4702-1-03-3-04

4704-1-03-0-1
4704-1-03-1-1
4704-1-03-2-1
4704-1-03-3-1

Please refer Door Phone to assign a station group to Door Phone.

Important Point:
- To know programming details, please refer Configuration Report.

Relevant Topics:
1. Trunk Landing Groups 178
2. Door Phone 92
3. Department Call 76

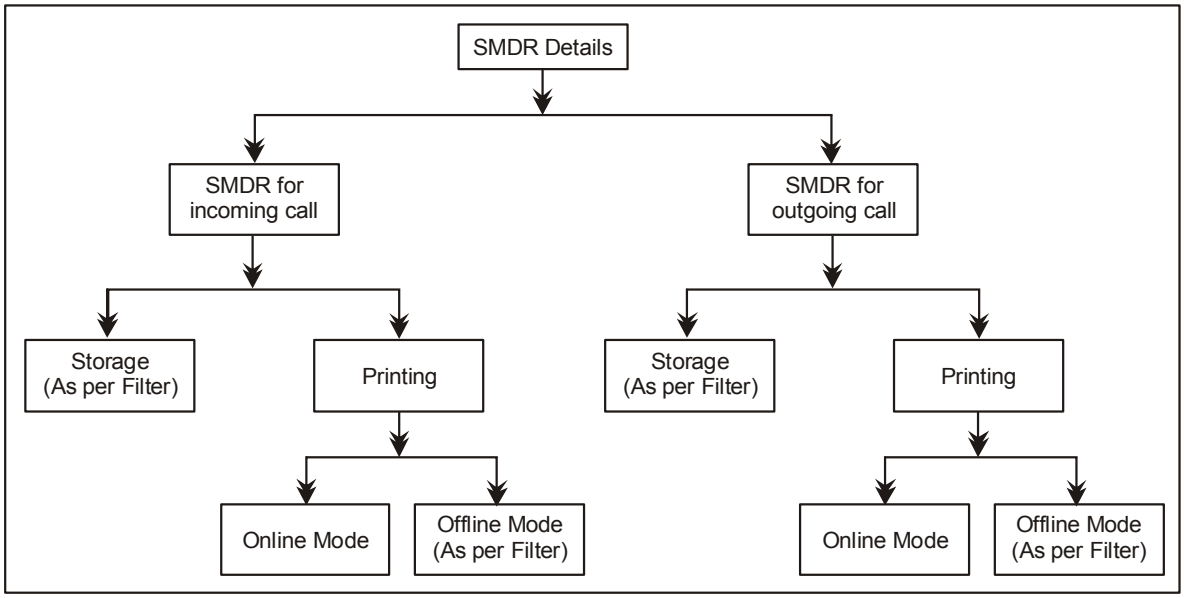
=X=X=

Station Message Detail Recording

What's this?

- VISION can store and print the details of each external call. This includes both outgoing (OG) and incoming (IC) calls.
- VISION can send the details of these calls on the communication port, either immediately on completion of the call (online) or afterwards when desired (offline).

Following diagram shows the logic in which the calls are stored and printed.



How to program and use it?

As known two types of calls are possible: Outgoing call and Incoming call

Outgoing Call

Outgoing calls can be stored and printed in a desired way.

Outgoing calls-Storage

Station message detail recording facility is used to keep records of calls made from the system. SMDR is useful in monitoring and controlling the cost of telephone calls. The VISION can keep track of each call made by any station. Each call is stored in form of a record in the SMDR buffer. One outgoing call occupies one record space in the SMDR buffer. The SMDR buffer data is maintained even during power failures.

It is advisable to take frequent printouts of the calls to avoid inadvertent or accidental loss of the SMDR records. Maximum 500 records can be stored in the SMDR buffer. Once the SMDR buffer is full, fresh call is stored in place of the oldest call in the SMDR buffer. This is known as First In First Out (FIFO) logic.

The SMDR parameters configuration report shows the number of SMDR records in the buffer. The SA or SE can clear the SMDR-OG buffer by using appropriate password from the SA mode. The SA or SE can transfer this data on a computer for storage or printing or further analysis.

Each outgoing call is stored with following fields:

- Serial Number
- Station that made the call
- Trunk line port used for the call
- Number dialed (16 digits)
- Date on while call is made.
- Time at which call is made
- Duration of the call in seconds
- Call type (Normal, DOSA, ECF etc.)

In case of a call transfer from one station to another station, the system stores two calls with same number but different duration for both the stations. This is called ‘Call Splitting’. If call splitting mode is kept on, the cost of the call as per the duration of the call will be added to both the stations.

Commands
Master command: This command enable/disable the storage of outgoing calls depending upon the filters set
Use following command to set SMDR storage flag:
1510-Storage Flag
Where,

Storage Flag	Meaning
0	Don’t store OG calls
1	Store OG calls as per the filer programmed

Use following command to set outgoing call storage to default settings:
1501-#

Default Storage settings:
- All calls are stored.
- Call Splitting is ON.

Filter commands: These commands enables the user to select the type of calls to be stored viz. station wise, trunk wise, destination wise, duration wise or cost wise.
Use following command to store outgoing calls made on particular station:
1511-1-Station-Storage Flag
Where,
Station is from 00 to 08.

Storage Flag	Meaning
0	Don’t store OG calls for this station
1	Store OG calls for this station

Use following command to store outgoing call made on all stations:
1511-*-Storage Flag

Use following command to storage outgoing calls made on particular trunk:
1512-1-Trunk-Storage Flag
Where,
Trunk is the software port number from 0 to 2.

Use following command to store outgoing calls for all the trunks:
1512-*-Storage Flag

Destination number wise

It is to store outgoing calls selectively depending on the destination numbers. The VISION supports a list of 16 numbers. An outgoing call will be stored only if the destination matches with one of the numbers from the list. Thus, it is also possible to store only the international or long distance calls or calls made to an ISP, etc.

The list of 16 numbers looks like:

Storage Flag	Meaning
0	Don’t store OG calls for this trunk
1	Store OG calls for this trunk

Index	Number
00	
01	
:	
15	

Use following command to program a number in the list:
1513-1-Index-Number-#*
Where,
Index is from 00 to 15.
Number is a string of maximum 16 digits.

Use following command to default all the numbers in the list:
1513-*-#

Duration wise

Sometimes it is required to filter out the calls of small durations.
Use following command to set the filter for call duration:
1514-Minutes-Seconds
Where,
Minutes is from 00 to 59.
Seconds is from 00 to 59.

Supportive commands:
If an outgoing call is transferred from one station to another station, it can be stored either as one call or two different calls.
Use following command to decide this:
1515-Call Split Flag
Where,

Call Split Flag	Meaning
0	Store one call
1	Store multiple call

If above option is selected as 'Store One Call'. It is possible to store the call with originating station or terminating station.
Use following command to select appropriate option:
1516-Flag
Where,

Flag	Meaning
0	Store the call at originating station
1	Store the call at terminating station

Use following command to clear SMDR-Outgoing buffer:
1520-Reverse SE Password

Outgoing Calls-Printing

Each SMDR record has following parameters or fields:
- Serial Number.
- Station that made the call.
- Trunk used to make the call.
- Number dialed.
- Date on which the call is made.
- Time at which the call is made.
- Duration of the call in seconds.
- Remark.

"Remark" column indicates following information:

Character	Meaning
N	Normal Call
O	DOSA Call
E	ECF Call
A	Auto Redial

The reports are transferred on a computer through the RS232C (COM) port of the VISION. ASCII format is used for this. The report can be stored modified and printed.

It is also possible to generate these reports as and when the call is made i.e. online printing (provided computer is connected) or offline. The calls are stored in the SMDR buffer in both cases.

Outgoing Printing-Online

Use following command to decide whether online printing is desired:
1530-Code
Where,

Code	Meaning
0	Immediate printing of OG calls OFF
1	Immediate printing of OG calls ON

In online mode whatever is stored is printed.

Outgoing Printing-Offline

Step 1: Set the filters as per requirement.
Step 2: Issue print command.

Various filters can be used to generate a report. These filters enable the user to select the type of calls to be included in the report viz. Calls made by the particular station, calls made on a particular date or calls made between two dates, Long duration calls. It is also possible to generate a report contains calls with desirable combination like calls made by particular station on a particular date for duration greater than 10 minutes.

Header and footer are printed on every page of the report.

Filter	Command
Default printing settings	***1502-#****
	(Online printing is OFF and call are printed)
Call made by a station	***1541-1-Station***
Call made by a range of stations	***1541-2-Station-Station***
Call made by all the stations	***1541-****
	(Station is the s/w port number of the station)
Call made on a trunk	***1542-1-Trunk***
Call made on a range of trunks	***1542-2-Trunk-Trunk***
Call made on all trunks	***1542-****
	(Trunk is the s/w port number of the Trunk)
Call made on a date	***1543-1-Date-Month-Year***
Call made on a range of dates	***1543-2-Date-Month-Year-Date-Month-Year***
Call made on all the dates	***1543-****
	(Date-Month-Year is in DD-MM-YYYY)
Calls made at a fixed time	***1544-1-Hour-Minute***
Calls made between the range of time	***1544-2-Hour-Minute-Hour-Minute***
Calls made at any time	***1544-****
	(Hour-Minutes is in HH-MM, 24-hour format)
Calls made to a destination	***1545-Number-#***
	(Number is number string with maxi.16 digits)
Calls having duration of higher value	***1546-Minutes-Seconds***
	(Minutes-Seconds is in MM-SS, 24-hours format)

Use following command to start printing the reports:
1540

Incoming Call

Incoming calls can be stored and printed in a desired way.

Incoming calls-Storage

- Station message detail recording (SMDR) facility is used to keep track of the incoming calls received by the VISION. SMDR is useful in monitoring and managing the incoming traffic in more effective manner. The VISION can keep log of each call received by it in the SMDR buffer. The buffers for the incoming calls and outgoing calls are different. Each incoming call is stored in the form of a record in the buffer.
- The SA or SE can print these calls on a printer in the form of various reports. The SA/SE can even transfer this data on a computer for storage and further analysis.

A record has following fields:

- Serial Number.
- Telephone number from where call has come.
- Station to which call was routed.
- Trunk on which call was received.
- Date on which call was received.
- Time on which call was received.
- Time taken to answer the call.
- Speech duration.
- Remarks.

One incoming call can occupy one or more records in the buffer. When an incoming call is transferred on another station, a new entry will be made in the SMDR buffer. The SMDR buffer data is maintained even during power failures. It is advisable to frequently download the calls to avoid inadvertent or accidental loss of the data.

Maximum 250 records can be stores in the SMDR IC buffer. Once the SMDR buffer is full, the next incoming call is stored in place of the oldest call in the SMDR IC buffer. This is known as First In First Out (FIFO) logic. The system parameters configuration report shows the number of SMDR IC records in the buffer. The SA or SE can clear the SMDR IC buffer using appropriate command and password from the SA/SE mode.

Commands

Master command:

This command enables/disables the storage of incoming calls depending upon the filters set

Use following command to set SMDR storage mode:

1550-Store Flag

Where,

Storage Flag	Meaning
0	Don’t store IC calls
1	Store IC calls as per the filers programmed

Use following command to set incoming call storage to default settings:

1505-#

By default, all incoming calls will be stored.

Filter commands: These commands enable the user to select the type of calls to be stored viz. All calls, Trunk wise calls, Unanswered calls, DID calls, etc.

Filter	Command
Store Normal Calls	***1561-Flag***
Store DID Calls	***1562-Flag***
Store Unanswered Calls	***1563-Flag***
Store DID Unanswered Calls	***1564-Flag***
Store All Calls	***1565-Flag***
Store calls of a Station	***1551-1-Station-Flag***
Store calls of all Stations	***1551-*-Flag***
Store calls on a trunk	***1552-1-Trunk-Flag***
Store calls on all trunks	***1552-*-Flag***
Store calls-Unanswered Duration	***1553-MM-SS***
Store calls-Speech Duration	***1554-MM-SS***

Where,

Flag	Meaning
0	Don't store
1	Store

Supportive commands:
If an outgoing call is transferred from one station to another station, it can be stored as one call or two calls.

Use following command to decide this:
1555-Call Split Flag
Where,

Call Split Flag	Meaning
0	Store one call
1	Store multiple calls

If above option is selected as 'Store One Call' then it is possible to store the call with originating station or terminating station.

Use following command to select appropriate option:
1556-Flag
Where,

Flag	Meaning
0	Store the call on originating station's account
1	Store the call on terminating station's account

Supportive commands:
Use following command to clear SMDR-Incoming buffer:
1560-Reverse SE Password

Incoming Calls-Printing
Each SMDR record has following parameters or fields:
- Serial Number.
- Calling Number (optional).
- Trunk port number on which the call was received.
- Station Number who received the call.
- Date on which the call is received.
- Time when the call arrived.
- Call Answer Duration.
- Call Speech Duration.
- Remark.

"Remark' column indicates following information:

Character	Meaning
N	Normal Call
D	DID Call
U	Unanswered Call
DU	DID Unanswered Call

The reports are transferred on a computer through the RS232C (COM) port of the VISION. ASCII format is used for this. It is possible to generate these reports as and when the call is made i.e. online printing (provided a printer or a computer is connected) or offline. The calls are stored in the SMDR buffer in both cases.

Incoming Printing-Online

Use following command to decide whether online printing is desired:
1570-Code

Where,

Code	Meaning
0	Immediate printing of incoming calls OFF
1	Immediate printing of incoming calls ON

In online mode whatever is stored is printed.

Incoming Printing-Offline

Step 1: Set the filters as per the need
Step 2: Give the command to download the Incoming SMDR data.

Various filters can be used to generate a report. These commands enable the user to select the type of calls to be printed viz. Normal calls, DID calls, Unanswered calls, Long Speech Duration calls. It is also possible to print the calls with desirable combination like Long Speech Duration calls and DID calls.

It is possible to sort on one or more keys and generate a report.
A summary of the report is printed at the end of each report.

Filter	Command
Set default filters	***1506-#***
	(Immediately printing OFF and all IC calls are printed)
Normal Calls	***1591-Flag***
DID Calls	***1592-Flag***
Unanswered Calls	***1593-Flag***
DID Unanswered Calls	***1594-Flag***
All Calls	***1595-Flag***
Calls received by a station	***1581-1-Station***
Calls received by a range of stations	***1581-2-Station-Station***
Calls received by all the stations	***1581-****
Calls received on a trunk	***1582-1-Trunk***
Calls received on a range of trunks	***1582-2-Trunk-Trunk***
Calls received on all trunks	***1582-****
Calls received on a date	***1583-1-Date-Month-Year***
Calls received on a range of dates	***1583-2-Date-Month-Year-Date-Month-Year***
Calls received on all dates	***1583-****
Calls received at a time	***1584-1-Hour-Minute***
Calls received between the range of time	***1584-2-Hour-Minute-Hour-Minute***
Calls received at any time	***1584-****
	(Hour-Minute is in HH-MM, 24-hour format)
Call Unanswered for duration	***1585-Minutes-Seconds***
Calls with speech duration	***1586-Minutes-Seconds***
	(Minutes is from 00 to 59, Seconds is from 00 to 59)

Use following command to start printing of SMDR Incoming calls report:
1580

Use following command to start printing of SMDR Outgoing calls report:
1540

A sample printout of SMDR reports is attached herewith for ready reference.

```
                SMDR INCOMING CALLS REPORT as on Sun 26-08-07 at 00:06

Stn: All                  Trk: All                   Time: All
Date: All                 Timers-> Answer: 00:00  Speech: 00:00
Call Type-> Normal: Yes, DID: Yes, UnAnswered: Yes, DIDUnAnswered: Yes
-------------------------------------------------------------------------------
 SR       NUMBER      STN  TRK   DATE    TIME  ANSWER SPEECH  REM
                                               TIME   TIME
-------------------------------------------------------------------------------
001                  22    0  26-08-07 00:06 00:01 00:00:03  N
-------------------------------------------------------------------------------
 N : NORMAL   D : DID   U : UNANSWERED   DU : DIDUNANSWERED
-------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.14                            Page : 1
```

```
                SMDR OUTGOING CALLS REPORT as on Sun 26-08-07 at 00:06

Stn: All                Trk: All                 Time: All
Num:                    Date: All                Duration: 00:00
-------------------------------------------------------------------------------
 SR  STN   TRK       NUMBER         DATE    TIME     DUR     REM
-------------------------------------------------------------------------------
001  26     0   21               26-08-07  00:05  00:00:04   N
-------------------------------------------------------------------------------
 O : DOSA Call E : ECF Call N : Normal Call A : Auto Redial S : System Call
-------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.14                            Page : 1
```

=X=X=

Station Parameters

What's this?

- In an organization, all the stations cannot have same characteristics. Each station differs from the other in one respect or the other like Flexible number, Toll Control, Class of Service, Flash timer, Station name, etc.
- Following parameters should be programmed along with above-mentioned parameters for smooth functioning of the system:

Port Type

A station port can be defined as a normal port or a CLI port.

Normal Port: The system does not send the Calling Number Identification to this port. Any type of telephone instrument can be connected to this port.

CLI Port: The system sends the Calling Number Identification to this port (However, any type of telephone instrument can be connected this port). A CLI phone should be connected to it.

Use following command to program the port type for a station:
4101-1-Station-Port Type
Where,
Station is the software port number of the station from 00 to 08.

Port Type	Meaning
0	Normal Port
1	CLI Port

Use following command to program same port type for all the stations:
4101-*-Port Type
By default, Station port type is CLI port.

Digit Padding
Certain telephone instruments do not display for DTMF CLI information if the number of digit received are less than a particular count. To take care of it, the length of the incoming number is adjusted by padding digits.

Use following command to program digit padding on the station:
4104-1-Station-Count
Where,
Station is the software port number of the station from 00 to 08
Count is from 0 to 9.
By Default, the count is '9' for each Station.

Use following command for programming digit padding for all the stations:
4104-*-Count

If count is programmed as 0, the calling party number will be displayed same as received. If the count is programmed between 1 to 9, the digit length of the calling party number displayed will be equal to the count. If the count value is programmed as 4 and station number 21 is calling, then two zeroes will be padded to 21 to maintain the length 4. The display will be '2100'

Station Parameter Report
Use following command to download station parameters of a station:
4100-1-Station
Where,
Station is the software port number is from 00 to 08.

Use following command to download station parameters of all the stations:
4100-*

Station parameters for two stations are attached herewith for ready reference.

Timer for Relevance:

Internal Inter Digit Wait Timer-This timer signifies the time for which the system waits for the next digit during dialing internal numbers and features.
Command: ***3009-Seconds***
Default: 7 seconds.
Valid Range: 000 to 255 seconds.

Relevant Topics:

1. Class of Service (COS) 57
2. Toll Control 169
3. Trunk Access Groups 173
4. Dial by Name 78
5. Call Pick Up 45
6. Calling Line Identification and Presentation (CLIP) 53

```
                Station - 00 Parameters as on Sun 26-08-07 at 00:04
-------------------------------------------------------------------------------
Flexible Number                          : 21
Dial Name                                :
Flash Timer                              : 600ms
Phone Type                               : CLI
Call Pick-Up Group                       : 0
Hunt Group                               : 0
Call Duration Control Group              : 0
Dynamic Lock Status                      : Open
Dynamic Allowed-Denied List(AL-DL)       : 0  0
Outgoing-Incoming Call Storage           : On -On
Daily Alarm Time                         :
HOT Delay(Sec),Destination               : 03   None-
Call Transfer Type-Dest                  : None
CLIP Digit Padding length                : 9
                  0  5  61 62   COS   AL-DL
Day             : 0  0  1  2     2     2  4
Night           : 0  0  1  2     2     2  4
Personal Memory : II TAC Number               II TAC Number
                  02  0                       03  0
                  04  0                       05  0
                  06  0                       07  0
                  08  0                       09  0

-------------------------------------------------------------------------------
MATRIX    VISION         Software : V1.14                            Page : 1
```

=X=X=

System Parameters

What's this?

Following options are desirable:

Load Default Configuration

Use following commands to load default configuration:
1103-Reverse SE Password

On giving this command all the programmable parameters of the system will be set to default values. However, the timings of the voice message recorded in the system will not be set to default.

Default all Timers

Use following command to load default values of all timers:
1107-*-#

On giving this command all the timers of the system will set to default values.

=X=X=

System Security (Passwords)

What's this?

VISION's programming/usage is secured at three levels:
- System Engineer level. This level is protected by SE password.
- System Administrator level. This level is protected by SA password.
- User level. This level is protected by user password.

System Engineer Password

- This password is the main password of the system and should be kept by the system engineer. SE password is needed to enter the system engineer mode of the system to change any setting of the system.
- SE P/w is a 4-digit password. It cannot have either less than or more than 4 digits. Digits 0-9 are valid.
- Please note that the system engineer cannot know SA password or user password. However, he can clear these passwords to their default values.

How to program?

Use following command to change SE Password:
1104-Old SE Password-New SE Password
New SE password is a number string of 4-digits.
By default, SE Password is 1234.

Forgot your program password?
- It is very important to remember the SE password. Without this password, it is not possible to enter the program mode and change the settings. It is advisable to make a note of this password at a safe place.
- However, if the system engineer (SE) password is lost, then it can be set to its default value. Following steps describe the procedure:
  - Switch OFF the system.
  - Locate a mini jumper on PCB.
  - Put the jumper J8 in A-B Position.
  - Wait for 15 seconds.
  - Switch off the system.
  - Open the system, restore the jumper in its original position (B-C) and switch on the system.
  - The SE password gets default to ***1234.***
  - Enter SE mode by dialing ***1#91-1234.***

System Administrator Password

- The system administrator uses this password.
- SA password is a 4-digit password. It cannot have either less than or more than 4 digits. Digits 0-9 are valid.

How to program?

Use following command to change SA Password:
1105-Old SA Password-New SA Password
New SA password is a number string of 4-digits.
By default, SA Password is 1111.

User Password (User Security)

- The User can secure his station from unauthorized use by way of using User Password. For operational details on this topic, please refer 'User Security (User Password)'.

Relevant Topic:
1. Programming the System 128

=X=X=

Time Table

What's this?

- A station user having access to long distance dialing would prefer this facility disabled to avoid misuse during nighttime once the office is closed. Trunks calls should be routed to the security staff when the office is closed. Few calls should be forwarded to an external number during nighttime.
- Above examples highlight the need for the system to behave differently depending on the time of the day. The VISION offers flexible programming for daytime and nighttime. A day can be divided in two time zones viz.
- Daytime (working hours) and Nighttime (non-working hours). Each day of the week can be programmed for different daytime and nighttime. Such a schedule of a week is called time table.

Time Table

Timezone/ Weekdays	Daytime		Nighttime	
	Start Time	End Time	Start Time	End Time
Sunday	HH:MM	HH:MM	HH:MM	HH:MM
Monday	HH:MM	HH:MM	HH:MM	HH:MM
Tuesday	HH:MM	HH:MM	HH:MM	HH:MM
Wednesday	HH:MM	HH:MM	HH:MM	HH:MM
Thursday	HH:MM	HH:MM	HH:MM	HH:MM
Friday	HH:MM	HH:MM	HH:MM	HH:MM
Saturday	HH:MM	HH:MM	HH:MM	HH:MM

Default Time Table

Timezone/ Weekdays	Daytime		Nighttime	
	Start Time	End Time	Start Time	End Time
Sunday	00:00	00:00	00:00	23:59
Monday	09:00	18:00	18:00	09:00
Tuesday	09:00	18:00	18:00	09:00
Wednesday	09:00	18:00	18:00	09:00
Thursday	09:00	18:00	18:00	09:00
Friday	09:00	18:00	18:00	09:00
Saturday	09:00	13:00	13:00	09:00

Generally following features/facilities can be programmed differently during daytime and nighttime.
- Class of Service
- Toll Control
- Trunk Access
- Trunk Landing Destination
- Trunk Hunting Scheme
- Features like ECF, DID, DOSA, etc.

VISION offers two modes of operation viz. Manual and auto. If the system is set for manual mode, the system should be programmed for daytime or nighttime manually. This mode is useful in offices where there are no fixed office hours or at residences where two different set of features/facilities are not required. If the system is set for Auto mode, the system itself switches from daytime to nighttime and viceversa.

How to program?

Step 1: Set the time table in Manual or Auto mode using command ***1051.***
Step 2: Set Day or Night mode using command ***1052*** (if manual mode is selected).
Step 3: Program the time table for the week using command ***1053.***

Step 1
Use following command to program the system in Manual/Auto mode (from SE mode):
1051-Code

Where,

Code	Meaning
0	Manual Day-Night Mode
1	Auto Day-Night Mode

By default, system is in Auto Day-Night Mode.

Example:
Program the system in Auto day-night mode.
1051-1

Step 2
If manual mode is selected
Use following command to set day or night mode: (from SA/SE mode)
1052-Code
Where,

Code	Meaning
0	Night Mode
1	Day Mode

Example:
Set system in Day mode, dial
1052-1

Step 3
Use following command to program the time table:
1053-Day-Start Time-End Time
Where,

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Code	1	2	3	4	5	6	7

Start time = Working hours start time in 24 hours Hour:Minute format.
End Time = Working hours end time in 24 hours Hour:Minute format.
The left over time is taken as nighttime (non-working hours). Hence night time (non-working hours) need not be programmed.

Example:
Program a time table with normal office hours from 08:30 to 17:00 hours from Monday to Saturday. Sunday is a Holiday. Set the time table in Auto mode.
1053-1-0000-0000
1053-2-0830-1700
1053-3-0830-1700
1053-4-0830-1700
1053-5-0830-1700
1053-6-0830-1700
1053-7-0830-1700
1051-1

Important Points:
- The system will not take care of any holiday coming on the working days. On these days, the system should be programmed to manual mode and should be changed to night mode before leaving the office on the day before the holiday. On coming back to the office, you can changed it to daytime and then to automatic mode.
- Working hours and Non-working hours can be interpreted as daytime and nighttime.
- To know programming details, please refer Configuration Report.

Relevant Topic:
1. Real Time Clock (RTC) 137

=X=X=

Toll Control

What's this?

Toll Control can:
- Restrict dialing all local telephone numbers.
- Restrict dialing certain local telephone numbers.
- Restrict dialing telephone nos. starting with '95'.
- Restrict dialing certain areas (area codes 03 and 04).
- Allow dialing only certain telephone number. (2630555).
- Allow dialing only certain area code.
- Allow dialing only those telephone numbers starting with particular digit (1).

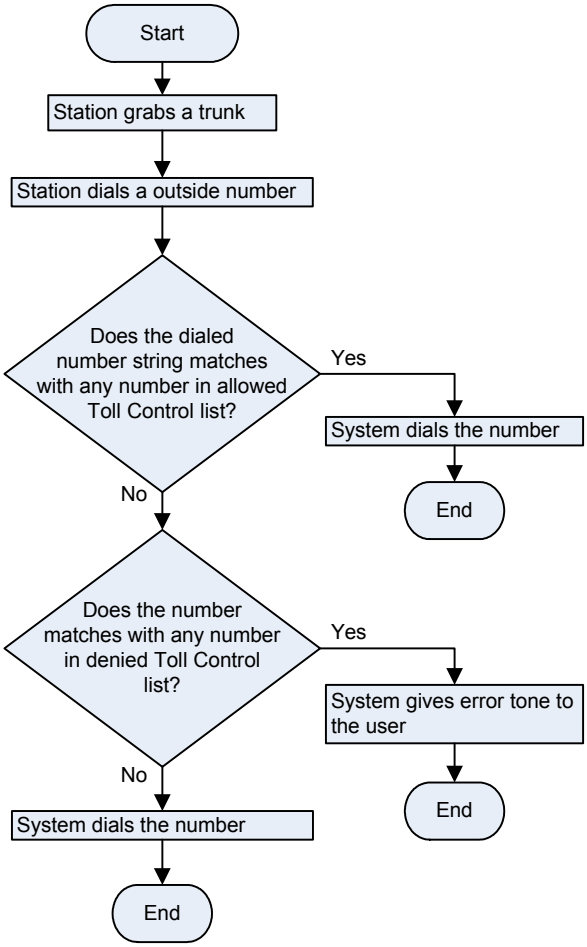
How to use it?

- By default, few number strings are available in the allowed list and denied list. If these number strings satisfy the requirement then these should be assigned to the station for day time and night time.
- If the requirement is not met by default allowed and denied list then customized allowed list and denied list should be programmed.
- The number strings which are to be allowed should be programmed in allowed list.
- The number strings which are to be denied should be programmed in denied list.
- One such allowed and a denied list should be assigned to each station for day time and night time individually.
- If customized toll control is to be provided then customized numbers should be programmed in the allowed list and the denied list. For example, the requirement is that station 21 can make a call to Mumbai (022) but should not make any other long distance call. In this case, number string 022 should be programmed in one of the locations of the allowed list and should be assigned to station 21. Similarly, station 21 is not allowed any long distance call, hence it should be assigned default denied list 4.
- One such allowed and a denied list should also be assigned to the station for the locked condition.
- Once the station has been locked, the station user can make calls as per the allowed and denied lists as signed to the station for the locked condition. ***This is called Dynamic Toll Control.***
- Allowed list 0 and Denied list 0 are assigned in locked condition by default.
- Default allowed and denied list for day and night is '2'.

How it works?

- VISION uses Allowed Lists and Denied Lists to support this feature.
- When a call is made, the VISION compares each digit of the dialed number string with the number strings in allowed list and denied list.
- If the dialed number string matches with any of the number strings available in allowed list, the VISION dials the number on the trunk, else compares with the number strings in the denied list.
- If the dialed number string matches with any of the number strings available in denied list, the VISION restricts dialing the number and gives error tone to the station user.
- If the dialed number matches with a number string that is available in both allowed and denied list then allowed list is given priority and the dialed number is dialed on the trunk.

The following flow chart explains the logic of Toll Control Group.



How to program?

Step 01: List the toll control to be programmed station wise.
Step 02: Check whether the requirement can be met by using default Allowed Lists and Denied Lists.
Step 03: If default allowed lists satisfy the requirement, assign allowed list to the stations using commands ***4501*** and ***4511*** for day time.
Step 04: If default denied lists satisfy the requirement, assign denied lists to the stations using commands ***4502*** and ***4512*** for night time.
Step 05: If the requirement cannot be satisfied by default allowed lists and denied lists then list down the customized numbers to be programmed in allowed list and denied list.
Step 06: Program the numbers/number strings to be allowed in the allowed list using command ***1202***.
Step 07: Program the number/number strings to be denied in the denied list using command ***1204***.
Step 08: Assign customized allowed list to the stations using commands ***4501*** and ***4502***.
Step 09: Assign customized denied lists to these stations using commands ***4511*** and ***4512***.
Step 10: Also assign a default/customized allowed list to these stations for the locked condition using commands ***4521.***
Step 11: Similarly, assign a default/customized denied list to these stations for the locked condition using commands ***4522.***
Step 12: Take a printout of configuration report to verify the allowed/denied lists and their assignment for toll control application.

Commands

Step 1

Take a pen and a paper. Write down the toll control to be assigned to each station.

Step 2

Have a look at default allowed lists and denied lists and check whether the requirement can be met with these lists.

Step 3

Use following command to assign allowed list to a station during daytime:

4501-1-Station-Allowed List
Where,
Station is the software port number of the user from 00 to 08.
Allowed List is from 0 to 7.

Use following command to assign allowed list to all stations during daytime:
4501-*-Allowed List

Use following command to assign allowed list to a station during night time:
4502-1-Station-Allowed List
Where,
Station is the software port number of the user from 00 to 08.
Allowed List is from 0 to 7.

Use following command to assign allowed lists to a all stations during night time:
4502-*-Allowed List

Step 4
Use following command to assign denied list to a station during daytime:
4511-1-Station-Denied List
Where,
Station is the software port number of the user from 00 to 08.
Denied List is from 0 to 7.

Use following command to assign denied list to all stations during daytime:
4511-*-Denied List

Use following command to assign denied list to a station during nighttime:
4512-1-Station-Denied List
Where,
Station is the software port number of the user from 00 to 08.
Denied List is from 0 to 7.

Use following command to assign denied list to all stations during nighttime:
4512-*-Denied List

Step 5
If the requirement is not met by default allowed lists and denied lists then write down the requirement on a piece of paper and make corresponding allowed lists and denied lists using step 6 and step 7.

Step 6 and Step 7
Please refer 'Allowed and Denied Lists'.

Step 8 and Step 9
Please refer step 3 and step 4 explained above.

Step 10
Use following command to assign allowed list to a station for locked condition:
4521-1-Station-Locked Allowed List
Where,
Station is the software port number of the user from 00 to 08.
Locked Allowed List is from 0 to 7.

Use following command to assign allowed list to all stations for locked condition:
4521-*-Locked Allowed List

Step 11
Use following command to assign denied list to a Station for locked condition:
4522-1-Station-Locked Denied List
Where,
Station is the software port number of the user from 00 to 08.
Locked Denied List is from 0 to 7.

Use following command to assign denied list to all Stations for locked condition:
4522-*-Locked Denied List

Step 12
Please refer 'Configuration Report'.

Example:
Let us program the system for following conditions:
We have two station users 21 and 22 (software port number 00 and 01)
For 21: During daytime: Allow 011-6565655 and 011-6565656 but restrict all other 011 calls. Allow all 022 calls but restrict 022-7878787 and 022-7878788. Allow all local calls and other long distance calls. Restrict all calls during night time.
For 22: Allow all calls except '0' calls during daytime. Restrict all calls during night time.

Solution:
It is advisable to make changes for any customized requirement in allowed list 6 & 7 and denied list 6 & 7 so that default lists can be assigned to other stations without making any changes. Let us make an allowed list 6 which shall allow 011-6565655, 011-6565656, 022,0,1,2,3,4,5,6,7,8 and 9. Let us make a denied list 6 which shall restrict 022-7878787, 022-7878788 and 011 but shall allow all other calls.

Use following command to program allowed list 6:
1202-1-6-00-0116565655-#*
1202-1-6-01-0116565656-#*
1202-1-6-02-022-#*

Other location in the allowed list are blank and hence other numbers like 0,1,2,3,4,5,6,7,8 and 9 need not be entered.
Use following command to program denied list 6:
1204-1-6-00-0227878787-#*
1204-1-6-01-0227878788-#*
1204-1-6-02-011-#*

Use following command to assign allowed list to station 21 (software port is 00) during day time:
4501-1-00-63

Use following command to assign allowed list to station 21 (software port is 00) during night time:
4502-1-00-0

Use following command to assign denied list to station 21 (software port is 00) during day time:
4511-1-00-6

Use following command to assign denied list to station 21 (software port is 00) during night time:
4512-1-00-0

Use following command to assign allowed list to station 22 (software port is 01) during day time:
4501-1-01-0

Use following command to assign allowed list to station 22 (software port is 01) during night time:
4501-1-01-0

Use following command to assign denied list to station 22 (software port is 01) during day time:
4502-1-01-4

Use following command to assign denied list to station 22 (software port is 01) during night time:
4502-1-01-0

Relevant Topics:
1. Allowed and Denied Lists 22
2. Station Parameters 163
3. Configuration Report 67
4. Dynamic Lock 94

=X=X=

Trunk Access Groups

What's this?

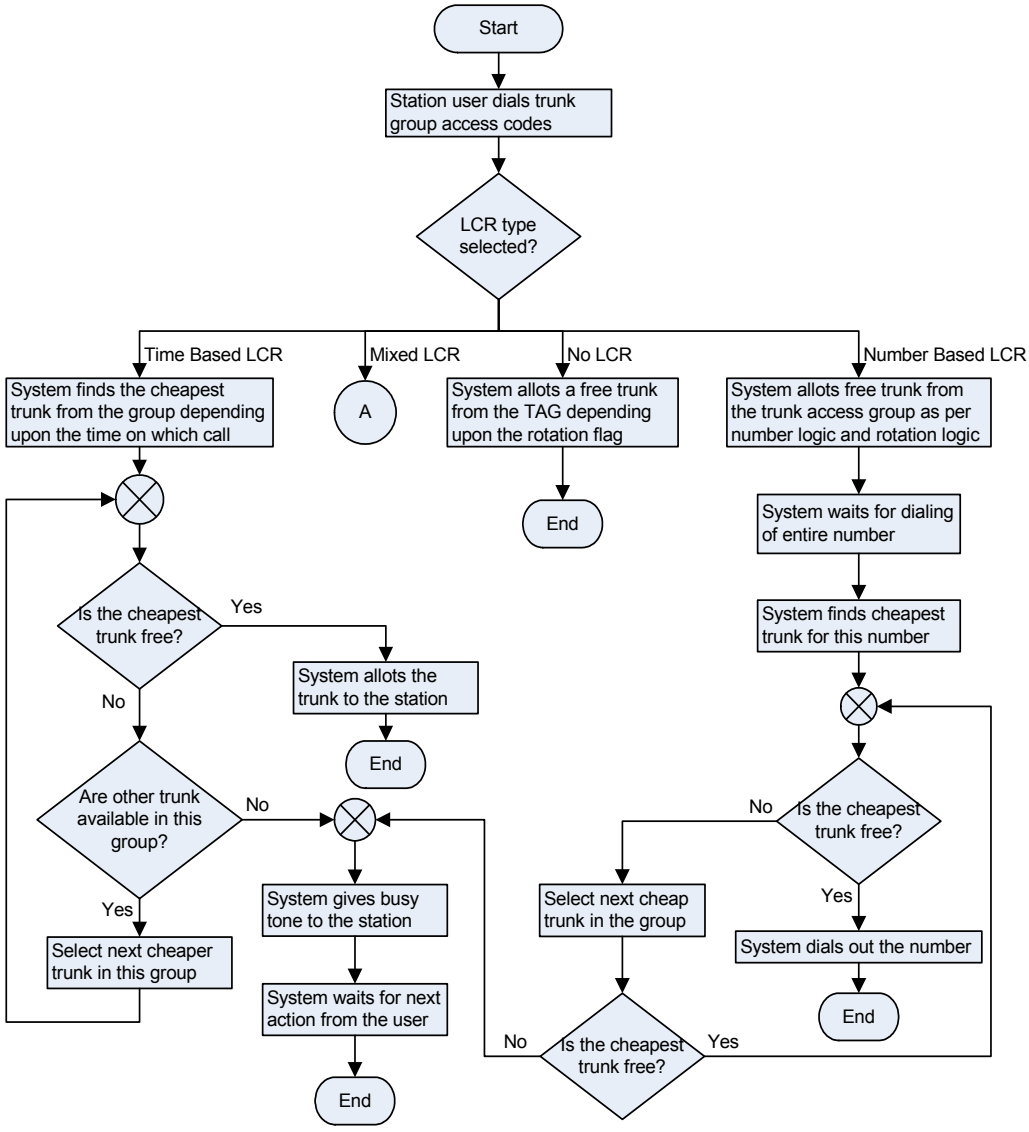
Trunk Access Groups provide efficient allocation of trunks to different stations.

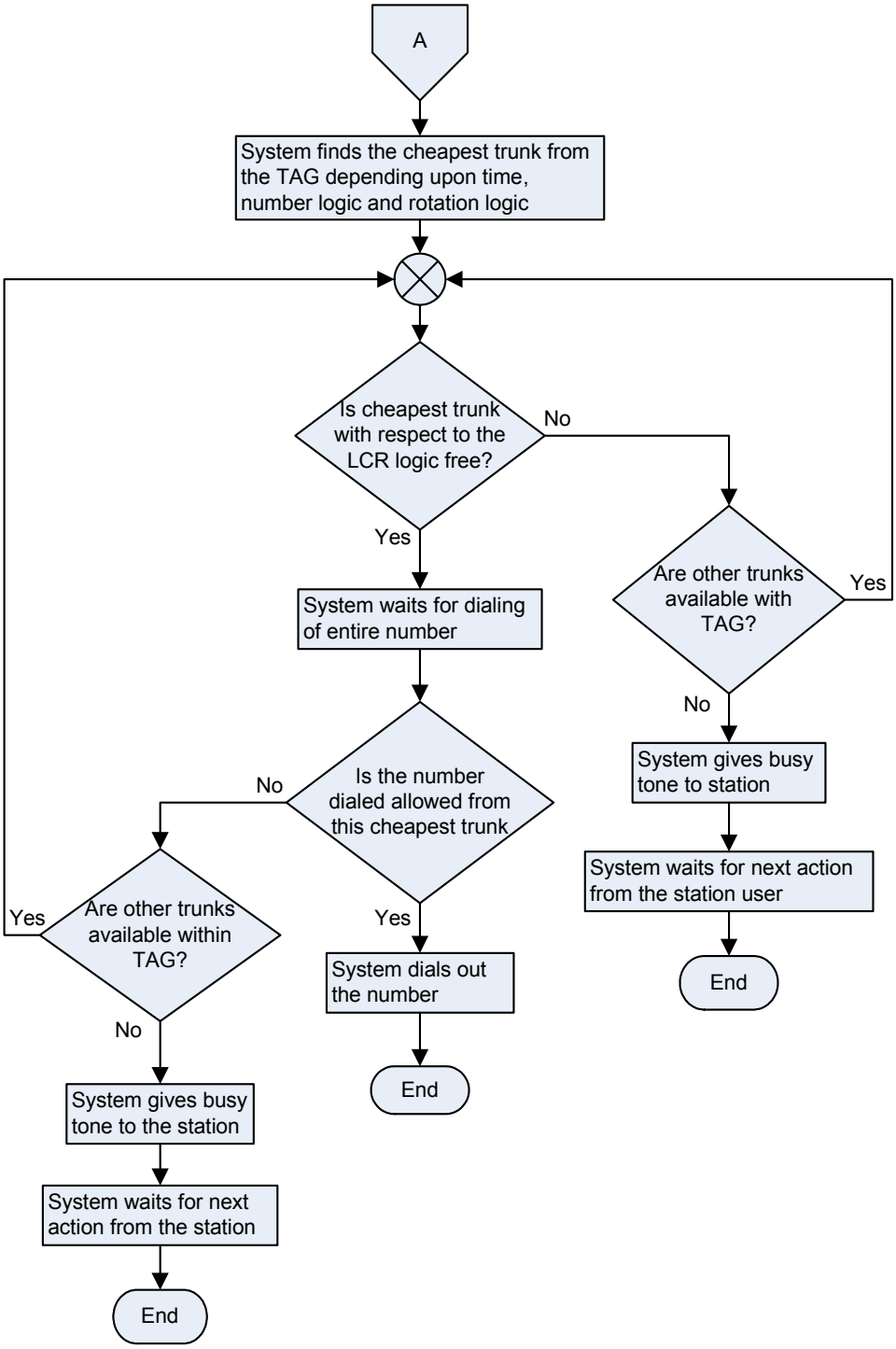
- All the trunks connected to the system can be bunched in different groups called trunk access group.
- Maximum 4 trunks can be put in one trunk access group and 8 such trunks access groups can be formed.
- These trunk access groups can be allotted to each individual station.
- A station can be allotted different trunk access groups during daytime and nighttime.
- Four trunk access codes viz. 0, 5, 61 and 62 can be used to access these group.
- It is possible to assign trunk access code '0' to a trunk access group containing all the trunks in day time. Doing so, when a station dials '0' he gets any of the free trunks from trunk access group.
- It is possible to assign same trunk access code '0' to a trunk access group containing no trunk, in night time. Doing so, when a station dials '0' during night time he gets error tone.

System uses two methods while selecting a trunk from the trunk access group viz. Remember last trunk and don't remember last method. In remember last trunk method the system remembers the last trunk used and allots next trunk in the group to the station. In don't remember last trunk method, the system searches for a free trunk from the first trunk programmed in the group. If first trunk is free, it allotted to the station. In such case it is possible that first few trunks in a group would be used frequently.

How it works?

Following flow chart depicts the chronology of events when a station grabs a trunk.





How to program?

Step 1: Decide number of Trunk Access Groups to be formed. Program these groups using command ***4402.***
Step 2: Program rotation code to select a trunk within the trunk access group using command ***4403.***
Step 3: Set a Trunk Access Group to default settings using command ***4401*** (if required).
Step 4: Assign a trunk access group and a trunk access code to a station for day time.
Step 5: Assign a trunk access group and a trunk access code to a station for night time.

Step 1
Use following command to put trunks in a trunk access group:
4402-1-Trunk Access Group-Trunk0.....Trunk2/#
Where,
Trunk Access Group is from 0 to 7.

Trunk0..Trunk2 are the software port numbers of the trunks from 0 to 2.

Use following command to put same trunks in all trunk access groups:
4402-*-Trunk0....Trunk2/#

Trunk Access Group	Trunk Allowed	Trunk Access Code (Both Daytime/Nighttime)
0	0, 1, 2	0 and 5
1	0	61
2	1	62
3	2	No code assign
4	No trunk	No code assign
5	No trunk	No code assign
6	No trunk	No code assign
7	No trunk	No code assign

Step 2
Use following command to program rotation code for a group:
4403-1-Trunk Access Group-Rotation Code
Where,

Rotation Code	Meaning
0	Trunk rotation OFF within the group, system always selects the first trunk from the group
1	Trunk rotation ON within the group

Use following command to program same rotation code for all the groups:
4403-*-Rotation Code
By default, Trunk Rotation is ON within the group.

Step 3
Use following command to default a trunk access group:
4401-1-Trunk Access Group-#
Where,
Trunk Access Group is from 0 to 7.

Use following command to default all trunk access groups:
4401-*-#

Step 4
VISION offers maximum 4 trunk access codes viz. 0, 5, 61 and 62. These codes are common for all the station users. A default trunk access codes table is given below:

Trunk Access Group Index	Trunk Access Code
0	0
1	5
2	61
3	62

Use following command to assign a trunk access group and trunk access code to a station for daytime:
4411-1-Station-Trunk Access Group Index-Trunk Access Group
Where,
Station is from 00 to 08.
Trunk Access Group Index is from 0 to 3.
Trunk Access Group is from 0 to 7.

Use following command to assign trunk access group and trunk access code to all the stations for daytime:
4411-*-Trunk Access Group Index-Trunk Access Group
By default, all trunks are allowed to all stations.

Step 5
Use following command to assign a trunk access group and trunk access code to a station for nighttime:
4412-1-Station-Trunk Access Group Index-Trunk Access Group

Where,
Station is from 00 to 08.
Trunk Access Group Index is from 0 to 3.
Trunk Access Group is from 0 to 7.

Use following command to assign a trunk access group and trunk access code to all the stations for nighttime:

4412-*-Trunk Access Group Index-Trunk Access Group

Trunk Access Group	Trunk Allowed	Trunk Access Code (Both Daytime/Nighttime)
0	0, 1, 2	0 and 5
1	0	61
2	1	62
3	2	No code assign
4	No trunk	No code assign
5	No trunk	No code assign
6	No trunk	No code assign
7	No trunk	No code assign

By default, all trunks are allowed to all stations.

Example:
Program the system for following constraints:
- 3 trunks.
- 3 departments: Technical, Marketing and Administration.
- Technical department should get access to trunk 0 and 1 during day time by dialing ‘0’.
- Marketing department should get access to trunk 1 and 2 during day time by dialing ‘0’.
- Administration department should get access to all the three trunks during day time by dialing ‘0’.
- Security station (station 29) should not get access to any trunk during day time.
- Technical department and Marketing department should not get trunk access to any trunk during night time.
- Administration department should get access to trunk 1 by dialing ‘0’ during night time.
- Station 29 (security station-software port 08) should get access to all the trunks by dialing ‘0’ during night time only.
- Technical department has two stations 21 and 22 (software ports 00 and 01).
- Marketing department has two stations 23 and 24 (software ports 02 and 03).
- Administration department has four stations 25, 26, 27 and 28 (software ports 04, 05, 06 and 07).

Solution:
4402-1-0-0-1-#
4402-1-1-1-2-#
4402-1-2-1-2-3-#
4402-1-3-#
4402-1-4-1-#

4411-1-00-0-0
4411-1-01-0-0
4411-1-02-0-1
4411-1-03-0-1
4411-1-04-0-2
4411-1-05-0-2
4411-1-06-0-2
4411-1-07-0-2
4411-1-08-0-3
4411-1-08-1-3
4411-1-08-2-3
4411-1-08-3-3

4412-1-00-0-3
4412-1-01-0-3
4412-1-02-0-3
4412-1-03-0-3

4412-1-00-1-3
4412-1-01-1-3

4412-1-02-1-3
4412-1-03-1-3
4412-1-00-2-3
4412-1-01-2-3
4412-1-02-2-3
4412-1-03-2-3

4412-1-00-3-3
4412-1-01-3-3
4412-1-02-3-3
4412-1-03-3-3
4412-1-04-0-1
4412-1-05-0-1
4412-1-06-0-1
4412-1-07-0-1

4412-1-08-0-2

Important Point:

- To know programming details, please refer 'Configuration Report'.

Relevant Topics:

1. Least Cost Routing (LCR) 111
2. Time Table 167
3. Class of Service (COS) 57
4. Trunk Parameters 181

=X=X=

Trunk Landing Groups

What's this?

- VISION offers flexibility to make all the different trunks land on different station during day time and night time.
- VISION uses the Station Groups for this purpose. It is possible to assign a station group to a trunk. The trunk call would land on these stations as per the programming of the station group. This station group is called trunk landing group.

How it works?

- A station group should be assigned to a trunk as trunk landing group.
- Different station groups can be assigned to a trunk during day time and night time. Thereby a trunk can be made to land on different stations during day time and night time.

How to program?

Step 1: Decide the number of station groups to be used as trunk landing groups, define a station group using commands ***4702, 4703, 4704*** and ***4705.***
Step 2: Assign a station group to a trunk for day time landing using command ***3301.***
Step 3: Assign a station group to a trunk for night time landing using command ***3302.***

Commands:
Step 1
Please refer 'Station Group' on how to program a station group.

Step 2
Use following command to assign station group as trunk landing group for a trunk for day time:
3301-1-Trunk-Station Group
Where,
Trunk is the trunk software port from 0 to 2.
Station Group is from 00 to 15.

Use following command to assign same station group as trunk landing group for all the trunks for day time:
3301-*-Station Group

Step 3
Use following command to assign station group as trunk landing group for a trunk for night time:
3302-1-Trunk-Station Group
Where,
Trunk is the trunk software port from 0 to 2.
Station Group is from 00 to 15.

Use following command to assign same station group as trunk landing group for all the trunks for night time:
3302-*-Station Group
By default, station group '00' is assigned to all trunks for both day time and night time.

Example:
Program system for following constraints:
- 3 CO lines (S/w ports 0 to 2) are interfaced with VISION.
- First two CO lines, CO1 and CO2 should land on station 21, 23, 25, 22 (S/w ports 00, 02, 04, 01 respectively) during day time. Rotation to be allowed.
- CO1 and CO2 should ring on each station for 10 seconds. Station should ring in the given sequence only.
- First two CO lines, CO1 and CO2 should land on station 21 (S/w ports 00) during night time.
- CO1 and CO2 should ring on station 21 continuously.
- Third line should land on station 28 and 29. simultaneously (S/w port 07 and 08 respectively) during day time and night time.
- CO3 should ring continuously on both the stations.

Use following commands
Make Group 0 as per the requirement:
4702-1-00-0-00
4702-1-00-1-02
4702-1-00-2-04

4702-1-00-3-01
4703-1-00-0-10
4703-1-00-1-10
4703-1-00-2-10
4703-1-00-3-10

4704-1-00-0-0
4704-1-00-1-0
4704-1-00-2-0
4704-1-00-3-0

4705-1-00-0

Make Group 1 as per the requirement:
4702-1-01-0-00
4702-1-01-1-00
4702-1-01-2-00
4702-1-01-3-00

4703-1-01-0-10
4703-1-01-1-10
4703-1-01-2-10
4703-1-01-3-10

4704-1-01-0-1
4704-1-01-1-1
4704-1-01-2-1
4704-1-01-3-1
4705-1-00-0

Make Group 2 as per the requirement:
4702-1-02-0-07
4702-1-02-1-08
4702-1-02-2-07
4702-1-02-3-08

4703-1-02-0-10
4703-1-02-1-10
4703-1-02-2-10
4703-1-02-3-10
4704-1-02-0-1
4704-1-02-1-1
4704-1-02-2-1
4704-1-02-3-1

4705-1-02-0

3301-1-0-00
3301-1-1-00
3301-1-2-02

3302-1-0-01
3302-1-1-01
3302-1-2-02

Important Points:

- By default, all the station groups contain first four stations. Hence, if less number of stations are to be programmed in a station group then assign the same stations again for remaining destinations within the group. As shown in the example above, station group 1 contains only one station i.e. station 21. Hence all other destinations within a group are assigned same station.
- ***By default, station group '00' as assigned to all trunks.***

Relevant Topics:
1. Time Table 167
2. Station Group 151

=X=X=

Trunk Parameters

What's this?

Trunks differ in their parameters like pulse type or tone type, enable/disable, etc. The VISION offers flexible settings for each trunk.

How to program?

Trunk parameters can be programmed in following hierarchy:
- Enable/disable a trunk using command ***3101.***
- Define dial type of the trunk using command ***3102.***
- Define trunk type using command ***3103.***
- Program speech connection delay timer using command ***3104*** (if required).
- Configure the CLI Type using command ***3105.***

Trunk Enable/Disable

A trunk port can individually be enabled or disabled. This can be useful when a particular trunk goes out of order and should be stopped from being allocated to a user.

Use following command to enable/disable a trunk:
3101-1-Trunk-Code
Where,
Trunk = Trunk Software Port Number from 0 to 2.

Code	Meaning
0	Trunk Port disabled
1	Trunk Port enabled

Use following command to enable/disable all the trunks:
3101-*-Code

Example:
Let us disable trunk 2.
3101-1-2-0
By default, all trunks are enabled.

Dial Type

The VISION supports both pulse and tone (DTMF) dialing on the trunk ports. Depending on a trunk port's dial type, the same can be programmed.

Use following command to program the dial type of a trunk:
3102-1-Trunk-Code
Where,
Trunk = Trunk Software Port Number from 0 to 2.

Code	Meaning
0	Pulse Type
1	Tone Type

Use following command to program the same dial type of all the trunks:
3102-*-Code

Example:
Let us program trunk 2 with Pulse dialing:
3102-1-2-0
By default, all trunks are programmed as tone type.

Trunk Type

A normal dial type trunk, hotline type trunk, mixed type trunk and a special trunk can be interfaced with the VISION. These parameters should be programmed for these lines.

Normal Dial type trunk is the conventional trunk available from the Service Provider. Hotline Dial type trunk is a special trunk available from the Service Provider, which works as normal dial type for some time after grabbing the trunk and thereafter works as Hotline.

Hotline type trunk is the trunk connecting two destinations immediately on grabbing it. Special trunk is a trunk used by big organization like Gujarat Electricity Board etc. for special purpose.

Use following command to define a trunk type:
3103-1-Trunk-Code
Where,
Trunk = Trunk software port number from 0 to 2.

Code	Meaning
0	Normal Dial Type
1	Delayed Hotline Type
2	Hotline Type

By default, Trunk Type is Normal Dial Type.

Example:
Let us program trunk port 2 for hotline dial type:
1303-1-2-1

Speech Connection Delay Timer
It is the time after which the system gives dial tone to the station user on grabbing the trunk line. To understand the significance of this timer, let us consider a situation. A telephone line coming from an old telephone exchange is interfaced with the VISION. Now when the user station not having access to long distance numbers, grabs a trunk line and dials a number 1022-26305555. The PBX allows this number since it starts with 1 but since the actual dial tone from the telephone exchange comes after some time, the telephone exchange interprets this number as 022-26305555 and establishes the speech. This way a station user not having access to this number can dial out a long distance number. To avoid this situation, VISION offers this timer. This timer can be set for individual trunks.

Use following command to program speech connection delay timer for trunk:
3104-1-Trunk-Speech Timer
Where,
Trunk is the software port number from 0 to 2.
Speech Timer is from 0 to 9.

Use following command to program speech connection delay timer for all trunks:
3104-*-Speech Timer
Where,
Speech Timer is from 0 to 9.

CLI Type
Use following command to configure the CLI type for a trunk:
3105-1-Trunk-CLI Type
Where,
Trunk = Trunk software port from 0 to 2.

CLI Type	Meaning
0	None
1	DTMF

Use following command to configure the CLI type for all the trunks:
3105-*-CLI Type
By default, CLI type is 'DTMF' on all the trunks.

Trunk First Digit Wait Timer
Trunk first digit wait timer-This timer signifies the time for which the VISION waits for the first digit after grabbing the trunk.
Command: ***3010-Seconds***
Default: 25 seconds.
Valid Range: 000 to 255 seconds.

Trunk Inter Digit Wait Timer

Trunk Inter Digit Wait Timer-This timer signifies the time for which the VISION waits between accepting two digits from the caller. This timer is loaded when the caller dials first digit (digit could be other then station number) and waits for the second digit, while reaching a desired station.
Command: ***3011-Seconds***
Default: 6 seconds.
Valid Range: 000 to 255 seconds.

Pause Timer

Pause Timer-It is the time for which the system waits before dialing the outside number after grabbing the trunk. Some times it is observed that after grabbing the trunk line, the user does not get PSTN dial tone immediately. Instead he gets the dial tone from the PSTN after some time. This is due to old types of PSTNs. When user himself is dialing the number, he inadvertently waits for the dial tone and then dials the number. But this is not so when PBX dials the number. When Redial or Auto Redial or Abbreviated Dialing feature is used the PBX grabs the trunk line and dials the number at its own. Now if there is no pause time and if the PSTN is old type then it is possible that the PBX may dial out the number before getting the dial tone. This may result in dialing wrong number. To avoid this situation, VISION offers pause timer, which can be set for individual trunks. Pause timer is used during Redial, Auto Redial and Memory Dialing.
Command: ***3012-Seconds***
Default: 3 seconds.
Valid Range: 000 to 255 seconds.

Print commands

Use following command to print Trunk Parameters of a trunk:
3100-1-Trunk
Where,
Trunk is trunk software port number from 0 to 2.

Use following command to print Trunk Parameters of all trunks:
3100-*

```
                Trunk - 0  Parameters as on Sun 26-08-07 at 18:56

 ------------------------------------------------------------------------------
 Trunk Enabled             : Yes
 Dial Type                 : Pulse
 Line Type                 : Normal
 CLI Type                  : DTMF
 Outgoing Call Storage     : On
 Incoming Call Storage     : On
 Spch Connect Delay Timer  : 0 sec
 Pre-Pstn Digit Count      : 0
 Service Provider          : 0
 Ecf Trunk Access Group    : 0
 Ecf Number                :
                             Day Time                    Night Time
 Station Group             : 0                         0
 DID                       : Off                       Off
 DOSA                      : Off                       Off
 ECF                       : Off                       Off
 VM                        : On                        On
 ------------------------------------------------------------------------------
 MATRIX    VISION          Software : V1.16                          Page : 1
```

=X=X=

Trunk Reservation

What's this?

- An important user can reserve a particular trunk for him for some time.
- He need not share the trunk with others as long as the reservation is in effect.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***Trunk Access Code.***	Busy tone
3	Dial ***6.***	Confirmation tone

Cancel trunk reservation

A reserved trunk can be freed manually by a command before its timer expires manually.

1	Lift the handset.	Dial tone
2	Dial ***102.***	Confirmation tone

- Once your important calls are over, do not forget to cancel the reservation. This will enable others to use the trunk.
- If more than one station try to reserve the same trunk, the station that is identified first by the system will be given the reservation. All the other stations will get error tone.

How to program?

Refer Class of Service (COS) for details on how to allow trunk reservation to a user.

Timer of Relevance:

Trunk Reservation Timer-Time for which the trunk is reserved for you.
Command: ***3015-Minutes***
Default: 005 Minutes.
Valid Range: 001 to 255 Minutes.

Important Points:
- Trunk reservation is used once the user gets busy tone for a trunk access code.
- Part of this feature is similar to Auto Call Back.
- As soon as a trunk from the requested group is available, he gets ring.
- When the user answers the ring, he gets connected with the trunk and hears the dial tone.
- Now, this trunk is reserved for him.
- The trunk remains reserved for trunk reservation timer.
- During this time other users cannot access this trunk even if it is free.
- Station which requested trunk reservation can make more than one call during trunk reservation timer.
- The trunk becomes available to other users after the timer. This timer is called Trunk Reservation Timer and is programmable.

Relevant Topics:
1. Class of Service (COS) 57
2. Auto Call Back 28

=X=X=

User Security (User Password)

What's this?

VISION provides security to the user by way of a Password. This helps to avoid any unauthorized use.

- Each station of VISION has a password. This password helps the user in using following features:
  - Call Follow Me.
  - Dynamic Lock.
  - DOSA.
  - Walk-in Class of Service.

Please refer respective features for better understanding.

- User password is a 4-digit password. It cannot have either less than or more than 4 digits.
- User password can be changed only from the station. However it can be cleared by SE from any other station, which is having access to programming feature.
- The default User password is 1111 for all the users. Please note that the features requiring password cannot be used with default password. Thus it is compulsory for the user to change the User password if he wishes to use any of the features that are protected by the password.
- In case the user has forgotten his password, the system engineer (SE) can clear the password for any user.

How to program?

Use following command to change the User password from the station simply after lifting the handset:
144-Old User Password-New User Password
New password is a number string of 4-digits.
By default, User Password is 1111.
User can dial this command just after lifting his handset.

Use following command to assign default Password to a station (command is to be given from SE mode):
1106-Station
Where,
Station is from 00 to 08.

Relevant Topics:

1. Dynamic Lock 94
2. Direct Outward System Access 86
3. Walk-in Class of Service 191
4. Call Forward 42

=X=X=

Voice Message Applications

What's this?
VISION can store various messages. These messages can be played back to the caller/user depending on the situation. If Auto Attendant is activated on few trunk lines then it is possible to guide caller to reach his desired person using this facility. If auto redial feature is used then a suitable message can be given to the called person in case he answers the call before the caller. Desirable 'Music on hold' can be played back to the caller instead of the hard-wired 'Music-on-Hold'.

- Voice messages find their applications in following features/facilities:
  - Day Greeting.
  - Night Greeting.
  - Initial Guidance Message.
  - Dial by Name Message.
  - No Dial Message.
  - Wrong Dial Message.
  - Transfer Message.
  - Busy Message.
  - No Reply Message.
  - Music On Hold.
  - Alarm.
  - Emergency Message.
  - Auto Redial.
- One voice module of 240 seconds is available in VISION.
- Voice guidance can be activated on all the trunks. However, if the voice module is engaged for one trunk, the caller on the other trunk will not get voice guidance. He would get music followed by dial tone of the PBX.

Application of voice guidance:

- **Voice guidance for Day Time Greeting**
  Any greeting or welcome message can be recorded in the chip. The system will greet and guide the caller by playing back the recorded message:

  Popular Day time message is:
  "Welcome"

- **Voice guidance for Night Time Greeting**
  Your system will greet the caller even in your absence and will also guide him. It is only required to record the message and program the system to playback it in night mode.

  Popular Night time message is:
  "Sorry, we are closed. Please call later".

- **Voice message for Initial Guidance**
  Default initial guidance message is:
  "Dial a station number. Dial # is you wish to dial by name. Or dial 9 for operator".

- **Voice guidance for Dial by Name**
  Default message is "Dial first three letters of the name of the person you wish to call".

- **Voice guidance for No Dial Message**
  Default message is "Sorry, you have not dialed any digit".

- **Voice guidance for Wrong Dial**
  Default message is "Sorry, invalid entry. Please dial again"

- **Voice guidance for Transfer Message**
  Default message is "Please hold while your call is being transferred".

- **Voice guidance for Busy**
  Default message is "The person you dialled is busy. Please dial another station. Or wait for the operator".

- **Voice guidance for No Reply**
  Default message is "The person you dialed is not available. Please dial another station. Or wait for the operator".

- **Voice guidance for Music On Hold**
  Normally, when a caller is kept on hold, he gets internal 16-tone hold on music. This internal music can be replaced with the external music (Please refer chapter External Music). But to feed external music, a separate music source is required which may not be feasible all the time. However, this same requirement can be fulfilled using this feature. Any message like advertisement of your company or any message related to your new marketing plans can be recorded in the voice chip and can be played back to the caller when he is on hold. This way, two jobs are done at a time; the operator can attend to other call and the message, which otherwise you had to give to the caller, has reached him in a much better manner.

  Messages for Music on hold can be:
  "Welcome to Progressive bearings. We are glad to announce that we are now an ISO 9001 company. Best and continued efforts of our employees to deliver optimum quality products have made this possible".

- **Voice guidance for Alarm**
  This feature is very useful in hotels where it is required to wake up guests at odd time. At the same time it is also required to greet them. Any greeting message can be recorded in the chip. When the guest picks up the handset on getting ring, he is greeted with this recorded message.
  Default alarm message is:
  "Greetings! This is your reminder call. Have a nice day!".

- **Voice guidance for Emergency Message**
  This feature is very useful in an emergency situation.

  Emergency Message could be:
  "This is an emergency call. Please dial 0 to acknowledge".

- **Voice guidance for Auto Redial**
  During auto redial, if the call goes through and the system detects ring back tone, the system gives ring to the Station, which has requested auto redial. At this point of time both, the Station as well as the destination are ringing. Now if the destination answers the before the Station, he gets internal hold on music. It could be surprising for him, why should he get music while answering a fresh call. This event can be avoided by replacing music with a voice message. An appropriate voice message can be recorded and can be played back in such situation.

  Messages for Auto redial could be:
  "Please hold. The call is coming on the line soon".

- **If 'Dial by Name' feature is not to be used**, then voice message for initial guidance may not be recorded instead the station numbers can be recorded in the day time greeting only. The day time greeting in such case could be:
  "Dial first three letters of the name of the person you wish to call".

How to program?

Step 1: Program maximum duration for voice module using command ***1402.***
Step 2: Divide the VM in required number of parts using command ***1403.***
Step 3: Program the source of recording using command ***1404.***
Step 4: Record VM partition using command ***1405.***
Step 5: Playback the recorded partition using command ***1406.***
Step 6: Assign partition to VM application using command ***1407.***
Step 7: Default VM config using command ***1401-#.***

Step 1
Use following command to program voice module duration:
1402-VM Duration
Where,
VM Duration is from 000 to 255 in seconds.
By default, VM duration is 240 seconds.

Example:
VM 120 is to be used.
1402-120

Step 2
Voice module can be divided into maximum 16 parts. Each part is of equal duration i.e. 15 seconds. If the VM is divided in to 8 parts, each part would be of 30 seconds.

Use following command to divide the voice module in desired number of parts:
1403-Number of Parts
Where,
Number of Parts can be 01 to 16.
By default, number of parts = 13.

Example:
Divide VM into 8 parts.
1403-08

Step 3
Use following command to program the source of recording as internal/external:
1404-Code
Where,

Code	Meaning
0	Recording from Telephone
1	Recording from Music port

Step 4
Use following command to record VM partition:
1405-Part Number
Where,
Part Number is from 00 to 15.

Step 5
Use following command to playback the recorded VM partition:
1406-Part Number
Where,
Part Number is from 00 to 15.

Step 6
Use following command to assign an application to a VM partition:
1407-Voice Message Application-Part Number
Where,
Part Number is from 00 to 15.

Voice Message Application	Meaning
00	Day Greeting
01	Night Greeting
02	Initial Guidance Message
03	Dial by Name Message
04	No Dial Message
05	Wrong Dial Message
06	Transfer Message
07	Busy Message
08	No Reply Message
09	Music on Hold
10	Alarm
11	Emergency Message
12	Auto Redial

Use following command to de-assign application from a VM partition:
1407-Voice Message Application-#

Step 7
Use following command to set default values for all the VM parameters:
1401-#

On issuing this command VM config is changed as follows:
- VM duration = 240 seconds.
- Number of VM parts = 13.
- Recording source = Telephone.
- Assignment of Voice Message Application to part number = As shown to the table.

How to record/verify a voice message?

Recording from a telephone:
This method is very simple. Whatever we speak on the phone is recorded. It is done as follows:
- Select a good quality extension with good telephone.
- Request a person with clear voice to record the message in his or her voice.
- Select a peaceful place. Switch OFF fans and other sources of noise.
- Avoid room noise to maintain clarity of the message.
- Enter in the programming mode from this extension.
- Issue command ***1404-0.***
- You will get confirmation tone.
- Issue command ***1405-Part Number.***
- Start recording your message.
- The recording is now going on. Whatever you speak on the phone is being recorded.
- Replace the handset as soon as the message is over. You may use your hand to press the hook switch to reduce the delay.
- You will get ring because you are in programming mode.
- To verify the recording, issue command: ***1406-Part Number***, where M is the same message you gave earlier.
- Listen to the whole message.
- Repeat above procedure if you are not satisfied with the message.

Recording from an external source:
The simple method described above is good enough for most of the applications. But if a better quality of voice message is required, we need to eliminate all the room noise picked up by the phone while recording.
A better option is supported by VISION to record high quality message. We need a cassette or CD player with pre-amplified output port. This can be done as follows:
- Select the piece of music or message you want to record.
- Get this message recorded with the proper media.
- Select the track or the position on the media so that when you press PLAY, the desired message should start without delay.
- Connect the player with the VISION using an audio cable.
- The external music source can be connected to the music port.
- Enter in the programming mode from a station.
- Issue command: ***1404-1.***
- Issue command: ***1405-Part Number.***
- You will hear confirmation tone.
- Start the player as soon as the confirmation tone stops on the phone.
- The recording has started.
- Replace the handset as soon as the message is over. You may use your hand to press the hook switch to reduce the delay.
- You will get ring because you are in the programming mode.
- Stop the music source.
- To verify the recording, issue the command: ***1406-Part Number***.
- Listen to the whole message.
- Repeat the above procedure if you are not satisfied with the message.

Example:
Voice module is to be used for emergency call.

Solution:
- Divide the voice module in one part using command ***1403-01.***
- Record an Emergency message using command ***1405-00.***
- Verify the recorded message using command ***1406-00.***
- Assign Emergency call application to the voice module partition using command ***1407-11-00.***

Important Points:
- It is possible to use the voice module for multiple applications. However, only one application shall work at a time.
- If the system is used with default VM config then on issuing command ***1103-SE Password-Reverse SE Password***, default VM config is reloaded and voice message application works as before.
- However, if VM is programmed with customized message and if command ***1103-SE Password-Reverse SE Password*** is issued then voice messages will not be erased but the VM config would set to default settings.
- To restore the VM config following command should be issue:
  - ***1403-Number of Parts***
  - ***1407-Voice Message Application-Part Number***
- Doing so, the customized voice message will be restored and the voice message application would work as before. It is advisable to the SE that before issuing the command to default the system config, number of VM parts and assignment of VM application to a VM part number is known to him.
- To know programming details, please refer Configuration Report.

Relevant Topic:
1. Music on Hold 119

=X=X=

Walk-in Class of Service

What's this?

- A user can make calls from some other stations according to his Toll Control programming.
- A user can make calls from any other station using this feature.
- This feature is useful to managers when they move away from their desk. Using this feature, they can make long distance calls from any other station where such dialing is not allowed.
- This facility is protected with the user password.

How to use it?

1	Lift the handset.	Dial tone
2	Dial ***111-Station-User Password.***	Dial tone
3	Dial out the desired outside number.	

Example:
A user is having station number 23. His user password is 3535. He is sitting at station number 25. He needs to make a long distance call from 25 but such facility is not allowed from there.

The user can dial Walk-in Class of Service from 25 and make necessary calls by dialing:
111-23-3535
On dialing above command, the system gives confirmation tone. The user can dial the trunk access code to get trunk dial tone during the confirmation tone. Alternately he can wait for the dial tone once the confirmation tone expires.

Important Points:

- Only one call is allowed at a time using this feature.
- To make two calls one after the other, the user needs to dial the code twice.
- Walk-In Class of Service is not allowed with default user password.
- Walk in Class of Service is available to all the stations.

Relevant Topic:

1. User Security (User Password) 185

=X=X=

Section 3: Appendices

Appendix A: Technical Specifications

System Capacity and Resources:

	VISION 206S	VISION 308S	VISION 309P
Total Ports	8	11	12
Trunk (Max.)	2	3	3
Extensions (Max.)	6	8	9
Door Phone Port	-	-	1
Relay Port	-	-	1
PAS Port	-	-	1
COM Port	-	-	1
Digital Input Port	-	-	1
Voice Module	-	-	1
Speech Paths	7	7	7
DTMF Decoders	2	2	2
DTMF Encoders	2	2	2

Type of Switching : Space DiVISION (CMOS cross point)
Type of Control : COMS Micro Controller with SPC

Extension Dialing
A. Pulse Dialing : 10PPS +/-10%, Make/Break ratio 1:2
B. DTMF Dialing : As per CCITT recommendation Q.23

Trunk Dialing
A. Pulse Dialing : 10PPS +/-5%, Make/Break ratio 1:2 (Break period between 66-68 ms) IDP = 667ms
B. DTMF Dialing : As per CCITT recommendation Q.23

Transmission Parameters
Return Loss : More than 18dB
Insertion Loss : Less than 1dB
Inter-channel cross-talk : Less than -65dBm
Idle channel noise : Less than -60dBm
Extension loop resistance : 250 Ohms Maximum (excluding Telephone)

Power Supply : 90-265VAC, 47-63Hz
Dimension (LxWxH) : 260 x 75 x 280mm (10.24 x 2.95 x 11.02”)
Weight : 2.0 Kg (4.41 lbs)
Ambient Conditions : 0° to 45°C (32° to 113°Fahrenheit)
Cabling : 0.5mm single twisted pair

Environment : Temperature : 0° to 45°C (32° to 113°Fahrenheit)
: Humidity : 95% RH, non-condensing

=X=X=

Appendix B: Feature Commands

Programming the System

Enter SE mode	***1#91-SE Password***
Enter SA mode	***1#92-SA Password***
Exit SE/SA Mode	***00***

Alarms

Duration Alarm	***161-Minute***
Time Alarm (Wake Up)	***162-Hour-Minute***
Daily Alarm	***163-Hour-Minute***
Remote Alarm (Duration)	***164-Station-1-Hour-Minute***
Remote Alarm (Time)	***164-Station-2-Hours-Minutes***
Remote Alarm (Daily)	***164-Station-3-Hours-Minutes***
Cancel Remote Alarm	***164-Station-0***
Cancel All set Alarms	***160***

Auto Call Back (ACB)

Auto Call Back-On Busy	***Station-2***
Cancel Auto Call Back	***102***
Auto Call Back-On No Reply	***Station-Flash-2***
Cancel Auto Call Back	***102***

Auto Redial

Auto Redial	***77***
Cancel Auto Redial	***70***

Barge-In

Barge-In	***Station-3***

Call Forward

Call Follow Me	***132-Station-Your User Password***
Cancel Follow Me	***130***
Call Forward-All Calls	***131-Station***
Cancel Forward	***130***
Call Forward-If Busy	***134-Station***
Cancel C.F.-If Busy	***130***
Call Forward - If No Reply	***133-Station***
Cancel C.F.-If No Reply	***130***

Call Hold

Call Hold	***Flash***

Call Park

Call Park	***Flash-7***
Retrieve Parked Call	***17***

Call Pick Up

Call Pick Up-Group	***4***
Call Pick Up-Selective	***12-Station***

Call Splitting

Call Splitting	***Flash-1***

Call Transfer

Call Transfer	***Flash-Station***
Call Transfer-On busy	***Flash-Station-5***
Call Transfer Trunk-to-Trunk	***Flash-6***

Cancel Station Features

Cancel Station Features	***100***

Conference

Conference	***Flash-0***

Continued Dialing

Continued Dialing	***Flash-#-Desired Code***

Department Call

Department Call	***3980 to 3983***

Dynamic Lock

Close Lock	***140***
Set Lock Level	***141-User Password***
Set Auto-Shut Time	***143-User Password-Minute***
Change Password	***144-Old Password-New Password***

Executive/Secretary

Executive/Secretary	***131-Station***

Hot Line

Hot Line	***153-Station***
Hot Line Delay	***154-Seconds***
Hot Outward Dialing	***151-Trunk Access Group Code***
Hot Outward Dialing-With Number	***152-Trunk Access Group Code-Number***
Cancel Hot Line And HOD	***150***

Interrupt request

Interrupt Request	***Station-5***

Last Number Redial

Last Number Redial	***7***

Live Call SuperVISION

Live Call SuperVISION	***199-Station***

Memory Dialing

Use Memory Dialing	***8-Directory Index***

Paging

Paging	***3998***

Programming Personal Memory

Program Personal Memory	***18-Location Code-Trunk Access Code-Number-#***

Raid

Raid	***Station-4***

Relay Port

Relay Off/On	***3990/3991***

Trunk Access

Trunk Access-Group/Selective	***0 or 5 or 61 or 62***

Walk-In Class Of Service

Walk-In Class Of Service	***111-Station-User Password***

=X=X=

Appendix C: Programming Commands

Abbreviated Dialing

Program a telephone number in global directory	***1301-1-Location Code-Number-#***
Clear number in a particular global directory index	***1301-1-Location-#****
Clear the number in all the global directory indexes	***1301-*-#***
Set trunk Access trunk group for particular location	***1302-1-Location-Trunk Access Group***
Set same trunk access group for all locations	***1302-*-Trunk Access Group***

Allowed and Denied Lists

Program numbers in the allowed list	***1202-1-Allowed List-Location Index-Number-#****
Program same numbers in all the allowed lists	***1202-*-Location Index-Number-#***
Default all numbers in allowed list	***1201-1-Allowed List-#***
Default all number strings in all the allowed lists	***1201-*-#***
Program numbers in denied list	***1204-1-Denied List-Location Index-Number-#***
Program same numbers in all the denied lists	***1204-*-Location Index-Number-#****
Default all number strings in a denied list	***1203-1-Denied List-#***
Default all number strings in all the denied lists	***1203-*-#***

Alternate Number Dialing

Assign alternate group number	***1303-1-Index-alternate Group Number***
Clear all the Alternate Group Numbers	***1303-*-#***

Behind the PBX Applications

Program PBX Expansion count for a trunk	***3201-1-Trunk-PEC Count***
Program same PBX Expansion count for all trunks	***3201-*-PEC Count***

Call Duration Control

Assign a CDC table to a station user	***4920-1-Station-CDC Table***
Assign same CDC table to all the stations	***4920-*-CDC Table***
Enable/disable CDC for Outgoing call in a CDC table	***4910-1-CDC Table-Code***
Enable/disable CDC for Outgoing call in all CDC tables	***4910-*-Code***
Enable/disable CDC for Incoming call in a CDC table	***4911-1-CDC Table-Code***
Enable/disable CDC for Incoming call in all CDC tables	***4911-*-Code***
Enable/disable CDC for Internal call in a CDC table	***4912-1-CDC Table-Code***
Enable/disable CDC for Internal call in all CDC tables	***4912-*-Code***
Assign disconnection flag	***4913-1-CDC Table-Disconnection flag***
Assign same disconnection flag to all CDC tables	***4913-*-Disconnection Flag***
Assign CDC Timer	***4914-1-CDC Table-CDC Timer***
Assign same CDC Timer to all CDC tables	***4914-*-CDC Timer***
Assign allowed list to a table	***4915-1-CDC Table-Allowed List***
Assign same allowed list to a table	***4915-*-Allowed List***
Assign denied list to a table	***4916-1-CDC Table-Denied List***
Assign same denied list to a table	***4916-*-Denied List***
Default a CDC table	***4901-1-CDC Table-#***
Default all the CDC tables	***4901-*-#***

Call Pick Up

Program a station in call pick up group	***4301-1-Station-Call Pick Up Group***
Program all stations in same call pick up group	***4301-*-Call Pick Up Group***

Call Progress Tones

To program the dial tone timer	***3001-Seconds***
To program ring back tone timer	***3002-Seconds***
To program the busy tone timer	***3003-Seconds***
To program the error tone timer	***3004-Seconds***
To program the feature confirmation tone timer	***3005-Seconds***
To program programming inter digit timer	***3006-Seconds***
To program the programming error tone timer	***3007-Seconds***
To program the programming confirmation tone timer	***3008-Seconds***

Calling Line Identification and Presentation (CLIP)

Enable/disable CLI based routing during day time	***1602-Code***
Enable/disable CLI based routing during night time	***1603-Code***
Program the incoming telephone number in a CLI table	***1604-1-Index-Telephone Number-#****
Clear all the telephone numbers from the CLI table	***1604-*-#***
Ass. dest. type & dest. for IC telephone No. in the CLI table	***1605-1-Index-Destination Type-Destination***
Ass. same dest. type & dest. for all the IC Nos. in the CLI table	***1605-*-Destination Type-Destination***
Program the destination number for CLI based ECF	***1606-1-Index-Destination Number***
Program the CLI transfer mode	***1607-Code***
Default the CLI Parameters	***1601-****

Class of Service (COS)

Enable/disable a feature in a COS group	***4602-1-COS group-Feature Index-Code***
Enable/disable a feature in all the COS Group	***4602-*-Feature Index-Code***
Default all features in a COS Group	***4601-1-COS Group-#***
Default all features in all the COS Group	***4601-*-#***
Assign a COS Group to a station during day time	***4610-1-Station-COS Group***
Assign a COS Group to all stations during day time	***4610-*-COS Group***
Assign a COS Group to a station during night time	***4611-1-Station-COS Group***
Assign a COS Group to all stations during night time	***4611-*-COS Group***

Configuration Reports

Download configuration report	***1100***

Department Call

Program station group as department group	***4801-1-Department Group-Station Group***
Program same station group to all department groups	***4801-*-Station Group***

Dial by Name

Program the station name	***4103-1-Station-Name***
Clear a station name	***4103-1-Station-#***
Clear all the station name	***4103-*-#***

Direct Inward Dialing (DID)

Activate DID on a trunk during day time	***3501-1-Trunk-Code***
Activate DID on all trunk during day time	***3501-*-Code***
Activate DID on a trunk during night time	***3502-1-Trunk-Code***
Activate DID on all trunk during night time	***3502-*-Code***
Act. Voice Guidance for DID on a trunk during Daytime	***3503-1-Trunk-Code***
Activate VG for DID on all trunks during daytime	***3503-*-Code***
Activate VG for DID on a trunk during nighttime	***3504-1-Trunk-Code***
Activate VG for DID on all trunks during nighttime	***3504-*-Code***

Direct Inward System Access (DOSA)

Enable/disable DOSA on a trunk during day time	***3601-1-Trunk-Code***
Enable/disable DOSA on all the trunks during day time	***3601-*-Code***
Enable/disable DOSA on a trunk during night time	***3602-1-Trunk-Code***
Enable/disable DOSA on all the trunks during night time	***3602-*-Code***

Door Phone

Program door phone port	***1701-Code***
Assign station group as door phone group for daytime	***1702-Station Group***
Assign station group as door phone group for nighttime	***1703-Station Group***

External Call Forward (ECF)

Enable/disable ECF on a trunk during day time	***3701-1-Trunk-Code***
Enable/disable ECF on all trunks during day time	***3701-*-Code***
Enable/disable ECF on a trunk during night time	***3702-1-Trunk-Code***
Enable/disable ECF on all trunks during night time	***3702-*-Code***
Assign trunk group to forward the calls of a trunk	***3703-1-Trunk-Trunk Access Group***
Assign dest. No. where the calls are to be forwarded for a trunk	***3704-1-Trunk-Telephone number-#***

Flash Timer

Program Flash Timer	***4102-1-Station-Flash Timer***
Program same flash timer for all the stations	***4102-*-Flash Timer***

Flexible Numbers

Program the flexible number for a station	***4201-1-Station-Flexible Number-#****
Clear the flexible numbers of all the stations	***4201-*-0***
Default the flexible numbers of all the stations	***4201-*-#***

Internet Ready Port

Activate/deactivate Internet ready Port	***2101-1/0***

Least Cost Routing (LCR)

Program LCR type for a trunk access group	***3401-1-Trunk Access Group-LCR Type***
Program LCR Type for all Trunk Access Groups	***3401-*-LCR Type***
Assign service provide code to each trunk	***3402-1-Trunk-SP Code***
Assign same service provider to all trunks	***3402-*-SP Code***
Program time zone index	***3412-1-Time Zone Index-Start Time-End Time***
Program the SP sequence for the each Time zone	***3413-1-Time Zone Index-SP0-SP1-SP2-SP3***
Default Time Zone wise LCR table	***3411-*-#***

Program number Index	***3422-1-Number Index-Number String-#****
Program the Service Provider sequence for the each number Index	***3423-1-Number index-SP0-SP1-SP2-SP3***
Default Number wise LCR tables	***3421-*-#***
Program time Zone Index for Mixed LCR	***3432-1-Time Zone-Start Time-End Time***
Program Number Index for Mixed LCR	***3433-1-Number Index-Number String-#****
Program the Service Provider sequence for the each time Zone	***3434-1-No. Index-TZ Index-SP0-SP1-SP2-SP3***
Default Mixed LCR table	***3431-*-#***

Music On Hold (MOH)

Select music source	***1102-Code***

Operator

Program the Operator Station	***1101-Station***

Programming using Phone Wizard

To enter programming mode	***1#98-SE Password***
Set current date	***27-Date-Month-Year-Day***
Set Current Time	***28-Hour-Minute***
Set New SE Password	***291-New SE Password***
Set New SA Password	***292-New SA Password***
Class of Service	***31-Ext-Day COS Group-Night COS Group***
Toll Control	***32-Ext-Day AL/DL List-Night AL/DL List***
Clear all the features	***343-Ext***
Flash Timer for Extension	***36-Ext-Flash Timer Count***
Flexible Number	***37-Software Port No.-Flexible Number-#****
Operator Extension	***391-Ext***
Enable/Disable and Dial Type	***41-Trunk-Enable/Disable Flag-Dial Type***
DID ON/OFF	***43-Trunk-Day Code-Night Code***
DOSA ON/OFF	***45-Trunk-Day Code-Night Code***
Trunk Landing Destination for Day Mode	***47-Trunk-Ext1=Ext2-Ext3-Ext4***
Trunk Landing Destination for Night Mode	***48-Trunk-Ext1-Ext2-Ext3-Ext4***
Hunt Timer	***212-Timer***
Hunting Scheme	***46-Trunk-Day Hunting Scheme-Night Hunting Scheme***

Real Time Clock

Set Current Date	***1001-Date-Month-Year***
Set Current Day	***1002-Day***
Set Current Time	***1003-Hours-Minutes***

Relay Port

Program the mode of the relay port	***1801-Mode***
Program the ON time in the relay port table	***1802-1-Index-Switch On Time***
Clear an ON time entry from the relay port table	***1802-1-Index-#***
Clear all the ON time entries from the relay port table	***1802-*-#***
Program OFF time in the relay port table	***1803-1-Index-Switch Off time***
Clear an OFF time entry from the relay port table	***1803-1-Index-#***
Clear all the OFF time entries from the relay port table	***1803-*-#***

Program relay port ON duration timer	***3036-Seconds***
Program relay port OFF duration timer	***3037-Seconds***

Scheduled Dialing

Program a number in the schedule dialing table	***2002-1-Number index-Number-#****
Clear all the numbers in the scheduled dialing table	***2002-*-#***
Program trunk access group for the number to be dialed out	***2003-1-Number Index-Trunk Access Group***
Program time at which the number is to be dialed out	***2004-1-Number Index-Time***
Default all the parameters related to scheduled dialing	***2001-#***

Security Dialer

Enable/disable DIP	***1901-1/0***
Program the DIP as Active High or Active Low	***1902-1/0***
Assign a trunk access group to a DIP	***1903-Trunk Access Group***
Program the emergency phone number where the call is to be made	***1904-Index-Emergency Phone Number-#****
Program the No. of trials to be made for one emergency number	***3038-Count***
Program the time gap between two trials	***3039-Duration***

Station Group

Program station group	***4702-1-Station Group-Destination Index-Station***
Program same station for all station groups	***4702-*-Destination Index-Timer***
Program the time for which each station in the group should ring	***4703-1-Station group-Destination Index-Timer***
Programming ring timer for stations with same destination index for all station groups	***4703-*-Destination Index-Timer***
Program continuous/non-continuous ring for a destination in the group	***4704-1-Station Group-Destination Index-Continuous Ring***
Program continuous/non-continuous for station with same destination index in all station groups	***4704-*-Destination Index-Continuous Ring***
Program rotation method for a station group	***4705-1-Station Group-Rotation Method***
Program rotation method for all the station group	***4705-*-Rotation Method***
Assign default stations to a station groups	***4701-1-Station Group-#***
Assign default stations to all station groups	***4701-*-#***

Station Message Detail Recording (SMDR)

Outgoing Calls:

Set SMDR storage flag	***1510-Storage Flag***
Set outgoing call storage to default settings	***1501-#***
Store outgoing calls made on particular station	***1511-1-Station-Storage Flag***
Store Outgoing call made on all stations	***1511-*-Storage Flag***
Storage outgoing calls made on particular trunk	***1512-1-Trunk-Storage Flag***
Store outgoing calls for all the trunks	***1512-*-Storage Flag***
Program a number in the list	***1513-1-Index-Number-#****
Default all the numbers in the list	***1513-*-#***
Set the filter for call duration	***1514-Minutes-Seconds***

Program an OG call transferred from one station to another station, then storing it either as one call or two calls.	***1515-Call Split Flag***
Program to store the call at originating/terminating station	***1516-Flag***
Clear SMDR Outgoing buffer	***1520-Reverse SE Password***
Decide whether Outgoing online printing is desired	***1530-Code***
Default printing settings	***1502-#***
Calls made by a stations	***1541-1-Station***
Calls made by range of station	***1541-2-Station-Station***
Calls made by all stations	***1541-****
Calls made on a trunk	***1542-1-Trunk***
Calls made on a range of trunks	***1542-2-Trunk-Trunk***
Calls made on a all trunks	***1542-****
Calls made on a date	***1543-1-Date-Month-Year***
Call made on a range of date	***1543-2-Date-Month-Year-Date-Month-Year***
Calls made on a all dates	***1543-****
Calls made at a fixed time	***1544-1-Hour-Minute***
Calls made between the range of time	***1544-2-Hour-Minute-Hour-Minute***
Calls made at any time	***1544-****
Calls made to a destination	***1545-Number-#****
Calls having duration of higher value	***1546-Minutes-Seconds***
Print SMDR Outgoing calls report	***1540***
Incoming Calls:	
Set SMDR storage mode	***1550-Store Flag***
Set incoming call storage to default settings	***1505-#***
Store Normal Calls	***1561-Flag***
Store DID Calls	***1562-Flag***
Store Unanswered Calls	***1563-Flag***
Store DID Unanswered Calls	***1564-Flag***
Store all Calls	***1565-Flag***
Store Calls of a station	***1551-1-Station-Flag***
Store Calls of all stations	***1551-*-Flag***
Store Calls on a trunk	***1552-1-Trunk-Flag***
Store Calls on all trunks	***1552-*-Flag***
Store Calls - Unanswered Duration	***1553-MM-SS***
Store Calls - Speech duration	***1554-MM-SS***
Decide to store one call or multiple calls	***1555-Call Split Flag***
Decide to store the call on originating station account/ terminating stations account	***1556-Flag***
Clear SMDR-Incoming buffer	***1560-Reverse SE Password***
Decide whether Incoming online printing is desired	***1570-Code***
Set default filter	***1506-#***
Normal Calls	***1591-Flag***
DID Calls	***1592-Flag***
Unanswered Calls	***1593-Flag***
DID Unanswered Calls	***1594-Flag***
All Calls	***1595-Flag***

Calls received by a station	***1581-1-Station***
Calls received by a range of station	***1581-2-Station-Station***
Calls received by all the stations	***1581-****
Calls received on a trunk	***1582-1-Trunk***
Calls received on a range of trunks	***1582-2-Trunk-Trunk***
Calls received on all trunk	***1582-****

Station Parameters

Program the port type for a station	***4101-1-Station-Port type***
Program same port type for all the station	***4101-*-Port Type***
To program digit padding on the station	***4104-1-Station-Count***
To program digit padding on all the stations	***4104-*-Count***
Download station parameters of a station	***4100-1-Station***
Download station parameters of all the stations	***4100-****
Program Internal Inter Digit Wait Timer	***3009-Seconds***

System Parameters

Load default configuration	***1103-Reverse SE Password***
Load default values of all timers	***1107-*-#***

System Security (Passwords)

Change SE Password	***1104-Old SE Password-New SE Password***
Change SA Password	***1105-Old SA Password-New SA Password***

Time Table

Program the system in Manual/Auto mode	***1051-0/1***
Set day or night mode	***1052-1/0***
Program the time table	***1053-Day-Start Time-End Time***

Toll Control

Assign allowed list to a station during daytime	***4501-1-Station-Allowed List***
Assign allowed list to all station during daytime	***4501-*-Allowed List***
Assign allowed list to a station during nighttime	***4502-1-Station-Allowed List***
Assign allowed list to all station during nighttime	***4502-*-Allowed List***
Assign denied list to a station during daytime	***4511-1-Station-Denied List***
Assign denied list to all station during daytime	***4511-*-Denied List***
Assign denied list to a station during nighttime	***4512-1-Station-Denied List***
Assign denied list to all station during nighttime	***4512-*-Denied List***
Assign allowed list to a station for locked condition	***4521-1-Station-Locked Allowed List***
Assign allowed list to all stations for locked condition	***4521-*-Locked Allowed List***
Assign denied list to a station for locked condition	***4522-1-Station-Locked Denied List***
Assign denied list to all stations for locked condition	***4522-*-Locked Denied List***

Trunk Access Group (TAG)

Put the trunk in trunk access group	***4402-1-Trunk Access Group-Trunk0…Trunk2/#***
Put same trunk in all trunk access groups	***4402-*-Trunk0…..Trunk2/#***
Program rotation code for a group	***4403-1-Trunk Access Group-Rotation Code***
Program same rotation code for all the groups	***4403-*-Rotation Code***
Default a trunk access group	***4401-1-Trunk Access Group-#***

Default all trunk access groups	***4401-*-#***
Assign a trunk access group and TAC to a station for daytime	***4411-1-Station-TAG-Trunk Access Code***
Assign TAG and TAC to all the stations for daytime	***4411-*-Trunk Access Group-Trunk Access Code***
Assign a TAG and trunk access code to a station for nighttime	***4412-1-Station-TAG-Trunk Access Code***
Assign TAG and TAC to all the station for nighttime	***4412-*-Trunk Access Group-Trunk Access Code***

Trunk Landing Group

Assign station group as TLG for a trunk for daytime	***3301-1-Trunk-Station Group***
Assign same station group as TLG for all the trunk for daytime	***3301-*-Station Group***
Assign station group as TLG for a trunk for nighttime	***3302-1-Trunk-Station Group***
Assign same station group as TLG for all the trunks for nighttime	***3302-*-Station Group***

Trunk Parameters

Enable/disable a trunk	***3101-1-Trunk-Code***
Enable/disable all the trunks	***3101-*-Code***
Program the dial type of a trunk	***3102-1-Trunk-Code***
Program the same dial type of the trunks	***3102-*Code***
Define a trunk type	***3103-1-Trunk-Code***
Program speech connection delay time for trunk	***3104-1-Trunk-Speech Timer***
Program speech connection delay timer for all trunks	***3104-*-Speech Timer***
To configured the CLI Type for a trunk	***3105-1-Trunk-CLI Type***
To configured the CLI Type for all the trunks	***3105-*-CLI Type***
Print trunk Parameters of a trunk	***3100-1-Trunk***
Print Trunk Parameters of all trunks	***3100-****
Program Trunk First Digit Wait Timer	***3010-Seconds***
Program Trunk Inter Digit Wait Timer	***3011-Seconds***
Program Pause Timer	***3012-Seconds***

User Security (User Password)

Default User password of a Station	***1106-Station***

Voice Message Applications

Program Voice Module duration	***1402-VM Duration***
Divide the voice module in desired number of parts	***1403-Number of Parts***
Recording source-internal/external	***1404-0/1***
Record VM partition	***1405-Part Number***
Playback the recorded VM partition	***1406-Part Number***
Assign an application to a VM partition	***1407-Voice Message Application-Part Number***
De-assign application from a VM partition	***1407-Voice Message Application-#***
Set default values for all the VM parameters	***1401-#***

=X=X=

Appendix D: Troubleshooting

VISION is not turning ON

- Please check the Mains Power.
- Please check the Switch.
- Please check the Main Fuse (315mA).
- Please check the MOV (275/14).
- Please check for loose connection of PT3 connector.
- Please contact authorised Matrix dealer.

VISION does not work in power down mode

- Check the battery power. The battery should be charged properly.
- Check the Battery connector and the battery cable for any open circuit.
- Please contact authorized Matrix dealer.

One Station is not working

- Please change the telephone instrument and check.
- Please check wiring of that Station.
- Please contact authorised Matrix dealer.

When I call 21 Station the call goes to 22

- Dial 130 from 21 (your call might have been forwarded).

Station not ringing

- Check ringer volume of the telephone instrument.
- Try replacing the telephone instrument.
- Dial 130 to disable call forward/call follow me feature.

Station found busy

- Check whether hook-set is properly kept on the cradle.
- Try replacing telephone instrument.
- Check wiring.

Station cannot dial

- Try replacing telephone instrument.
- Ensure dialling is not disabled through programming.

Incoming Call does not land correctly

- Ensure proper programming of trunk landing group for the trunk.
- Check for Call Privacy from incoming calls.
- Check the Time programmed in the PBX. This is a time sensitive feature.

CLI Number does not come on the Station

- Please check up with your Telephone Company (Service Provider) for CLI facility.
- Please check whether the Station where you are checking CLI function is programmed as CLI Phone.
- Please contact authorised Matrix dealer.

There is lot of hum on PAS port.

- Please check PAS port.
- Please check the amplifier.
- Please check for any open in the wiring.
- Please check for any mismatch of speaker and amplifier.

Relay Port does not operate

- Please check the connections made.
- Please check for the polarity. Refer to the figure shown in topic Relay Port.
- Please check for any open circuit in the wiring.

Security Dialer does not work

- Please check the connections of the Panic Switch/Sensor to the Digital Input Port.
- Please check for any open circuit in the wiring.
- Please check the programming for Security Dialer.
- Please contact authorized Matrix dealer.

=X=X=

Appendix E: Regulatory Information

CE Certificate:

MATRIX
TELECOM SOLUTIONS
▶PRODUCTIVITY MULTIPLIED▶▶

DECLARATION OF CONFORMITY

Manufacturer's Name:	Matrix Telecom Pvt. Ltd
Manufacturer's Address:	38-39, GIDC, Waghodia, Dist Vadodara 391 760
Declares that the products	
Product :	Analog PBX
Model Type:	Vision
Trade Name:	MATRIX
Product Options	This declaration covers all options of the above products

Conforms to the following product specification.

EMI/EMC:

Standard

CISPR 22 Edition 5/ 5.2 2006-03 (Edition 5:2005 consolidated with amendment 1:2005 & 2:2006)
IEC 61000-3-2 Edition 2.2 2004-11 (Edition 2:200 consolidated with amendment 1:2001 and 2:2004)
IEC 61000-3-3 Edition 1.1 2002-03 (Edition 1:1994 consolidated with amendment 1:2001)
IEC 61000-4-2 Edition 1.2 2001-04 (Edition 1:1995 consolidated with amendment 1:1998 and 2:2000)
IEC 61000-4-3 Edition Third 2006-02
IEC 61000-4-4 Edition Second 2004-07
IEC 61000-4-5 Edition 1.1 2001-04 (Edition 1:1995 consolidated with amendment 1:2000)
IEC 61000-4-6 Edition 2.1 2004-11 (Edition 2:2003 consolidated with amendment 1:2004)
IEC 61000-4-8 Edition 1.1 2001-03 (Edition 1:1993 consolidated with amendment 1:2000)
IEC 61000-4-11 Edition Second 2004-03

SAFETY

IEC 60950 -1: 2001 first Edition.

Supplementary Information:
The Product herewith comply with the requirement of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carry the CE-marking accordingly.

Mr.Ganesh Jivani
Director
Date: 18th Oct 2008 Vadodara

MATRIX TELECOM PVT. LTD. VADODARA

CE

MATRIX TELECOM PVT. LTD.
Head Office: 394-GIDC, Makarpura, Vadodara-390 010, India. Ph: +91 265 2630555, Fax: +91 265 2636598, Email: Info@MatrixTeleSol.com, URL: www. MatrixTeleSol.com
Factory: 39-GIDC, Waghodia-391 760, Dist. Vadodara, India. Ph: +91 2668 262056/57, Fax: +91 2668 262631

Declaration of Conformity
(RoHS Declaration)

We, Matrix Telecom Private Limited hereby declare that the product listed below, to which this Declaration of Conformity relates, is in the conformity with the requirement of the following European Union Directive for RoHS compliance:

Document No.	Title	Edition/Date of Issue
EN 2002/95/EC	Restriction of Hazardous Substances	27 January 2003

Type of Equipment : PABX
Equipment Name : Vision
Equipment Models : 206S, 306S, 207P, 309P

Manufacturer's Name : Matrix Telecom Private Limited
Address : 39 – GIDC
Waghodia – 391 760
Dist: Vadodara, India

Additional Information:

The text of EU Directive 2002/95/EC may be found at the following website:
http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_037/l_03720030213en00190023.pdf

Date : 9th April 2007
Place : Vadodara, India

MATRIX TELECOM PVT. LTD. VADODARA

Ganesh Jivani
(Director)
Matrix Telecom Private Limited

Glossary

DIP	:	Digital Input Port.
DOSA	:	Direct Outward System Access. A facility to allow a remote access.
DTMF	:	Dual Tone Multi Frequency. When a code (digit) is dialed, two different specific frequencies are transmitted.
Flash	:	A code required to use various system features.
LED	:	Light Emitting Diode.
LCD	:	Liquid Crystal Display.
MDF	:	Main distribution Frame.
OFF-Hook	:	A condition in which the handset of the telephone instrument is lifted from the cradle.
ON-Hook	:	A condition in which the handset of the telephone instrument rests on the cradle (Idle condition of the Phone).
P & T	:	Post and Telegraph.
PAS	:	Public Address System.
PSTN	:	Public Switch Telephone Network.
PULSE Dialing	:	A type of signaling in which codes (digits) are dialed in pulses.
Pulse	:	A waveform generated by making and breaking of loop current.
RTC	:	Real Time Clock. Date and Time keeping circuit.
SA Mode	:	System Administrator Mode. General housekeeping functions are allowed from SA Mode.
SA	:	System Administrator.
SE Mode	:	System Engineer Mode. Entire programming can be done from this mode.
SE	:	System Engineer.
SMDR	:	Station Message Detail Recording. Cost calculation of the calls made by a station.
SP	:	Service Provider.
Station	:	Internal station to which a telephone is connected.
SWG	:	Standard Wire Gauge.
TONE Dialing	:	A type of signaling in which codes (digits) are dialed in DTMF mode.
Tones	:	Different frequencies used for signaling.
Trunk	:	An external trunk line coming from Service Provider.
PBX	:	Private Branch Exchange.

=X=X=

Index

A
Alarm Ring Timer-See Alarms 20
Alternate Number Group-See Alternate Number Dialing 25
Announcement-See Paging 122
Assign Allowed List-See Toll Control 169
Automatic Station Lock-See Dynamic Lock 94

B
Beeps-See Barge-In 34

C
Call Details Recording-See Station Message Detail Recording 155
Call Disconnector-See Call Duration Control (CDC) 38
Call Duration Limiter-See Call Duration Control (CDC) 38
Call Hold-See Hold 103
Call Split Flag-See Station Message Detail Recording 155
Call Toggle-See Call Splitting 49
Call Toggle of CO line-See Continued Dialing 75
Caller ID-See Calling Line Identification and Presentation (CLIP) 53
Calling a number having DID facility-See Continued Dialing 75
Calling an IVRS-See Continued Dialing 75
Calling a Station-See Internal Call 106
Calling an outside telephone number-See External Call 96
Change SE Password-See System Security (Passwords) 166
Change User Password-See System Security (Passwords) 166
CLI Based Routing-See Calling Line Identification and Presentation (CLIP) 53
CLI Port-See Station Parameters 163
CLI Type-See Trunk Parameters 181
Confirmation Tone Timer-See Call Progress Tones 46
Continuous Ring-See Station Group 151
Connecting a Hotline to the PBX-See Trunk Parameters 181
Connecting a Lease line to the PBX-See Trunk Parameters 181
Consultation Hold-See Call Splitting 49
COS Group-See Class of Service (COS) 57

D
Data Port-See Internet Ready Port 107
Day and Night Mode-See Time Table 167
Default all Timers-See System Parameters 165
Default Programming Password-See System Security (Passwords) 166
Default SE Password-See System Security (Passwords) 166
Department Number-See Department Call 76
Destination Number-See Calling Line Identification and Presentation (CLIP) 53
Destination Type-See Calling Line Identification and Presentation (CLIP) 53
Dial #-See Continued Dialing 75
Dialing Ratio-See Trunk Parameters 181
DID Messages-See Voice Message Applications 186
Different type of Tones-See Call Progress Tones 46
DIP as Active High-See Security Dialer 147
Direct Inward Line-See Trunk Landing Groups 178
Direct Outward Dialing-See External Call 96
Directory Index-See Abbreviated Dialing 17
DOP-See Relay Port 138
DP-See Door Phone 92
Download-See Configuration Report 67

E
Emergency Number-See Security Dialer 147
Enable/Disable CLI-See Calling Line Identification and Presentation (CLIP) 53
Enter Program Mode-See Programming the System 128

Enter System Administrator (SA) Mode-See Programming the System 128
Enter System Engineer (SE) Mode-See Programming the System 128
External Music-See Music on Hold 119
Exit Program Mode-See Programming the System 128
Exit System Administrator (SA) Mode-See Programming the System 128
Exit System Engineer (SE) Mode-See Programming the System 128

F
Filter Commands-See Station Message Detail Recording 155
Flashing on Trunk-See Continued Dialing 75

G
Global Abbreviated Dialing-See Abbreviated Dialing 17
Group Call-See Department Call 76

H
Hardware Port-See Programming the System 128
Hierarchy-See Boss Ring 37

I
Incoming Call landing-See Trunk Landing Groups 178
Independent Timings-See Time Table 167
Individual Memory Dialing-See Abbreviated Dialing 17
Intercom-See Internal Call 106
Inter Digit Timer-See Call Progress Tones 46
Internal Music-See Music on Hold 119

J

K

L
Location Index-See Abbreviated Dialing 17
Locked Allowed List-See Toll Control 169
Long Conversation Cut Off-Please Call Duration Control (CDC) 38
Long Conversation Warning-See Call Duration Control (CDC) 38
LCR Type-See Least Cost Routing (LCR) 111

M
Main Number-See Alternate Number Dialing 25
Manual/Auto Mode-See Time Table 167
Memory Dialing-See Abbreviated Dialing 17

N
Night Service-See Time Table 167
Normal Port-See Station Parameters 163
Number Index-See Least Cost Routing (LCR) 111
Number of Trials-See Security Dialer 147

O
Online data transfer to the Computer-See Station Message Detail Recording 155
Online printing of calls-See Station Message Detail Recording 155
Operator Station-See Operator 121

P
Part Number-See Voice Message Applications 186
PAS-See Paging 122
Pause Timer-See Trunk Parameters 181
PBX Compatibility-See Behind the PBX Applications 35
PBX Expansion Count-See Behind the PBX Applications 35
Personal Abbreviated Dialing-See Abbreviated Dialing 17
Pilot Call-See Department Call 76

Pilot Number-See Department Call 76
Power Fail-See Power Down Mode 123
Printing Incoming calls received on a particular date-See Station Message Detail Recording 155
Printing Outgoing calls-See Station Message Detail Recording 155

Q
Quick Dialing-See Abbreviated Dialing 17

R
Recording-See Voice Message Applications 186
Redial-See Last Number Redial 110
Redial Wait Timer-See Last Number Redial 110
Relay ON-See Relay Port 138
Reminder Call-See Alarms 20
Reports-See Station Message Detail Recording 155 and Configuration Report 67
Ring Back Timer-See Call Forward 42
Ring Timer-See Station Group 151
Rotation Method-See Station Group 151

S
Scheduled Time-See Scheduled Dialing 145
Secretary-See Operator 121
Software Port-See Programming the System 128
SP Code-See Least Cost Routing (LCR) 111
Speech Connection Delay Timer-See Trunk Parameters 181
Speed Dialing-See Abbreviated Dialing 17
Station Groups-See Department Call 76
Station Name-See Dial by Name 78
Storage Flag-See Station Message Detail Recording 155
Storing Calls-See Station Message Detail Recording 155

T
Time-See Real Time Clock (RTC) 137
Time Gap-See Security Dialer 147
Toggle-See Call Splitting 49
Toll Restriction Override-See Walk-in Class of Service 191
Tone-See Call Progress Tones 46
Tone Specifications-See Call Progress Tones 46
Transfer-See Call Transfer 51 and Flash Timer 100
Trunk Access Groups-See Alternate Number Dialing 25
Trunk Answer from any station-See Call Pick Up 45
Trunk First Digit Wait Timer-See Trunk Parameters 181
Trunk Call Beeps-See Privacy 124
Trunk Type-See Trunk Parameters 181

U

V
VM Duration-See Voice Message Applications 186
Voice Guidance-See Dial by Name 78, Direct Inward Dialing (DID) 81, Voice Message Applications 186

W
Wizard-See Programming using Phone Wizard 131

X

Y

Z

=X=X=

MATRIX COMSEC PVT. LTD.

Corporate Office:
394-GIDC, Makarpura, Vadodara - 390010, India.
Tel.:+91 265 2630555, Fax: +91 265 2636598
E-mail: Info@MatrixComSec.com

Factory:
15 & 19-GIDC, Waghodia - 391760, Dist. Vadodara, India.
Tel.: +91 2668 263172/73

Customer Care:
Tel.: +91 265 2630555
E-mail: Customer.Care@MatrixComSec.com, Support@MatrixComSec.com

www.MatrixComSec.com

Version 1, December 2012