

VISION System Manual



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Documentation Information

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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](#) 11
 - [Installing the System](#) 17
 - [Protecting the System](#) 15
 - [Internal Call](#) 119
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 - [Call Park](#) 56
 - [Interrupt Request](#) 122
 - [Barge-In](#) 44
 - [User Security \(Password\)](#) 204
 - [Programming the System](#) 143

The user can use the pages named 'Notes' given at the end of the system manual for making note of customer's requirements and 'Programming Register' for registering the programming changes Datewise. These could be used for future reference.

Packing List

The ideal sales package for Vision is as mentioned below:

EPABX Vision-206S/207P/308S/309P		
Sr.	Item	Qty.
01	EPABX Vision	1
02	System Manual	1
03	User's Guide	1
04	Vision Quick Start	2
05	Vision Programming Card	1
06	Fuse FB 2.5 Amp.	1
07	Fuse FB 3.5 Amp.	1
08	Battery Cable	1
09	T. P. G.	1
10	Screw Grip	2
11	Screw M 7 X 30	2
12	Warranty Card Set	1
13	Support Card	1
14	Matrix Logo Small	5
15	Telephone Message Pad	1
16	Label Factory Seal	1
17	Mounting Template	1
18	Documentation CD (System Manual, User's Guide and Quick Start)	1

- Please make sure that these components are present.
- In case of short supply or damage detection, contact the source for where you have purchased the system.

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Warranty Statement

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.

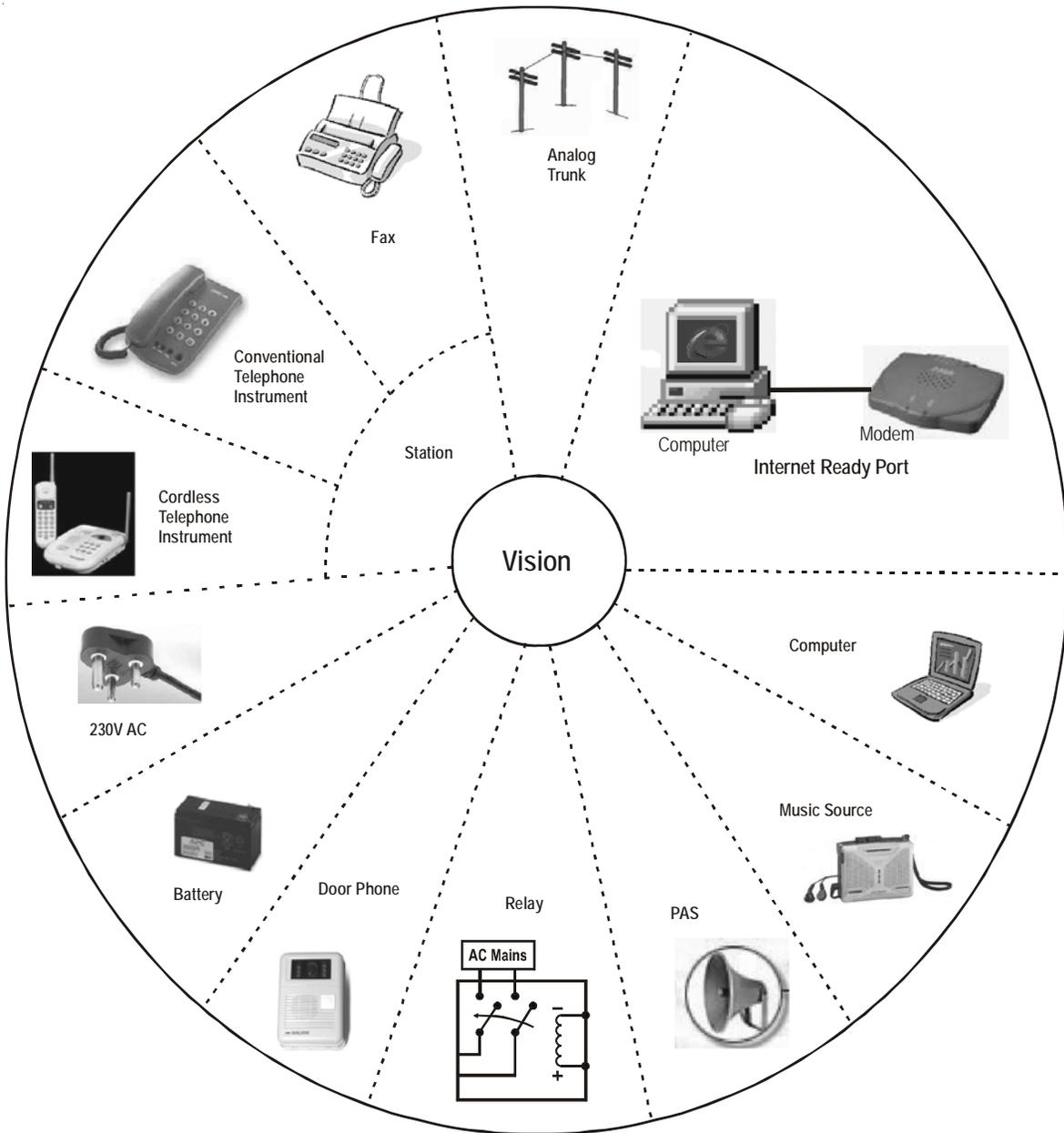
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Introducing the System

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 four models viz.

- Vision-206 Standard.
- Vision-206 Premium.
- Vision-308 Standard.
- Vision-308 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 Disconnect
 - 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-206 Premium and Vision-308 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

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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, 47-65Hz. 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 inbuilt 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.

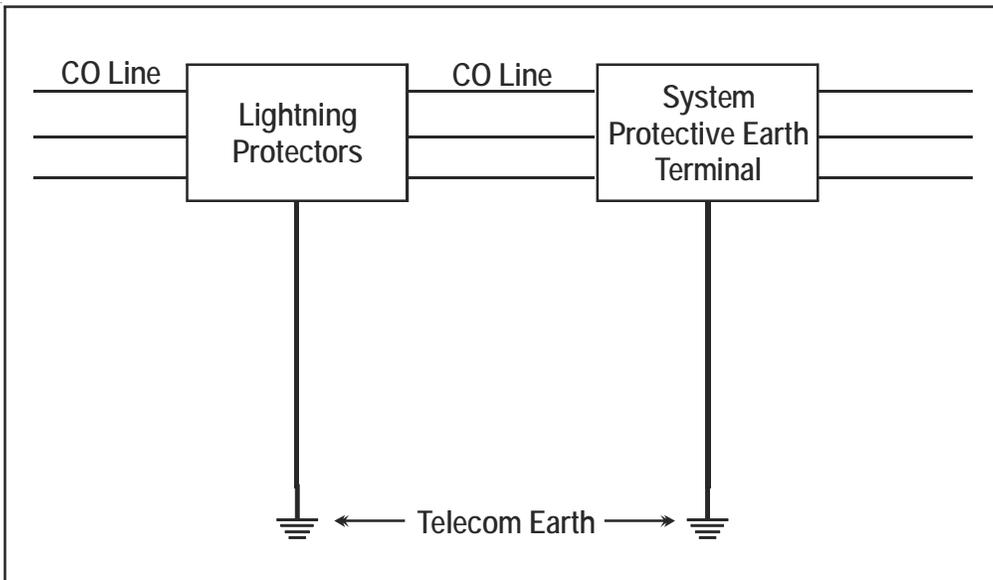
Protecting the System from heavy voltage on the Relay Port:

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 lightning protectors. In addition, grounding (connection to earth ground) is very important to protect the system.

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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 lightning 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° C to 45° C (32° to 113° 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.

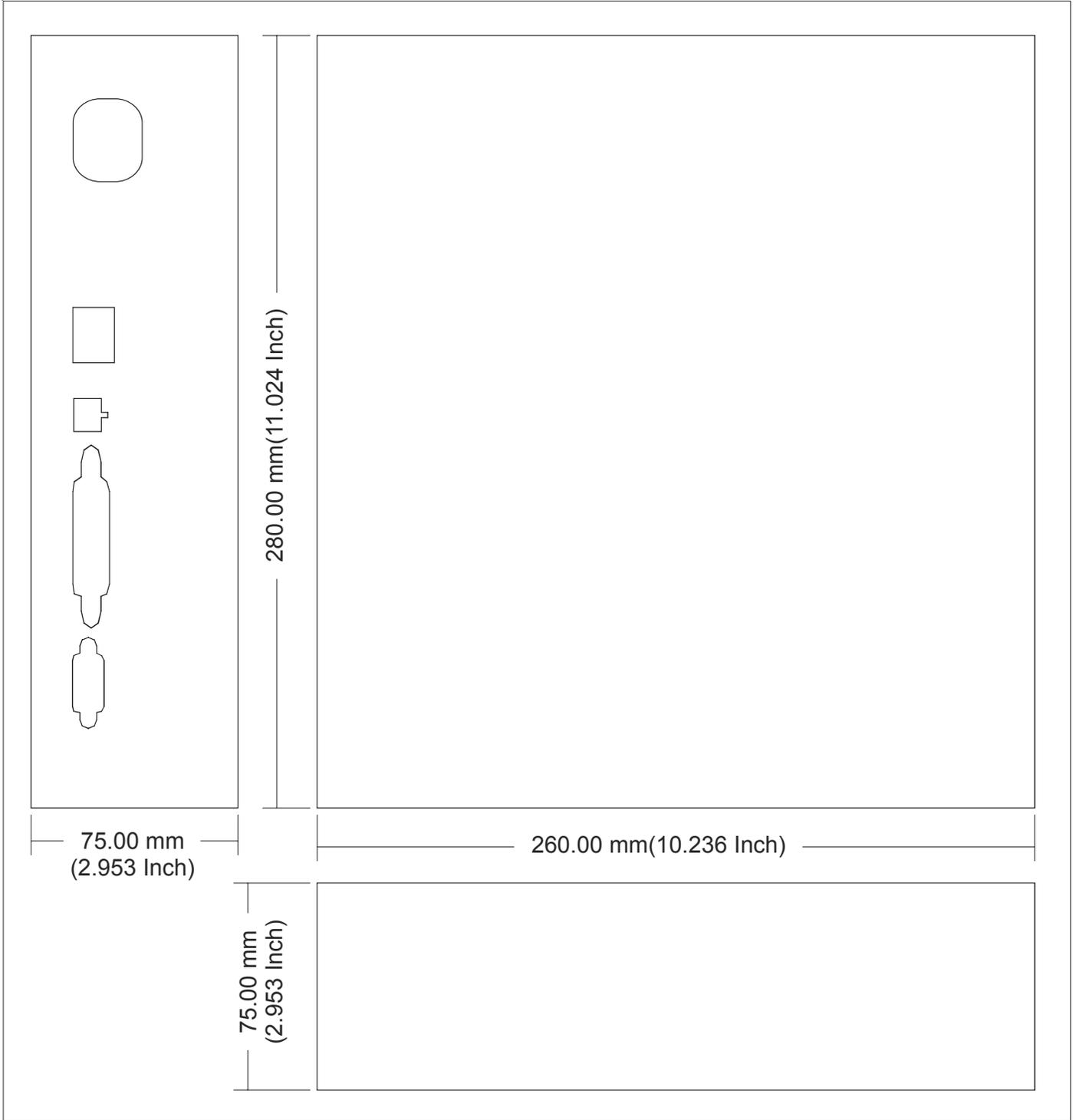
Power Supply

- 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



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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](#)'.

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Section 2: Features and Facilities

Abbreviated Dialing

What's this?

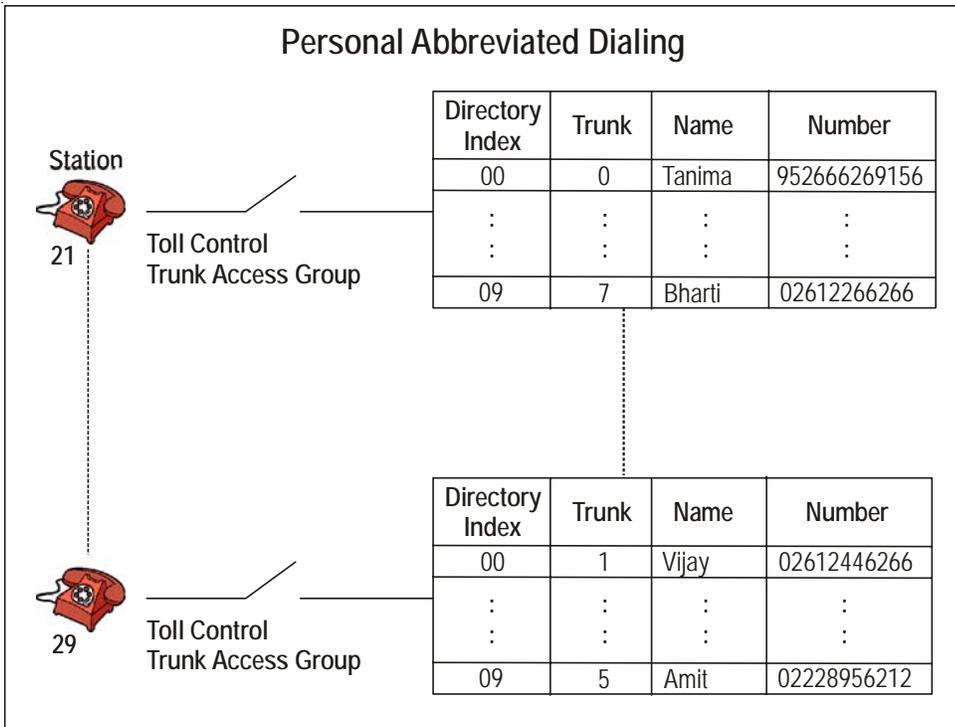
- Frequently called numbers can be stored in the system. These numbers can be dialed using specific codes. This is called Abbreviated dialing. It is also known as Memory Dialing.
- This helps save time while dialing such frequently used numbers.
- An abbreviated number is dialed through its directory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

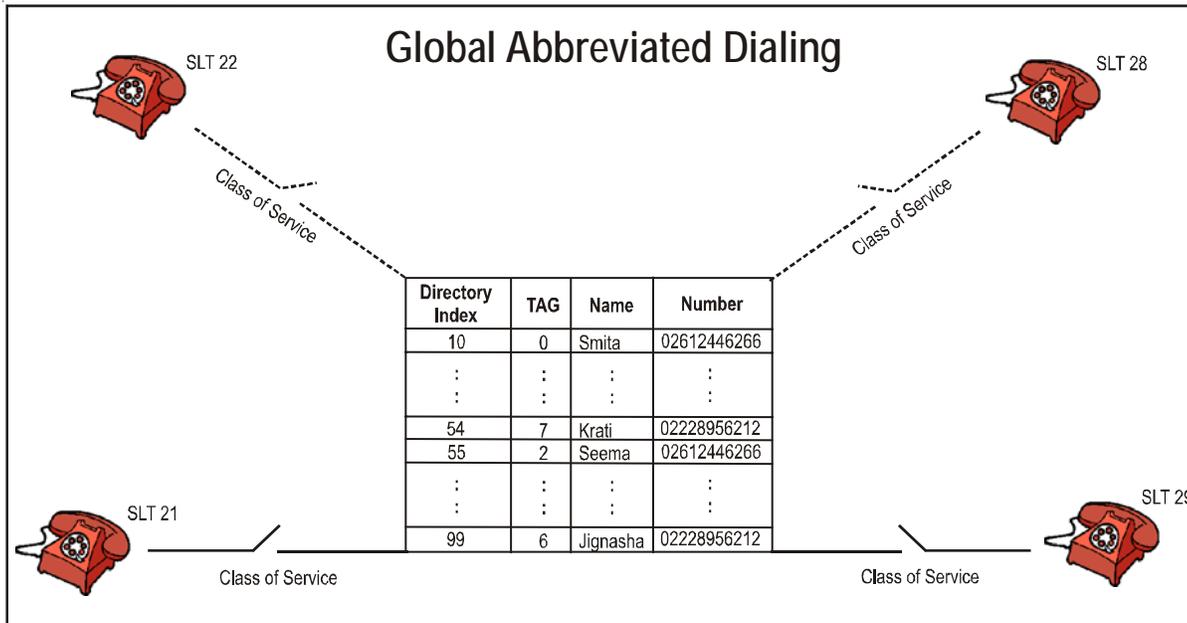
Example:

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 Reports](#)".
- 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#32556575**.

Relevant Topics:

1. [Class of Service \(COS\)](#) 70
2. [Trunk Parameters](#) 199
3. [Alternate Number Dialing](#) 35
4. [Trunk Access Groups](#) 189

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Alarms

What's this?

The Vision offers four different types of alarms satisfying most of the needs. They are:

1. Duration Alarm
2. Time Alarm
3. Daily Alarm
4. 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	Keep the handset on the hook.	

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 for Duration Alarm Or Dial 164-Station-2-Hours-Minutes for Time Alarm Or Dial 164-Station-3-Hours-Minutes for Daily Alarm Or Dial 164-Station-0 (To cancel Remote Alarm).	Confirmation Tone
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:

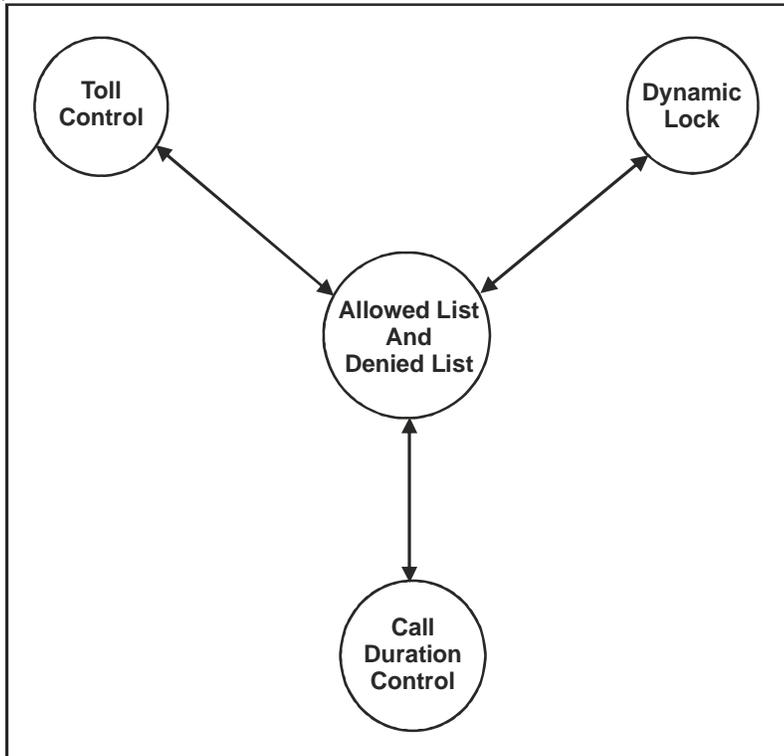
1. Class of Service (COS) 70
2. Voice Message Applications 205

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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.
- A completed allowed list would look as below:

Allowed list	Number String 00	Number String 01	...	...	Number String 15
0	Max 16 digits	Max 16 digits			Max 16 digits
1	Max 16 digits	Max 16 digits			Max 16 digits
2	Max 16 digits	Max 16 digits			Max 16 digits
:	:	:			:
7	:	:			:

- A complete denied list would look as below:

Denied list	Number String 00	Number String 01	...	...	Number String 15
0	Max 16 digits	Max 16 digits			Max 16 digits
1	Max 16 digits	Max 16 digits			Max 16 digits
2	Max 16 digits	Max 16 digits			Max 16 digits
:	:	:			:
7	:	:			:

- Default Allowed Lists look as below:

Loc. 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 Lists look as below:

Loc. 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	*	#	Flash
1	0	95	98	96	B	B	B	B	B	B	B	B	B	*	#	Flash
2	0	95	98	B	B	B	B	B	B	B	B	B	B	*	#	Flash
3	0	95	B	B	B	B	B	B	B	B	B	B	B	*	#	Flash
4	0	B	B	B	B	B	B	B	B	B	B	B	B	*	#	Flash
5	00	B	B	B	B	B	B	B	B	B	B	B	B	*	#	Flash
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 and a 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:

1. Allow all numbers except 'ISD'.
2. Only local calls should be allowed in dynamic lock condition.
3. All calls starting with '95' and '0' should get disconnected after 180 seconds.

Solution:

First examine the default lists.

1. This condition can be fulfilled using default denied list 5.
2. This condition can also be fulfilled using default denied list 1.
3. 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:

1. Allow all numbers except 'ISD'.
2. Only local calls should be allowed in dynamic lock condition.
3. Disconnect all calls starting with '0' after 180 seconds except calls starting with '022'.

Solution:

First examine the default lists.

1. This condition can be fulfilled using default denied list 5.
2. This condition can also be fulfilled using default denied list 1.
3. 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 Reports](#)".

Relevant Topics:

1. [Toll Control](#) 184
2. [Dynamic Lock](#) 107
3. [Call Duration Control](#) 48

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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 in 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	Trunk Access Group	Alternate Number Group
10	2640075	0	00
11	2640076	0	00
12	2640071	0	00
13	2635151	0	00
14	2635173	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](#) 25
2. [Last Number Redial](#) 123
3. [Auto Redial](#) 40

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Auto Call Back (ACB)

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 the 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) 70

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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 the 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 the handset.	Auto Redial set for first number.
8	Repeat step 1 to 7.	Auto Redial set for seconds 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**.

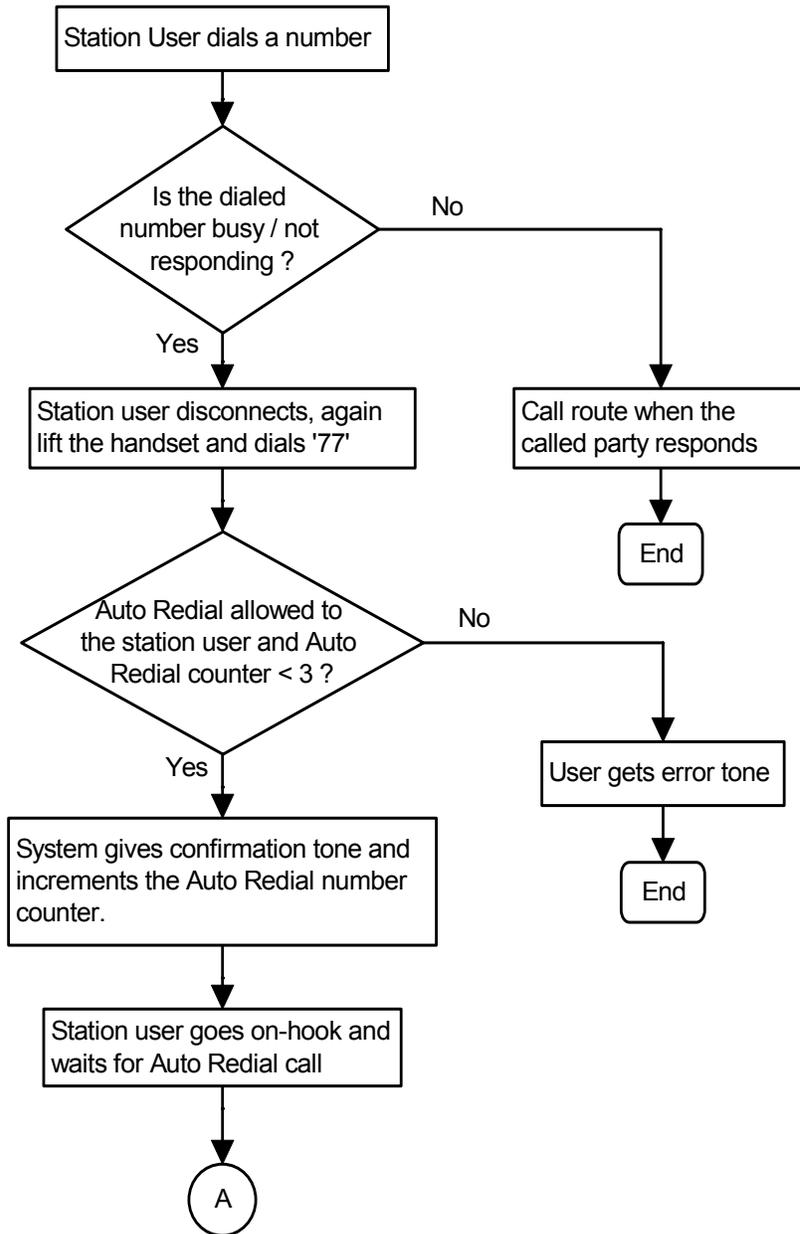
To cancel Auto Redial

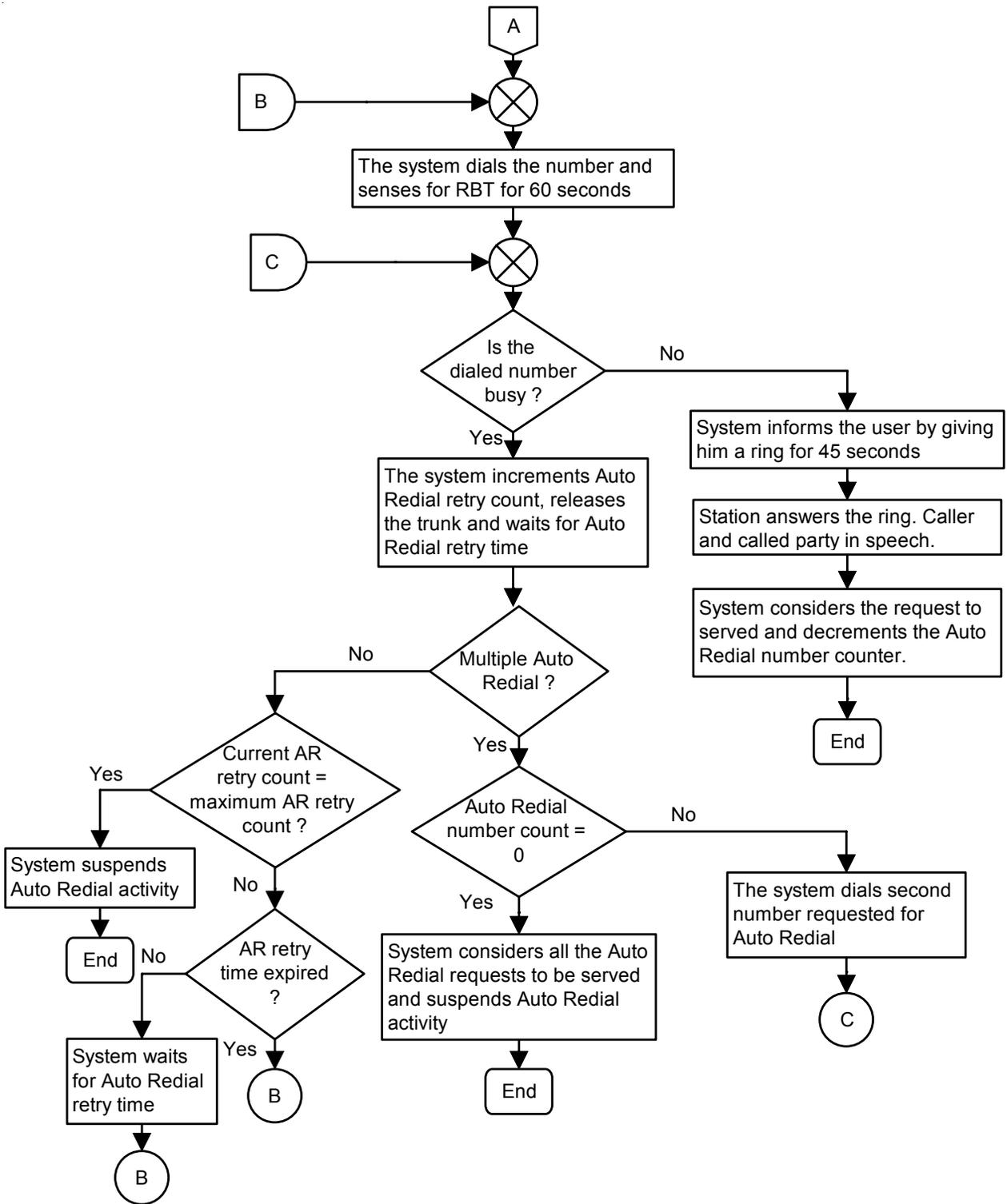
1	Lift the handset.	Dial tone
2	Dial 70.	Confirmation tone
3	Replace handset.	

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?





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) 70
2. Alternate Number Dialing 35
3. Voice Message Applications 205

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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 .	Ring Back Tone The called pperson gets beeps.
4	The system connects you to the destination after 10 secs. Start talking 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:

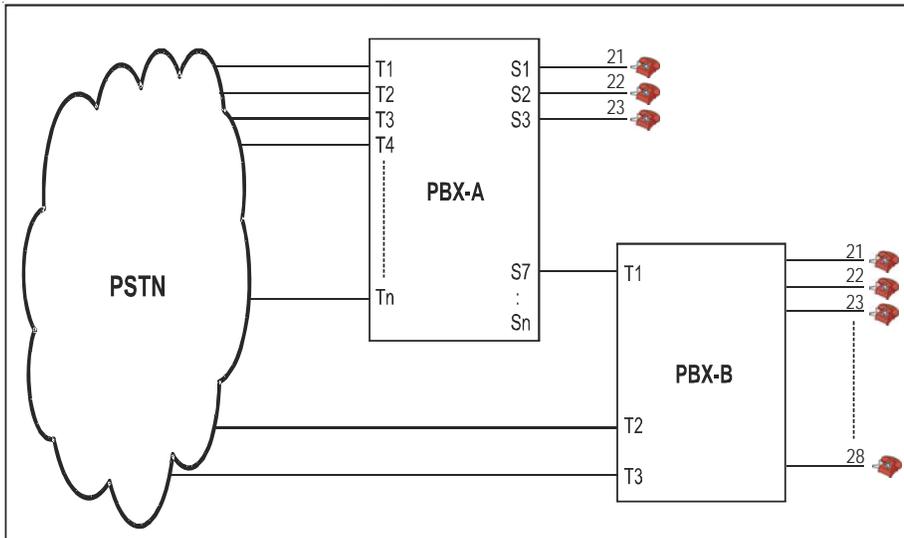
1. Class of Service (COS) 70
2. Privacy 139

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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

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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](#) 104
2. [Class of Service \(COS\)](#) 70

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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

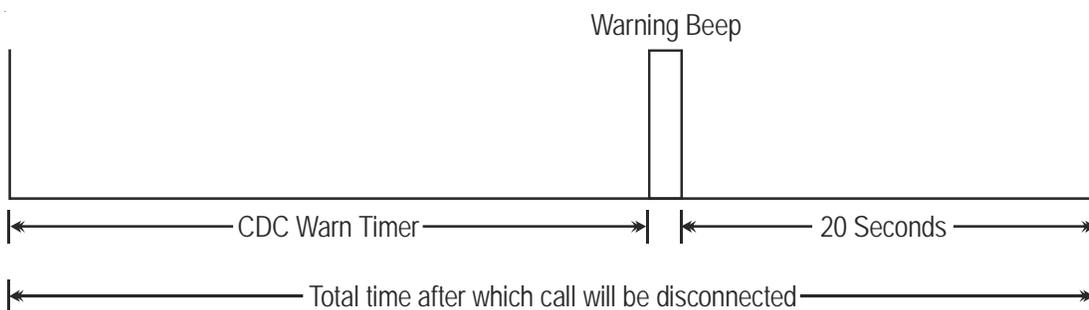
- Maximum four CDC tables can be programmed.
- One such table can be assigned to the station user.
- All CDC tables are available by default, which satisfies most of the requirements. Hence these tables can be directly assigned to the stations.
- By default,

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, STS 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.

Commands

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-*-#

Default CDC tables are given as below:

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

Step 6

To know programming details, please refer "[Configuration Reports](#)".

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 31

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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" 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:

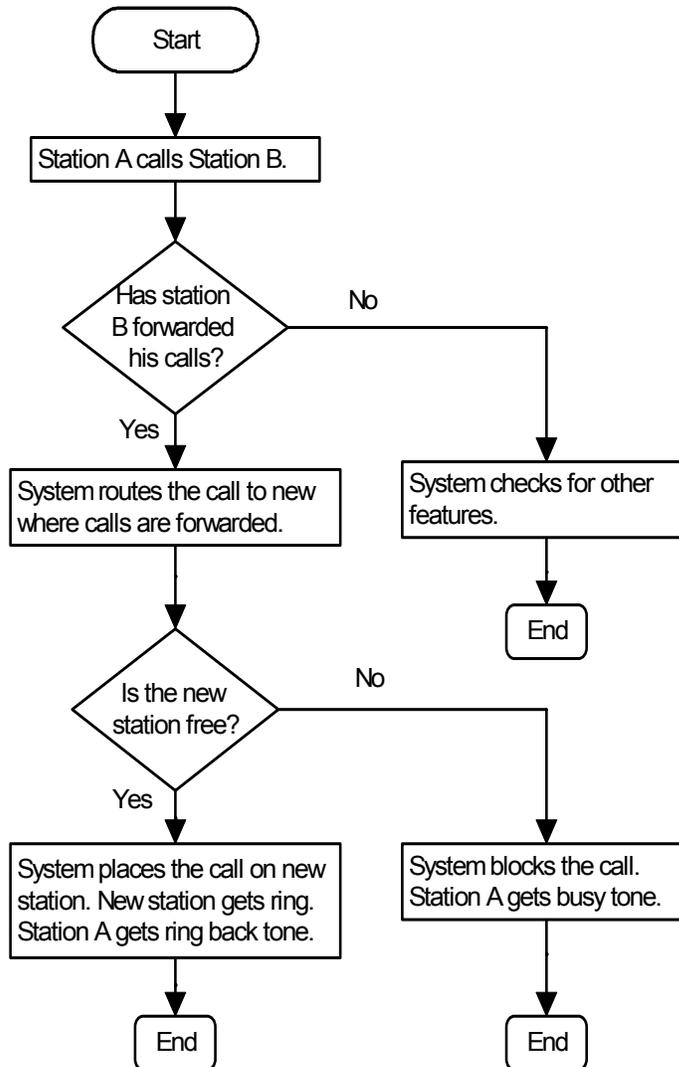
If station 23 wants to forward all his calls to station 24 when he is busy, he should dial **132-24**.

Cancel Call Forward

1	Lift the handset.	Dial tone
2	Dial 130-Station.	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) 70

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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 \(COS\)](#) 70

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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 for details on how to allow Call pick up selective feature to the user.

Relevant Topic:

1. Class of Service (COS) 70

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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: Tooooooooooooo

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: Tooooooo.....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 tries 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, 2000ms 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
Programming Tone/Feature Tone	512Hz	100ms on, 900ms off
Programming Confirmation tone	512Hz	50ms on, 50ms off
Programming Error tone	512Hz	250ms on, 250ms off

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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:

1. Two stations.
2. One station and one trunk.
3. Two trunks.

Call Splitting between two stations:

1	Speech with station.	
2	Dial Flash.	Dial tone. Called station goes on Hold.
3	Dial another Station.	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 trunk.	
2	Dial Flash.	Dial tone. External party goes on Hold.
3	Dial Station.	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 trunk.	
2	Dial Flash.	Dial tone. Trunk goes on Hold.
3	Dial 8.	Feature tone
4	Dial 0 or 5 or 61 or 62 to grab another trunk.	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 77
2. Call Transfer 63
3. Call Park 56
4. Class of Service (COS) 70

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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 \(COS\)](#) 70
2. [Privacy](#) 139
3. [Conference](#) 77
4. [Direct Outward System Access \(DOSA\)](#) 100

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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	2781085
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 Reports".

Relevant Topics:

1. Station Group 163
2. Trunk Landing Groups 196
3. External Call Forward 110
4. Station Parameters 177

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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.	

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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. Once programmed, COS groups may look like:

Group	00	01	02	03	04	...	28	29	30
0	N	N	N	N	N	...	N	N	N
1	N	N	Y	Y	N	...	N	Y	N
2	Y	N	N	Y	Y	...	Y	Y	Y
3	N	N	N	Y	Y	...	N	N	N
4	Y	Y	Y	N	Y	...	N	Y	N
5	Y	Y	Y	N	Y	...	Y	Y	N
6	Y	Y	Y	Y	Y	...	Y	Y	Y
7	Y	Y	Y	Y	Y	...	Y	Y	Y

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	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	25	26	27	28	29	30
0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
2	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N
5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

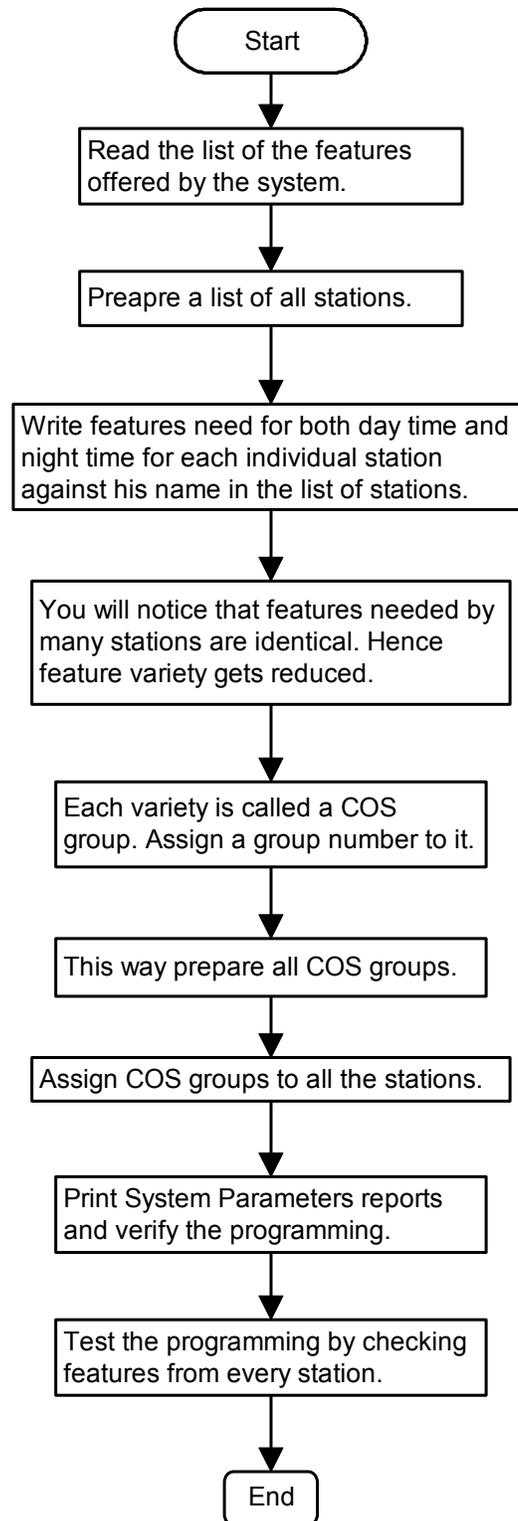
Now, these groups can be allocated to the users depending upon the hierarchy of the user in the organization. A user can be assigned different COS groups for day time and night time. Once these groups are assigned to the users, the user's COS table looks like:

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 Reports](#)".

Relevant Topic:

1. [Time Table](#) 181

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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 Telecom 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 , Point to Programs , Point to Accessories , Click on HyperTerminal .	You get a Dialog Box viz. C:\Program\Accessor... on the screen.
Double click on Hyper terminal icon .	You get a Dialog Box viz. New connection–Hyper Terminal 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 no. But change the settings of ‘Connect to’ using its options to ‘Direct to Comm port2’ 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, Point on New , Point to new text document and click on it, give a file name say <prog. as on xx.xx.xx>. Now type the same fil	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 , Click on Properties , Click on 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 , Point to Capture text , Point to Stop and Click on Stop . Click on File , Point Exit and Click.	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 . You come back to the desk top menu.
Computer asks a question, Do you want to save this session?	Click on Yes . You come back to the desk top menu.
To print the file, open that file again in word pad or note pad. Give the print command.	You get the print out. Keep it with you for reference.

Relevant Topic:

1. Configuration Reports 83

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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:

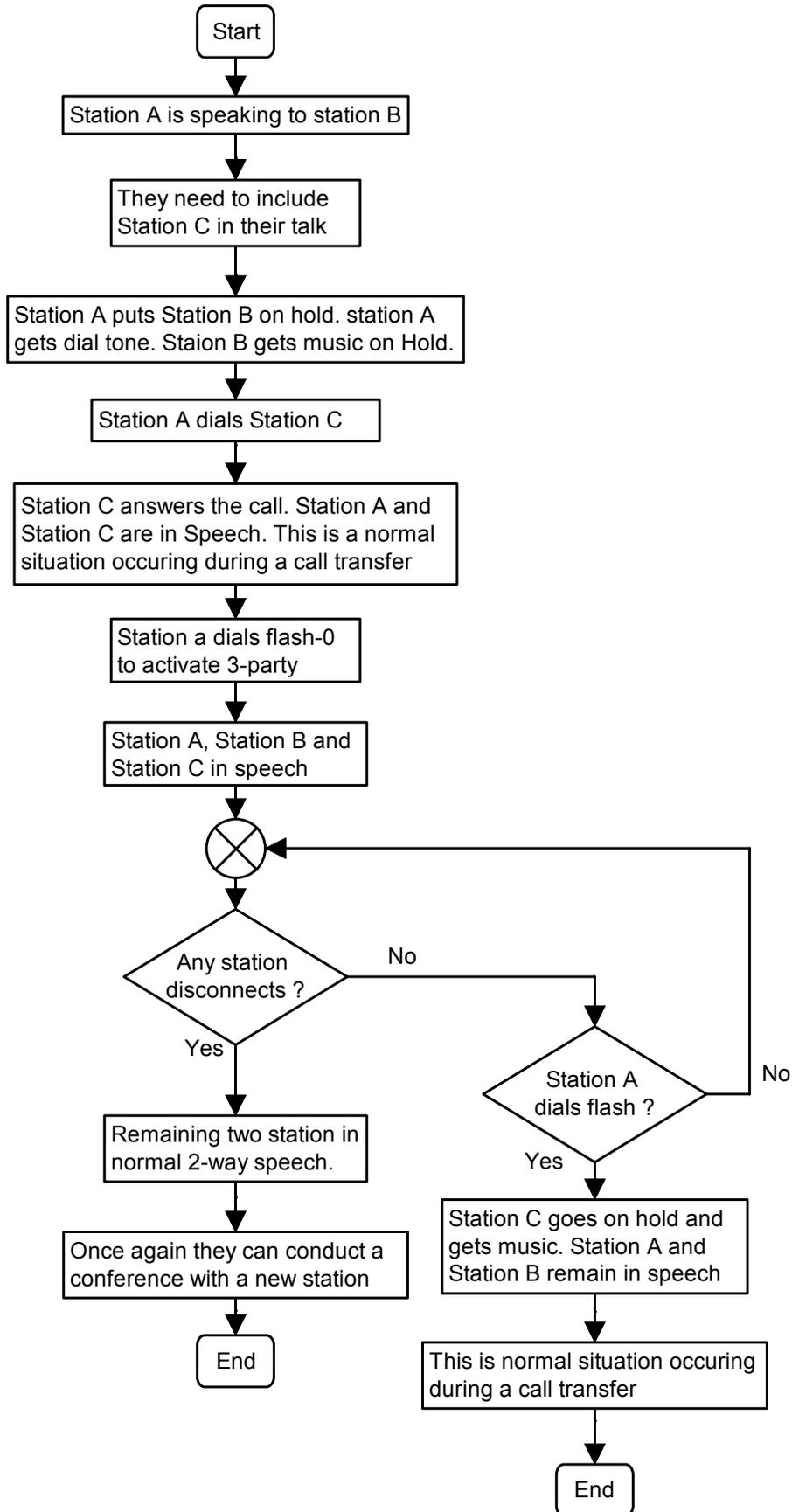
- All three stations.
- Two stations and one trunk.
- One station and two trunks.

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.



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	Flash.	One of the trunks goes on hold. Operator is in speech with other trunk.
4	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 \(COS\)](#) 70
2. [Call Splitting](#) 61
3. [Call Transfer](#) 63
4. [DOSA](#) 100

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Configuration Reports

What's this?

The Vision supports downloading the system's configuration form of a report. This report is useful for:

1. Verifying whether the programming done is correct.
2. Storing it for future reference.

How it works?

1. A Configuration report can be generated on a computer.
2. Configuration report can be generated only after entering SE mode.
3. The report can be reached, printed or mailed.
4. Pure ASCII text format is used for report.
5. 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 75

System Parameters as on Tue 07-02-00 at 21:26

```

-----
                          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  0            0123 1  1            0123 2  2            0123
3  3            0123 4  4            0123 5  5            0123
6  6            0123 7  7            0123 8  8            0123
9  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 :
:
:
:
  
```

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System Parameters as on Tue 07-02-00 at 21:26

Allowed - Denied List

II	AL0	DL0	AL1	DL1
00		0		0
01		1		95
02		2		98
03		3		96
04		4		
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				
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

System Parameters as on Tue 07-02-00 at 21:26

```

-----
                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 On
01    00 01 02 03  15 15 15 15  Off Off Off Off On
02    00 01 02 03  15 15 15 15  Off Off Off Off On
03    00 01 02 03  15 15 15 15  Off Off Off Off On
04    00 01 02 03  15 15 15 15  Off Off Off Off On
05    00 01 02 03  15 15 15 15  Off Off Off Off On
06    00 01 02 03  15 15 15 15  Off Off Off Off On
07    00 01 02 03  15 15 15 15  Off Off Off Off On
08    00 01 02 03  15 15 15 15  Off Off Off Off On
09    00 01 02 03  15 15 15 15  Off Off Off Off On
10    00 01 02 03  15 15 15 15  Off Off Off Off On
11    00 01 02 03  15 15 15 15  Off Off Off Off On
12    00 01 02 03  15 15 15 15  Off Off Off Off On
13    00 01 02 03  15 15 15 15  Off Off Off Off On
14    00 01 02 03  15 15 15 15  Off Off Off Off On
15    00 01 02 03  15 15 15 15  Off Off Off Off On

```

```

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

```

System Parameters as on Tue 07-02-00 at 21:26

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	10	11	12

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	

System Parameters as on Tue 07-02-00 at 21:26

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

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System Parameters as on Tue 07-02-00 at 21:26

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		-

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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 stoped. 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 trunkline 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 \(COS\)](#) 70
2. [Flash Timer](#) 113

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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 Department 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 Groups](#)' 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 Reports".
- Call transfer-Screen is only possible on a department group.

Relevant Topics:

1. Station Group 163
2. Direct Inward Dialing (DID) 94

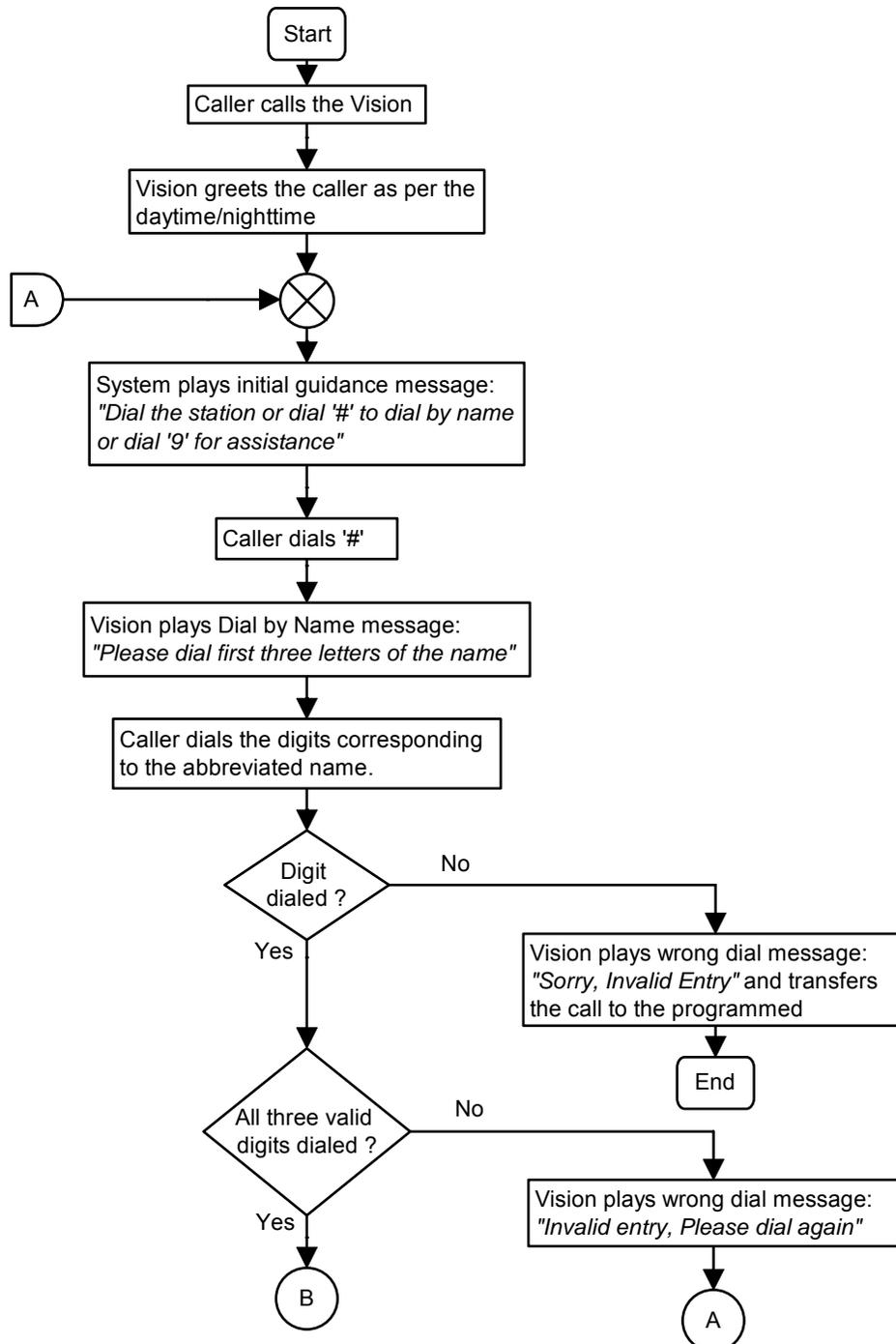
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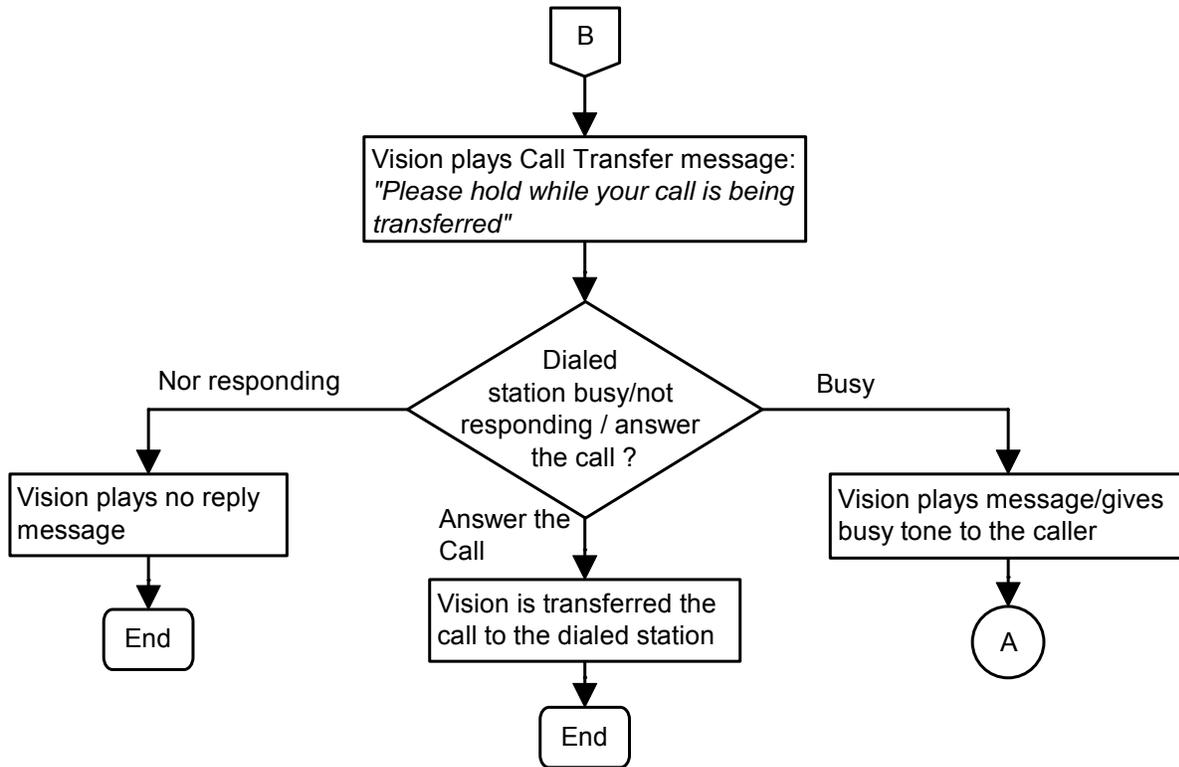
Dial by Name

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 to 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) 94
2. Station Parameters 177

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Direct Inward Dialing (DID)

What's this?

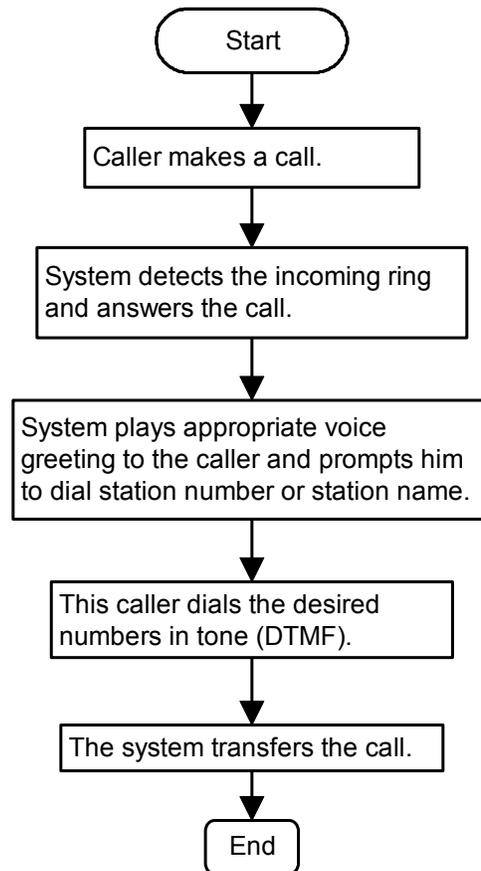
The System can perform the task of an operator by greeting the external caller and transferring the call to the desired station. This facility is called Direct Inward Dialing (DID).

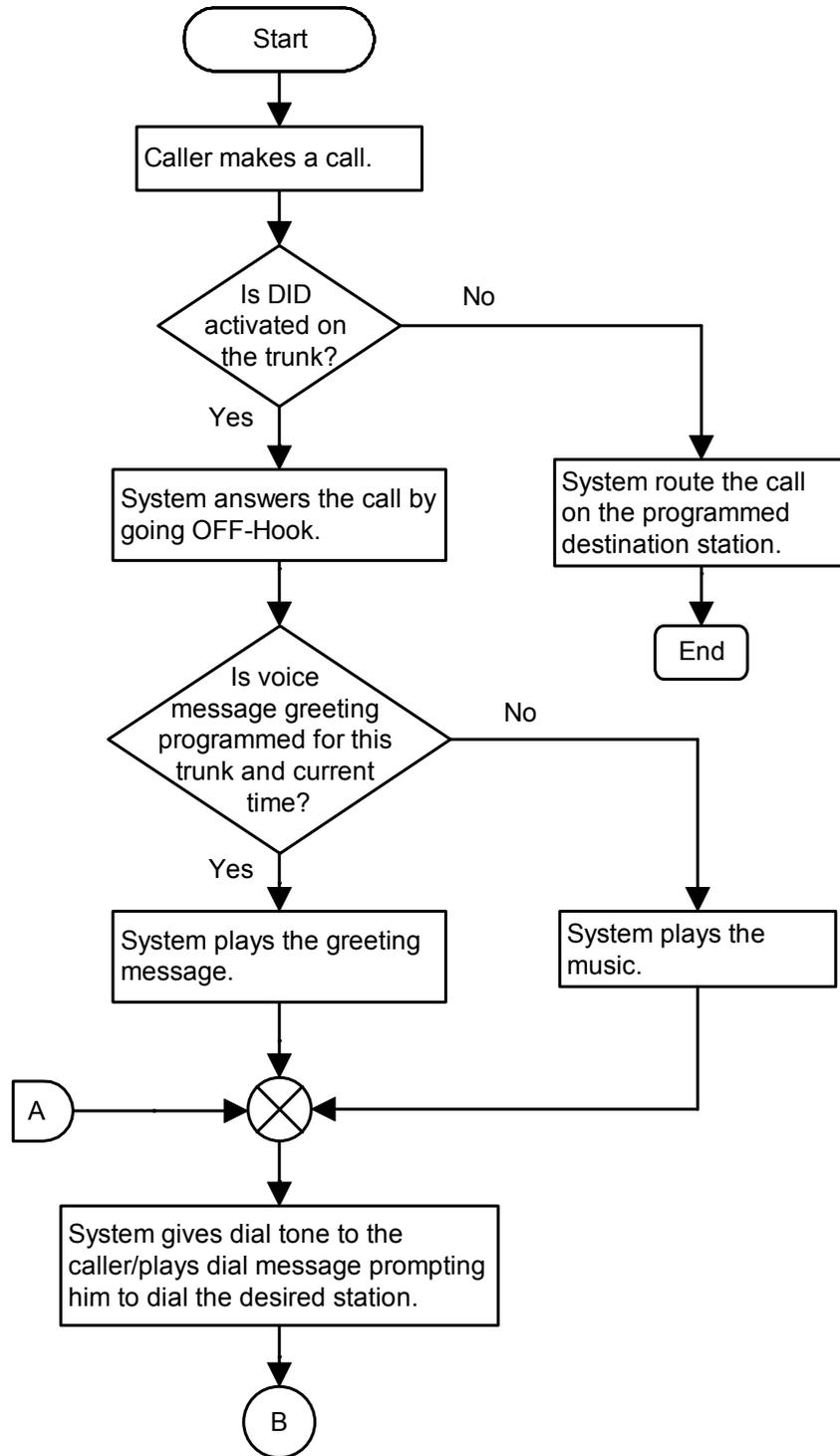
By using this facility, frequent callers can reach desired stations by dialing the station numbers or dialing the station name from their phone. DID offers following advantages:

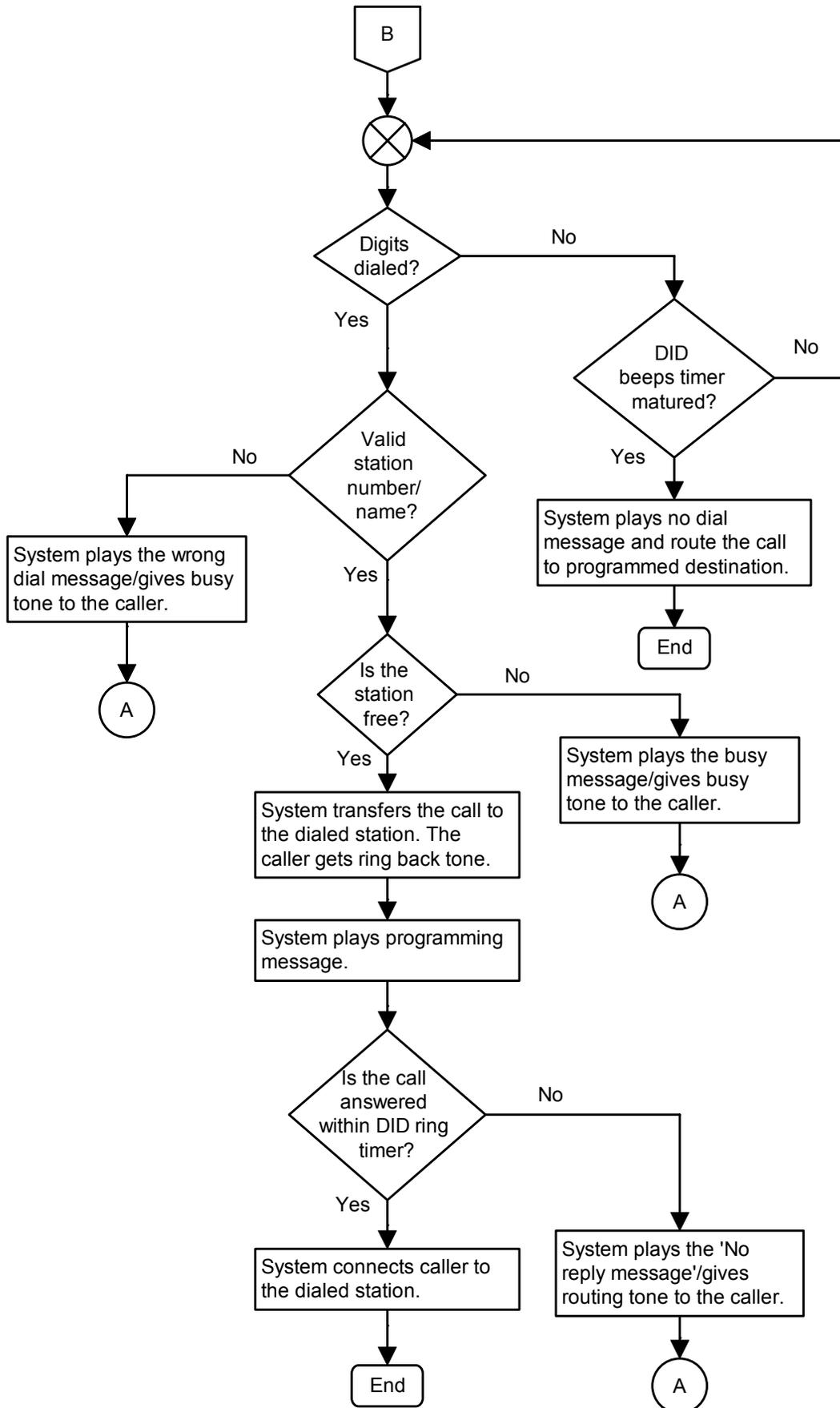
1. Reduces traffic burden on the operator.
2. Calls are transferred faster, which saves the caller's time.
3. Useful even during non-working hours and holidays.
4. Give professional image to the company.

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.







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 (in 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
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](#) 181
2. [Voice Message Applications](#) 205
3. [Privacy](#) 139

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Direct Outward System Access (DOSA)

What's this?

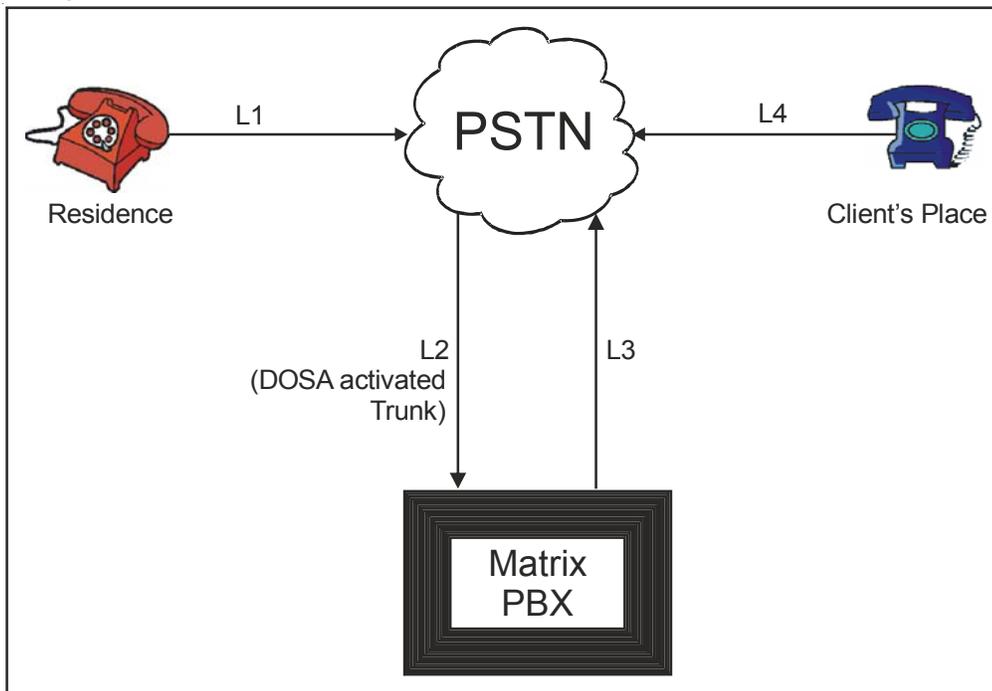
DOSA enables the user to use the system resources for making outgoing call from anywhere outside the office. This facility is generally used to make long distance calls.

How to use DOSA facility?

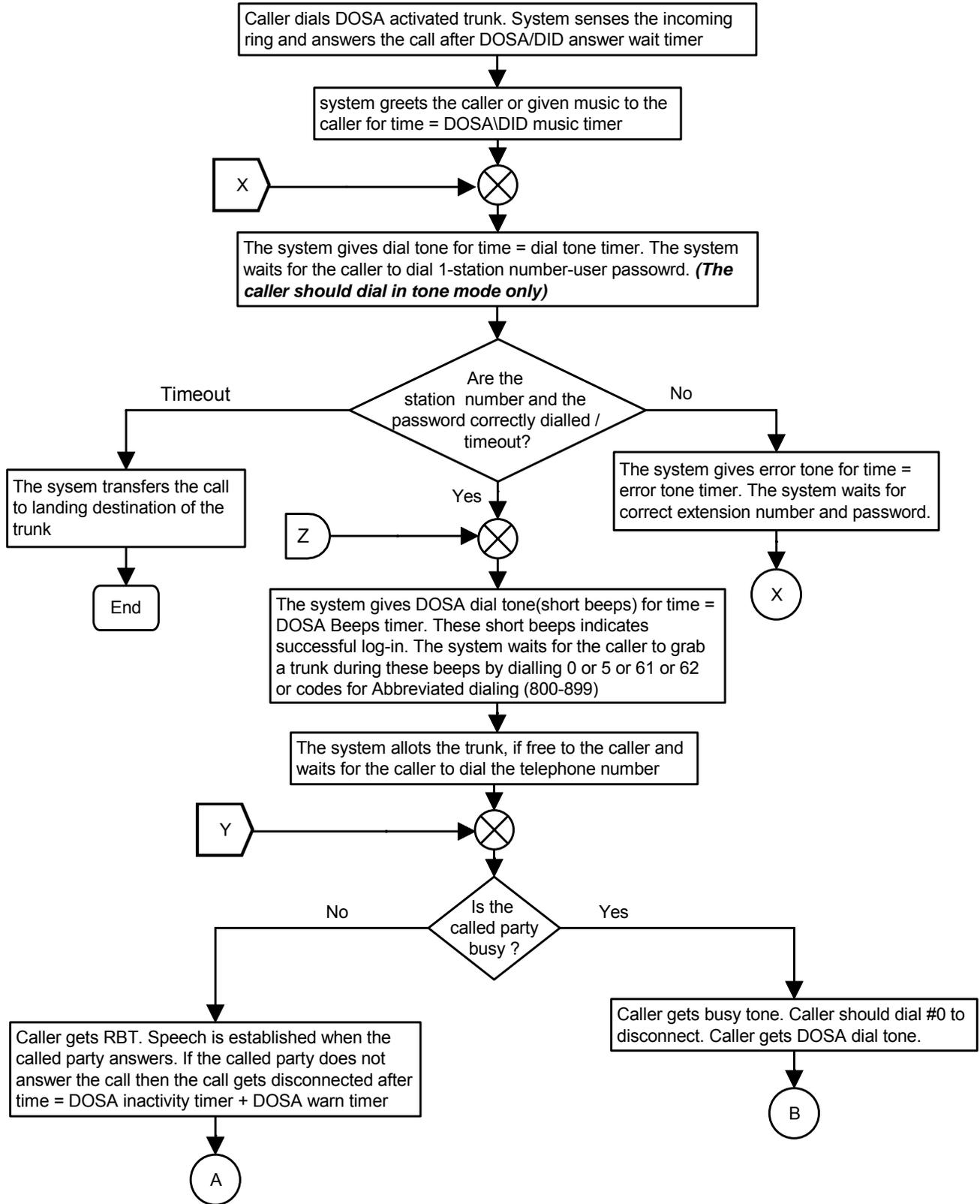
- Dial a DOSA activated trunk.
- On getting PBX dial tone, dial **1-Station Number-User Password**. You get DOSA dial tone (Short beeps).
- On getting DOSA dial tone, dial '0', '5', '61' or '62' to grab another trunk to get P&T dial tone.
- On getting P&T dial tone, dial the telephone number.
- Dial 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.

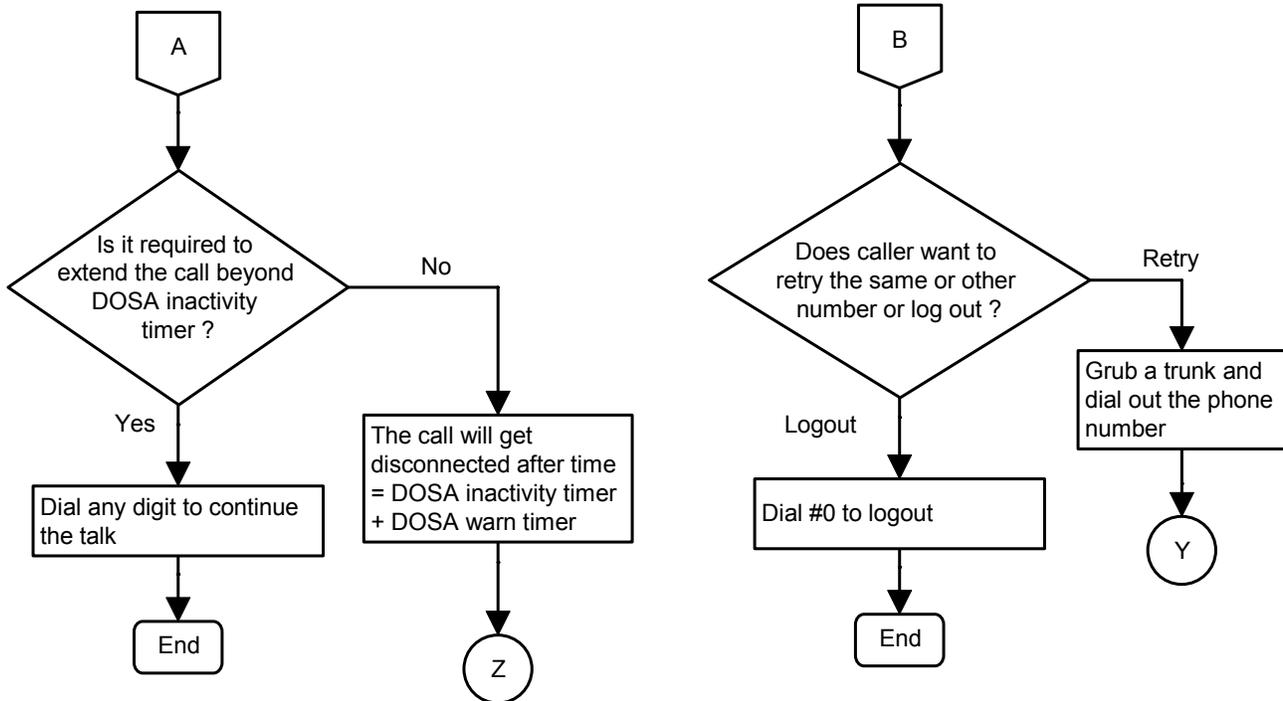
How it works?

- 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'.

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.

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 205
2. Class of Service (COS) 70

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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 (timings in milli seconds)								Situation
		ON	OFF	ON	OFF	ON	OFF	ON	OFF	
1	Single	750	2250	-	-	-	-	-	-	Intenal 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/Programming

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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 206P, software port for Doorphone port is 06.

* Vision 308P, 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' 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 Reports](#)".

Relevant Topic:

1. [Station Group](#) 163

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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 184
2. User Security (User Password) 204

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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 184
2. Trunk Access Groups 189

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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 189
2. DOSA 100

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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](#)'.

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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 300 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 63
2. Call Splitting 61
3. Conference 77

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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.

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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 or 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](#) 61
2. [Call Transfer](#) 63
3. [Conference](#) 77

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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 Group 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 Group 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 hot line 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) 70
2. Toll Control 184

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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.

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Internet Ready Port

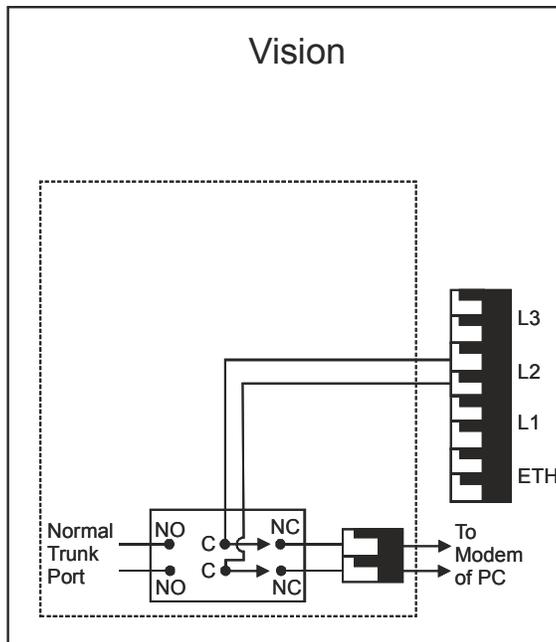
What's this?

- 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.

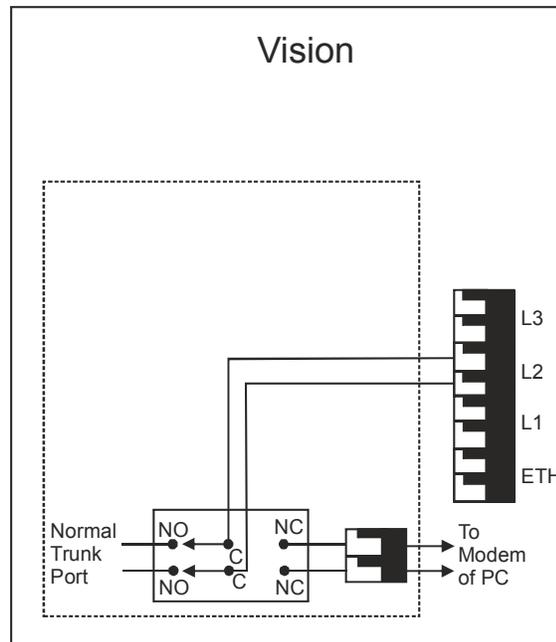
How it works?

- 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 (**2101-1**)



Internet Ready Port Inactive (**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 Reports](#)".

Relevant Topics:

1. Class of Service (COS) 70
2. Station Parameters 177
3. Trunk Parameters 199

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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 .	Ring back tone. 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 \(COS\)](#) 70
2. [Privacy](#) 139

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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.

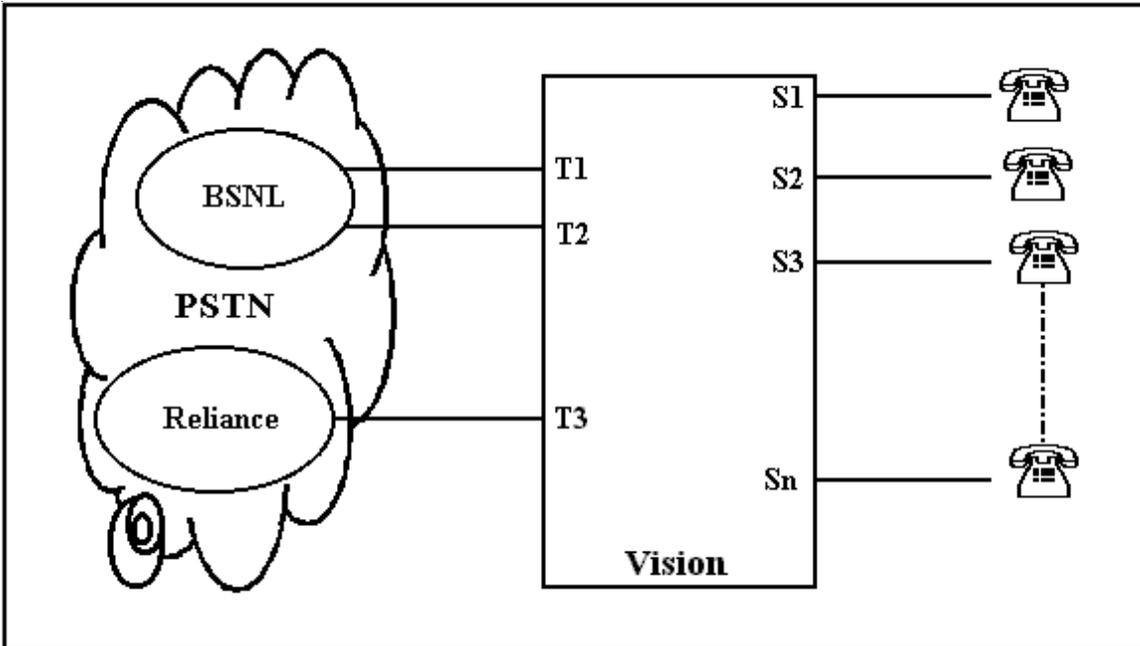
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Least Cost Routing (LCR)

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

Trunk Access Group is from 0 to 7.

LCR Type	Meaning
0	No LCR
1	Timezone wise LCR
2	Number based LCR
3	Mixed LCR (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.

Time Zone Index	Service Providers in hierarchical order of increasing cost			
0	2	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:

Time Zone 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:

Time Zone Index	Service Providers 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 Providers in hierarchical order of increasing cost			
0	1	3	0	2
1	2	1	3	0
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
9	B	B	B	B

Here 'B' is 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 Providers in hierarchical order of increasing cost			
B	0	1	2	3
B	0	1	2	3
:	:	:	:	:
B	0	1	2	3

Mixed LCR

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

Number Index Time Zone Index	0(022)	1(011)	2(033)	.....	9(95)
0 (08.00 to 12.00)	0, 2, 3, 1	3, 0, 1, 2	3, 1, 2, 0	.....	0, 1, 2, 3
1 (12.00 to 16.00)	1, 2, 0, 3	0, 2, 3, 1	2, 3, 1, 0	.....	2, 1, 3, 0
2 (16.00 to 20.00)	0, 2, 3, 1	3, 1, 2, 0	0, 1, 2, 3	.....	0, 1, 2, 3
3 (20.00 to 24.00)	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:

Number Index	B	B	B	.....	B
Time Zone Index					
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

Examples:

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
B	0	1	2	3
B	0	1	2	3
B	0	1	2	3
B	0	1	2	3
B	0	1	2	3
B	0	1	2	3
B	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:

Number Index Time Zone Index	022	011	B	.....	B
08.00 to 20.00	0, 3, 2, 0	0, 3, 2, 0	0, 3, 2, 0	0, 3, 2, 0	0, 3, 2, 0
20.00 to 08.00	2, 0, 3, 2	2, 0, 3, 2	2, 0, 3, 2	2, 0, 3, 2	2, 0, 3, 2
00.00 to 23.59	0 to 9	0 to 9	0 to 9	0 to 9	0 to 9
00.00 to 23.59	0 to 9	0 to 9	0 to 9	0 to 9	0 to 9

Important Point:

- To know programming details, please refer "[Configuration Reports](#)".

Relevant Topics:

1. [Trunk Access Groups](#) 189
2. [Trunk Parameters](#) 199
3. [Real Time Clock](#) 147

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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 Supervision 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:

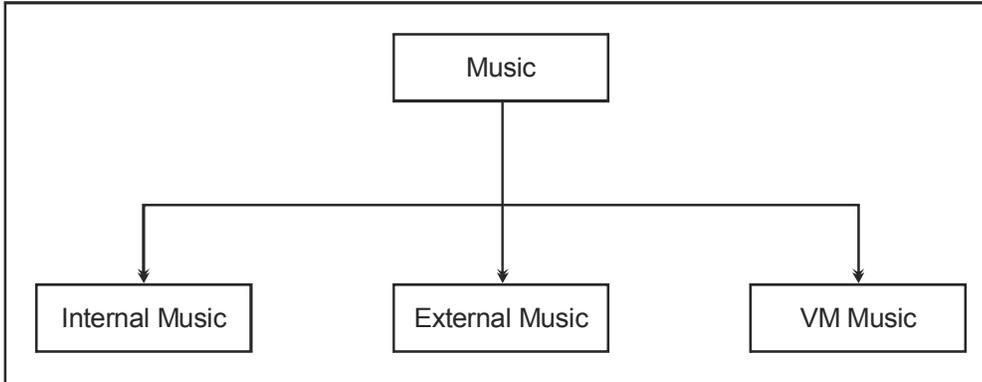
1. [Station Parameters](#) 177
2. [Class of Service \(COS\)](#) 70

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Music-on-Hold (MOH)

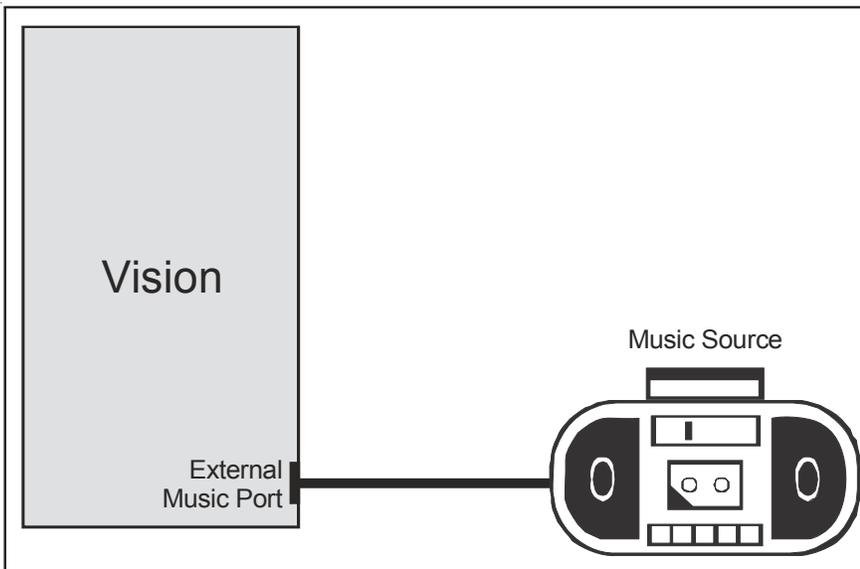
What's this?

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	300 Hz to 3400 Hz
Maximum voltage	0.707 Vrms across 600Ω
DC bias	Not more than 10V DC
Isolation	Internal Transformer
Source Impedance required	600Ω
Termination provided	600Ω

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 Reports](#)".

Relevant Topic:

1. [Voice Message Applications](#) 205

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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 Reports](#)".

Relevant Topic:

1. [Station Parameters](#) 177

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Paging

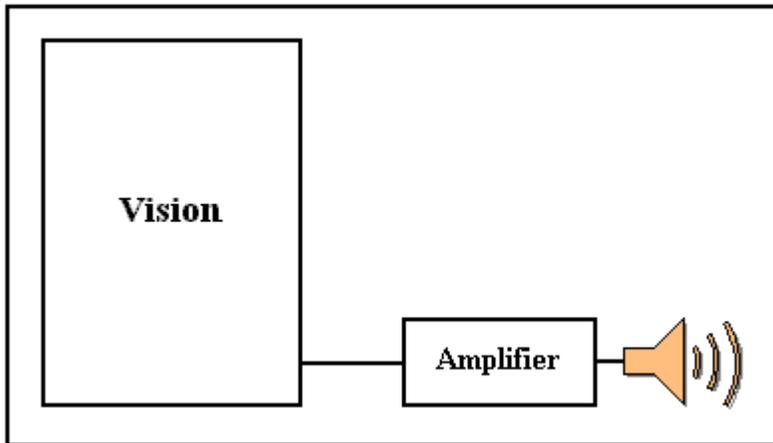
What's this?

- 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 4Ù/8Ù 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	300 Hz to 3400 Hz
Maximum voltage	0.707 Vrms across 600Ω
Source impedance	600Ω
Termination Required	600Ω
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).

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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:

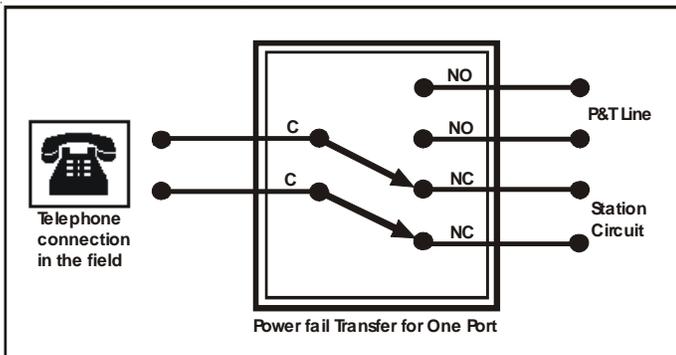


Figure 1: Normal Condition

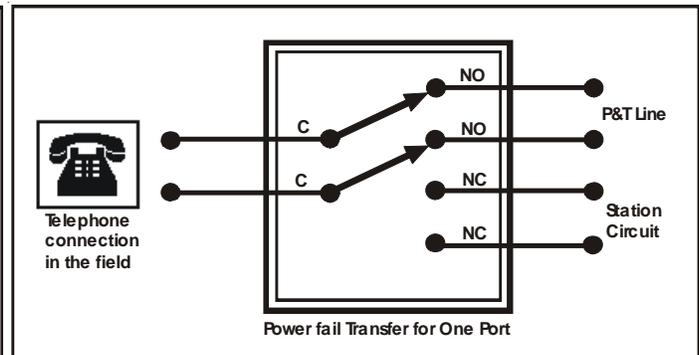


Figure 2: Power fail Condition

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](#) 17
2. [Troubleshooting](#) 225

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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.

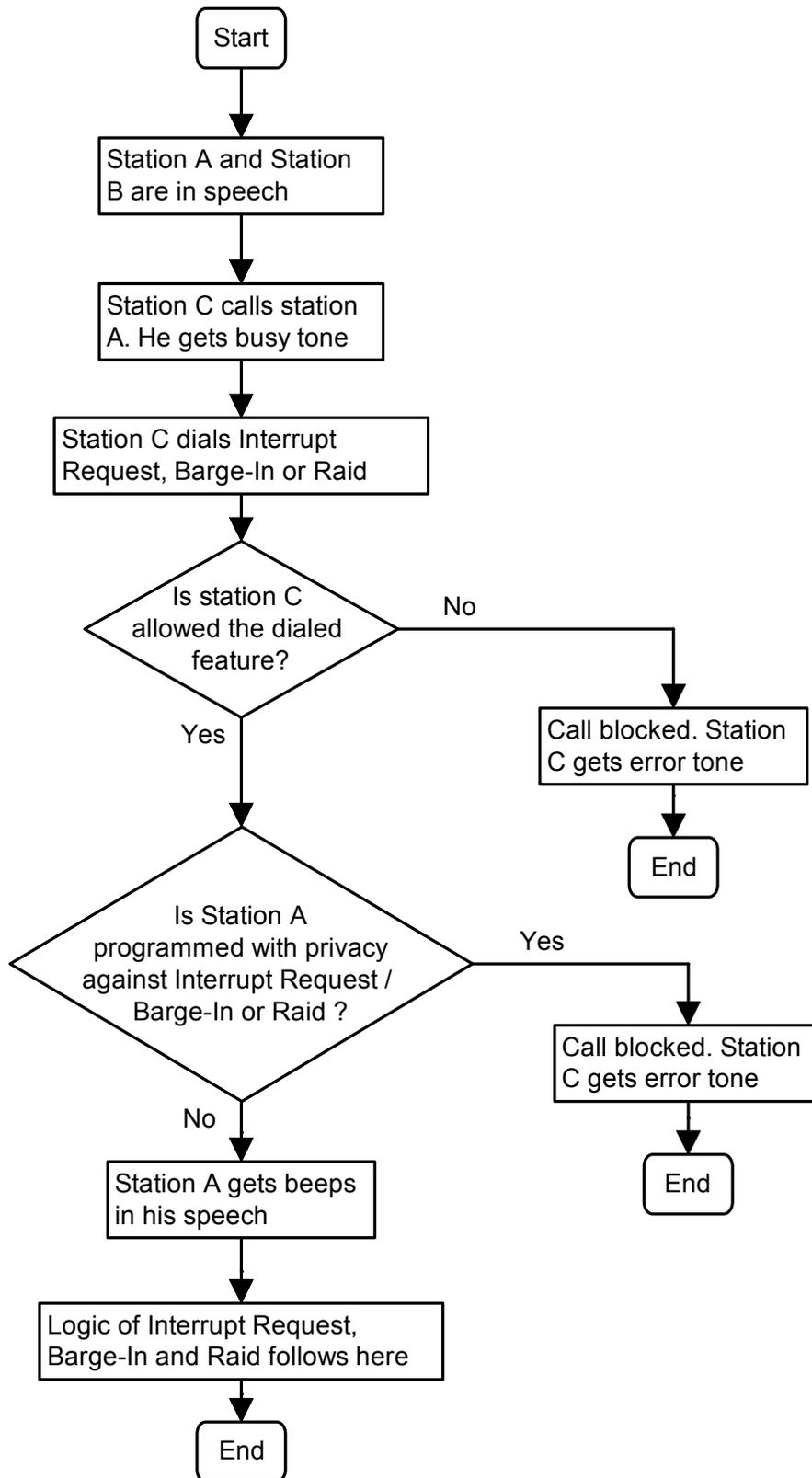
There are four types of intrusions against whom a user might wish privacy:

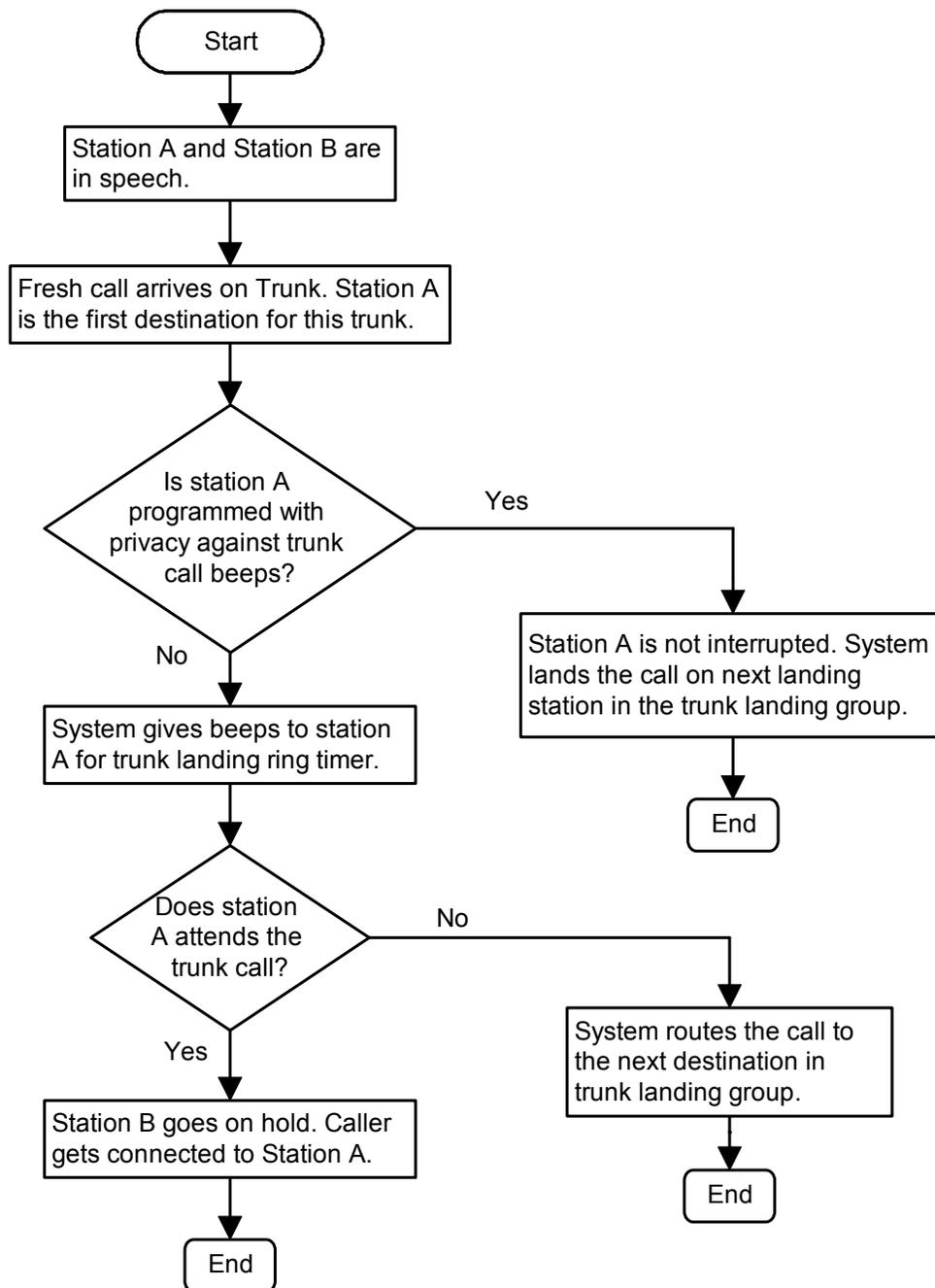
1. Privacy from Interrupt Request and Barge-In.
2. Privacy from Raid.
3. Privacy from Trunk call intrusion.
4. Privacy from DID call.

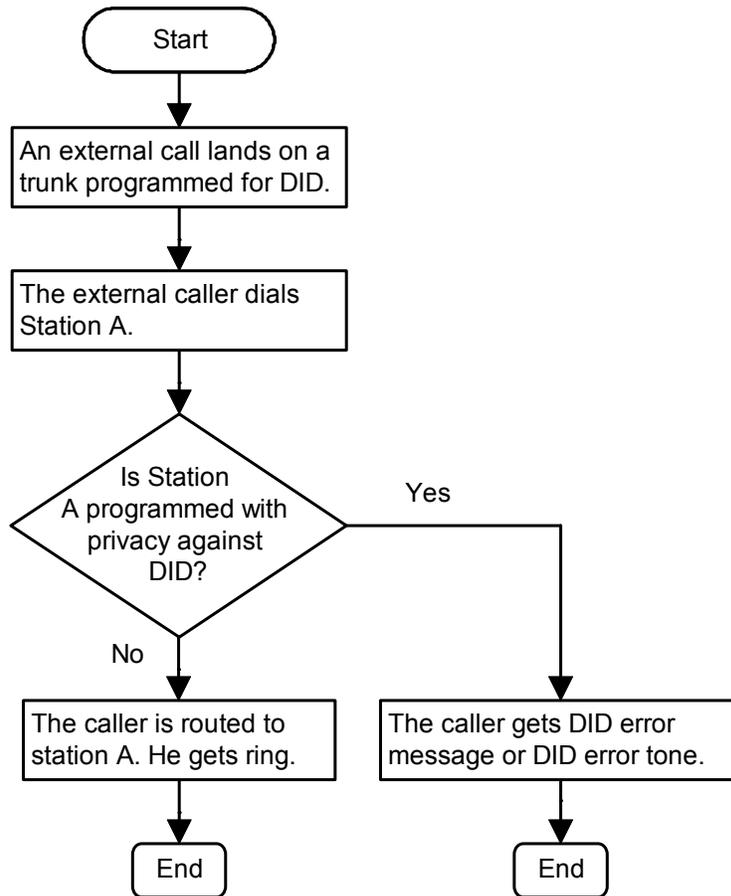
These four types are provided as programmable features in the Class of Service groups. A user can be assigned any combination of above four privacy flags by selecting an appropriate Class of Service group. If it is required that no other station can raid you then the corresponding feature i.e. Privacy-Raid 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) 70

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Programming the System

What's this?

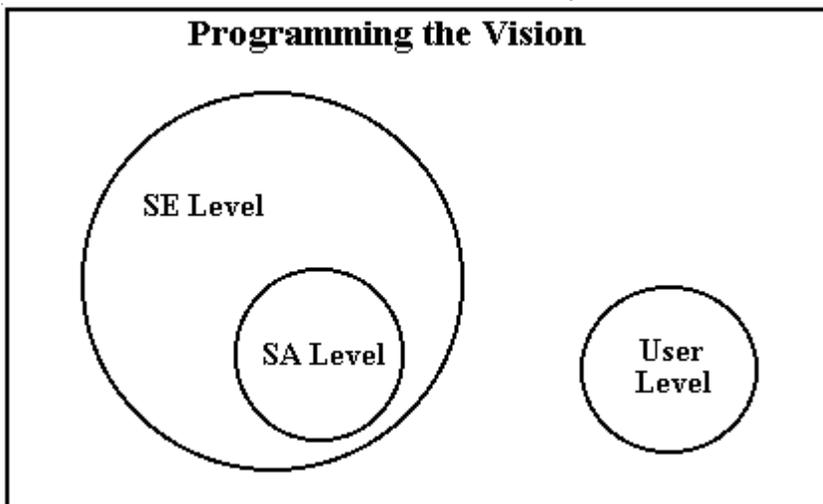
Vision is a flexible system and can be programmed to suit your needs. Programming can be done at three levels:

- 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 sections.

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 section '[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 section '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.

1. Real Time Clock 147
2. Time Table 181
3. Flexible Numbers 114
4. Class of Service (COS) 70
5. Trunk Access Groups 189
6. Toll Control 184
7. Call Pick Up 57
8. Station Group 163
9. Privacy 139
10. Trunk Parameters 199
11. Direct Inward Dialing 94
12. Least Cost Routing 124
13. Trunk Landing Groups 196
14. CLIP 65
15. Operator 135
16. SMDR 168
17. DOSA 100
18. Voice Message Applications 205
19. Department Call 89
20. Paging 136
21. External Call Forward 110

Relevant Topics:

1. System Security (Password) 180
2. Remote Programming 154

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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) 70
2. Privacy 139

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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:

1. Alarms
2. SMDR
3. 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,

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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

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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 power restoration. Vision will retain the last state and will switch ON the water pump on power restoration.

How it works?

1. Relay port deactivated.
2. Total Manual.
3. Duration based Auto OFF.
4. Duration based Auto ON.
5. Duration based Auto ON and Duration based Auto OFF.
6. Time based Auto OFF.
7. Time based Auto ON.
8. 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 Airconditioner 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 and Duration based Auto 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 Relay port timetable. Typical application could be glowsign board. Generally, glowsign 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:

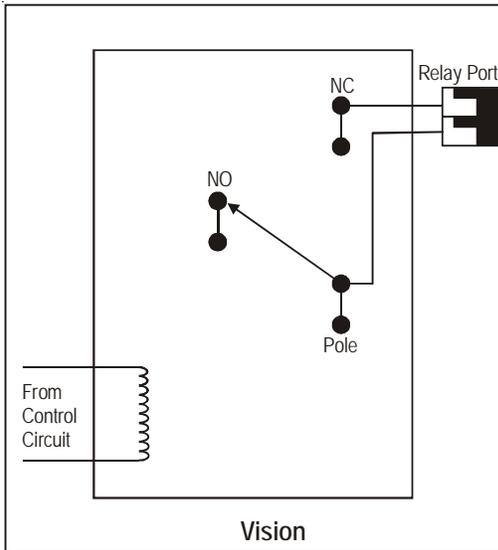


Figure 1: Switch OFF condition

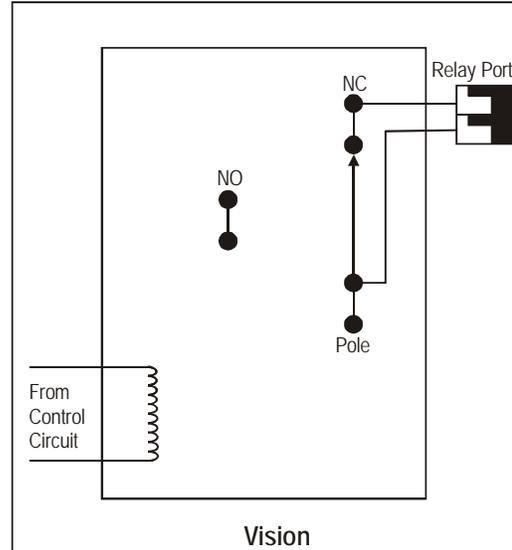


Figure 2: Switch ON condition

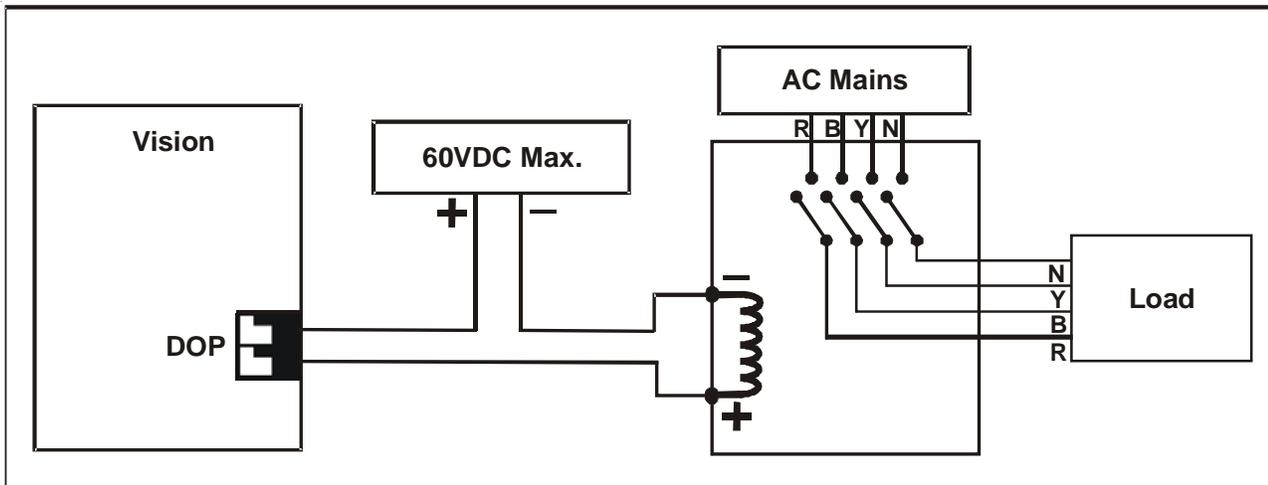
How to use it?

1	Lift the handset.	Dial tone
2	Dial 3990 (Relay OFF).	Confirmation tone
3	Dial 3991 (Relay ON).	Confirmation tone

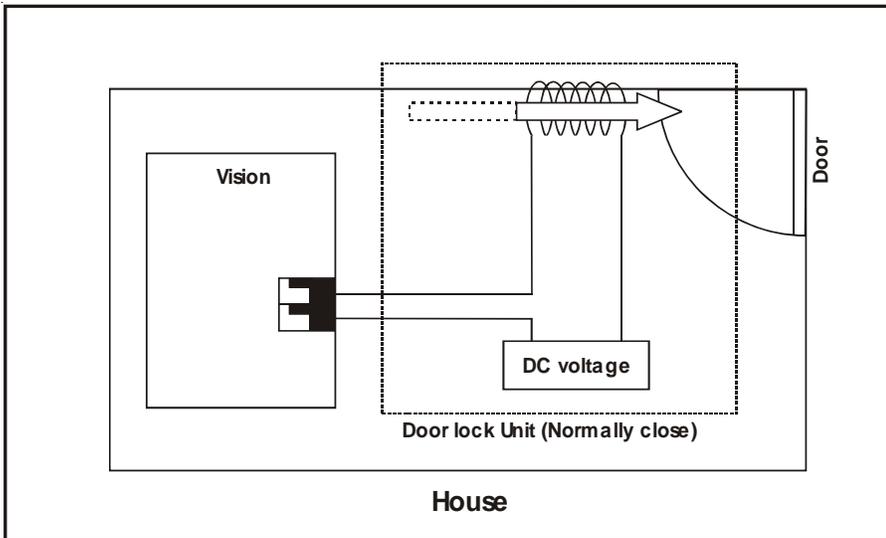
The above commands are applicable only when relay port is programmed for any of the mode. Total manual, duration based Auto OFF, Duration based Auto ON, time based Auto ON, Time based Auto OFF.

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)	24 VDC @2A, 120VAC @1.0A
Maximum switching voltage	120V AC, 60V DC
Operate time	10 ms
Release time	10 ms
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
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
04	HH:MM:SS	HH:MM:SS
05	HH:MM:SS	HH:MM:SS
06	HH:MM:SS	HH:MM:SS
07	HH:MM:SS	HH:MM:SS
08	HH:MM:SS	HH:MM:SS
09	HH:MM:SS	HH:MM:SS
10	HH:MM:SS	HH:MM:SS
11	HH:MM:SS	HH:MM:SS
12	HH:MM:SS	HH:MM:SS
13	HH:MM:SS	HH:MM:SS
14	HH:MM:SS	HH:MM:SS
15	HH:MM:SS	HH:MM:SS

16	HH:MM:SS	HH:MM:SS
17	HH:MM:SS	HH:MM:SS
18	HH:MM:SS	HH:MM:SS
19	HH:MM:SS	HH:MM:SS
20	HH:MM:SS	HH:MM:SS
21	HH:MM:SS	HH:MM:SS
22	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, Replay 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 seconds.

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 147
2. Class of Service (COS) 70

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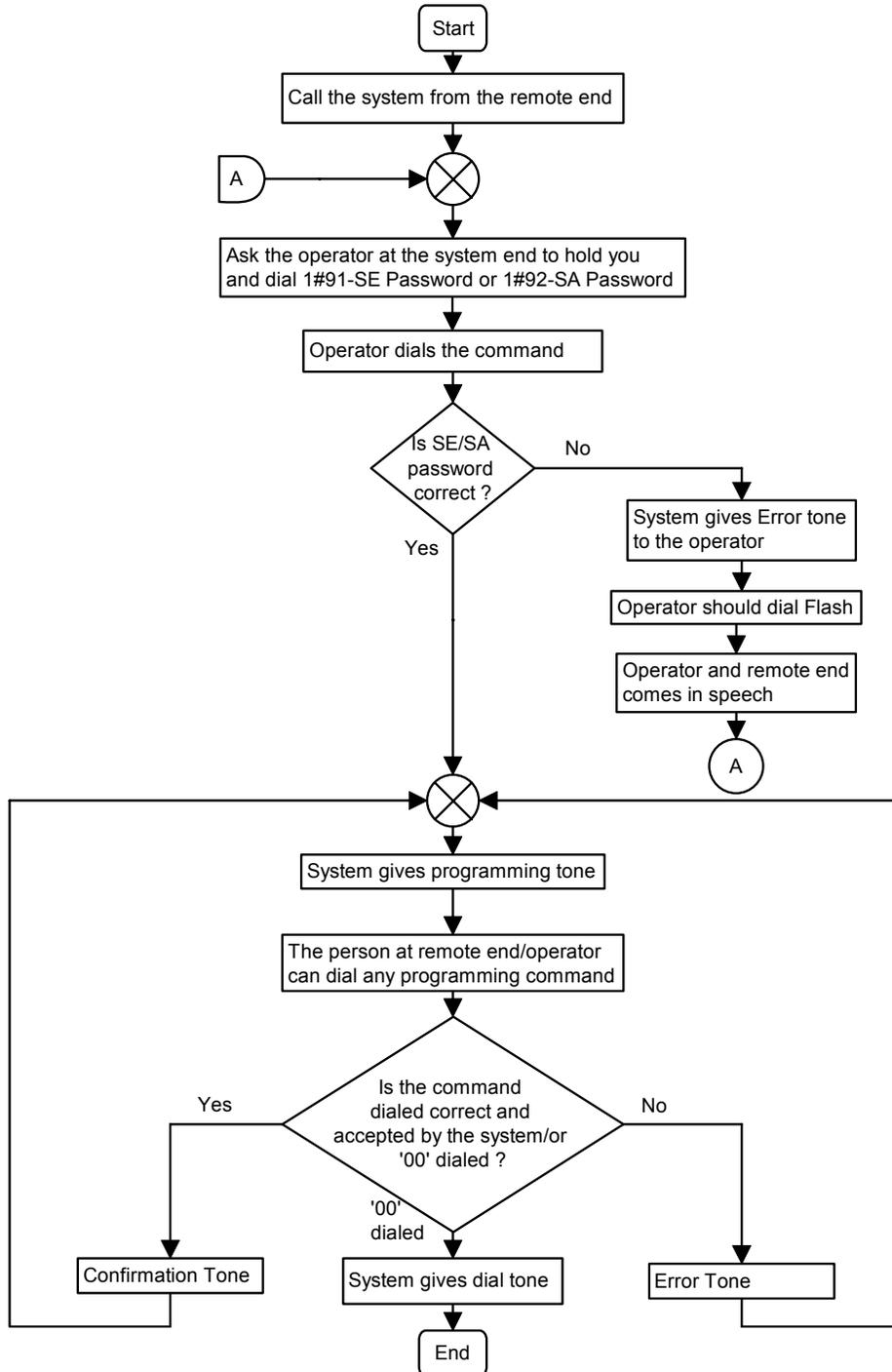
Remote Programming

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 143

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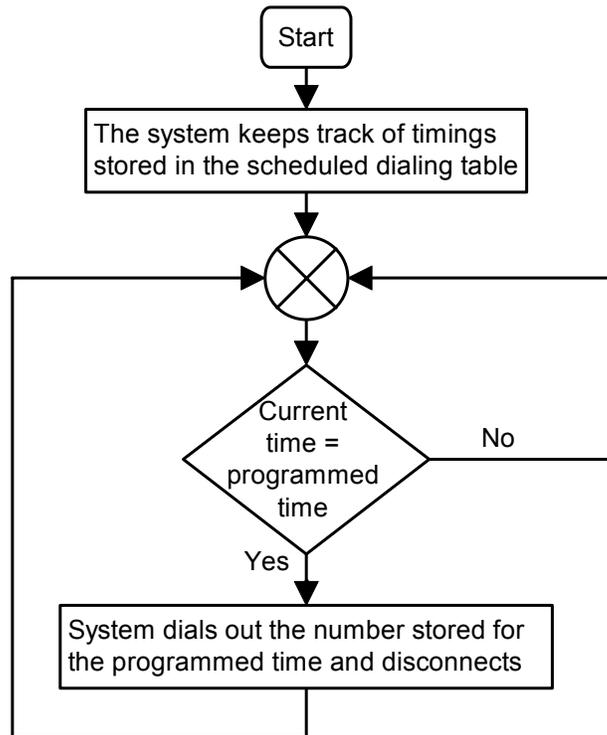
Scheduled Dialing

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 dialed 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 dialed 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:

Number Index	Number to be dialed	Trunk Access Group	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 Reports](#)".

Relevant Topics:

1. [Real Time Clock](#) 147

2. [Trunk Access Groups](#) 189

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Security Dialer

What's this?

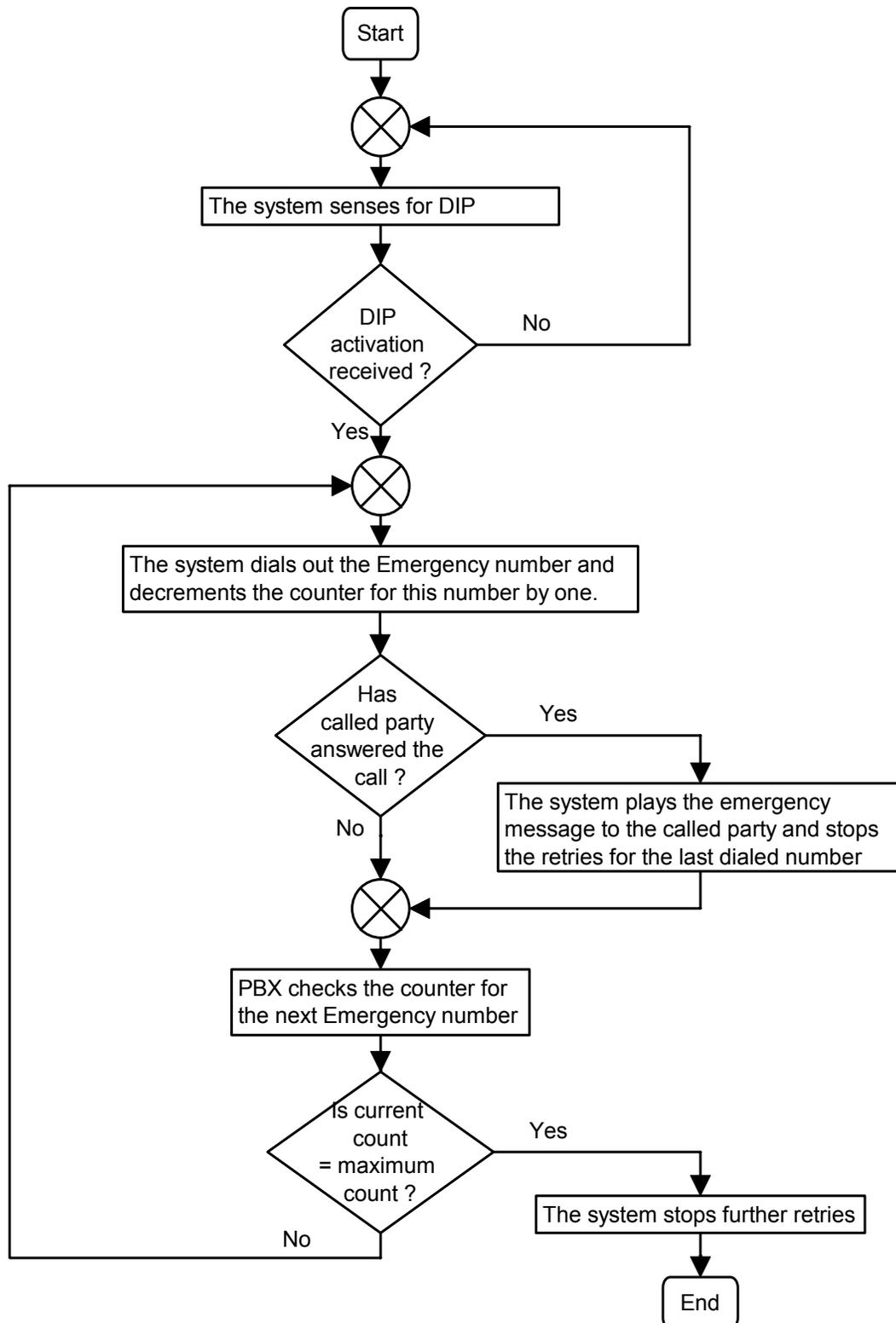
- The Vision offers a security feature, which dials out three different numbers one by one in case of emergency. In each case, when the called party answers the call, it delivers a pre-recorded message. This feature is called 'Security Dialer'.
- This feature finds its application in Banks, Offices, 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 inactive
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 Reports](#)".

Relevant Topic:

1. [Voice Message Applications](#) 205

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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:

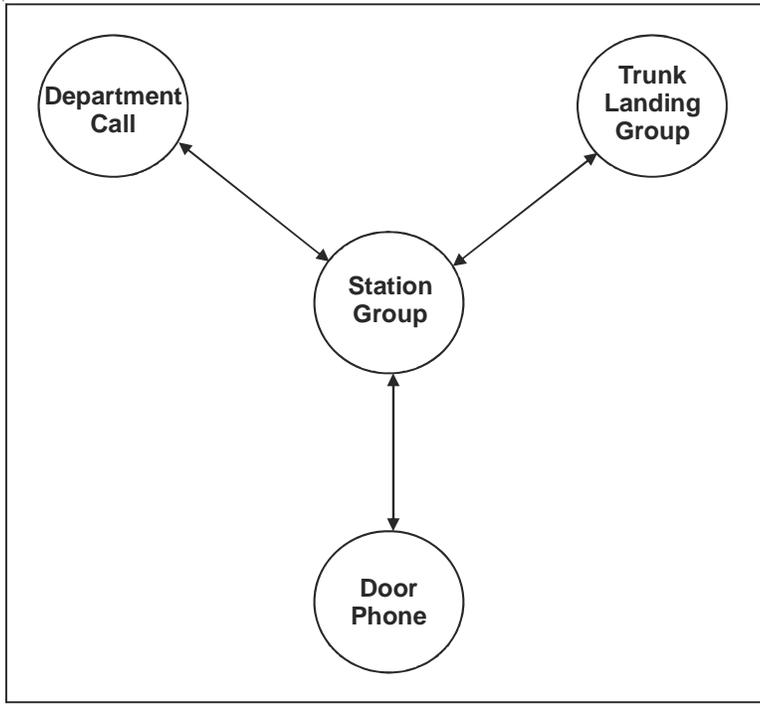
1. [Trunk Access Groups](#) 189

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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

Continuous Ring	Meaning
0	The station rings for the time set
1	The station rings till 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

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 accessed 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 alongwith 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 Reports](#)'.

Relevant Topics:

1. [Trunk Landing Groups](#) 196
2. [Door Phone](#) 105
3. [Department Call](#) 89

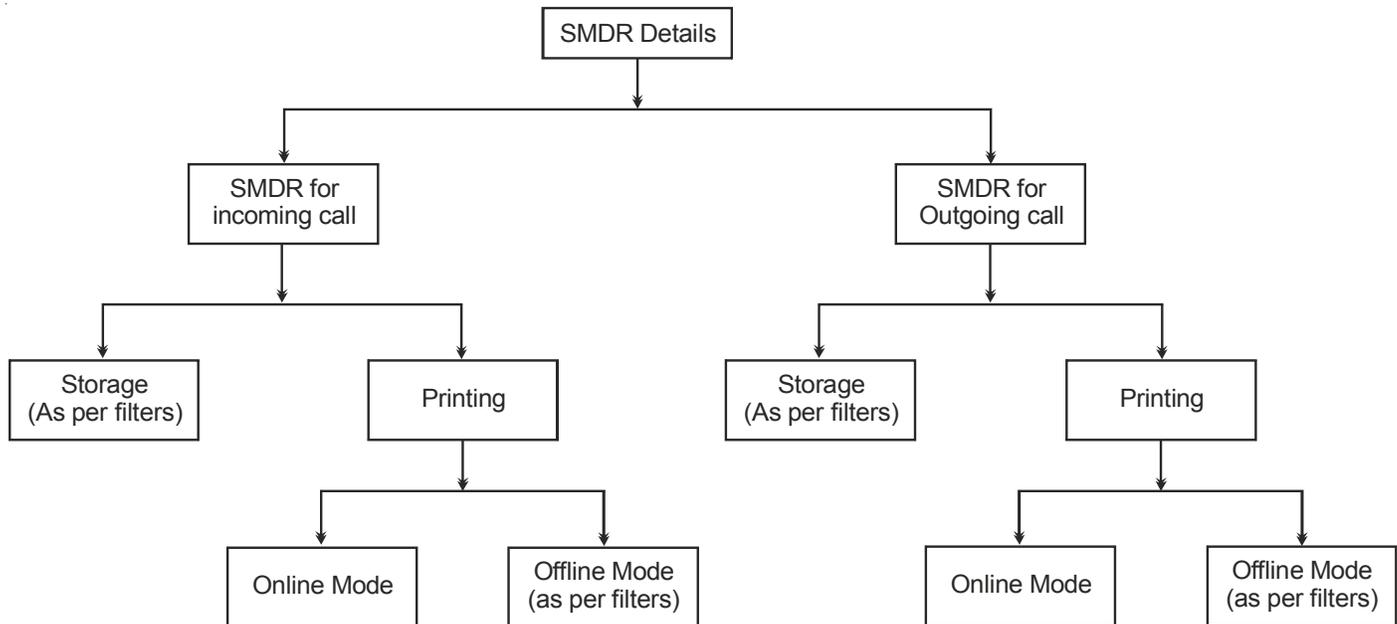
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Station Message Detail Recording (SMDR)

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 outgoing calls
1	Store outgoing calls as per the filter command

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 outgoing calls for this station
1	Store outgoing 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.

Storage Flag	Meaning
0	Don't store outgoing calls for this trunk
1	Store outgoing calls for this trunk

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:

Index	Number
00	
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	
11	
12	
13	
14	
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 calls

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 outgoing calls off
1	Immediate printing of outgoing 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 all calls are printed)
Calls made by a station	1541-1-Station
Calls made by range of station	1541-2-Station-Station
Calls made by all stations	1541-*
	(Station is the software port number of the station)
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-*
	(Trunk is the software port number of the trunk)
Calls made on a date	1543-1-Date-Month-Year
Calls made on a range of date	1543-2-Date-Month-Year-Date-Month-Year
Calls made on a all dates	1543-*
	(Date-Month-Year is DD-MM-YYYY format)
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-Minute in HH-MM, 24 hour format)
Calls make to a destination	1545-Number-#
	(Number is number string with max. 16 digits)
Calls having duration of higher value	1546-Minutes-Seconds
	(Minutes-Seconds in MM-SS, 24 hour 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:

1. Serial Number.
2. Telephone number from where call has come.
3. Station to which call was routed.
4. Trunk on which call was received.
5. Date on which call was received.
6. Time on which call was received.
7. Time taken to answer the call.
8. Speech duration.
9. 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,

Store Flag	Meaning
0	Don't store incoming calls
1	Store incoming calls as per the filters 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-#
	<i>(Immediately printing OFF and All Incoming calls are printed)</i>
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 Station	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-*
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 date	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-*
	<i>(Hour-Minute is in HH:MM, 24 hour format)</i>
Call unanswered for duration	1585-Minutes-Seconds
Calls with speech duration	1586-Minutes-Seconds
	<i>(Minutes is from 00 to 59, Seconds is from 00 to 59)</i>

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 Sat 28-01-00 at 19:25

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 TIME	SPEECH TIME	REM
001	952668263172		21	01 12-01-00	00:58	00:15	00:00:45	N
002	952668263172		26	01 23-01-00	10:01	00:10	00:05:45	N
003	2633172		22	02 20-01-00	09:58	00:08	00:15:00	D
004	952668262056		21	01 17-01-00	10:20	00:05	00:10:15	D
005	2664523		24	02 11-01-00	11:20	00:00	00:00:00	U
006	01126487142		25	00 21-01-00	00:15	00:15	00:05:45	D

N : NORMAL D : DID U : UNANSWERED DU : DIDUNANSWERED

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SMDR OUTGOING CALLS REPORT as on Sat 14-01-00 at 05:34

Stn: All Trk: All Time: All
 Num: Date: All Duration: 00:00

SR	STN	TRK	NUMBER	DATE	TIME	DUR	REM
001	21	1	123456	10-01-00	04:56	00:00:12	N
002	21	2	123456	10-01-00	04:56	00:00:06	N
003	21	0		10-01-00	04:57	00:00:08	N
004	21	0		10-01-00	04:57	00:00:05	N
005	21	1	123456	10-01-00	04:57	00:00:07	N
006	21	0	254698	10-01-00	04:58	00:00:09	N
007	21	0	888888888	10-01-00	05:02	00:00:11	N
008	21	2	258963	10-01-00	05:03	00:00:18	N
009	21	0	888888888	10-01-00	05:04	00:00:23	N
010	T0	1	123456	10-01-00	05:32	00:00:01	O
011	T0	1	123456	10-01-00	05:32	00:00:01	O
012	T0	2	2#	10-01-00	05:32	00:00:01	O
013	21	1	23456	10-01-00	06:22	00:00:15	O
014	21	1		10-01-00	06:22	00:00:04	N
015	21	2	123456	10-01-00	06:23	00:00:22	N
016	21	2		10-01-00	06:24	00:00:28	N

O : DOSA Call E : ECF Call N : Normal Call A : Auto Redial

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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.

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) 70
2. Toll Control 184
3. Trunk Access Groups 189
4. Dial by Name 91
5. Call Pick Up 57

Station - 00 Parameters as on Tue 07-02-00 at 21:29

```

-----
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-Incomming Call Storage : On -On
Daily Alarm Time         :
HOT Delay(Sec),Destination : 03  None-
Call Transfer Type-Dest   : None
                          0 5 61 62  COS  AL-DL
Day                       : 0 0 1 2  2  2 2
Night                     : 0 0 1 2  2  2 2
Personal Memory : II TAC Number           II TAC Number
                   00 0                   01 0
                   02 0                   03 0
                   04 0                   05 0
                   06 0                   07 0
                   08 0                   09 0
-----

```

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Station - 01 Parameters as on Tue 07-02-00 at 21:29

```

-----
Flexible Number           : 22
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-Incomming Call Storage : On -On
Daily Alarm Time         :
HOT Delay(Sec),Destination : 03  None-
Call Transfer Type-Dest   : None
                          0 5 61 62  COS  AL-DL
Day                       : 0 0 1 2  2  2 2
Night                     : 0 0 1 2  2  2 2
Personal Memory : II TAC Number           II TAC Number
                   00 0                   01 0
                   02 0                   03 0
                   04 0                   05 0
                   06 0                   07 0
                   08 0                   09 0
-----

```

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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.

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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](#) 143

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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

Time Zone Week days	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

Time Zone Week days	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 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 change 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 Reports](#)".

Relevant Topic:

1. [Real Time Clock](#) 147

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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).

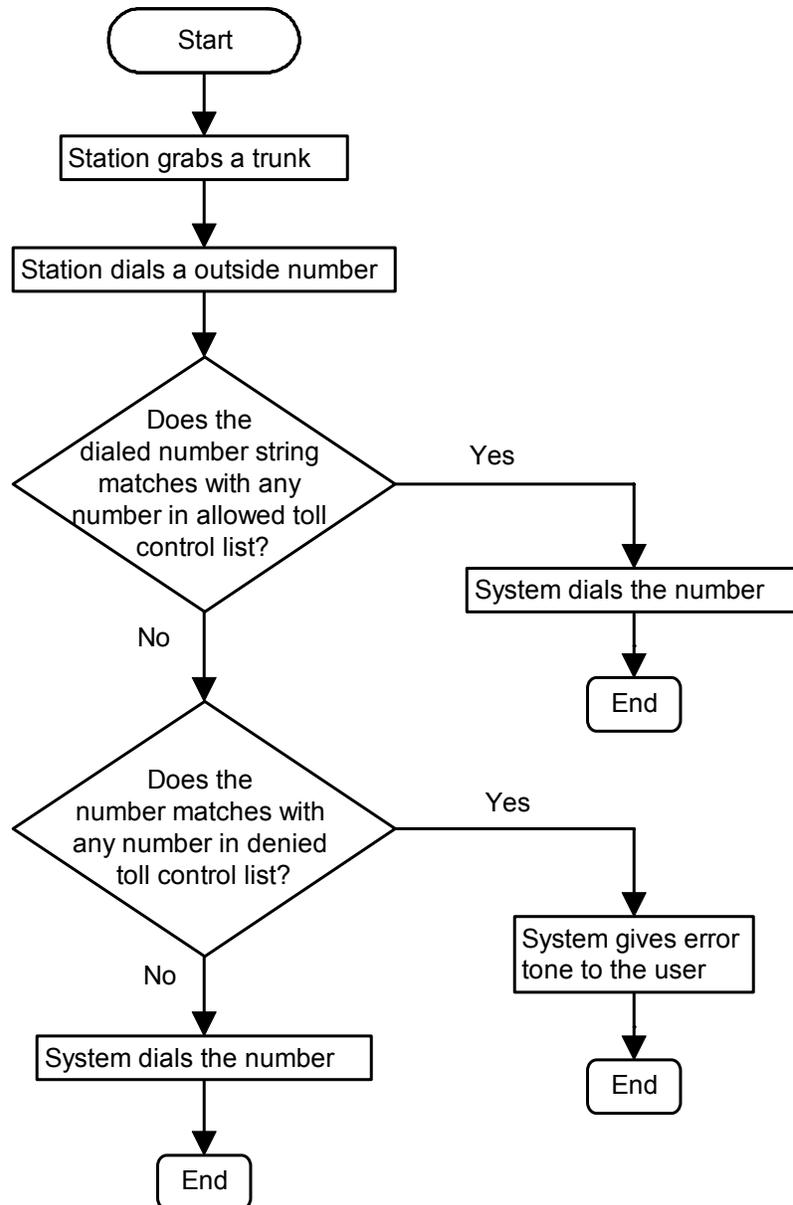
How to use it?

- 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 assigned 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 1:** List the toll control to be programmed station wise.
- Step 2:** Check whether the requirement can be met by using default Allowed Lists and Denied Lists.
- Step 3:** If default allowed lists satisfy the requirement, assign allowed list to the stations using commands **4501** and **4511** for day time.
- Step 4:** If default denied lists satisfy the requirement, assign denied lists to the stations using commands **4502** and **4512** for night time.
- Step 5:** 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 6:** Program the numbers/number strings to be allowed in the allowed list using command **1202**.
- Step 7:** Program the number/number strings to be denied in the denied list using command **1204**.
- Step 8:** Assign customized allowed list to the stations using commands **4501** and **4502**.
- Step 9:** 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 List and Denied List".

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](#) 31
2. [Station Parameters](#) 177
3. [Configuration Reports](#) 80
4. [Dynamic Lock](#) 107

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Trunk Access Groups

What's this?

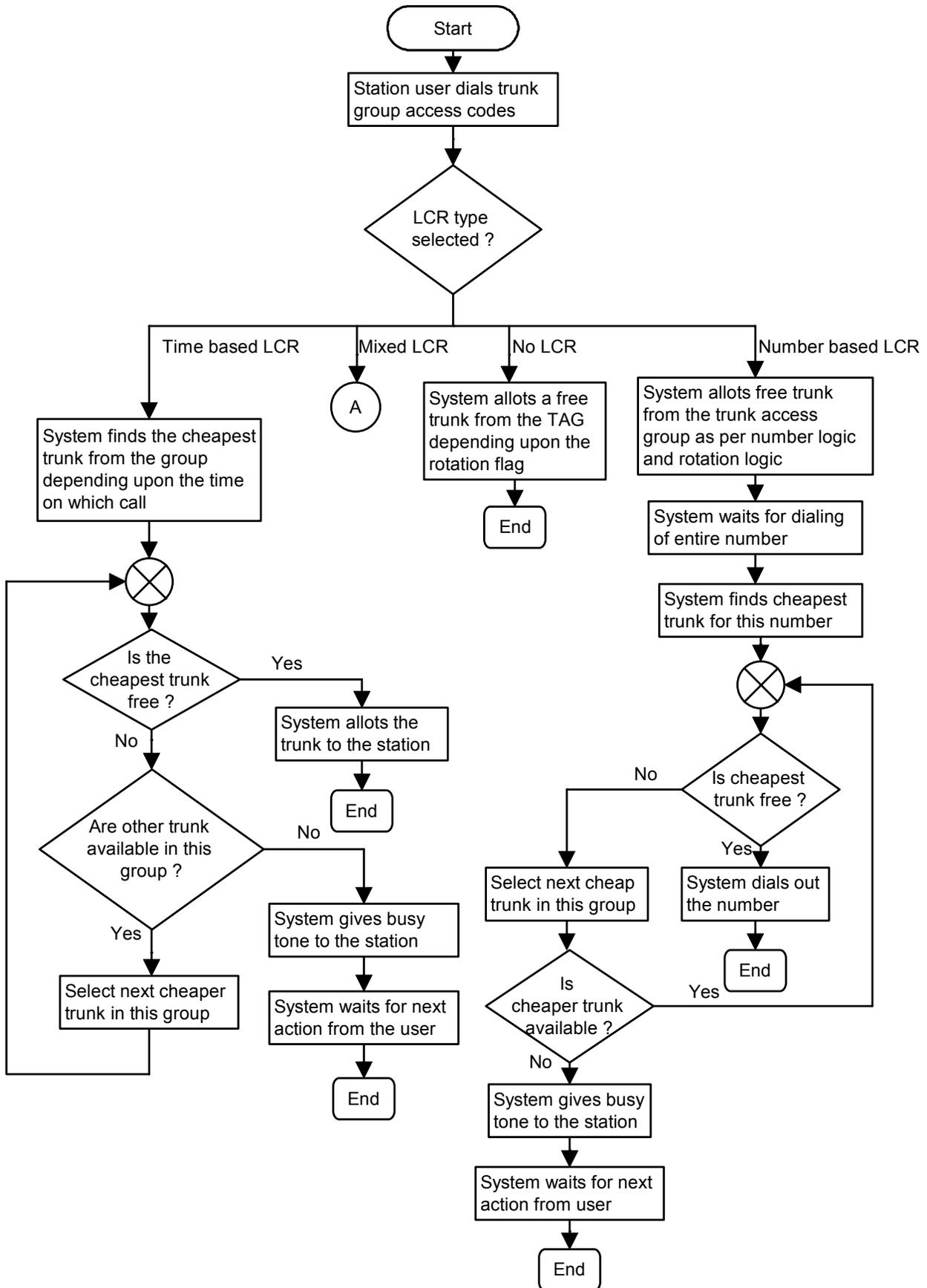
Trunk Access Groups provide efficient allocation of trunks to different stations.

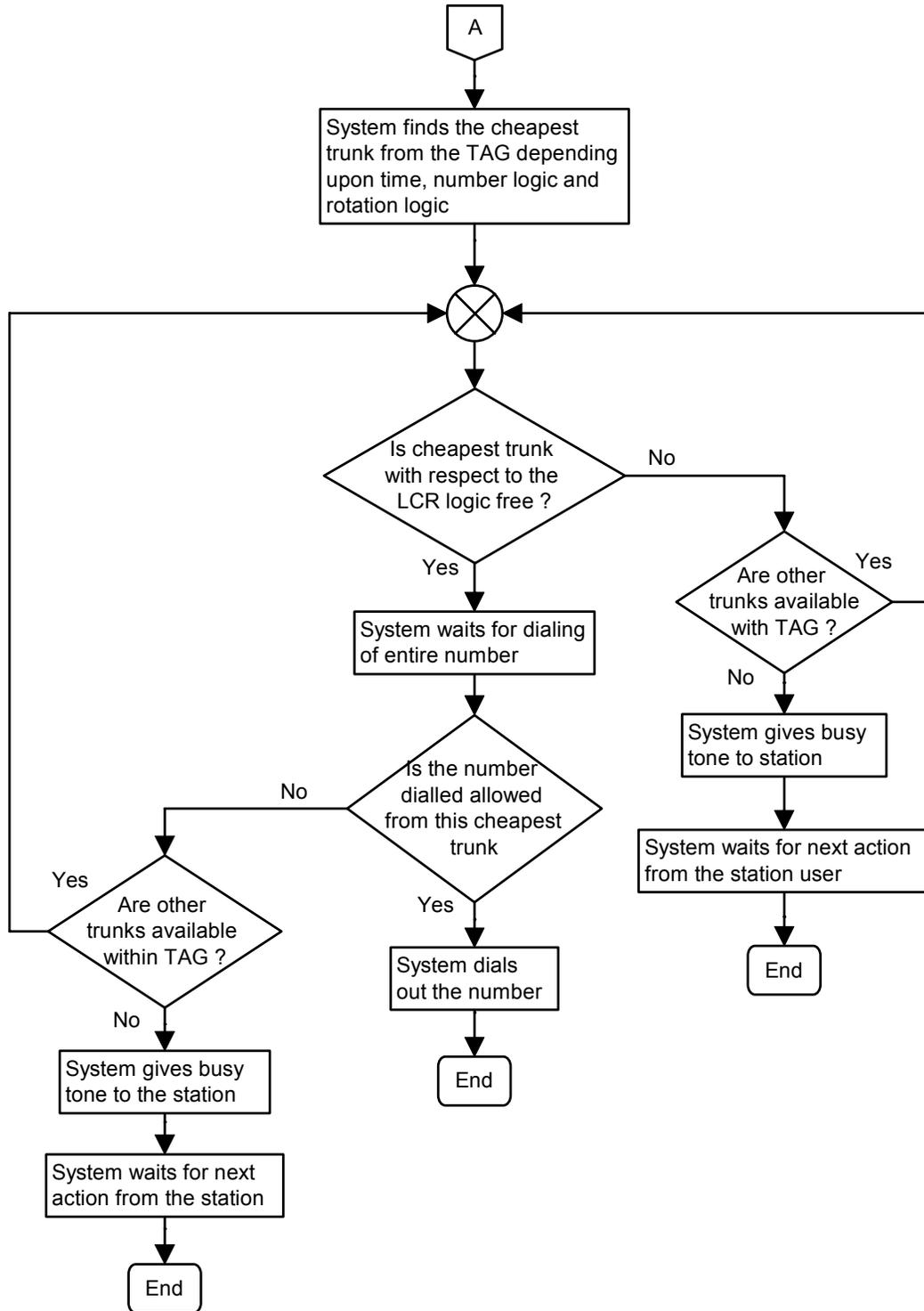
- All the trunks connected to the system can be bunched in different groups called trunk access group.
- Maximum 4 trunks can be put in one trunk access group and 8 such trunks access groups can be formed.
- These trunk access groups can be allotted to each individual station.
- A station can be allotted 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 and 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,

Roatation 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 and 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 Reports](#)".

Relevant Topics:

1. [Least Cost Routing \(LCR\)](#) 124
2. [Time Table](#) 181
3. [Class of Service \(COS\)](#) 70
4. [Trunk Parameters](#) 199

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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 Groups](#)' 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 181
2. Station Group 163

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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).

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.

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 than 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 Tue 07-02-00 at 21:30

Trunk Enabled : Yes
Dial Type : Tone
Line Type : Normal
Outgoing Call Storage : On
Incomming 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

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Trunk - 1 Parameters as on Tue 07-02-00 at 21:30

Trunk Enabled : Yes
Dial Type : Tone
Line Type : Normal
Outgoing Call Storage : On
Incomming 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

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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) 70
2. Auto Call Back 38

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User Security (User Password)

What's this?

Vision provides security to the user by way of a Password. This helps to avoid any unauthorised 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 107
2. DOSA 100
3. Walk-In Class of Service 211
4. Call Forward 53

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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 section “[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:

1. VM duration = 240 seconds.
2. Number of VM parts = 13.
3. Recording source = Telephone.
4. 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:

1. Divide the voice module in one part using command **1403-01**.
2. Record an Emergency message using command **1405-00**.
3. Verify the recorded message using command **1406-00**.
4. 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 Reports](#)".

Relevant Topic:

1. [Music on Hold](#) 133

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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) 204

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Section 3: Appendices

Appendix A: Technical Specifications

System Capacity and Resources:

	Vision 206S	Vision 206P	Vision 308S	Vision 308P
Total Ports	8	9	11	12
Trunks (Max.)	2	2	3	3
Extensions (Max.)	6	7	8	9
Door Phone Port	-	1	-	1
Relay Port	-	1	-	1
PAS Port	-	1	-	1
Comm. Port	-	1	-	1
Digital Input Port	-	1	-	1
Voice Module	-	1	-	1
Speech Paths	7	7	7	7
DTMF Decoders	2	2	2	2
DTMF Encoders	2	2	2	2

Type of Switching : Space Division (CMOS cross point)
Type of Control : CMOS Micro-Controller with SPC

Extension Dialing

A. Pulse Dialing : 10 PPS +/-10%, Make/Break ratio = 1:2
 B. DTMF Dialing : As per CCITT recommendation Q.23

Trunk Dialing

A. Pulse Dialing : 10 PPS +/- 5%, make/Break ratio = 1:2 (Break period between 66 to 68 ms),
 IDP = 667 ms.
 B. DTMF Dialing : As per CCITT recommendation Q.23

Transmission Parameters

Return Loss	More than 18 dB
Insertion Loss	Less than 1 dB
Inter-channel cross-talk	Less than -65 dBm
Idle channel noise	Less than -60 dBm
Extension loop resistance	250 ohms max.(excluding telephone)

Power Supply : 90-265VAC, 47-63Hz
Dimensions(LxWxH) : 260 X 75 X 280 mm (10.236 x 2.953 x 11.024 Inch)
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

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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	0

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
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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
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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	<i>Flash-1</i>
Call Transfer	
Call Transfer	<i>Flash-Station</i>
Call Transfer-On busy	<i>Flash-Station-5</i>
Call Transfer Trunk-to-Trunk	<i>Flash-6</i>
Cancel Station Features	
Cancel Station Features	<i>100</i>
Conference	
Conference	<i>Flash-0</i>
Continued Dialing	
Continued Dialing	<i>Flash-#-Desired Code</i>
Department Call	
Department Call	<i>3980 to 3983</i>
Dynamic Lock	
Close Lock	<i>140</i>
Set Lock Level	<i>141-User Password</i>
Set Auto-Shut Time	<i>143-User Password-Minute</i>
Change Password	<i>144-Old Password-New Password</i>
Executive/Secretary	
Executive/Secretary	<i>131-Station</i>
Hot Line	
Hot Line	<i>153-Station</i>
Hot Line Delay	<i>154-Seconds</i>
Hot Outward Dialing	<i>151-Trunk Access Group Code</i>
Hot Outward Dialing-With Number	<i>152-Trunk Access Group Code-Number</i>
Cancel Hot Line And HOD	<i>150</i>
Interrupt request	
Interrupt Request	<i>Station-5</i>
Last Number Redial	
Last Number Redial	<i>7</i>
Live Call Supervision	
Live Call Supervision	<i>199-Station</i>
Memory Dialing	
Use Memory Dialing	<i>8-Directory Index</i>
Paging	
Paging	<i>3998</i>
Programming Personal Memory	
Program Personal Memory	<i>18-Location Code-Trunk Access Code-Number-#</i>

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

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Appendix C: Programming Commands

Abbreviated Dialing

Program a telephone number in global directory
 Clear number in a particular global directory index
 Clear the number in all the global directory indexes
 Set trunk Access trunk group for particular location
 Set same trunk access group for all locations

1301-1-Location Code-Number-#
1301-1-Location-#*
1301-*-#
1302-1-Location-Trunk Access Group
1302-*-Trunk Access Group

Allowed and Denied Lists

Program numbers in the allowed list
 Program same numbers in all the allowed lists
 Default all numbers in allowed list
 Default all number strings in all the allowed lists
 Program numbers in denied list
 Program same numbers in all the denied lists
 Default all number strings in a denied list
 Default all number strings in all the denied lists

1202-1-Allowed List-Location Index-Number-#*
1202-*-Location Index-Number-#
1201-1-Allowed List-#
1201-*-#
1204-1-Denied List-Location Index-Number-#
1204-*-Location Index-Number-#*
1203-1-Denied List-#
1203-*-#

Alternate Number Dialing

Assign alternate group number
 Clear all the Alternate Group Numbers

1303-1-Index-alternate Group Number
1303-*-#

Behind the PBX Applications

Program PBX Expansion count for a trunk
 Program same PBX Expansion count for all trunks

3201-1-Trunk-PEC Count
3201-*-PEC Count

Call Duration Control

Assign a CDC table to a station user
 Assign same CDC table to all the stations
 Enable/disable CDC for Outgoing call in a CDC table
 Enable/disable CDC for Outgoing call in all CDC tables
 Enable/disable CDC for Incoming call in a CDC table
 Enable/disable CDC for Incoming call in all CDC tables
 Enable/disable CDC for Internal call in a CDC table
 Enable/disable CDC for Internal call in all CDC tables
 Assign disconnection flag
 Assign same disconnection flag to all CDC tables
 Assign CDC Timer
 Assign same CDC Timer to all CDC tables
 Assign allowed list to a table
 Assign same allowed list to a table
 Assign denied list to a table
 Assign same denied list to a table
 Default a CDC table
 Default all the CDC tables

4920-1-Station-CDC Table
4920-*-CDC Table
4910-1-CDC Table-Code
4910-*-Code
4911-1-CDC Table-Code
4911-*-Code
4912-1-CDC Table-Code
4912-*-Code
4913-1-CDC Table-Disconnection flag
4913-*-Disconnection Flag
4914-1-CDC Table-CDC Timer
4914-*-CDC Timer
4915-1-CDC Table-Allowed List
4915-*-Allowed List
4916-1-CDC Table-Denied List
4916-*-Denied List
4901-1-CDC Table-#
4901-*-#

Call Pick Up

Program a station in call pick up group
 Program all stations in same call pick up group

4301-1-Station-Call Pick Up Group
4301-*-Call Pick Up Group

Calling Line Identification and Presentation (CLIP)

Enable/disable CLI based routing during day time
 Enable/disable CLI based routing during night time
 Program the incoming telephone number in a CLI table
 Clear all the telephone numbers from the CLI table
 Ass. dest. type & dest. for IC telephone No. in the CLI table
 Ass. same dest. type & dest. for all the IC Nos. in the CLI table

1602-Code
1603-Code
1604-1-Index-Telephone Number-#*
1604-*-#
1605-1-Index-Destination Type-Destination
1605-*-Destination Type-Destination

Program the destination number for CLI based ECF
Program the CLI transfer mode
Default the CLI Parameters

1606-1-Index-Destnation Number
1607-Code
*1601-**

Class of Service (COS)

Enable/disable a feature in a COS group
Enable/disable a feature in all the COS Group
Default all features in a COS Group
Default all features in all the COS Group
Assign a COS Group to a station during day time
Assign a COS Group to all stations during day time
Assign a COS Group to a station during night time
Assign a COS Group to all stations during night time

4602-1-COS group-Feature Index-Code
4602--Feature Index-Code*
4601-1-COS Group-#
4601--#*
4610-1-Station-COS Group
4610--COS Group*
4611-1-Station-COS Group
4611--COS Group*

Configuration Reports

Download configuration report

1100

Department Call

Program station group as department group
Program same station group to all department groups

4801-1-Department Group-Station Group
4801--Station Group*

Dial by Name

Program the station name
Clear a station name
Clear all the station name

4103-1-Station-Name
4103-1-Station-#
4103--#*

Direct Inward Dialing (DID)

Activate DID on a trunk during day time
Activate DID on all trunk during day time
Activate DID on a trunk during night time
Activate DID on all trunk during night time
Act. Voice Guidance for DID on a trunk during Daytime
Activate VG for DID on all trunks during daytime
Activate VG for DID on a trunk during nighttime
Activate VG for DID on all trunks during nighttime

3501-1-Trunk-Code
3501--Code*
3502-1-Trunk-Code
3502--Code*
3503-1-Trunk-Code
3503--Code*
3504-1-Trunk-Code
3504--Code*

Direct Inward System Access (DOSA)

Enable/disable DOSA on a trunk during day time
Enable/disable DOSA on all the trunks during day time
Enable/disable DOSA on a trunk during night time
Enable/disable DOSA on all the trunks during night time

3601-1-Trunk-Code
3601--Code*
3602-1-Trunk-Code
3602--Code*

Door Phone

Program door phone port
Assign station group as door phone group for daytime
Assign station group as door phone group for nighttime

1701-Code
1702-Station Group
1703-Station Group

External Call Forward (ECF)

Enable/disable ECF on a trunk during day time
Enable/disable ECF on all trunks during day time
Enable/disable ECF on a trunk during night time
Enable/disable ECF on all trunks during night time
Assign trunk group to forward the calls of a trunk
Assign dest. No. where the calls are to be forwarded for a trunk

3701-1-Trunk-Code
3701--Code*
3702-1-Trunk-Code
3702--Code*
3703-1-Trunk-Trunk Access Group
3704-1-Trunk-Telephone number-#

Flash Timer

Program Flash Timer
Program same flash timer for all the stations

4102-1-Station-Flash Timer
4102--Flash Timer*

Flexible Numbers

Program the flexible number for a station
 Clear the flexible numbers of all the stations
 Default the flexible numbers of all the stations

4201-1-Station-Flexible Number-#*
4201-*-0
4201-*-#

Internet Ready Port

Activate/deactivate Internet ready Port

2101-1/0

Least Cost Routing (LCR)

Program LCR type for a trunk access group
 Program LCR Type for all Trunk Access Groups
 Assign service provide code to each trunk
 Assign same service provider to all trunks
 Program time zone index
 Program the Service Provider sequence for the each Time zone
 Default Time Zone wise LCR table
 Program number Index
 Program the Service Provider sequence for the each no. Index
 Default Number wise LCR tables
 Program time Zone Index for Mixed LCR
 Program Number Index for Mixed LCR
 Program the Service Provider sequence for the each time Zone
 Default Mixed LCR table

3401-1-Trunk Access Group-LCR Type
3401-*-LCR Type
3402-1-Trunk-SP Code
3402-*-SP Code
3412-1-Time Zone Index-Start Time-End Time
3413-1-Time Zone Index-SP0-SP1-SP2-SP3
3411-*-#
3422-1-Number Index-Number String-#*
3423-1-Number index-SP0-SP1-SP2-SP3
3421-*-#
3432-1-Time Zone-Start Time-End Time
3433-1-Number Index-Number String-#*
3434-1-No. Index-TZ Index-SP0-SP1-SP2-SP3
3431-*-#

Music On Hold (MOH)

Select music source

1102-Code

Operator

Program the Operator Station

1101-Station

Real Time Clock

Set Current Date
 Set Current Day
 Set Current Time

1001-Date-Month-Year
1002-Day
1003-Hours-Minutes

Relay Port

Program the mode of the relay port
 Program the ON time in the relay port table
 Clear an ON time entry from the relay port table
 Clear all the ON time entries from the relay port table
 Program OFF time in the relay port table
 Clear an OFF time entry from the relay port table
 Clear all the OFF time entries from the relay port table
 Program relay port ON duration timer
 Program relay port OFF duration timer

1801-Mode
1802-1-Index-Switch On Time
1802-1-Index-#
1802-*-#
1803-1-Index-Switch Off time
1803-1-Index-#
1803-*-#
3036-Seconds
3037-Seconds

Scheduled Dialing

Program a number in the schedule dialing table
 Clear all the numbers in the scheduled dialing table
 Program trunk access group for the number to be dialed out
 Program time at which the number is to be dialed out
 Default all the parameters related to scheduled dialing

2002-1-Number index-Number-#*
2002-*-#
2003-1-Number Index-Trunk Access Group
2004-1-Number Index-Time
2001-#

Security Dialer

Enable/disable DIP
 Program the DIP as Active High or Active Low
 Assign a trunk access group to a DIP
 Program the Emer. phone number where the call is to be made

1901-1/0
1902-1/0
1903-Trunk Access Group
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**
 Prg. ring timer for stns. with same dest. index for all station grps. **4703-*-Destination Index-Timer**
 Program cont./non-continuous ring for a destination in the group **4704-1-Station Group-Dest. Index-Continuous Ring**
 Prg. cont./non-cont. for stn. with same dest. index in all stn.grps. **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 org. station or 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**
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 Store Calls of all stations **1551-*-Flag**

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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
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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
Print trunk Parameters of a trunk	3100-1-Trunk
Print Trunk Parameters of all trunks	3100-*
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Program Trunk Inter Digit Wait Timer	3011-Seconds
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Default User password of a Station	1106-Station
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Program Voice Module duration	1402-VM Duration
Divide the voice module in desired number of parts	1403-Number of Parts
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Assign an application to a VM partition	1407-Voice Message Application-Part Number
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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.

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Glossary

DIP	: <u>D</u> igital <u>I</u> nput <u>P</u> ort.
DOSA	: <u>D</u> irect <u>O</u> utward <u>S</u> ystem <u>A</u> ccess. A facility to allow a remote.
DTMF	: <u>D</u> ual <u>T</u> one <u>M</u> ulti <u>F</u> requency. When a code (digit) is dialed, two different specific frequencies are transmitted.
FLASH	: A code required to use various system features.
LED	: <u>L</u> ight <u>E</u> mitting <u>D</u> iode.
LCD	: <u>L</u> iquid <u>C</u> rystal <u>D</u> isplay.
MDF	: <u>M</u> ain <u>D</u> istribution <u>F</u> rame.
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	: <u>P</u> ost and <u>T</u> elegraph.
PAS	: <u>P</u> ublic <u>A</u> ddress <u>S</u> ystem.
PSTN	: <u>P</u> ublic <u>S</u> witch <u>T</u> elephone <u>N</u> etwork.
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	: <u>R</u> eal <u>T</u> ime <u>C</u> lock. Date and time keeping circuit.
SA MODE	: <u>S</u> ystem <u>A</u> dmistration <u>M</u> ode. General housekeeping functions are allowed from SA Mode.
SA	: <u>S</u> ystem <u>A</u> dmistrator.
SE MODE	: <u>S</u> ystem <u>E</u> ngineer <u>M</u> ode. Entire programming can be done from this mode.
SE	: <u>S</u> ystem <u>E</u> ngineer.
SMDR	: <u>S</u> tation <u>M</u> essage <u>D</u> etail <u>R</u> ecording. Cost calculation of the calls made by a station.
SP	: <u>S</u> ervice <u>P</u> rovider.
STATION	: Internal station to which a telephone is connected.
SWG	: <u>S</u> tandard <u>W</u> ire <u>G</u> uage.
TONE DIALING	: A type of signalling 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	: <u>P</u> rivate <u>B</u> ranch <u>E</u> xchange.

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Notes

Requirement:

- Extensions to be given flexible numbers from 21, 22, 23 to 25
- COS group for 21, 22, 23 and 25 is 7.

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Notes

