



**C-DOT IVRS**

**USER MANUAL**



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THIS C-DOT SYSTEM PRACTICE REFERS TO THE C-DOT INTERACTIVE VOICE RESPONSE SYSTEM (ABBREVIATED AS C-DOT IVRS IN THE REST OF THIS PUBLICATION).

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THE INFORMATION IN THIS SYSTEM PRACTICE IS FOR INFORMATION PURPOSES AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

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A COMMENT FORM HAS BEEN INCLUDED AT THE END OF THIS PUBLICATION FOR READER'S COMMENTS. IF THE FORM HAS BEEN USED, COMMENTS MAY BE ADDRESSED TO THE DIRECTOR (SYSTEMS ), CENTRE FOR DEVELOPMENT OF TELEMATICS, 39, MAIN PUSA ROAD, NEW DELHI - 110 005

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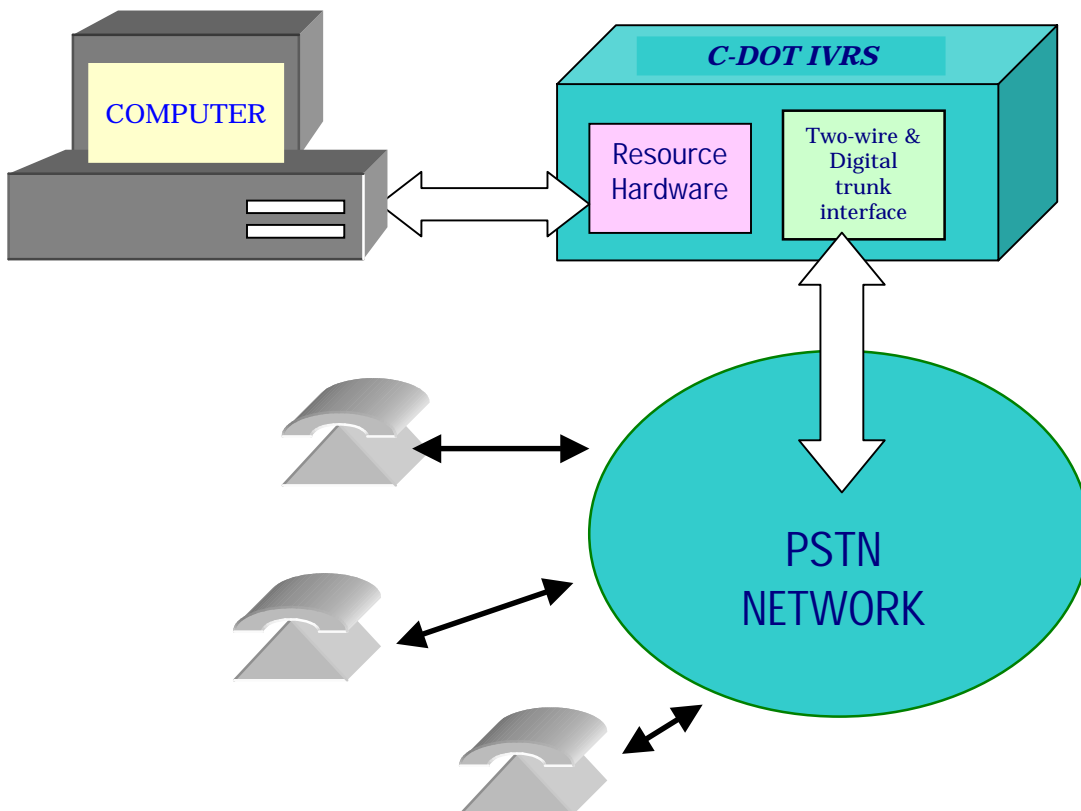
# Chapter 1.

## Introduction

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C-DOT Interactive Voice Response System (IVRS) can be seamlessly integrated with the present Indian Telecom Network through normal twisted pair copper wire or E1 digital trunk interface. The applications developed are based on requirements from Telecom Department. C-DOT IVRS can cater 60 ports, of which 30 ports on twisted pair copper/PCM (E1) and another 30 ports on PCM (E1) interface from Local Exchange.

### 1.1. POSITION OF C-DOT IVRS IN THE NETWORK



## **1.2. SALIENT FEATURES**

- Interactive Voice Response System.
- Developed using C-DOT low cost hardware and software.
- Caters upto 60 channels simultaneously.
- Application developments and GUI for Man-machine interface is done on PC.
- Serial port connectivity from PC to System Hardware.
- Voice files can be downloaded from PC to the Hardware.
- Application is independent of hardware.
- Multiple applications are supported in a single system.
- Supports both analog tip/ring and PCM (E1 interface).
- Implemented using state-of-art DSP technology.
- Supports global DTMF and Decadic detection.
- Supports CAS signaling on E1 with MF-R2.
- Redundancy of PCs supported.
- Ergonomic table-top design of the Cabinet, with non-AC operation.

## Chapter 2.

# Hardware Description

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### 2.1. SYSTEM LEVEL SPECIFICATIONS

S.No.	FEATURES	SPECIFICATION
1	Capacity	Can cater upto 60 ports .
2	Exchange Side Interface	30 Subscriber lines (tip & ring) and or one E1 digital trunk alternatively.  Supports two numbers of 2Mbps digital trunk (E1) over shielded symmetrical twisted pair of 120 Ohms (G. 703).
3	Power	Power is derived from -48V DC. Max. Power Requirement 100W.
4	Cooling	Forced convection cooling using fans.
5	Alarm	Unit is capable to produce alarm signals in case of:  -48V Input Voltage Failure (Visual).  Fan Failure (Audio & Visual).  Filter Failure (Audio & Visual).  Link Fault between PC and IVRS (Audio & Visual) on PC.
6	Diagnostics and Test Facility	Operator initiated test of line interface.
7	Signaling Interface to exchange	Loop signaling on Tip and Ring with DTMF.  CAS on E1 – Through MF-R2
8	Supervisory Facility	GUI based Man-Machine Interface is provided on PC for administrative, maintenance, configuration, testing and system status display.
9	Mechanical Packaging	Cabinet conforming to tabletop design, with external dimensions of 60x42x42 cms.  Card-cage accommodating C-DOT 10" X 12" cards.

### 2.2. CARD LEVEL DESCRIPTION

The types of cards used in the system are:

- a) Compact Terminal Controller Card (APC-CTCA01/O-S11)
- b) Advanced Service Card (APC-ASVA27/H-B00)
- c) Junction Card (APC-JUN081/T-S03)
- d) Power Supply Card (APC-EPU874/F-S02)
- e) Auxiliary Card (APC-IXCA49/T-S01)
- f) IVRS Backplane (APC-IVBA47/F-M00)

### **2.2.1. Compact Terminal Controller (CTC)**

#### **2.2.1.1. Features**

- ◆ Handles signaling and Voice interface for 256 ports
- ◆ Uses 68302 processor at 16.384MHz
- ◆ Supports 1MB FLASH or 2MB EPROM and 2MB RAM
- ◆ Supports switching within & external to the system

#### **2.2.1.2. Interface Specification**

- ◆ Two digital Trunks (E1) can be interfaced to local exchange (As per ITU-T G.703)
- ◆ 32 channel PCM link for interfacing cards.
- ◆ Signaling interface to other cards through SP Scan-Drive bus and message links.

#### **2.2.1.3. Description**

This card gives clock, sync, card select and subscriber select signals for PCM and data clock, card select, subscriber select and scan/drive signals for signaling to the junction cards. It can handle signaling and voice interface for 256 ports. Two E1's can be used for exchange interface. It can time switch across cards in the system.

### **2.2.2. Advanced Service Card (ASV)**

#### **2.2.2.1. Features**

- ◆ Generates Announcements
- ◆ Supports DTMF functionality (Generation and Detection)
- ◆ Supports Decadic Pulse Detection on Voice path
- ◆ Tone generation and Answering circuit



- ◆ Announcements can be supported simultaneously on 30 time slots that are available
- ◆ Supports Bi-Lingual announcements
- ◆ Supports MF functionality (Generation and Detection) and CAS handling .

#### **2.2.2.2. Description**

This card is a service card to generate announcements. Apart from generation of announcements, this card can also do MF, DTMF, decadic pulse detection on the return path. The announcements are stored as voice samples within the card. The card has DSP processor for MF/DTMF/DPD detection. Announcements can also be kept in compressed format at 8Kbps, where the DSP can decompress it and send the announcements on the PCM link. The total available announcement memory is 24Mbytes which supports 50 minutes of uncompressed or 6 hours of compressed voice playout. The card can have a page size of ¼ sec, ½ sec, or 1sec. HDLC link is used for communication with the CTC card and ACIA link is used for PC communication through the COM port in the PC. TS15 is used as the message channel between CTC and ASV.

#### **2.2.3. Junction Card (JUN)**

##### **2.2.3.1. Features**

- ◆ Ring Detect
- ◆ Loop offering and Outpulsing
- ◆ 16KHz metering and Battery Reversal
- ◆ Voice path
- ◆ Voice multiplexing and demultiplexing
- ◆ Drive-Scan multiplexing and demultiplexing

##### **2.2.3.2. Description**

The junction card basically interfaces the IVRS with the C.O. (Central Office). For this purpose it uses a pair of wires (tip & ring) from the C.O. subscriber interface card per junction. Each card caters to eight junctions. This does A/D and D/A conversions as per PCM "A" law. Four cards together put out one digital PCM voice onto a 32 channel (2.048Mbps) time multiplexed link under the control of CTC. Signaling information (ring/battery reversal detection, fault detection, on-hook/out pulsing etc.) to and from the CTC is on time multiplexed bi-directional buses called scan-drive.

## **2.2.4. Power Supply Card**

### **2.2.4.1. Features**

- ◆ SMPS technique
- ◆ Generates +5V, 15A
- ◆ Generates +12V, 5A
- ◆ Generates -12V, 1.6A
- ◆ Generates ringer at 75V RMS, 25Hz

SMPS technique is being utilized here in order to have a compact, highly efficient and more reliable power supply. The topology used is forward converter type. Basically in this configuration, N48V DC is chopped by a switching transistor which is in series with primary of a transformer. Once DC is converted into pulses, the transformer action takes place and on the secondary, it is stepped down to the desired voltage. By varying the ON-period of pulses, the regulation of output voltage can be achieved.

## **2.2.5. IVRS Auxiliary Card**

Dimension: 80mm x 400mm x 1.6mm

### **2.2.5.1. Features**

- ◆ N48V filtering
- ◆ Fan Failure Detection
- ◆ Alarm Generation (Visual and Audio)
- ◆ Interface from IVRS hardware to PC

### **2.2.5.2. Description**

This card is used for power distribution to the hardware after filtering the noise from the input N48V. The card consists of two identical filtering circuits. An LED indicates the presence of N48V. In case of failure this LED is in OFF State. Two fans are used in the system for cooling. The fan sense (tacho) is given to the fan failure circuit. In case of failure the respective LED of the fan will go to OFF State. The alarms are given to the base of the transistor, which drives the Buzzer on the card in order to produce an audio alarm. The RS232 or ETHERNET connectivity to the system is made with the help of 4 9-pin D-type connectors or through RJ45 connectors respectively.

## 2.2.6. IVRS Backplane

**Dimension:** 430mm x 233.2mm x 3.2mm

There are four LEDs at the back plane of IVRS for alarm indication. The status of LEDs are explained below.

LED1 :	Green (for -48V)
LED2 :	Green (for Fan 2)
LED3 :	Green (for Fan1)
LED4:	Red (for Buzzer)

### **Power on LED1 :**

When -48V is connected to the IVRS this LED glows. It indicates the presence of power. If no power is there then LED goes OFF.

### **Switch position :**

There is a 3-way switch at the backplane of IVRS. It indicates visual and Audio alarms for fan failure cases. If the switch is in ON position then Buzzer gets activated and in case of fan failure an audio Alarm along with visual alarm (fan failure LED) is raised.

If switch is at OFF position, this deactivates the audio alarms for fan failure and an indication is given by glowing the 'buzzer OFF' LED.

If the switch is at Test position it checks whether the buzzer is working properly or not by giving audible alarms

Two fan failure LEDs are also existing which will go OFF in case of fan failure.

Refer Annexure `A' for details.

### 2.2.6.1. Interfaces

- ◆ N48V and N48V GND from auxiliary card
- ◆ Subscriber cables on junction card connectors from MDF (installed internally)
- ◆ Digital Trunk (PCM) cables on slot-2 of motherboard from DDF (installed internally)

### 2.2.6.2. Description

The motherboard is fixed on to a 13-slot card frame. The slot numbers for the cards used in the system are:

- a) Slot Number 1 for Power Supply card
- b) Slot Numbers 3 to 6 is for Junction cards
- c) Slot Numbers 7 and 8 is for Trunk card (Reserved for future use)
- d) Slot Numbers 9 to 12 is for Announcement card 12 is reserved for future use
- e) Slot Number 13 is for CTC card

The subscriber and digital trunk cables from the local exchange land on the MDF/DDF in the system. From here the subscriber cables are routed to the respective junction cards while the digital trunk cable is routed to slot number two. The subscriber cable for each of the junction cards is distributed in two 7x2 connectors. N48V power is obtained from the auxiliary card through the 96-pin Euro connector.

1	2	3	4	5	6	7	8	9	10	11	12	13
EPU		JUN 0	JUN 1	JUN 2	JUN 3			ASV 0	ASV 1	ASV 2		CTC

### Hardware Configuration of IVRS

## 2.3. APPLICATIONS

### 2.3.1. USER INITIATED

- ◆ Interactive changed number announcement.
- ◆ Interactive telephone bill enquiry system.
- ◆ Interactive fault reporting system.
- ◆ Interactive commercial information & special service assistance.
- ◆ Interactive telephone fault clearance system.
- ◆ Any other generic application.

### 2.3.2. SYSTEM INITIATED

- ◆ Automatic bulk number change announcement.
- ◆ Automatic payment reminder.
- ◆ Any other generic application.

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**2.4. SPECIFICATION OF PC**

- INTEL Pentium-IV or latest @1.2GHz or above
- 256MB SDRAM and above (expandable)
- Minimum 4 PCI and 1AGP Slots
- 40 GB SCSI/IDE Hard Disk or above
- 4MB AGP Card or above or inbuilt display card
- 104-Key Windows'98 Keyboard or above
- Two RS-232 Serial Ports (4 COM PORTS optional)
- One Enhanced Parallel Port EPP / ECP
- PS/2 or USB Mouse Port
- 1 Microsoft Mouse (PS/2) or USB
- 15" SVGA Colour Monitor (Non-Interlaced)
- 1 Ethernet interface Card 10/100 Mbps Autosensing with 2 PORTS (optional – for Fault Reporting System interface)
- 1.44 MB FDD
- 52x and above CD ROM or equivalent DVD Drive
- Ultra Wide PCI SCSI Card – 1 No.(optional)
- 1.2 GB Cartridge Tape or DAT Drive (optional-for back-up)
- PC Microphone (for recording announcements)
- Multimedia Kit (for announcements and playback) with in built or add on Sound Card and Speakers.
- 2 MODEMS – Class 2 or above for Line Testing and FAX (Optional)
- Windows NT 4.0 work station with all latest service packs/ Windows 2000 Professional with all latest service packs.
- WINFAXPRO 10.0 or latest version (SYMENTEC).(optional for faxing)

**2.5. SPECIFICATION OF UPS (UNINTERRUPTED POWER SUPPLY) FOR PC**

- Online UPS of rating 0.5 KVA (minimum).

**2.6. POWER SOURCE FOR SYSTEM HARDWARE (OPTIONAL)**

- AC-DC converter with –48V, 3A output - connected to UPS (in case –48V is not available).

**2.7. CONFIGURATION**

CONFIGURATION	
30 Channel IVRS	Using 4 nos. Junction Cards or Using 1 no. E1 trunk
60 Channel IVRS	Using 4 nos. Junction card & 1 no. E1 trunk or Using 2 nos. E1 trunks

Minimum configuration possible is 8 ports using one Junction Card.

**2.8. POWER REQUIREMENT**

The system requires 2A on –48V DC for 60 channels.

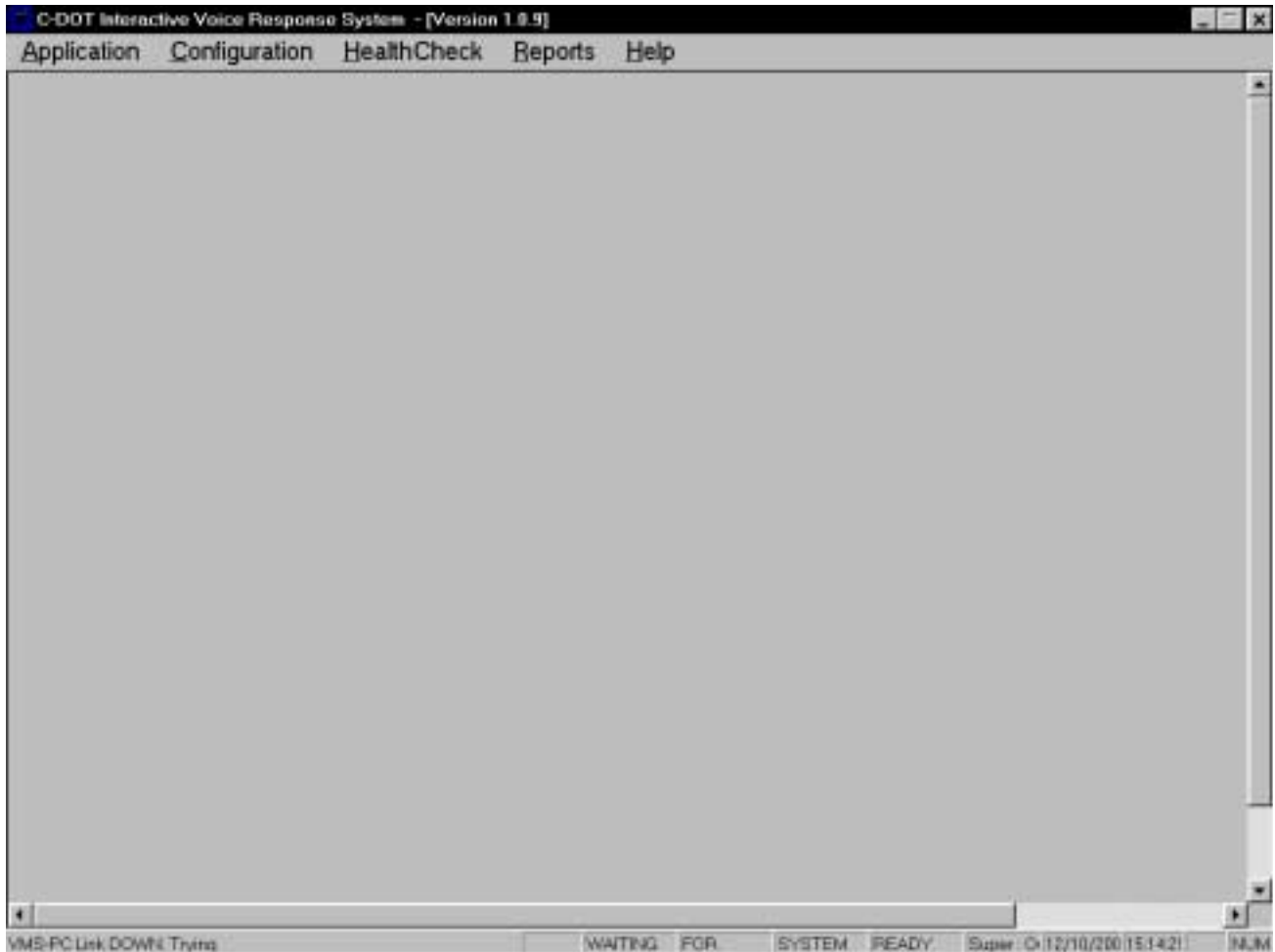
## Chapter 3.

# Maintenance of IVRS Application

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### 3.1. GETTING STARTED

To start the CDOT IVRS application double click the ivrs icon. Following window will appear.



This window shows menu bar and status bar. Menu bar is at the top where you can see and choose the options available in this application. Status bar shows the present status of the application such as time, date, Caps lock, Num lock etc and the links of various cards and trunks.

Status bar mainly has eleven different sub bars. First bar shows the link status between CTC and ASV cards and also between IVRS and PC. Second bar gives details of ASV. Third bar gives details of status of DTK cards whether DTK-0 or 1 is equipped or not. The next two bars will give the status of JUNCTION cards. The next status bar will give the status of the "log in" or "log out". If the supervisor has log in the application the status will be "Super: In" else if the supervisor has log out the application then the status will be "Super: Out". The next bar will show the present date and the next will show the present time. The next two bars will show the status of "numeric" and "caps lock". If the "Caps Lock" is ON then it will show "CAP" in the next bar and if the "Num Lock" is ON then it will show "NUM" in the next window. For example IVRS-PC Link is UP and CTC-ASV1 Link is OK, DTK-0 is equipped and OK, and the present date is 12/10/2000 and the present time is 15:14:25 and the Caps and Num lock is ON.

### **3.2. THE IVRS APPLICATION HAS FOLLOWING MAIN OPTIONS**

1. Application
  - ◆ Log In
  - ◆ Log Out
  - ◆ Password Change
  - ◆ Exit
2. Configuration
  - ◆ Administration
  - ◆ Application Management
  - ◆ Default Settings
  - ◆ Settings
  - ◆ Supervisors Numbers
3. HealthCheck
  - ◆ Junction Card
  - ◆ Digital Trunk
  - ◆ Announcement Card
  - ◆ CTC Card
4. Reports
  - ◆ System Status



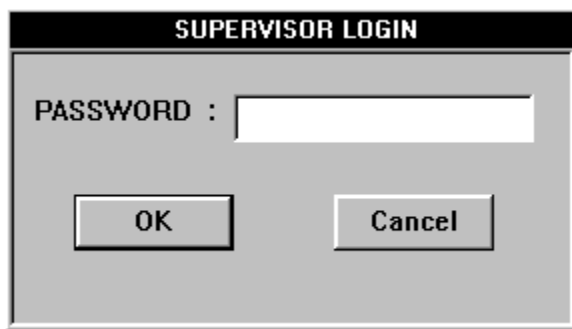
- ◆ Mapping
  - ◆ Port Status
  - ◆ Log file
5. Help
- ◆ About C-DOT IVRS
  - ◆ System Help

**3.2.1. The Application option has the following submenu options**

1. Log In
2. Log Out
3. Password Change
4. Exit

**3.2.1.1. Log In**

Log in means entering into the application after entering the password in the following window which appears as shown below:



**Note:** The default password is 'c'.

Log in is specifically for Super User. So that only he can make changes in the settings. Only reports and help can be used without log in, other applications can't be used otherwise. If we try to change the settings of this application without logging into the application it will not open that option and shows the above alert window.



**3.2.1.2. Log Out**

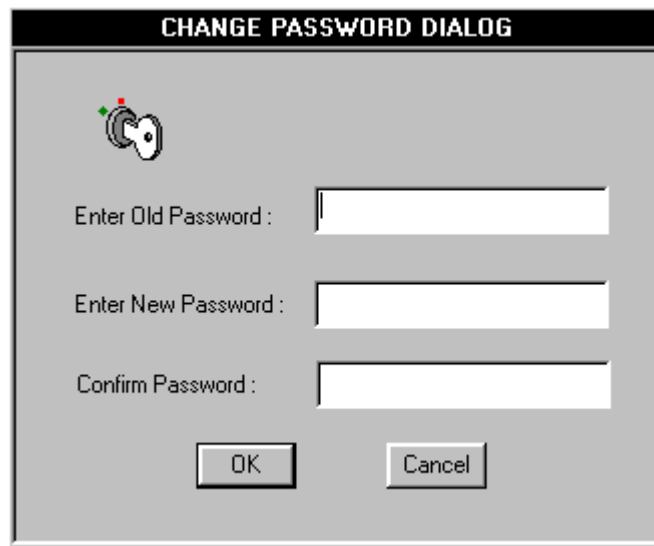
Click log out option in menu bar to lock the application settings to prevent them to be viewed/changed by the persons other than the supervisor himself.

**Note:** The default password is 'c'.

To log out enter the password and click "OK".

**3.2.1.3. Password Change**

On clicking to this option you will see the following window:



To change the present password, just enter the Old Password & New Password and to confirm new password enter it in the next window.

**Note:** This option will change the supervisor password of this application.

**3.2.1.4. Exit**

This option will close the application. On clicking to this option the following window will appear:



If you really want to exit then click "Yes" else click "No". On choosing yes the following window will appear:



**Note:** The default password is 'c'.

Enter the password to quit. If you don't enter any password or enter wrong password then it will show "Incorrect Password" and will terminate quitting.

### **3.2.2. The Configuration option has the following submenu options**

1. Administration
2. Application Management
3. Default Settings
4. Settings
5. Supervisors Numbers

#### **3.2.2.1. Administration**

Administration basically deals with downloading announcements, codes & equipping and unequipping junction cards, selecting and deselecting trunks.

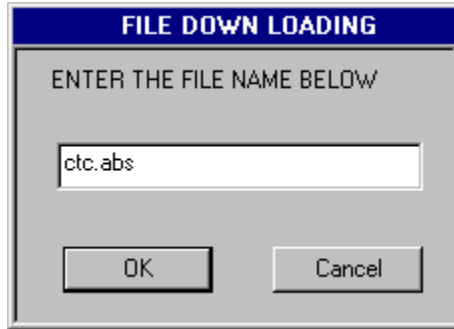
The administration has following options:

1. Code Download
2. Announcement Download
3. Equip Card
4. Unequip Card
5. Equip Trunk
6. Unequip Trunk

##### **3.2.2.1.1. Code Download**

With this command one can download the code for ASV. The ".ABS" file should be present in the directory where the C-DOT IVRS .exe file is present. Once code download has started no other commands should be given. At the

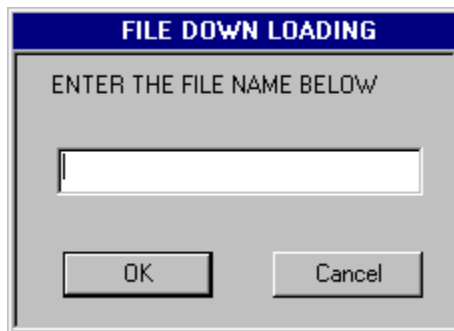
end of code download the status bar will show "FINISH". Then give a reset to the C-DOT IVRS system in order to boot with the new code.



**Note:** Be careful while giving the file name. Do not give a wrong file name. This will corrupt the system.

#### 3.2.2.1.2. *Announcement Download*

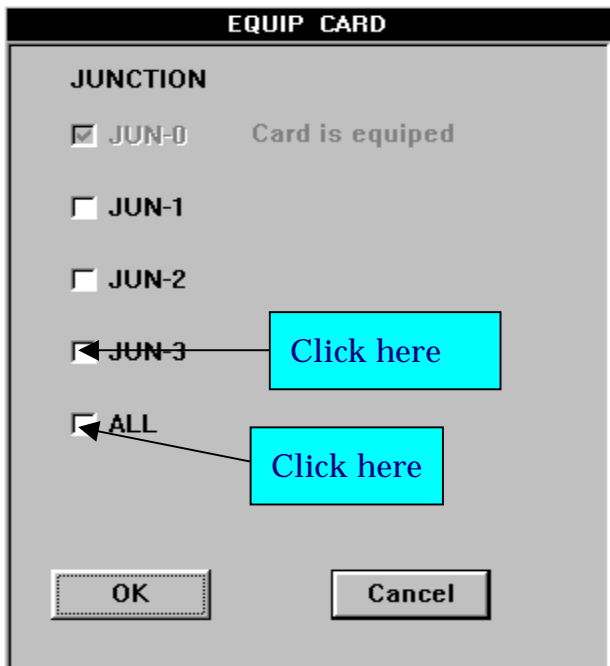
With this command one can download the announcement code for ASV. The ".txt" file should be present in the directory where the C-DOT IVRS .exe file is present. Once announcement download has started no other commands should be given. At the end of announcement download the status bar will show "FINISH". Then give a reset to the C-DOT IVRS system in order to boot with the new code.



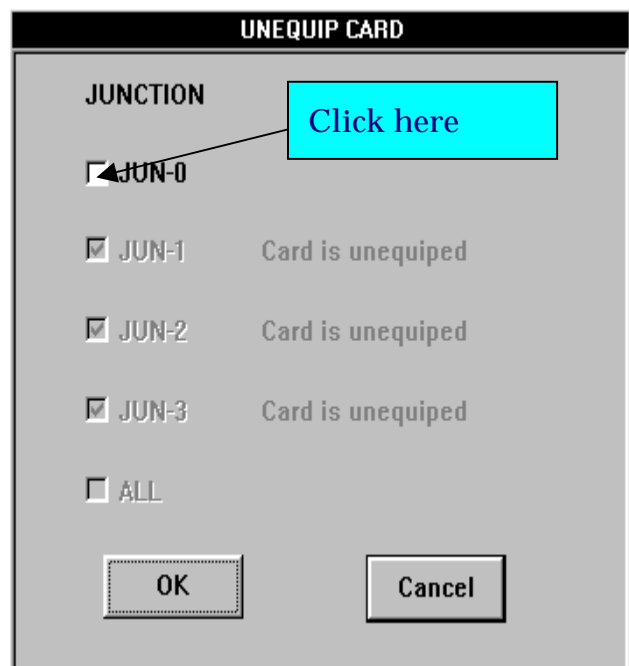
**Note:** It is recommended to follow the procedure specified in Annexure-B for Announcement downloading.

#### 3.2.2.1.3. *Equip Card*

This option will equip all those junction cards which are not equipped. On clicking to this option the following window will appear:



**Figure for Equip Card**



**Figure for UnEquip Card**

To equip any card, just select the junction and then "OK". Already equipped cards will show their equipped status as "card is equipped". If all cards are equipped then it will show that all cards are equipped. For example in the above figure the status of Jun-0 is "card is equipped".

This means that this junction is already equipped and will not be equipped again.

**3.2.2.1.4. UnEquip Card**

This option will unequip all those junction cards that are equipped.

On clicking to this option the above window will appear:

To unequip any card, just select the junction and then click "OK". Already unequipped cards will show their unequipped status as "card is unequipped". If all cards are unequipped then it will show that all cards are unequipped. For example in the above figure the status of Jun-1, Jun-2, Jun-3 are that "card is unequipped".

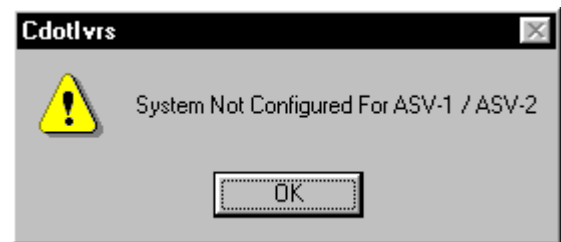
This means that only junction 0 can be unequipped and others are already unequipped.

### 3.2.2.1.5. *Trunk Selection*

Trunk selection means to select the E1 link. And the following window will appear giving the present status.



**“Figure for equipping trunks”**



**“Alert window”**

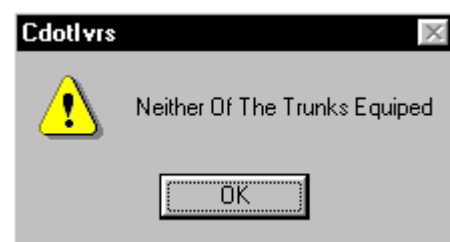
For example in the above figure it is shown that system at present is not configured for DTK-1. This means this trunk is not equipped. If we want to equip DTK-0 then select this field as selected above and then click “OK”.

### 3.2.2.1.6. *Trunk Unselection*

Trunk unselection means to deselect the trunks, which are up at present. This option will unequip the equipped trunk. And the following window will appear giving the present status of trunks:



**Figure for unequipping trunks**



**Alert window**

For example in the above figure it is shown that the system at present is only configured for DTK-0 and if we want to unequip it then select this field as selected above and then click "OK". If system is not configured for any DTK then it will show the above alert window.

### **3.2.2.2. *Application Management***

Application management basically deals with management of different applications such as BES, BCNS, CNS, FCS etc. Management of these applications means selecting an application, which we want to implement, and then assigning ports to them. A port means telephone number at which the subscriber can use these utilities.

Application management has two sub options:

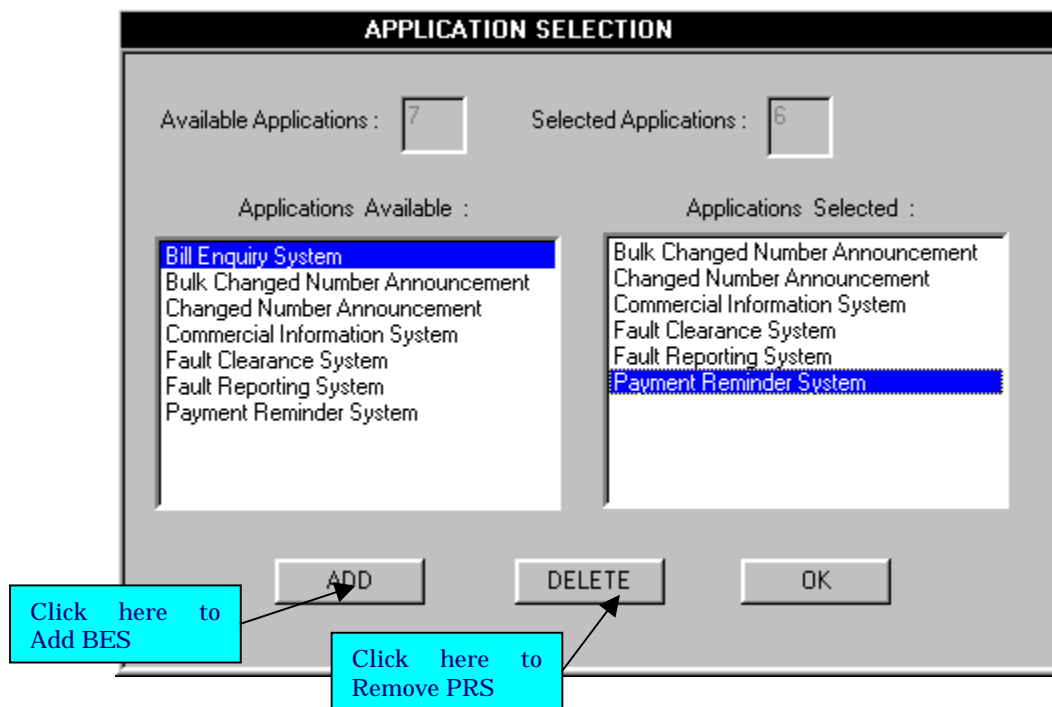
1. Application Selection
2. Application to Port Mapping

#### **3.2.2.2.1. *Application selection***

In this application two main options are provided that are Application available & Application selected. To add an application in 'Application selected' just select an application from available list and click "ADD" option. And to remove an application, just select that application from "Application selected" column and click "DELETE".

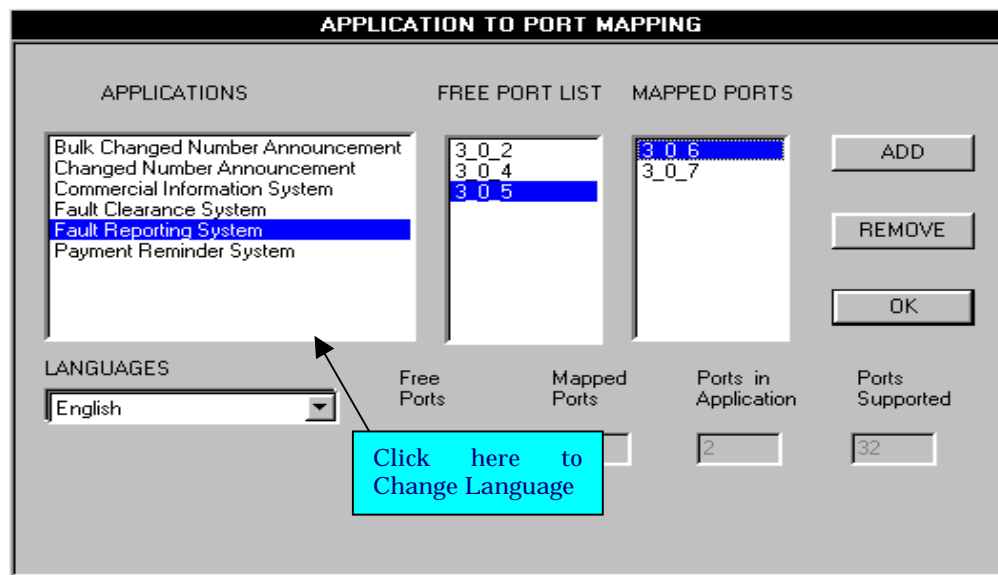
For example if we want to add "Bill Enquiry System" to the selected application then select this application (as selected above) and click "ADD" and if you want to remove a selected application for example if you want to remove "Payment Reminder System" from the selected list then select it in the selected list and click "DELETE".

The window is shown below:



#### 3.2.2.2.2. Application to port mapping

The window is shown below:



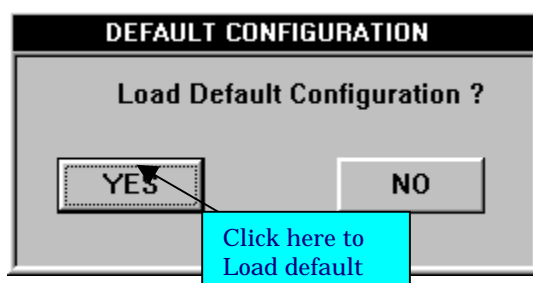
Application to port mapping basically deals with assigning ports to different applications. A port means a telephone number at which a particular service can be used. On clicking to this application above window appears in which different applications selected from "Application Selected" are shown and



there is a free port list from which we can select a port and assign to a particular application. For example if we want to assign port number 3\_0\_5, which is free, to Fault Reporting System (FRS). First select the application as FRS, then select this port (3\_0\_5) and click "ADD". This will assign the selected port to FRS. Now if we want to remove a port from a particular application, then we will have to select that application first and then select the port to be removed and click "Remove". So in this way we can assign a port or remove a mapped port from a particular application.

### **3.2.2.3. *Default Settings***

Default settings are the initial settings that can be reloaded when original settings are lost. On clicking default settings the following window will appear:



This dialog box will ask you whether you want to load default settings or not. If you want to load them then click "YES" else click "NO".

### 3.2.2.4. Settings

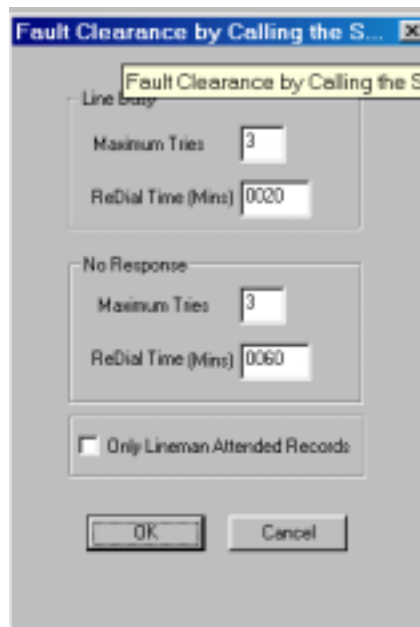
On clicking the Settings option following window will appear:

In Settings you can set following parameters:

- Timings:** Time setting for outgoing calls to be made to subscriber informing them about their changed number, remaining payment etc. It will prevent calling at odd times. For example informing at midnight will be an inconvenience to the subscriber.
- Line Busy:** Settings for number of tries when the line is busy or not responding and for redial time interval.
- No Response:** Settings for number of tries in case of no response and for redial time interval.

- FRS Language Choice :** Select this option if you want announcement in two languages.
- Station Code:** Settings for the Station Code.
- Cut off Amount:** Settings for the limit of pending payment for which the system should call the subscriber for reminding them about their pending bills.
- Cut off Date:** Settings for the cut off date during which the subscriber should be called.
- Dial VIP:** Settings for whether to dial a VIP or not.
- Fax Required:** Settings for whether fax is required or not.
- Bill Reminder: system** Settings for whether to announce bill details to subscriber or not.
- Frequency:** Settings for whether frequency is required or not. The frequency means, the number of times a subscriber should be called. If required then how many are required and for how much amount they are required and also for what redial time.
- Old Bill details:** Settings for whether old bill details required or not.
- OK/Cancel:** If you want that your new settings to be loaded then click "OK" else if you want to set previous settings then click "CANCEL".

**3.2.2.5. *Fault Clearance by Calling the Subscribers***

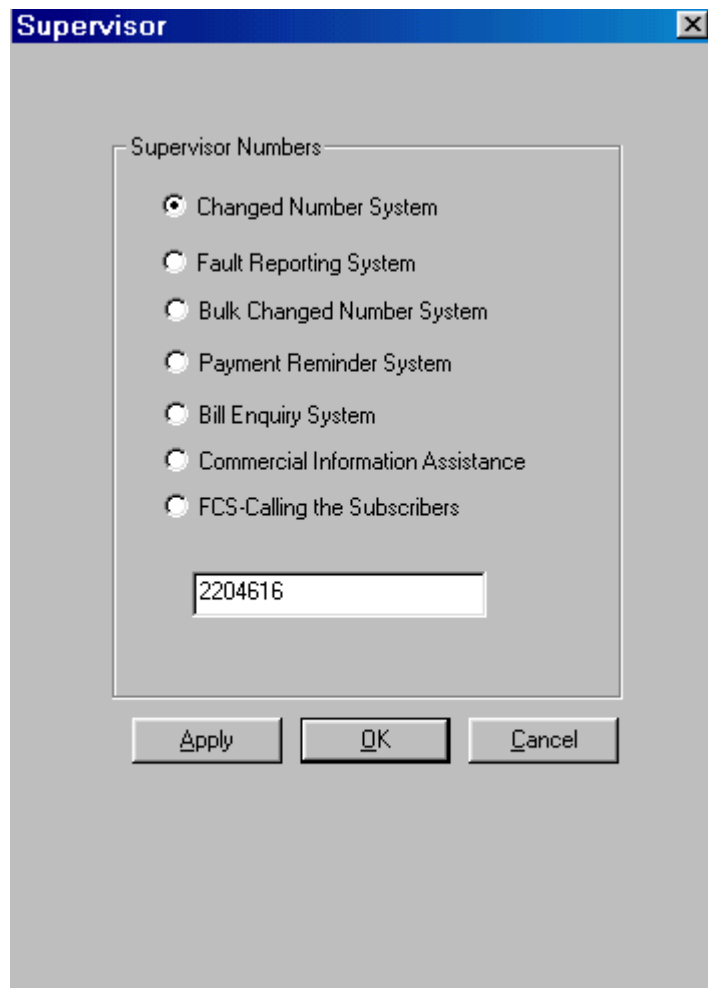


In settings you can set following parameters:

- Line Busy : Settings for number of tries when the line is busy or not responding and for redial time interval.
- No Response: Settings for number of tries in case of no response and for redial time interval lineman attended records. check this option to clear only those faults which are attended by lineman.

**3.2.2.6. Supervisor Numbers**

These numbers are assigned to the supervisors of different applications so that they can be contacted in case of manual help.



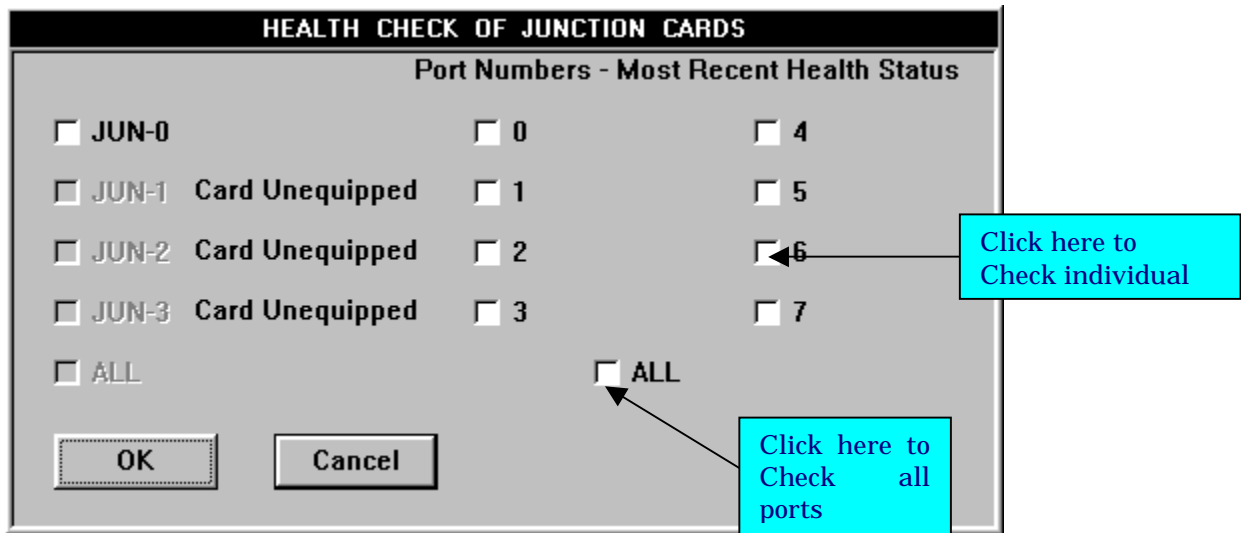
To assign a particular number to the supervisor of a particular application select the application as CNS is selected above and then write the number in the text box and then click "APPLY". Similarly we can assign different numbers to different supervisors and then on completion of assigning of all numbers click "OK". If you want to restore previous numbers then click "CANCEL".

**3.3. THE HEALTH CHECK OPTION HAS THE FOLLOWING SUBMENU OPTIONS**

1. Junction Card
2. Digital Trunk
3. Announcement Card
4. CTC Card

**3.3.1. Junction Card**

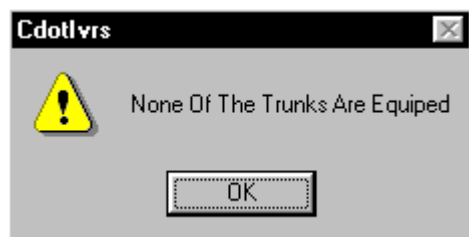
There are four junction cards attached to the system numbered from 0 to 3. The status of these cards are checked by this health check command. On clicking to junction cards the following window will appear:



The present status of junctions is shown above. Health check of only equipped cards can be done. For example if we want check the health of junctions then at first select the junction card and then the ports which you want to check and then click "OK". To check all junctions cards and all ports select "ALL" for junction cards and select "ALL" for ports and then click "OK".

**3.3.2. Digital Trunk**

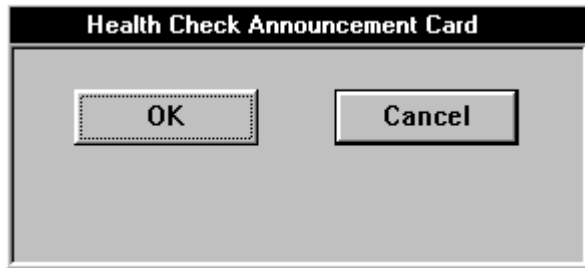
Health check of digital trunks means to check whether trunks are equipped or not. If they are equipped, then how many of them are equipped.



For example above it is shown that none of the trunks are equipped.

**3.3.3. Announcement Card**

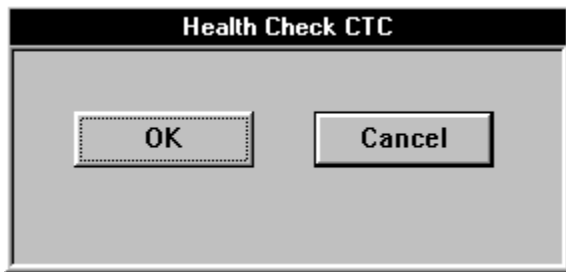
Health check of announcement card is to check whether this card is equipped or not. On clicking this option the above window will appear.



For example if you want to do health check for announcement card then click "OK" else click "CANCEL" which will terminate the action.

**3.3.4. CTC Card**

To do the health check of CTC card click this option. On clicking to this option the following window will appear:



If you want to check the health of CTC card then click "OK" else click "CANCEL" to terminate the action.

**3.4. THE REPORTS OPTION HAS THE FOLLOWING SUBMENU OPTIONS**

1. System Status
2. Mapping
3. Port Status
4. Log file

**3.4.1. System Status**

System status gives the present details of equipped cards and junctions.

On clicking to this option the following window will appear:

SYSTEM STATUS			
CARD TYPE	PHYSICAL ID	HARDWARE STATUS	TIME - DATE IN / TESTED
JUN0	SLOT3	OK	12:17:26 06/17/00
ASVO	SLOT9	LINK DOWN	15:18:16 06/28/00
CTC	SLOT13	FAULTY	15:18:01 06/28/00
OK			

For example you can see from the above that JUN0 in SLOT3 is OK and was tested at 12:17:26 on 06/17/00.

Similarly status of the other cards can be known from above figure.

**3.4.2. Mapping**

Mapping option shows the status of ports mapped to different applications such as number of ports, details of ports, language used etc.

PORT TO APPLICATION MAPPING			
APPLICATION NAME	NUMBER OF PORTS	LANGUAGE	PORT NUMBERS
Changed Number Announcement	0		
Fault Reporting System	2	English English	3_0_6 3_0_7
Bulk Changed Number Announcement	1	Hindi	3_0_3
Payment Reminder System	0		
Commercial Information System	0		
Fault Clearance System	0		

OK

From the example above the number of ports assigned to CNS is 0 and that to FRS is 2 and they are 3\_0\_6 & 3\_0\_7 and the language selected is English. For BCNS number of ports are 1 and which is 3\_0\_3 and the language selected for this application is Hindi.

**3.4.3. Port status**

- ◆ **Line:** This report will give the status of the equipped Junction cards in the system along with the status of the individual ports in the card.

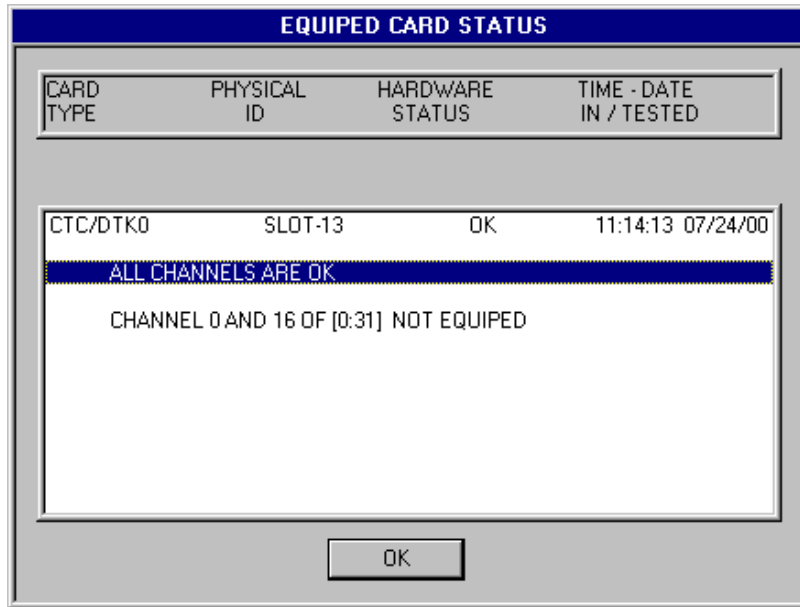
EQUIPED CARD STATUS			
CARD TYPE	PHYSICAL ID	HARDWARE STATUS	TIME - DATE IN / TESTED
JUN0	SLOT3	OK	11:01:24 07/24/00
	3_0_1	FAULTY	11:01:24 07/24/00
	3_0_2	OK	11:01:24 07/24/00
	3_0_3	OK	11:01:24 07/24/00
	3_0_4	OK	11:01:24 07/24/00
	3_0_5	OK	17:15:53 07/20/00
	3_0_6	FAULTY	17:15:53 07/20/00
	3_0_7	FAULTY	17:15:53 07/20/00
	3_0_8	FAULTY	17:15:53 07/20/00
JUN1	SLOT4	OK	11:43:15 07/21/00
	4_0_1	FAULTY	11:43:15 07/21/00
	4_0_2	FAULTY	11:43:15 07/21/00
	4_0_3	FAULTY	11:43:15 07/21/00

OK



The fields in the report file are "CARD TYPE" (e.g. JUN0), "PHYSICAL ID" (e.g. SLOT3), "HARDWARE STATUS" (e.g. OK), and "TIME-DATE IN / TESTED" (e.g. 11:14:13 07/24/00). After this from the next line onwards the status of the ports will be displayed giving the "PHYSICAL ID" (e.g. 3\_0\_1), "HARDWARE STATUS" (e.g. OK), and "TIME-DATE IN / TESTED" (e.g. 11:14:13 07/24/00).

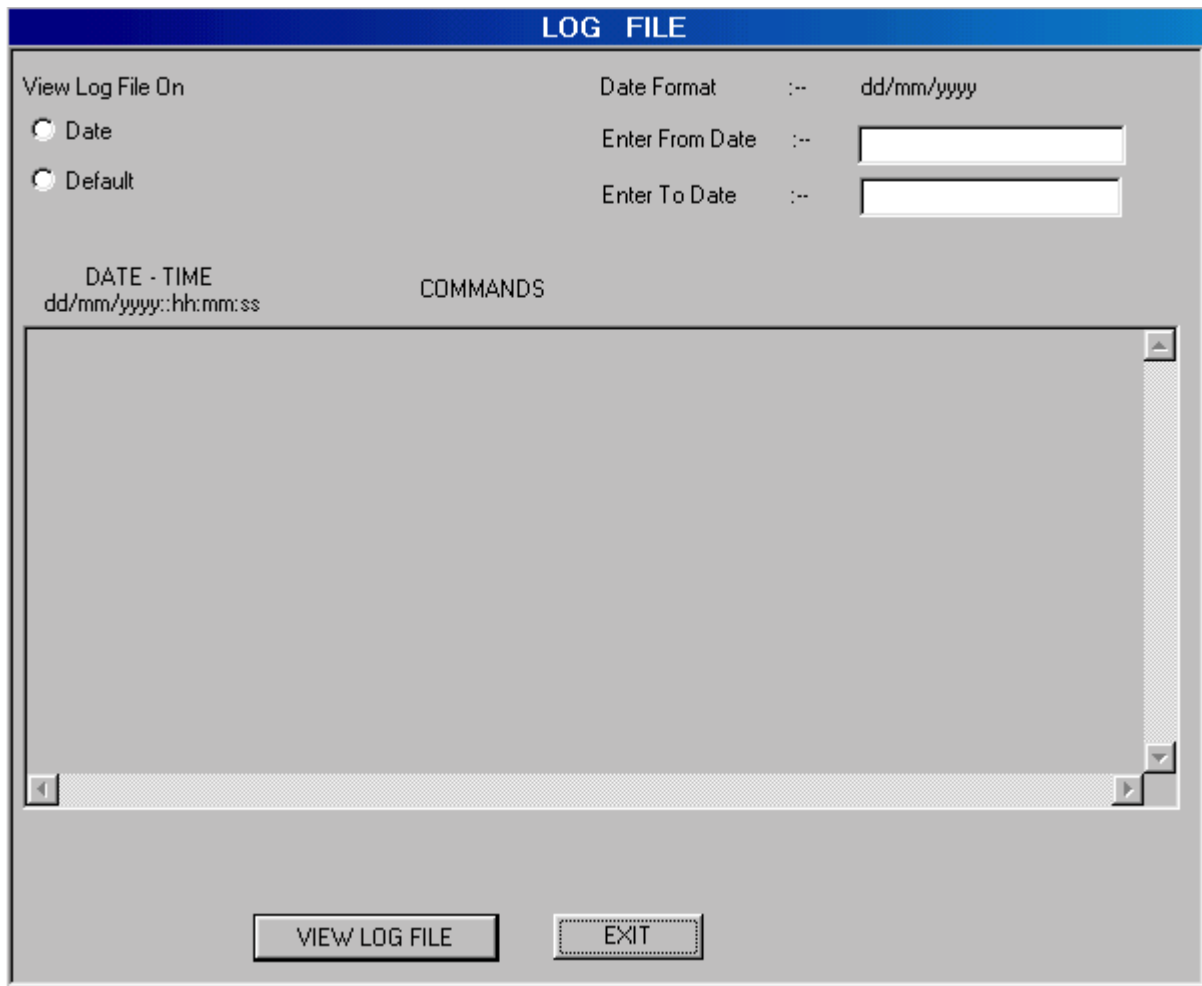
- ◆ **DTK:** This report will give the status of the trunk equipped in the system.



The fields in the report file is same as that in case of the Line card except that there will be no separate status showing the individual status of the 32-channels. If the trunk is equipped and health is OK then it is sure that all the channels are OK.

### 3.4.4. Log file

Log file keeps all the record of commands or actions committed during previous few days. On clicking to this option the following window will appear:



From the above example the log file containing the data from 20/06/2000 to 29/06/2000 is shown in which the history of all actions/commands taken can be viewed. To view all these at first select "Default" and then click "VIEW LOG FILE". Whole of the commands with date and time and also the response from application can also be viewed.

You can also view log file by specifying the date range. To use this option, at first select "Date" and then click "VIEW LOG FILE". If the date entered by



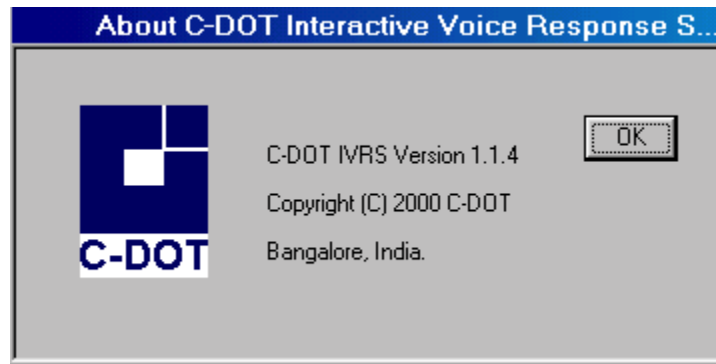
you is valid then only the log file will be displayed else it will show the above dialog box:

**3.5. THE HELP OPTION HAS THE FOLLOWING SUBMENU OPTIONS**

1. **About C-DOT IVRS**
2. **System Help**

**3.5.1. About C-DOT IVRS**

On choosing this option you will find the following window will appear:



Above dialog box specifies the C-DOT IVRS Version and the copyright information.

**3.5.2. System Help**

The complete help file for using this application is shown in this option.

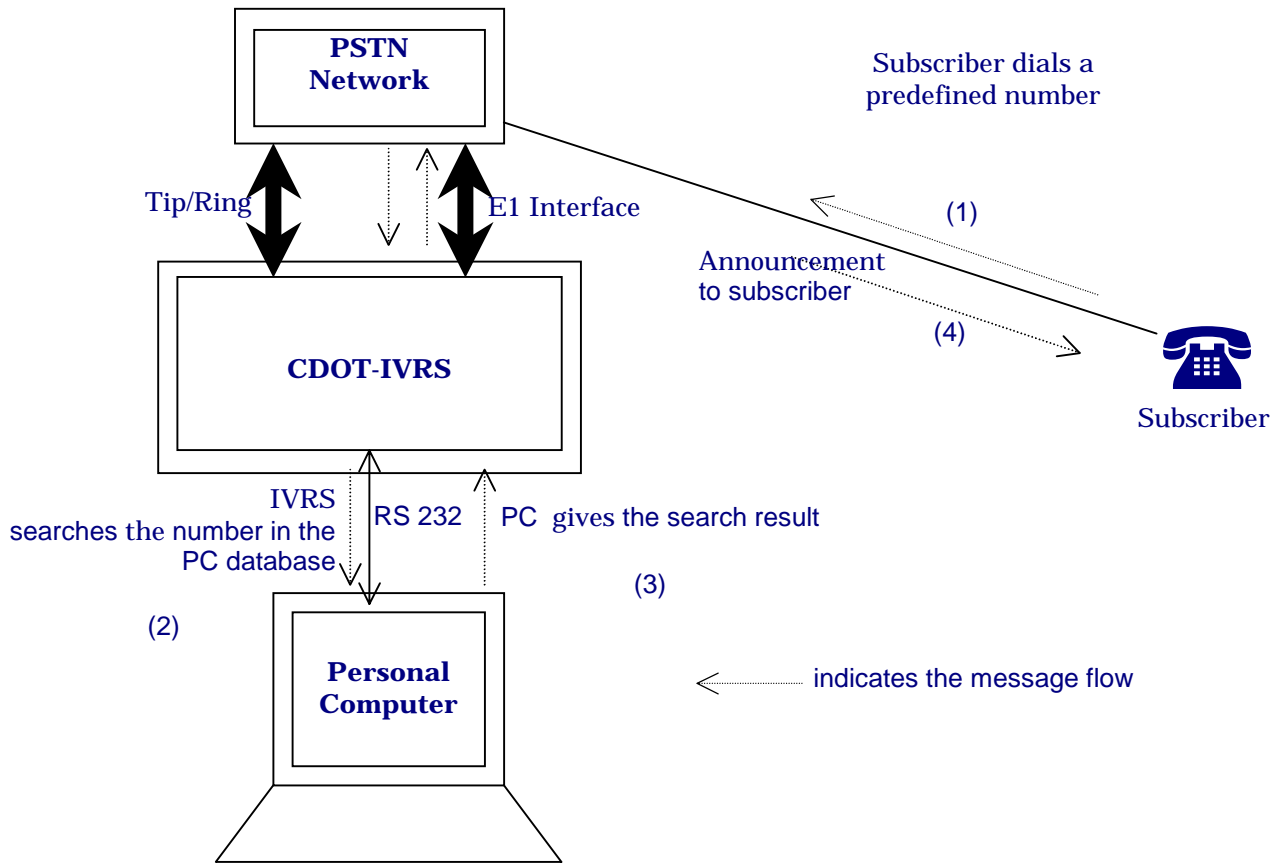
## **Chapter 4.**

# **Interactive Changed Number Announcement System**

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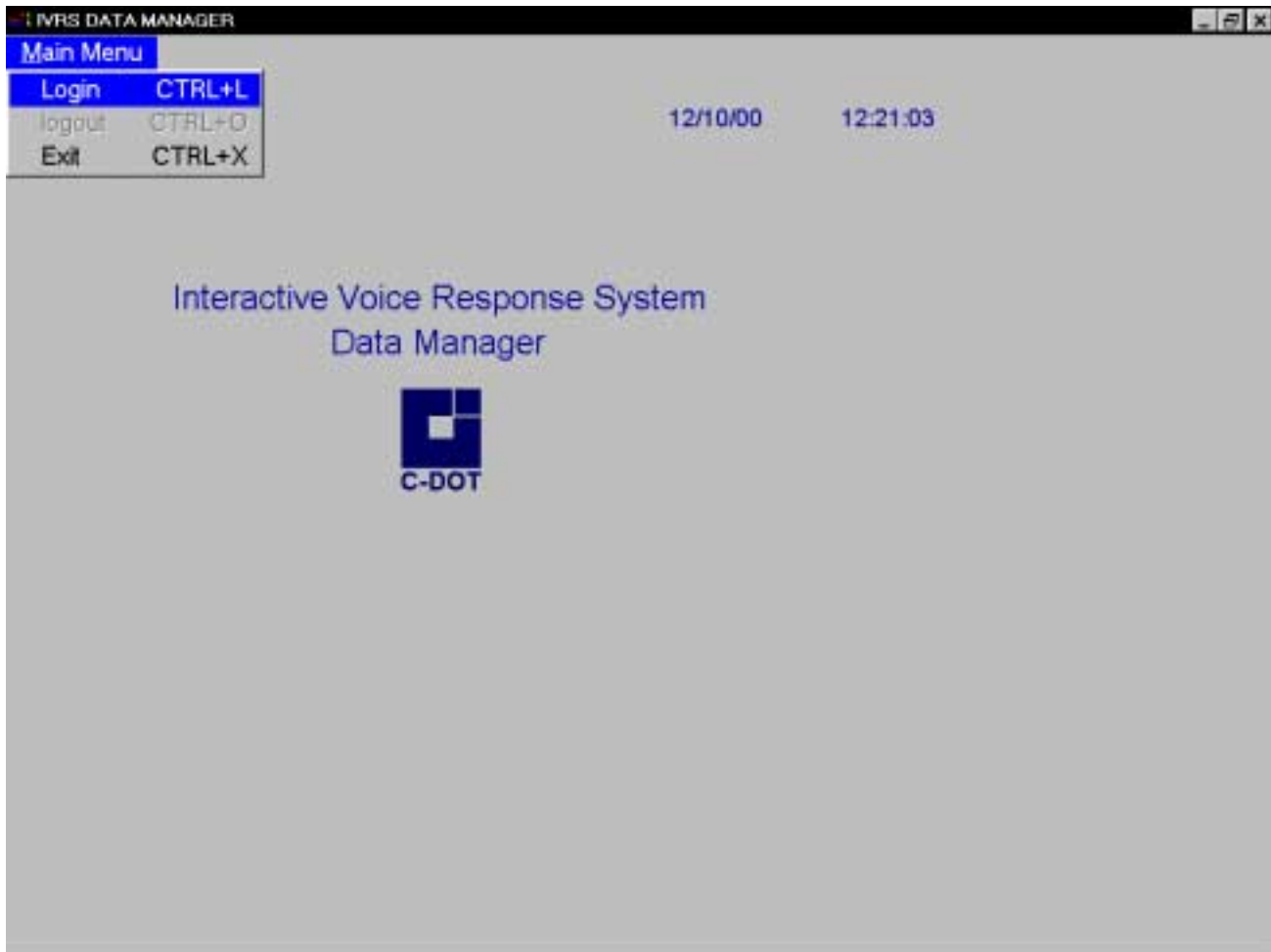
### **4.1. SCOPE**

The telephone number change can occur not only due to the area transfer or the exchange numbering scheme change but also due to the subscriber's request like shift, indicator change, etc. Thus there is a necessity of a system wherein the Department will be able to inform any subscriber querying on old telephone number about the new telephone number. This will help the subscriber to easily find out the correct telephone number of the customer whom he wants to contact quickly.

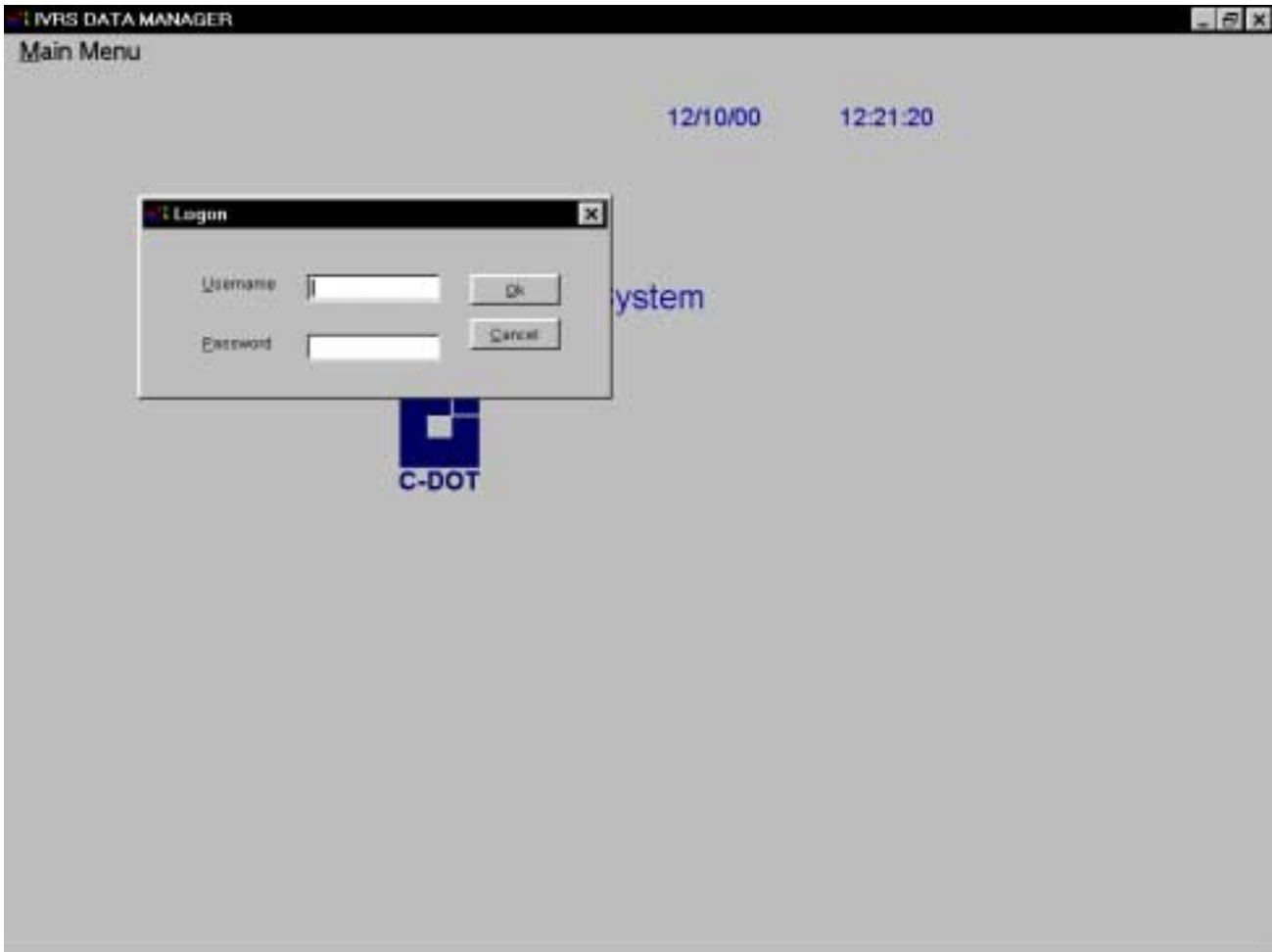


**Block Diagram of C-DOT IVRS for CNS Application**

Click *Main Menu* here you will find the window as follows



On clicking *Login* you will find the log on window as follows



After entering the appropriate username and the password you can enter into this facility.

After login you will find the following window on your screen.

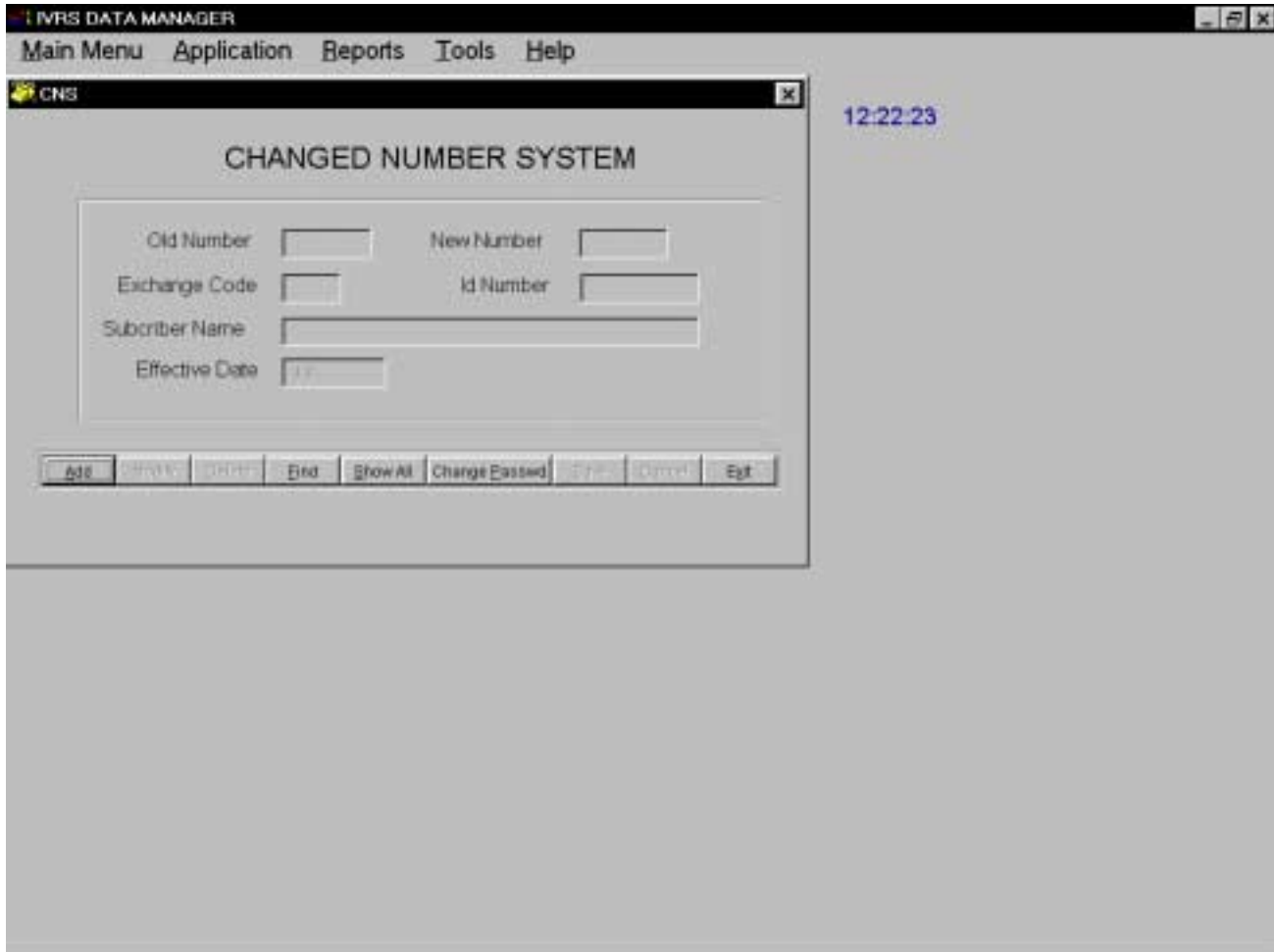


Application Menu has 6 options.

- Bill Enquiry System
- Bulk Charge Number Announcement System
- Changed Number Announcement System
- Commercial Information System
- Fault Reporting System
- Payment Reminder System



Now select Application menu and click the Changed Number Announcement box. The following window will appear on the screen.



**4.2. THE PURPOSE OF THE ABOVE DISPLAYED OPTIONS IS AS FOLLOWS**

<b>Sl.No.</b>	<b>Options</b>	<b>Functions</b>
<b>1</b>	<b>Add</b>	This option enables you to add the information about a changed number
<b>2</b>	<b>Modify</b>	This option allows doing a change in an existing record.
<b>3</b>	<b>Delete</b>	This option allows you to delete an existing record.
<b>4</b>	<b>Find</b>	This option allows you to find an existing record in database.
<b>5</b>	<b>Show All</b>	This option allows you to have a look at all the existing records. If no records are there in the database it will alert that no records found.
<b>6</b>	<b>Change Password</b>	This option allows you to change the login password.
<b>7</b>	<b>Save</b>	This option allows you to save a particular record you have added / modified.
<b>8</b>	<b>Cancel</b>	This option allows you to cancel a particular operation initiated by you such as Add, Find, Modify.
<b>9</b>	<b>Exit</b>	This option allows exiting from the database at any moment.

This application has following fields:

<b>FIELD NAME</b>	<b>FIELD TYPE</b>	<b>FIELD WIDTH</b>	<b>DESCRIPTION</b>
Old Number	N	7	Old number of the subscriber
New Number	N	7	New number of the subscriber
Exchange Code	C	3	Station Code
Id number	C	16	Unique Identification Code
Subscribers Name	C	60	Name of the subscriber
Effective Date	D	8	Effective date of change of number

## Chapter 5.

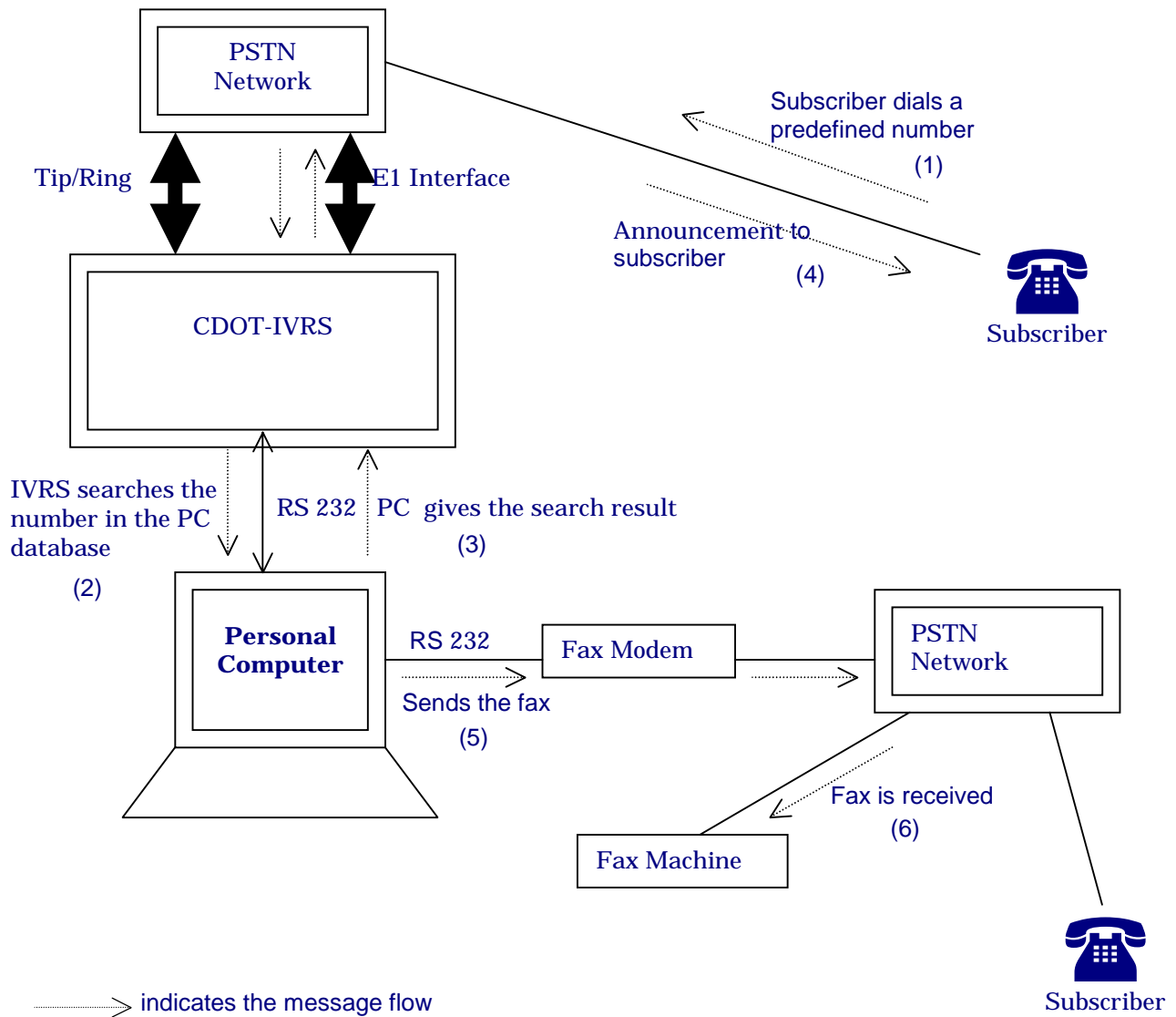
# Bill Enquiry System

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### 5.1. SCOPE

Interactive Telephone Bill Inquiry service is envisaged as a system, which assists the subscriber in ascertaining the bill, details easily. Most often the non-receipt of the bill by the subscriber adds to the delay in realizing the billed amount. Since customer service is being given more thrust by BSNL, it is felt that this automatic interactive telephone bill enquiry goes a long way in giving subscriber satisfaction as it helps in quick way of assessing the bill details.

Presently, if the bill is not received the subscriber approaches the accounts officer for getting a duplicate copy of the bill. It is proposed to automate the bill enquiry facility by enabling the subscriber to get the information through an interactive voice response system. The subscriber shall be also able to get the bill details faxed to him by the system.



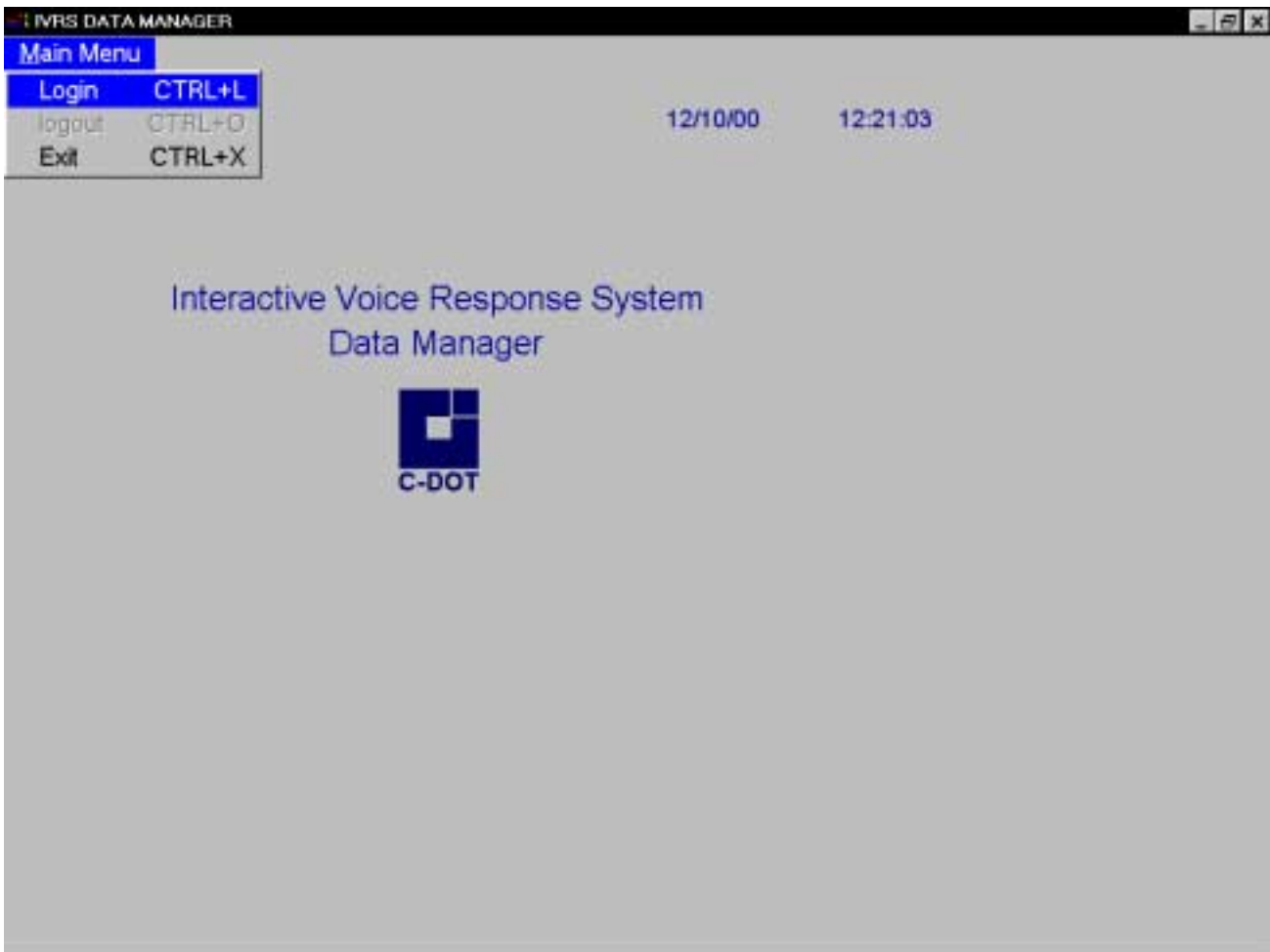
**Block diagram of C-DOT IVRS for BES application**

**How to use BILL ENQUIRY SYSTEM?**

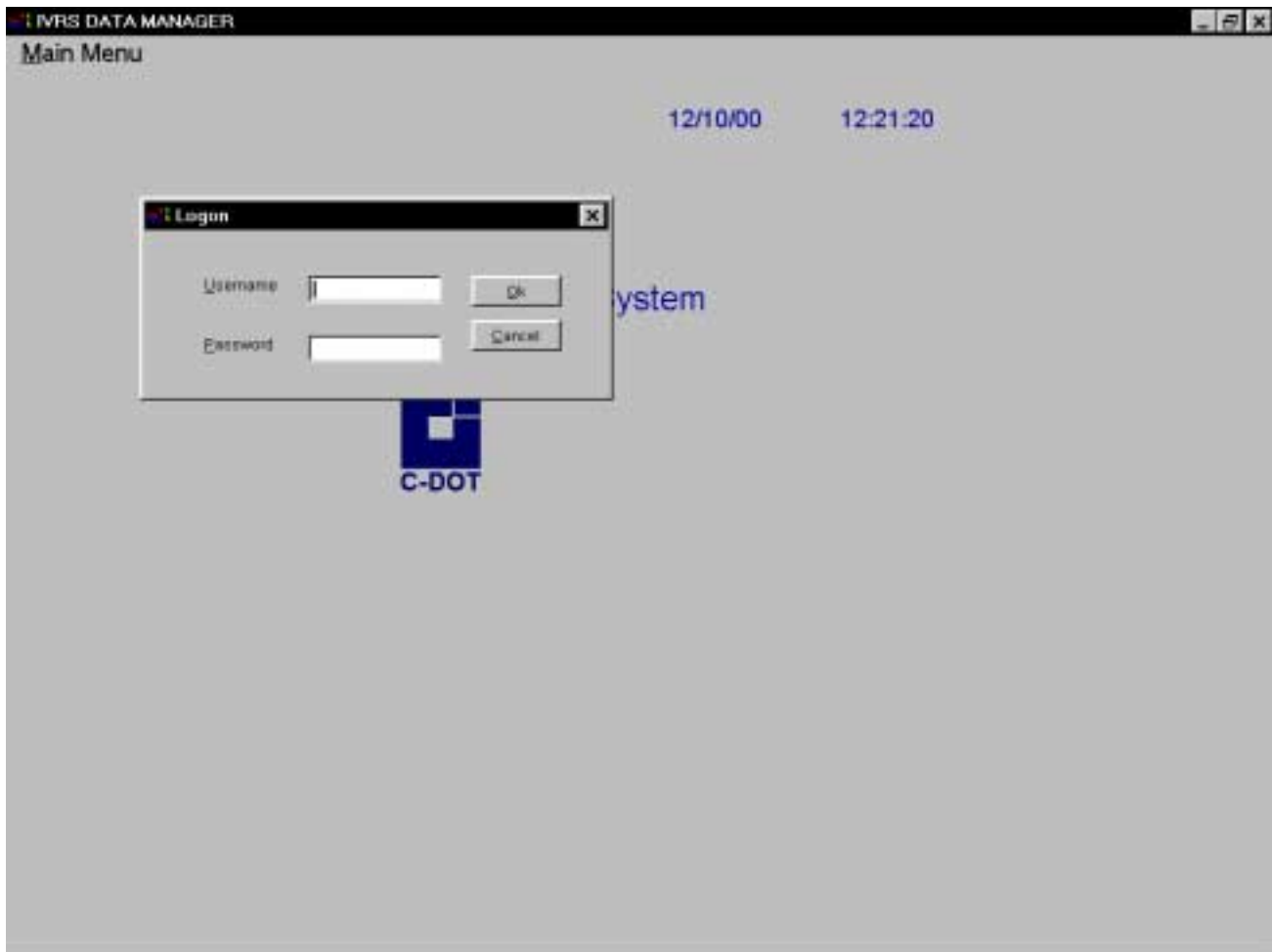
When you open Interactive Voice Response System-Data Manager you will find the following window on your screen:



Click *Main Menu* here you will find the window as follows:



On clicking *Login* you will find the log on window as follows:



After entering the appropriate username and password we can enter into this facility.

After login you will find the following window on your screen:





Now select Application menu and click the Bill Enquiry System box. the following window will appear:

The screenshot displays a software interface for the IVRS DATA MANAGER. The main window has a menu bar with 'Main Menu', 'Application', 'Reports', 'Tools', and 'Help'. A sub-window titled 'BES' is open, containing the 'BILL ENQUIRY SYSTEM' form. The form includes a 'Phone No' field and several input fields for bill details: 'Old Bill No', 'New Bill No', 'Paid Date', 'New Bill Date', 'Old Bill Amount', 'New Bill Amount', 'Pay By Date', and 'Dispute Amount'. At the bottom of the form, there is a row of buttons: 'Add', 'Print', 'Delete', 'Find', 'Show All', 'Change Password', 'Cancel', 'OK', and 'Exit'. The system clock in the top right corner shows '12:38:45'.

## 5.2. THE PURPOSE OF THE ABOVE DISPLAYED OPTIONS IS AS FOLLOWS

Sl. No.	Options	Functions
1	<b>Add</b>	This option enables you to add the information about a bill for a telephone number.
2	<b>Modify</b>	This option allows doing a change in an existing record.
3	<b>Delete</b>	This option allows you to delete an existing record.
4	<b>Find</b>	This option allows you to find an existing record in database.
5	<b>Show All</b>	This option allows you to have a look at all the existing records. If no records are there in the database it will alert that no records found.
6	<b>Change Password</b>	This option allows you to change the login password.
7	<b>Save</b>	This option allows you to save a particular record you have added / modified.
8	<b>Cancel</b>	This option allows you to cancel a particular operation initiated by you such as Add, Find, Modify.
9	<b>Exit</b>	This option allows exiting from the database at any moment.

This application has following fields:

FIELD NAME	FIELD TYPE	FIELD WIDTH	DESCRIPTION
Phone Number	N	7	Telephone number of the subscriber
Old bill Number	N	10	Bill number for the last payment received
Old bill Amt.	N	10 2	Bill amount for the last payment received
Old bill date	D	8	Bill date of the last payment received
New bill Number	N	10	Bill number for the outstanding payment
New bill Amt.	N	10 2	Bill amount for the outstanding payment
New bill date	D	8	Bill date of the outstanding payment
Pay by date	D	8	Last date of payment
Dispute	N	10 2	Amount in dispute

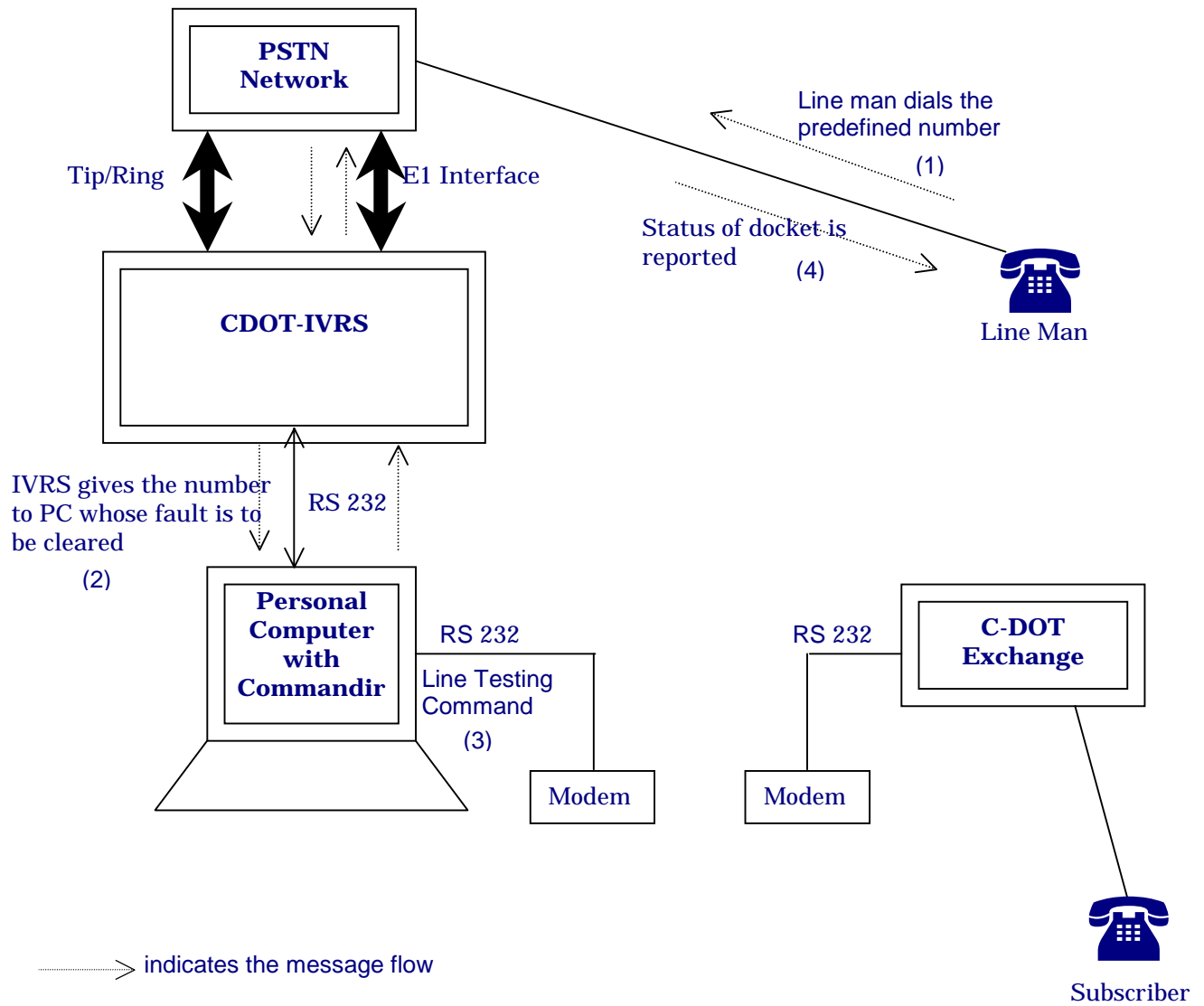
## Chapter 6.

# Interactive Fault Clearance System

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### 6.1. SCOPE

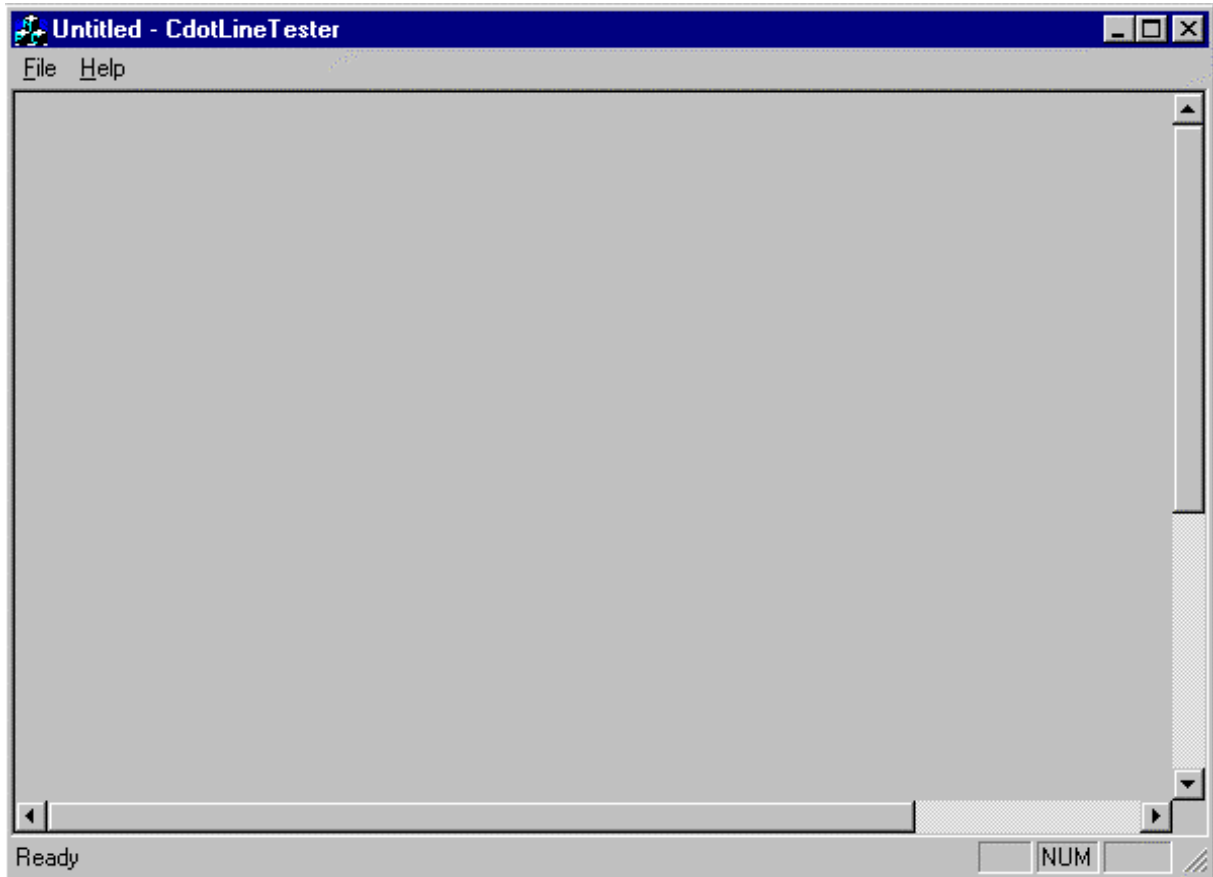
In a typical Digital Switching System (DSS), as the density of subscribers increases or exchange size rapidly increases, the FRS systems will have to handle more faults. At present, the clearance is done manually even in the computerized FRS (Fault Reporting System) system. The lineman gives a ring to the operator sitting on the FRS terminal and reports the clearance of the fault. The fault operator tests the line and after ascertaining the fault removal, closes the docket. This method involves the manual intervention of the operator for testing of the line and clearance of the fault.



**Block Diagram of C-DOT IVRS for FCS Application**

How to use Fault Clearance system :

Create a operator in IOP as given in Annexure-E. Run cdotlinetester.exe from c:\cdotivrs folder. Also assign one port from application to port mapping in cdotivrs 1.1.4 software.



In this application select the com port of computer which is connected to IOP.

When a linemen has to use this facility he has to dial the number assigned for this service. The system asks for subscriber phone number. After dialing this number system automatically tests the terminal card. If test is ok then docket booked against that number is cleared otherwise it has the option to test some other phone numbers.

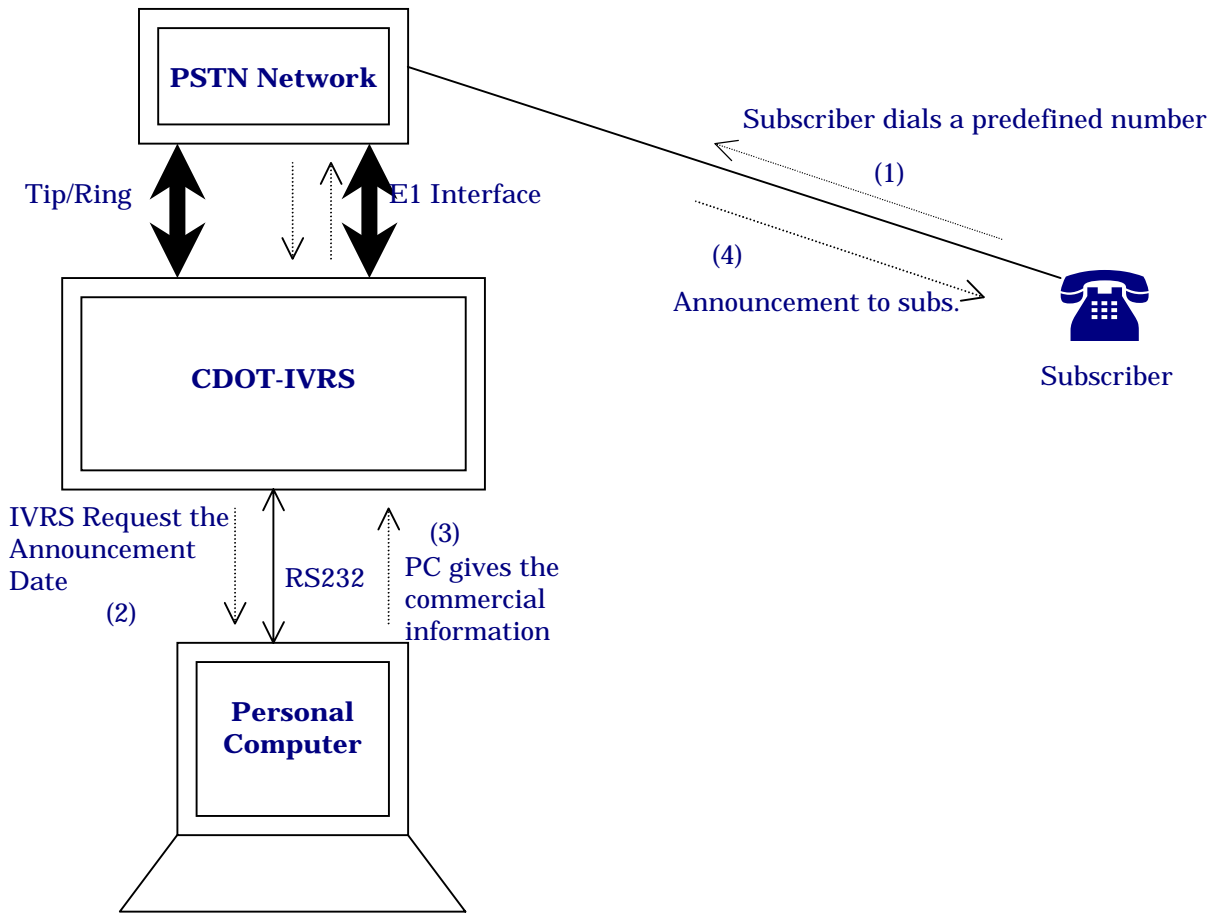
## **Chapter 7.**

# **Interactive Commercial Information and Special Services Assistance**

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### **7.1. SCOPE**

Telecom services are becoming more competitive, it is imperative that the subscriber should be provided with the latest information on the availability of telephone connections in various exchanges for various categories. The subscriber should be also educated in using various special services that are provided by the department. At present, subscriber has to get this information from many sources including referring to telephone directory or commercial assistance cell.



**Block Diagram of C-DOT IVRS for CI & SSA for Application**

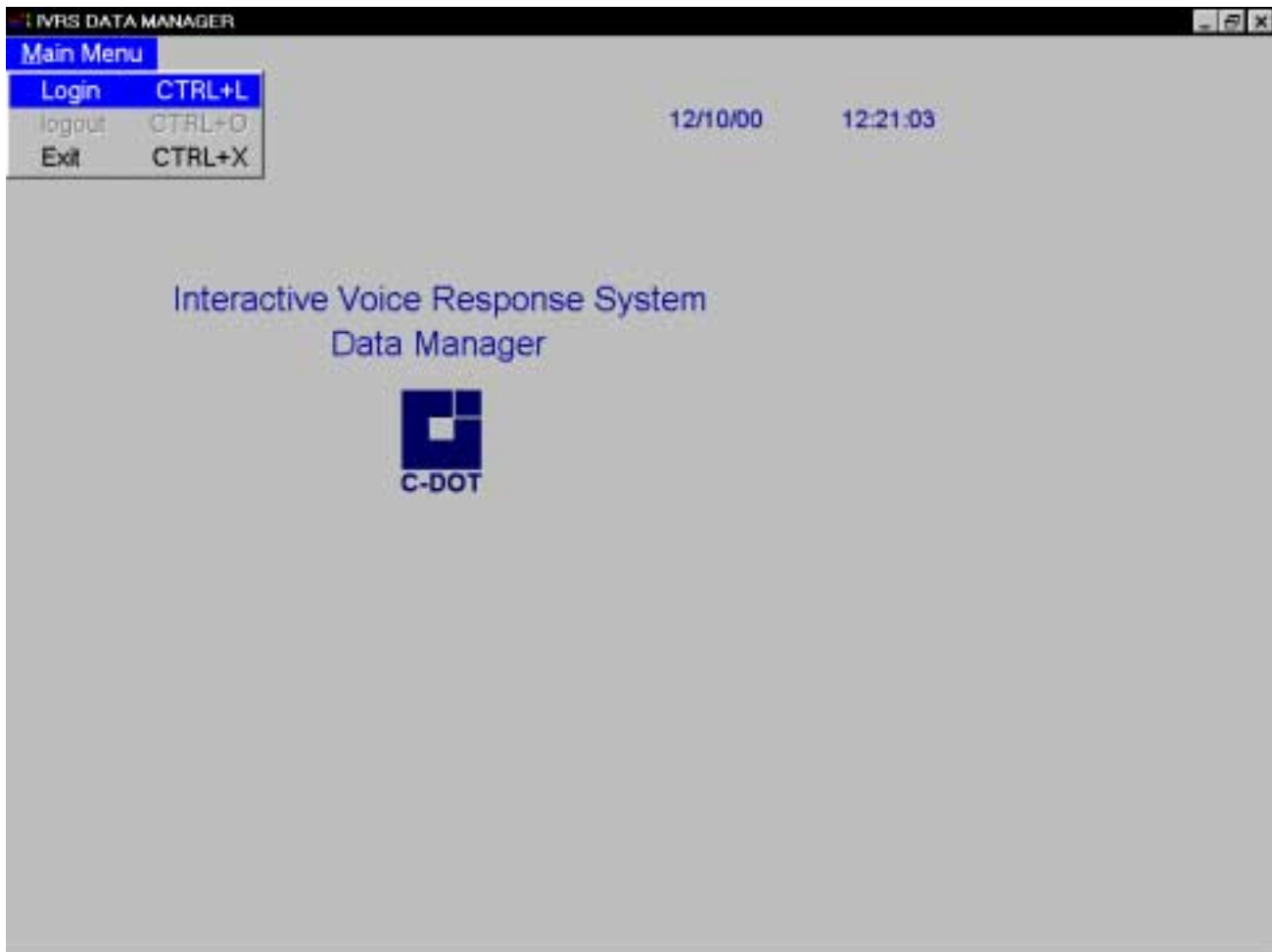
## How to use COMMERCIAL INFORMATION SYSTEM?

When you open Voice Interactive Response System-Data Manager you will find the following window on your screen :

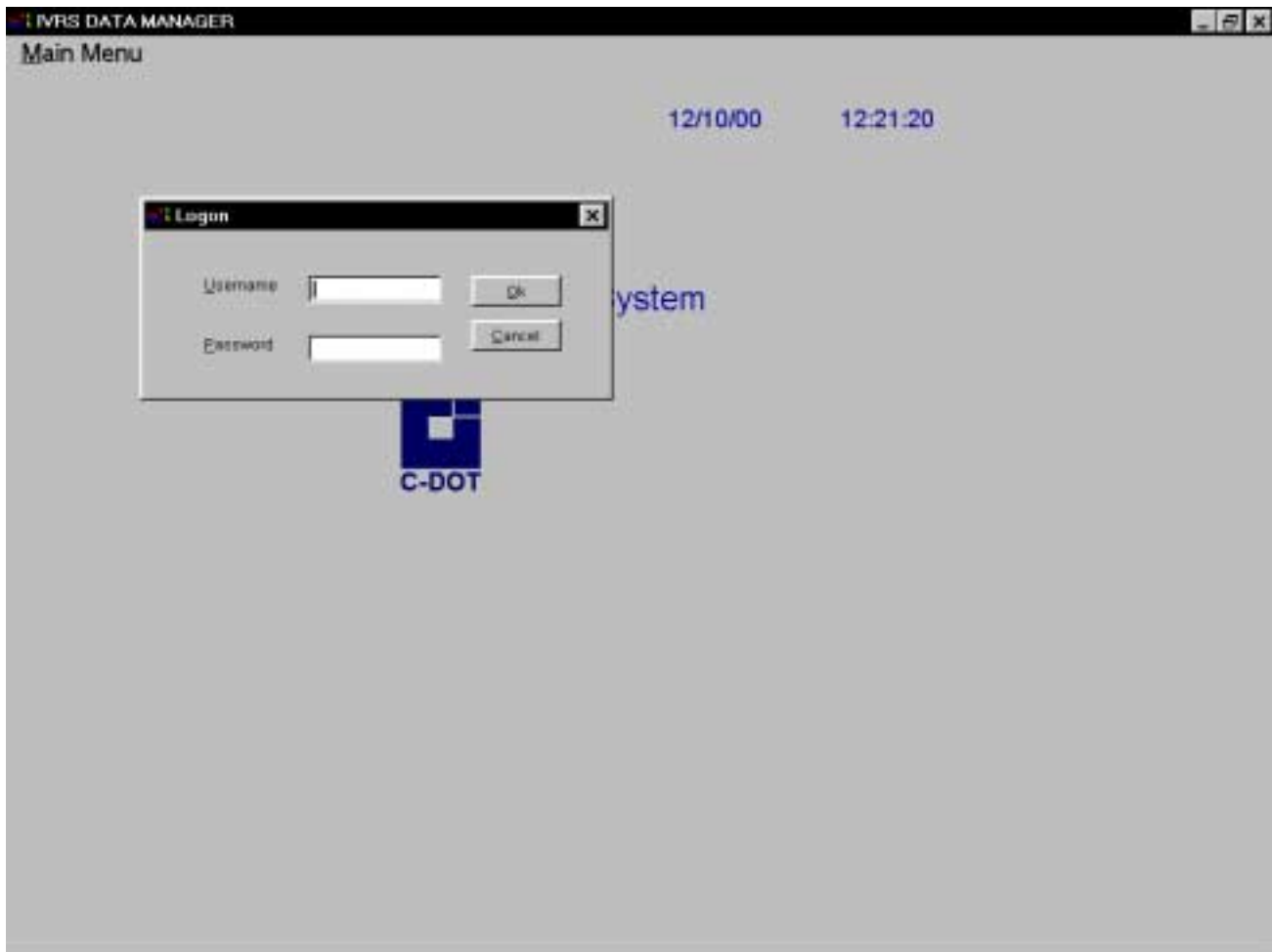




Click *Main Menu* here you will find the window as follows:



On clicking *Login* you will find the log on window as follows:

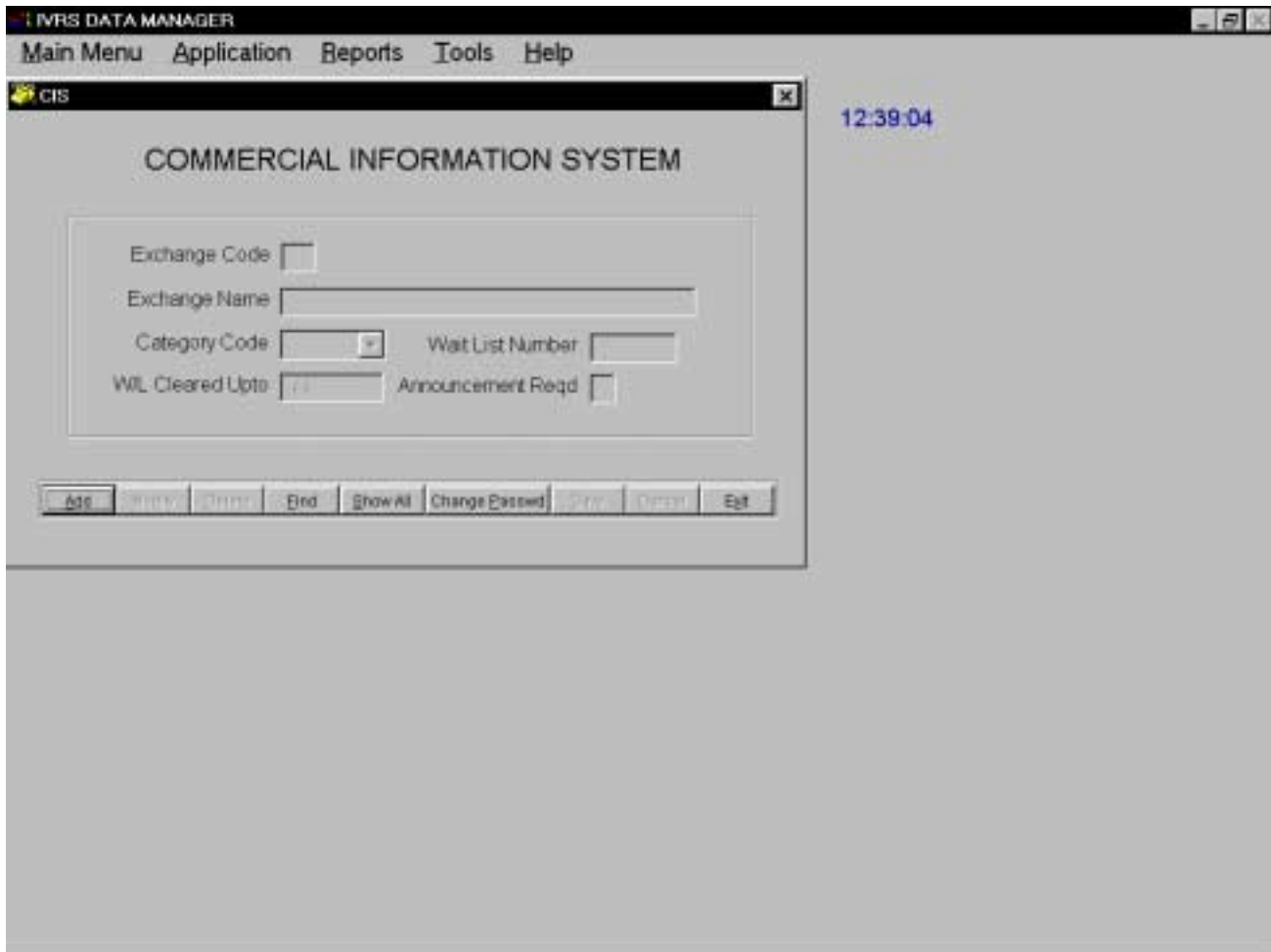


After entering the appropriate username and password we can enter into this facility.

After login you will find the following window on your screen:



Now select Application menu and click Commercial Information System box. The following window will appear on the screen.



The purpose of the above displayed options is as follows:

<b>Sno.</b>	<b>Options</b>	<b>Functions</b>
<b>1</b>	<b>Add</b>	This option enables you to add the information about a commercial and special services.
<b>2</b>	<b>Modify</b>	This option allows doing a change in an existing record.
<b>3</b>	<b>Delete</b>	This option allows you to delete an existing record.
<b>4</b>	<b>Find</b>	This option allows you to find an existing record in database.
<b>5</b>	<b>Show All</b>	This option allows you to have a look at all the existing records. If no records are there in the database it will alert that no records found.
<b>6</b>	<b>Change Password</b>	This option allows you to change the login password.
<b>7</b>	<b>Save</b>	This option allows you to save a particular record you have added / modified.
<b>8</b>	<b>Cancel</b>	This option allows you to cancel a particular operation initiated by you such as Add, Find, Modify.
<b>9</b>	<b>Exit</b>	This option allows exiting from the database at any moment.

This application has following fields:

<b>FIELD NAME</b>	<b>FIELD TYPE</b>	<b>FIELD WIDTH</b>	<b>DESCRIPTION</b>
Exgn_Code	C	3	Exchange Code.
Exgn_Name	C	20	Exchange Name.
Category Code	C	7	Category.
Wait List No.	N	7	No. in wait list.
W/L Cleared upto	D	8	Date upto which Waiting list is cleared
Announcement req.	C	1	Whether an announcement is required or not.

## Chapter 8.

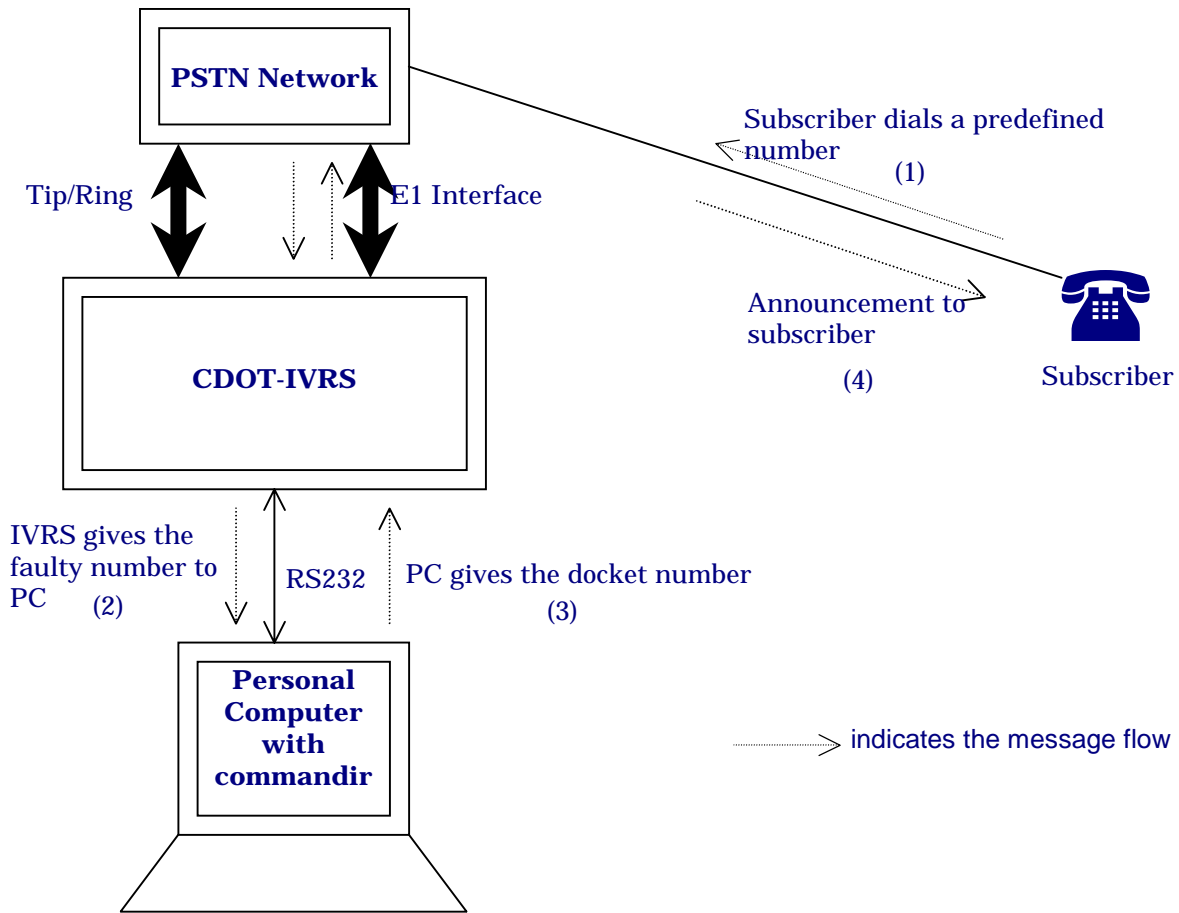
# Interactive Fault Reporting System

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### 8.1. SCOPE

In a typical exchange system of BSNL, as the density of subscribers increases or exchange size rapidly increases, the FRS systems will have to handle more complaints. At present, the complaint booking is done manually even in the computerized FRS (Fault Repair Services) system. This method not only involves the manual intervention of the operator for complaint booking but also necessitates the manning of the complaint booking position round the clock or whenever the system is in operation.

An automatic complaint booking system enables the booking of complaint without the intervention of the operator. This helps in maintaining the services efficiently in the slack hours, as no manning of the position is required.



### Block Diagram of C-DOT IVRS for FRS Application

This application has no database of its own, instead it interfaces online with the commandir database.

### ***How to use FRS System :***

After login in IVRS Datamanager, select application menu and click Fault reporting system. The following window will appear on the screen.

The screenshot shows a window titled "IVRS DATA MANAGER" with a menu bar containing "Main Menu", "Application", "Reports", "Tools", and "Help". Inside, a sub-window titled "FRS" is open, displaying the "FAULT REPORTING SYSTEM" interface. The interface includes the following fields:

- Complaint About:
- Complaint From:
- Number to be Informed:
- Nature of Complaint:
- Bkg Date:
- Time (HH:MM):
- Mode of Comp:  (dropdown menu)
- Operator:

At the bottom of the window, there is a row of buttons: Add, Modify, Delete, Find, Show All, Change Passwd, Save, Cancel, and Exit.

The purpose of the above displayed options is as follows:

S. No.	Options	Functions
1	<b>Add</b>	This option enables you to add the information about pending bills.
2	<b>Modify</b>	This option allows doing a change in an existing record.
3	<b>Delete</b>	This option allows you to delete an existing record.
4	<b>Find</b>	This option allows you to find an existing record in database.
5	<b>Show All</b>	This option allows you to have a look at all the existing records. If no records are there in the database it will alert that no records found.
6	<b>Change Password</b>	This option allows you to change the login password.
7	<b>Save</b>	This option allows you to save a particular record you have added/modified.



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<b>S. No.</b>	<b>Options</b>	<b>Functions</b>
<b>8</b>	<b>Cancel</b>	This option allows you to cancel a particular operation initiated by you such as Add, Find, Modify.
<b>9</b>	<b>Exit</b>	This option allows exiting from the database at any moment.

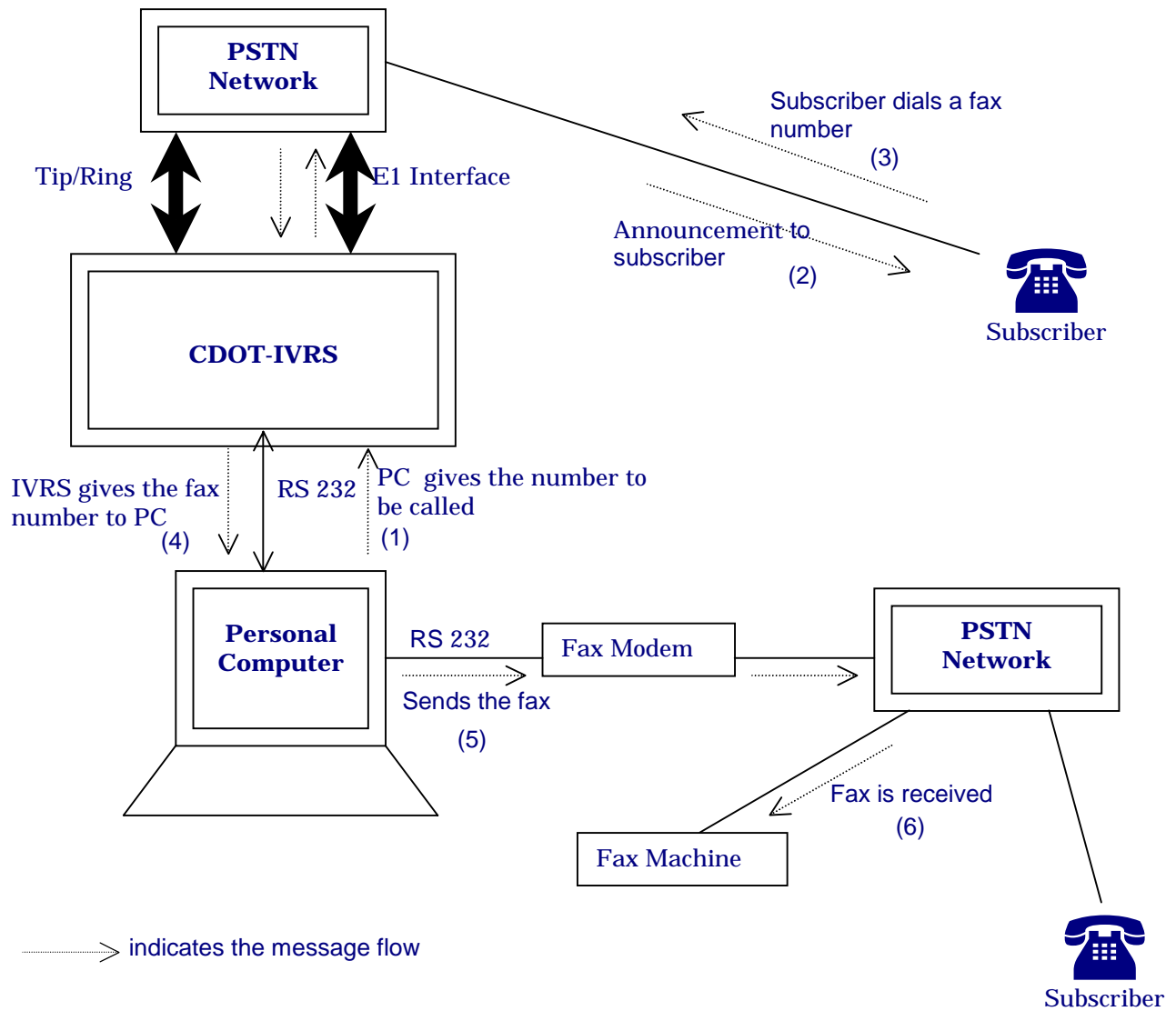
## Chapter 9.

# Payment Reminder System

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### 9.1. SCOPE

The automatic payment remainder system is useful in automatically calling and reminding the subscribers about their payment dues, which are outstanding. The automatic payment reminder system takes input from TRA system about the outstanding list. It automatically dials each of the subscribers and reminds them about the amount due and payment date. It warns them that the number may be disconnected if the amount is not paid within the announced date and ignore the message if the amount is already cleared.

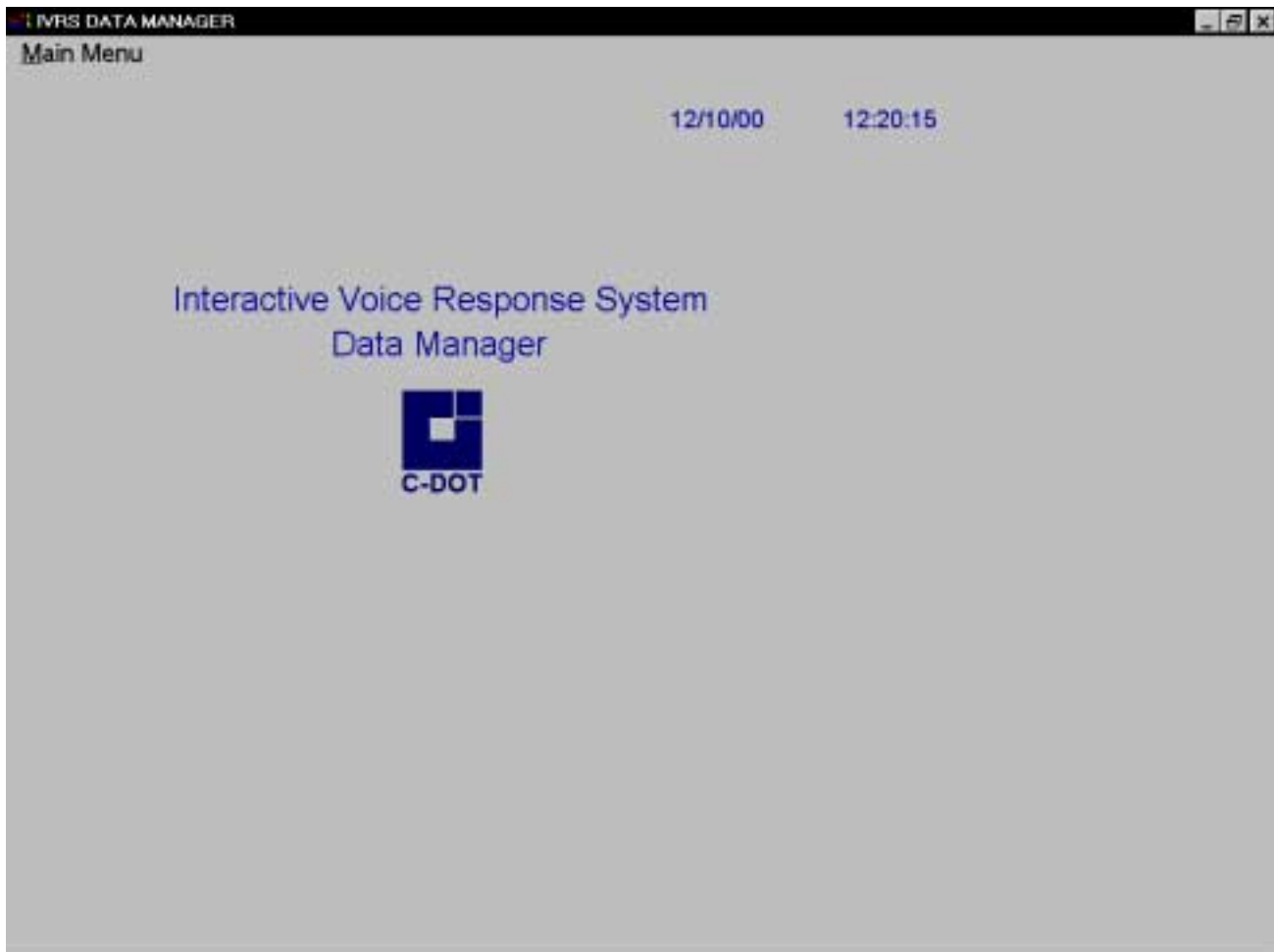


**Block Diagram of C-DOT IVRS for PRS Application**

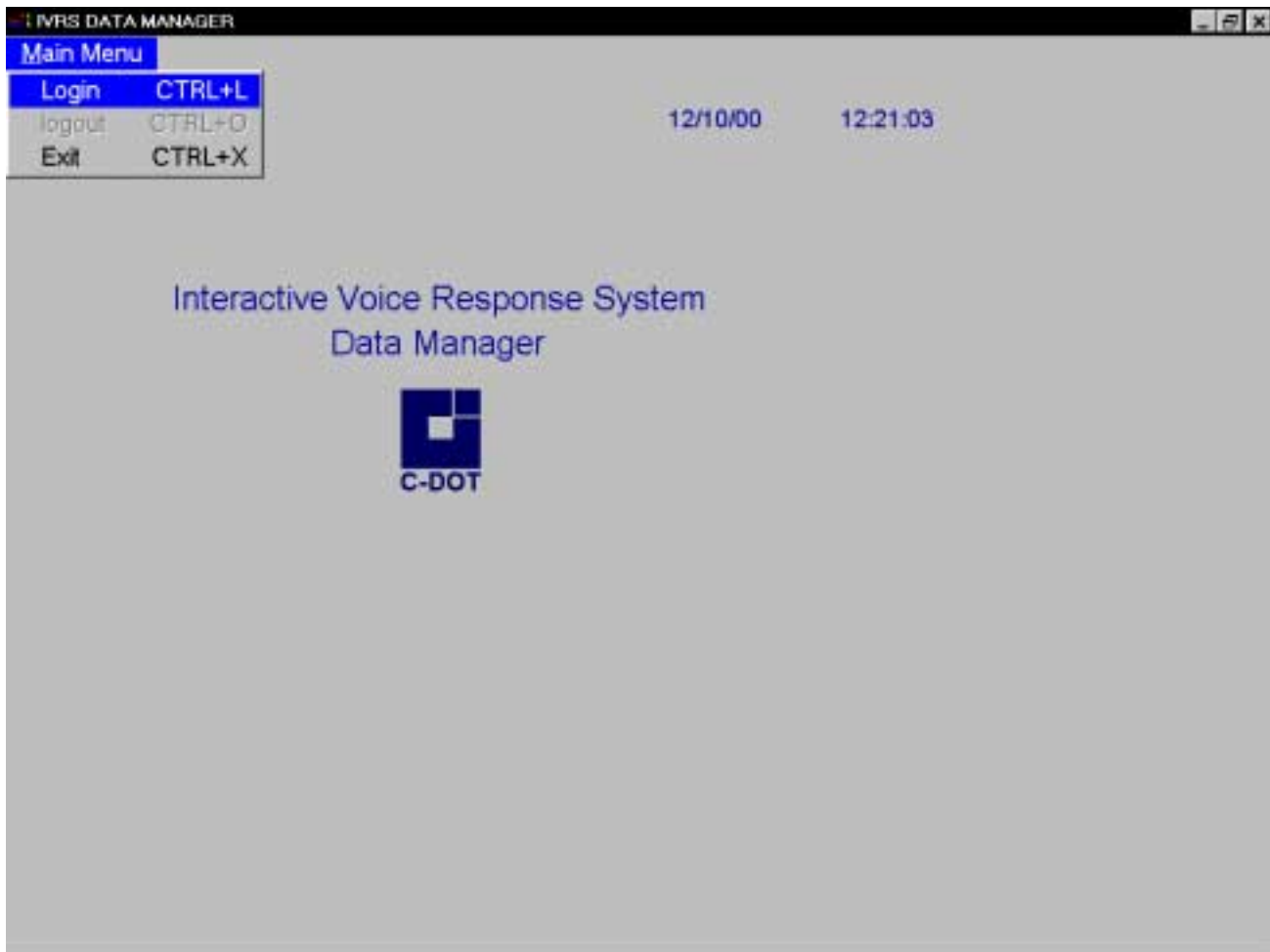
**Note :** IN CASE OF Tip/ring I/F for IVRS to PSTN a battery Reversal has to be passed on to IVRS when subscriber Answers.

## How to use AUTOMATIC PAYMENT REMINDER SYSTEM?

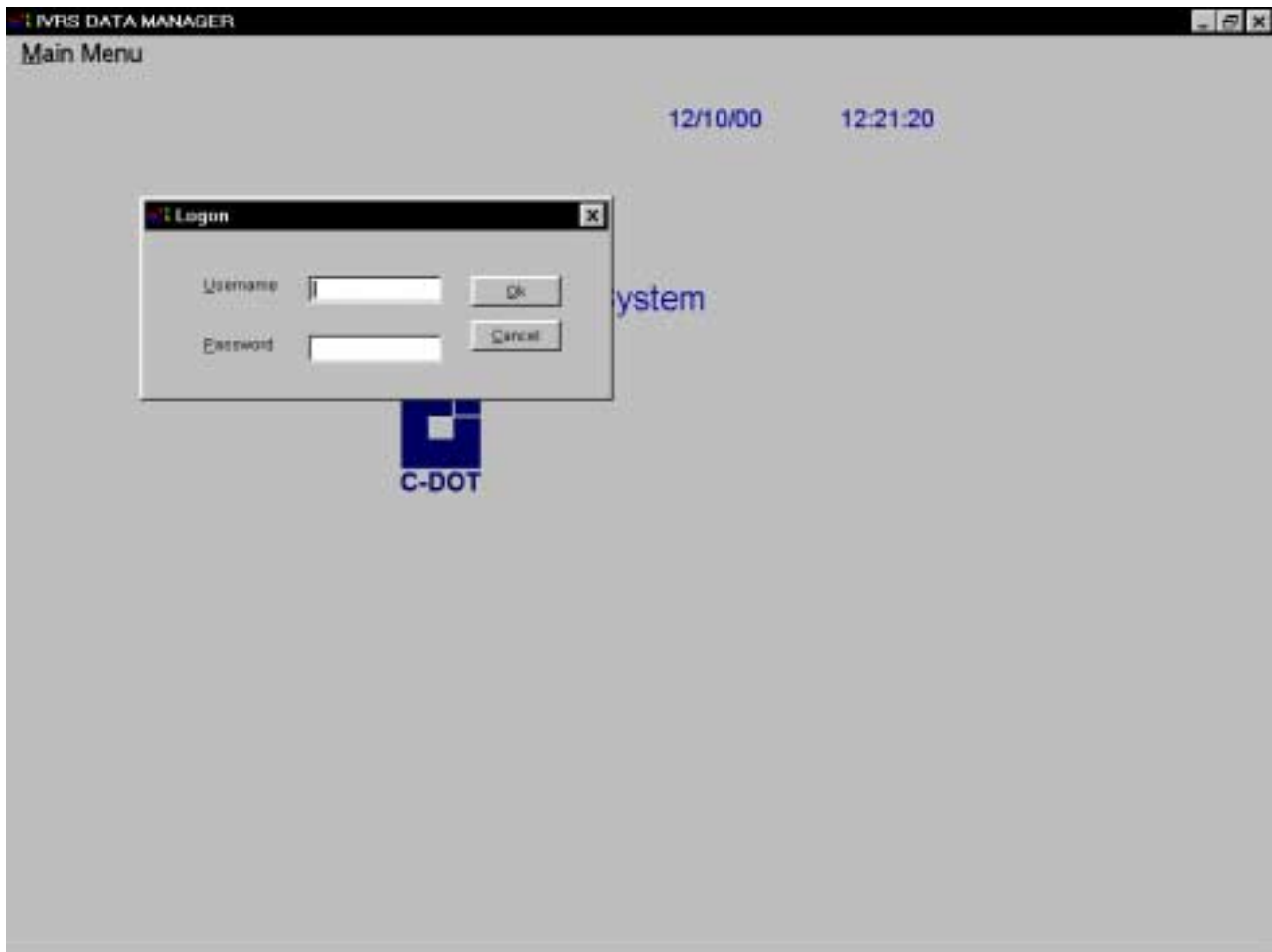
When you open Interactive Voice Response System-Data Manager you will find the following window on your screen.



Click *Main Menu* here you will find the window as follows:



On clicking *Login* you will find the log on window as follows:



After entering the appropriate username and password we can enter into this facility.  
After login you will find the following window on your screen.



Now select Application menu and click Payment Reminder system box. The following window will appear on the screen.





The purpose of the above displayed options is as follows:

<b>S No.</b>	<b>Options</b>	<b>Functions</b>
<b>1</b>	<b>Add</b>	This option enables you to add the information about pending bills.
<b>2</b>	<b>Modify</b>	This option allows doing a change in an existing record.
<b>3</b>	<b>Delete</b>	This option allows you to delete an existing record.
<b>4</b>	<b>Find</b>	This option allows you to find an existing record in database.
<b>5</b>	<b>Show All</b>	This option allows you to have a look at all the existing records. If no records are there in the database it will alert that no records found.
<b>6</b>	<b>Change Password</b>	This option allows you to change the login password.
<b>7</b>	<b>Save</b>	This option allows you to save a particular record you have added / modified.
<b>8</b>	<b>Cancel</b>	This option allows you to cancel a particular operation initiated by you such as Add, Find, Modify.
<b>9</b>	<b>Exit</b>	This option allows exiting from the database at any moment.

This application has following fields:

<b>FIELD NAME</b>	<b>FIELD TYPE</b>	<b>FIELD WIDTH</b>	<b>DESCRIPTION</b>
Uniq_Id_No	C	12	Unique Identification Code
Name	C	60	Name of the subscriber
Exg_Code	C	3	Station Code
Phone_No	N	7	Telephone number to which bill is due.
Extn_no	N	3	Extension number
Bill_date	D	8	Bill date.
Net_Amt	N	10 (2)	Bill amount.
Rem_Exg	C	3	Reminding Exchange code.
Rem_No	N	7	Telephone number to be dialed.
VIP_Code	L	1	VIP or Non VIP.
Govt_Code	N	1	Government code.

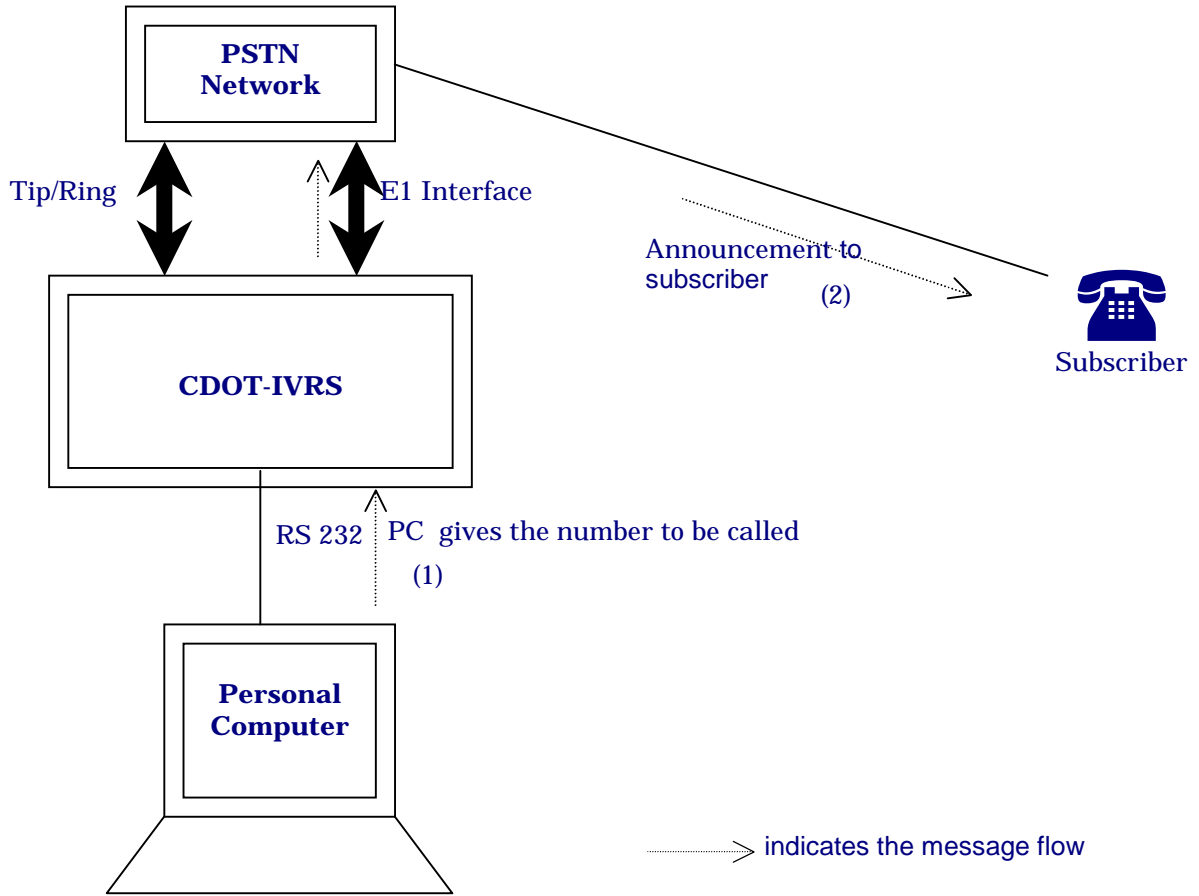
## **Chapter 10.**

# **Automatic Bulk Telephone Number Change Announcement System**

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### **10.1. SCOPE**

The department many times has to change the numbers of telephones due to technical reasons like area transfer, exchange replacement/expansion etc. within a city. Thus there is a necessity of a system to inform the subscriber that the number change has taken place or is going to take place with effect from a given date. Normally, this change will be informed to the subscriber through the advertisement in newspaper and issuing a supplementary directory. A computerized automatic change number system will handle this function in a very effective way.



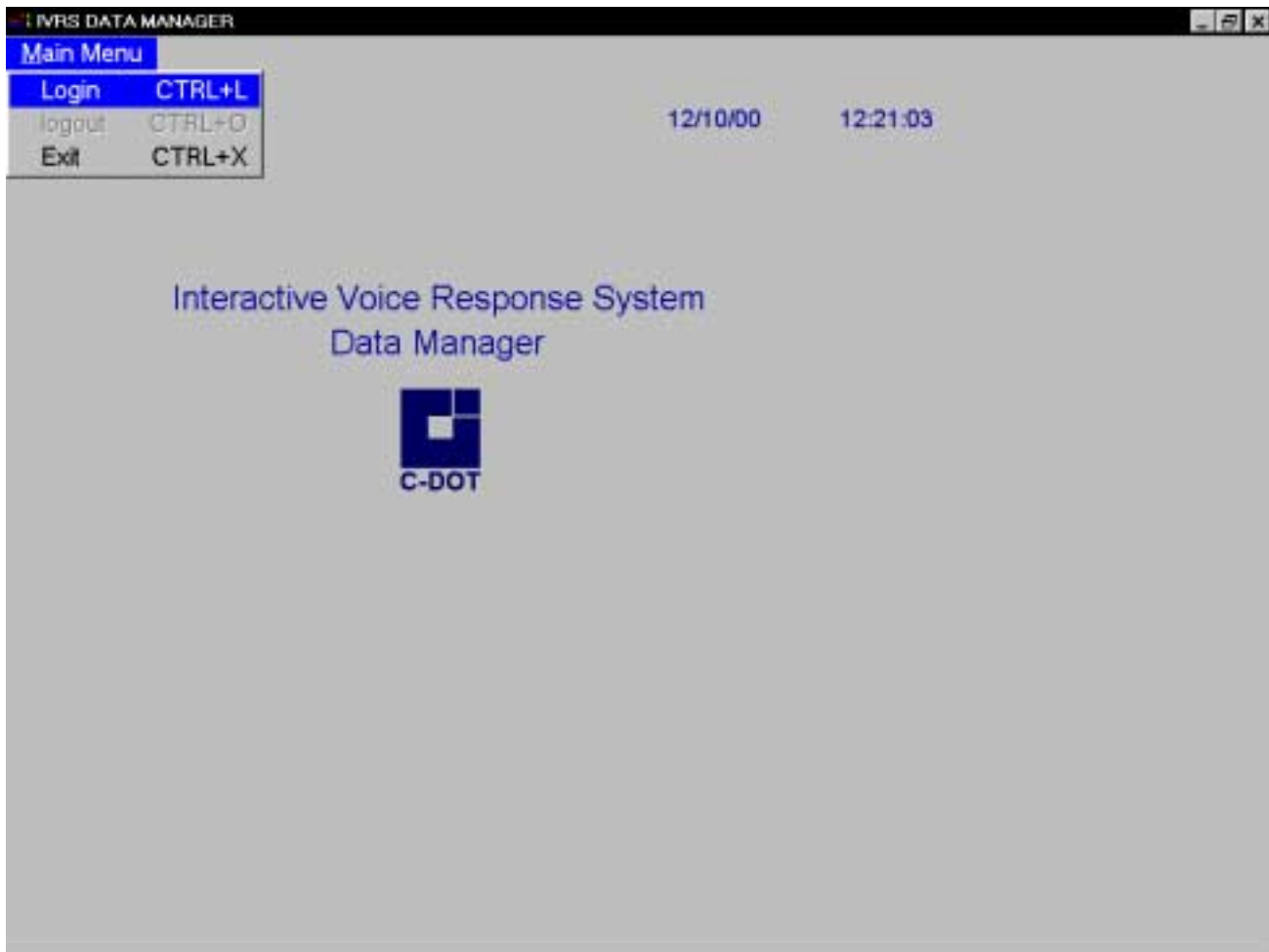
**Block Diagram of C-DOT IVRS for BCNS Application**

## How to use BULK CHANGED NUMBER ANNOUNCEMENT SYSTEM?

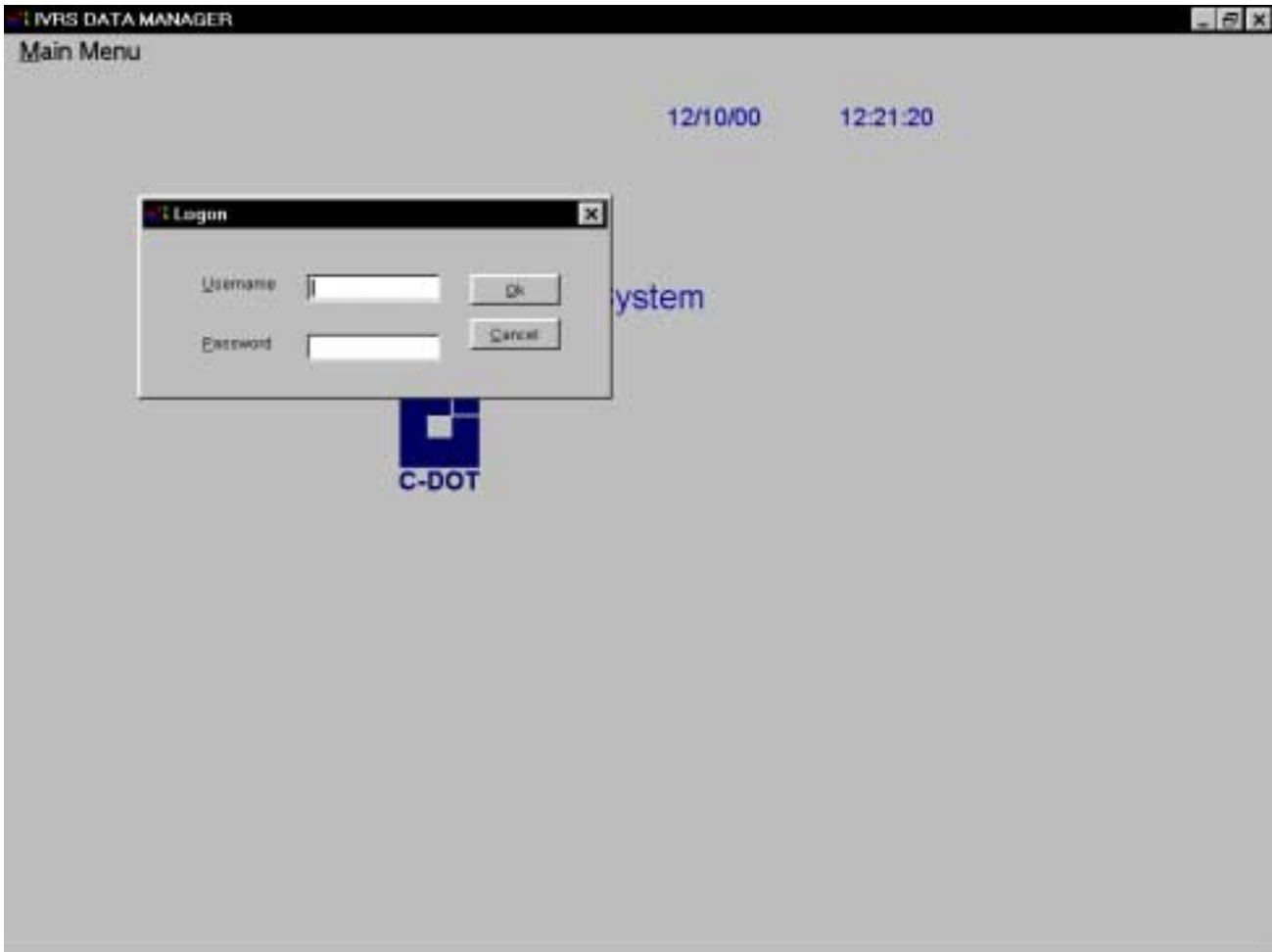
When you open Interactive Voice Response System-Data Manager you will find the following window on your screen.



Click *Main Menu* here you will find the window as follows:



On clicking *Login* you will find the log on window as follows:



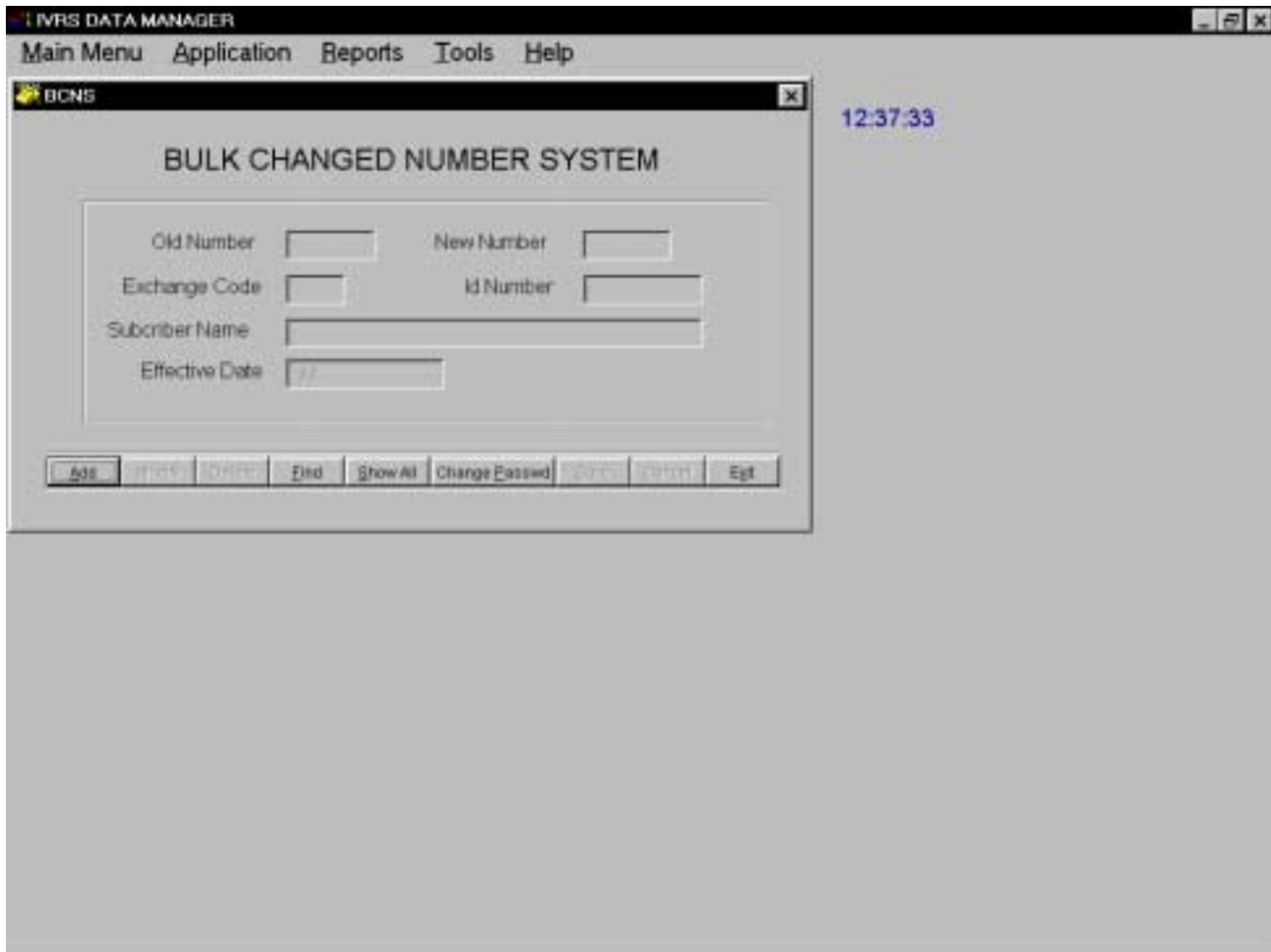
After entering the appropriate username and password we can enter into this facility.

After login you will find the following window on your screen.





Now select Application menu and click Bulk Changed Number System box. The following window will appear on the screen.



The purpose of the above displayed options is as follows:

<b>Sl.no.</b>	<b>Options</b>	<b>Functions</b>
<b>1</b>	<b>Add</b>	This option enables you to add the information about bulk changed number
<b>2</b>	<b>Modify</b>	This option allows doing a change in an existing record.
<b>3</b>	<b>Delete</b>	This option allows you to delete an existing record.
<b>4</b>	<b>Find</b>	This option allows you to find an existing record in database.
<b>5</b>	<b>Show All</b>	This option allows you to have a look at all the existing records. If no records are there in the database it will alert that no records found.
<b>6</b>	<b>Change Password</b>	This option allows you to change the login password.
<b>7</b>	<b>Save</b>	This option allows you to save a particular record you have added / modified.
<b>8</b>	<b>Cancel</b>	This option allows you to cancel a particular operation initiated by you such as Add, Find, Modify.
<b>9</b>	<b>Exit</b>	This option allows exiting from the database at any moment.

This application has following fields:

<b>FIELD NAME</b>	<b>FIELD TYPE</b>	<b>FIELD WIDTH</b>	<b>DESCRIPTION</b>
Uniq_Id_No	C	12	Unique Identification Code
Name	C	60	Name of the subscriber
Old Number	N	7	Existing Telephone Number.
New Number	N	7	New Telephone Number.
Date_Eff	D	8	Date of effect of change.
Exg_Code	C	3	Station Code

## **Chapter 11.**

# **Current Meter Reading System**

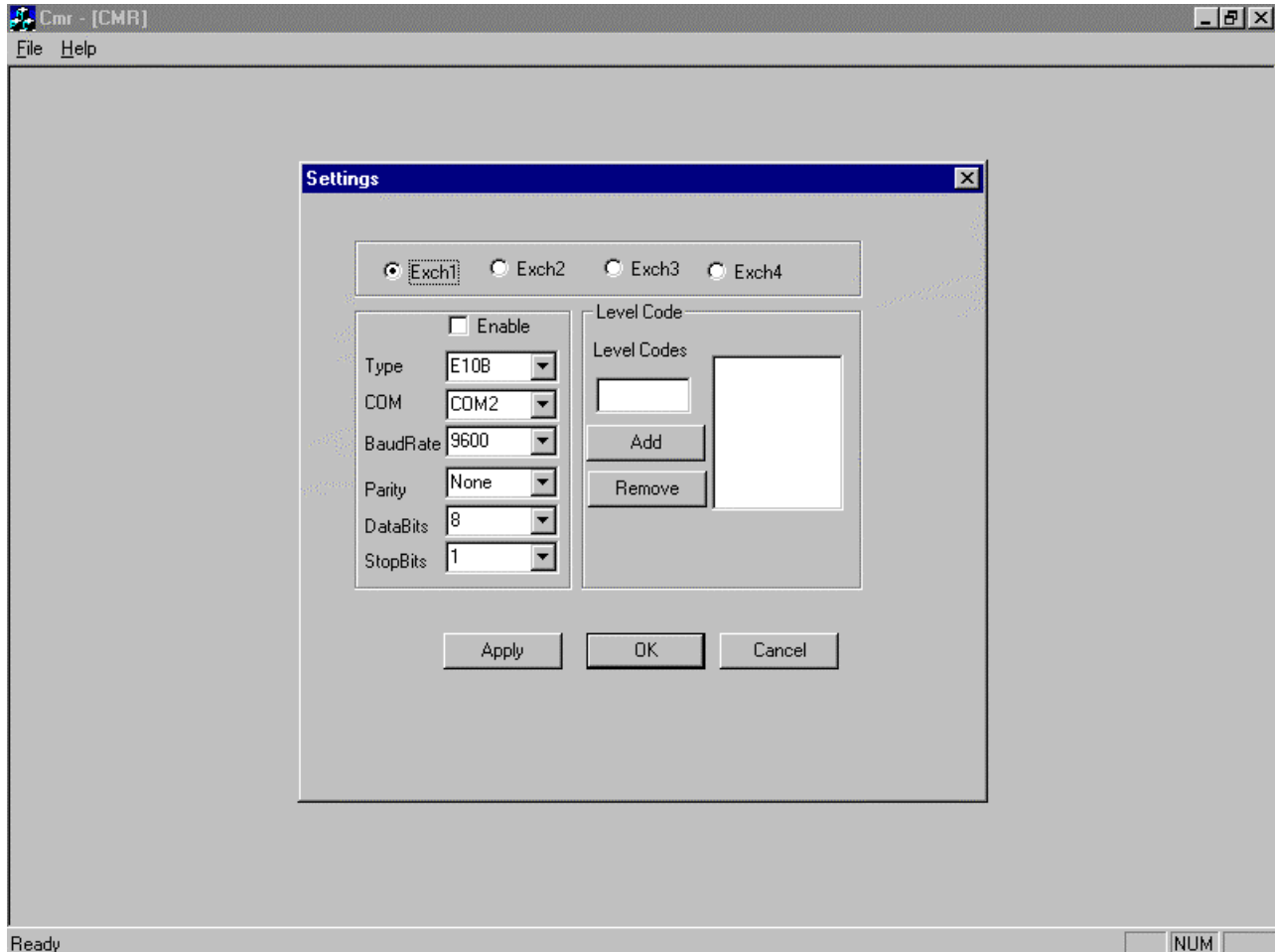
---

### **11.1. SCOPE**

The current meter reading application is useful in automatically giving the bill counter readings to the subscriber. The current meter reading application takes inputs from the IOP of the exchange to tell meter readings. In this application subscriber has to dial a particular number assigned for this application to know their meter readings.

## 11.2. HOW TO USE CURRENT METER READING SYSTEM

If we wanted to use this application be sure that IOP of the exchange is connected to the com port of the IVRS PC. Now in IVRS 1.1.4 software after login go to => configuration => application port mapping assign ports for this application. Before using this application run CMR.exe from c:\cdotivrs folder. Following window will appear.



Select the exchange. Select the com port of PC on which 232 cable is connected from exchange. Select Baudrate, parity, Data bits and stop bits as shown in the fig. given above. Click add to add exchange levels. Remove button is used when anyone wanted to remove the levels already assigned for the exchange. Click apply to this settings.

## Chapter 12.

# Report Generation

---

### 12.1. CHANNELWISE

Select 'Reports' from the menu and further goto 'Channelwise' option as shown in the Figure.



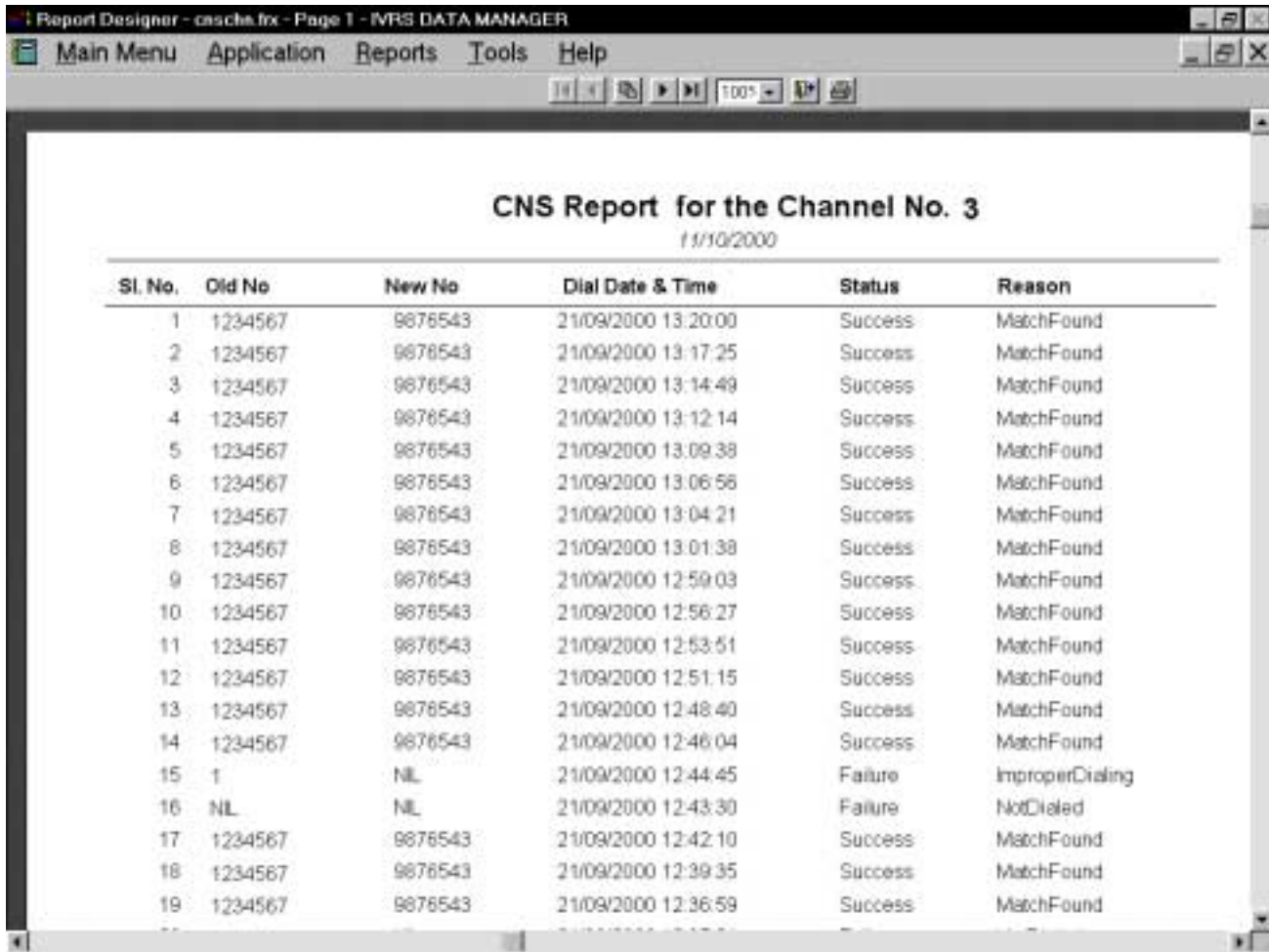
Now enter the application name, channel no. and parameters and press 'OK'. "Success" and "Failure" counts are displayed as shown for 'CNS' application. Similarly we can check for other applications also.

The screenshot displays the IVRS DATA MANAGER application window. The main menu includes 'Main Menu', 'Application', 'Reports', 'Tools', and 'Help'. The date and time are shown as 11/10/2000 and 10:59:33. A 'Channelwise Report' dialog box is open, showing the following fields and values:

Field	Value
Application Name	CNS
Chn No	3
Date From	11/01/2000 00:00:00
Date To	11/10/2000 00:00:00
Success Count	495
Failure Count	48

Buttons at the bottom of the dialog box are 'OK', 'Detail', and 'Exit'. The word 'system' is partially visible in the background.

To get the detail information press 'Detail'. The detailed report can be printed by using the print option on the menu. To go to the end of the page use the scroll bar and to go to the next page of the report use the use the arrow mark facing to the right side. One page of the detailed report is displayed below.



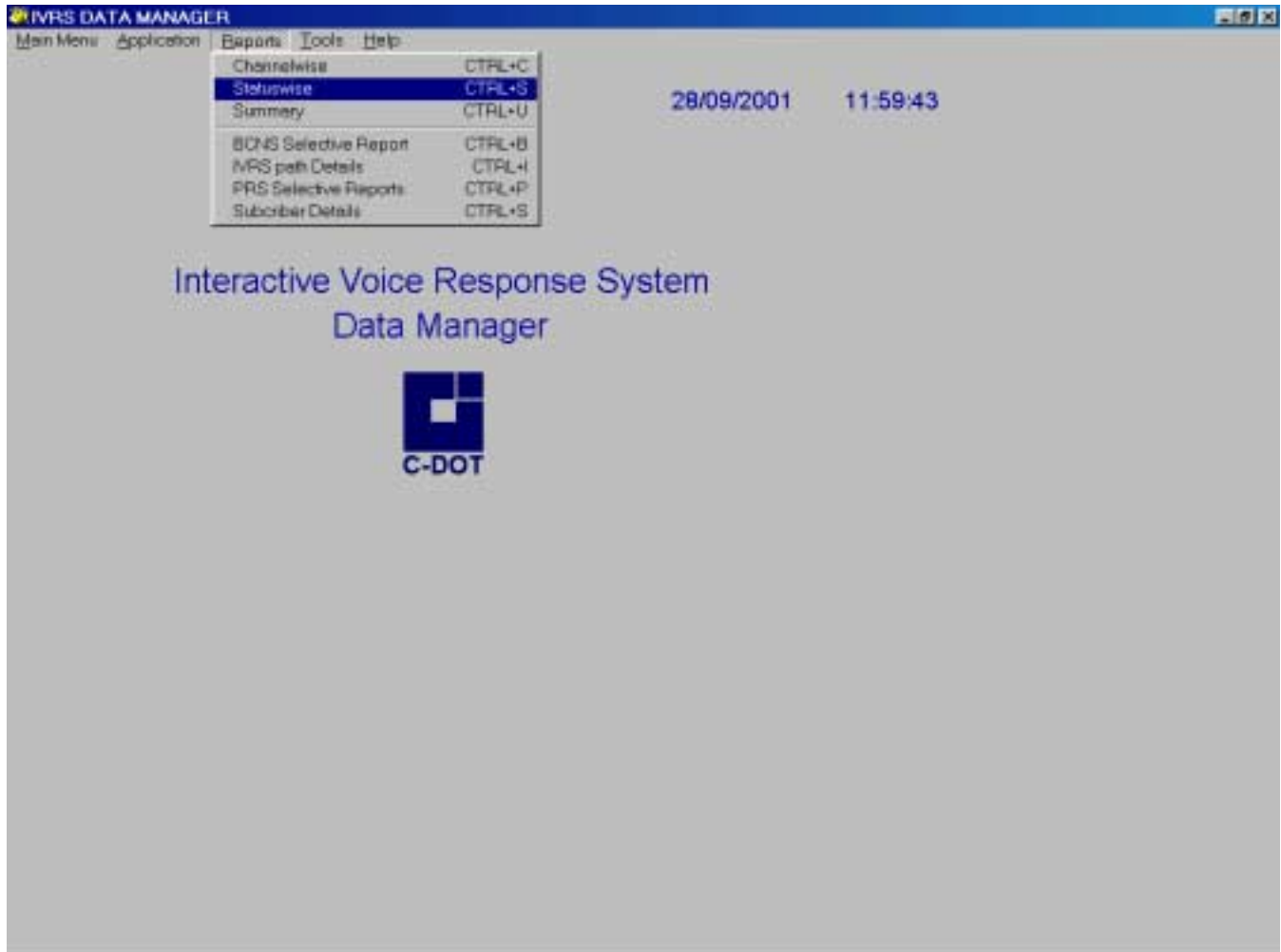
The screenshot shows a window titled "Report Designer - cascha.fx - Page 1 - IVRS DATA MANAGER". The window contains a report titled "CNS Report for the Channel No. 3" dated "11/10/2000". The report is a table with the following data:

SI. No.	Old No	New No	Dial Date & Time	Status	Reason
1	1234567	9876543	21/09/2000 13:20:00	Success	MatchFound
2	1234567	9876543	21/09/2000 13:17:25	Success	MatchFound
3	1234567	9876543	21/09/2000 13:14:49	Success	MatchFound
4	1234567	9876543	21/09/2000 13:12:14	Success	MatchFound
5	1234567	9876543	21/09/2000 13:09:38	Success	MatchFound
6	1234567	9876543	21/09/2000 13:06:56	Success	MatchFound
7	1234567	9876543	21/09/2000 13:04:21	Success	MatchFound
8	1234567	9876543	21/09/2000 13:01:38	Success	MatchFound
9	1234567	9876543	21/09/2000 12:59:03	Success	MatchFound
10	1234567	9876543	21/09/2000 12:56:27	Success	MatchFound
11	1234567	9876543	21/09/2000 12:53:51	Success	MatchFound
12	1234567	9876543	21/09/2000 12:51:15	Success	MatchFound
13	1234567	9876543	21/09/2000 12:48:40	Success	MatchFound
14	1234567	9876543	21/09/2000 12:46:04	Success	MatchFound
15	1	NIL	21/09/2000 12:44:45	Failure	ImproperDialing
16	NIL	NIL	21/09/2000 12:43:30	Failure	NotDialed
17	1234567	9876543	21/09/2000 12:42:10	Success	MatchFound
18	1234567	9876543	21/09/2000 12:39:35	Success	MatchFound
19	1234567	9876543	21/09/2000 12:36:59	Success	MatchFound

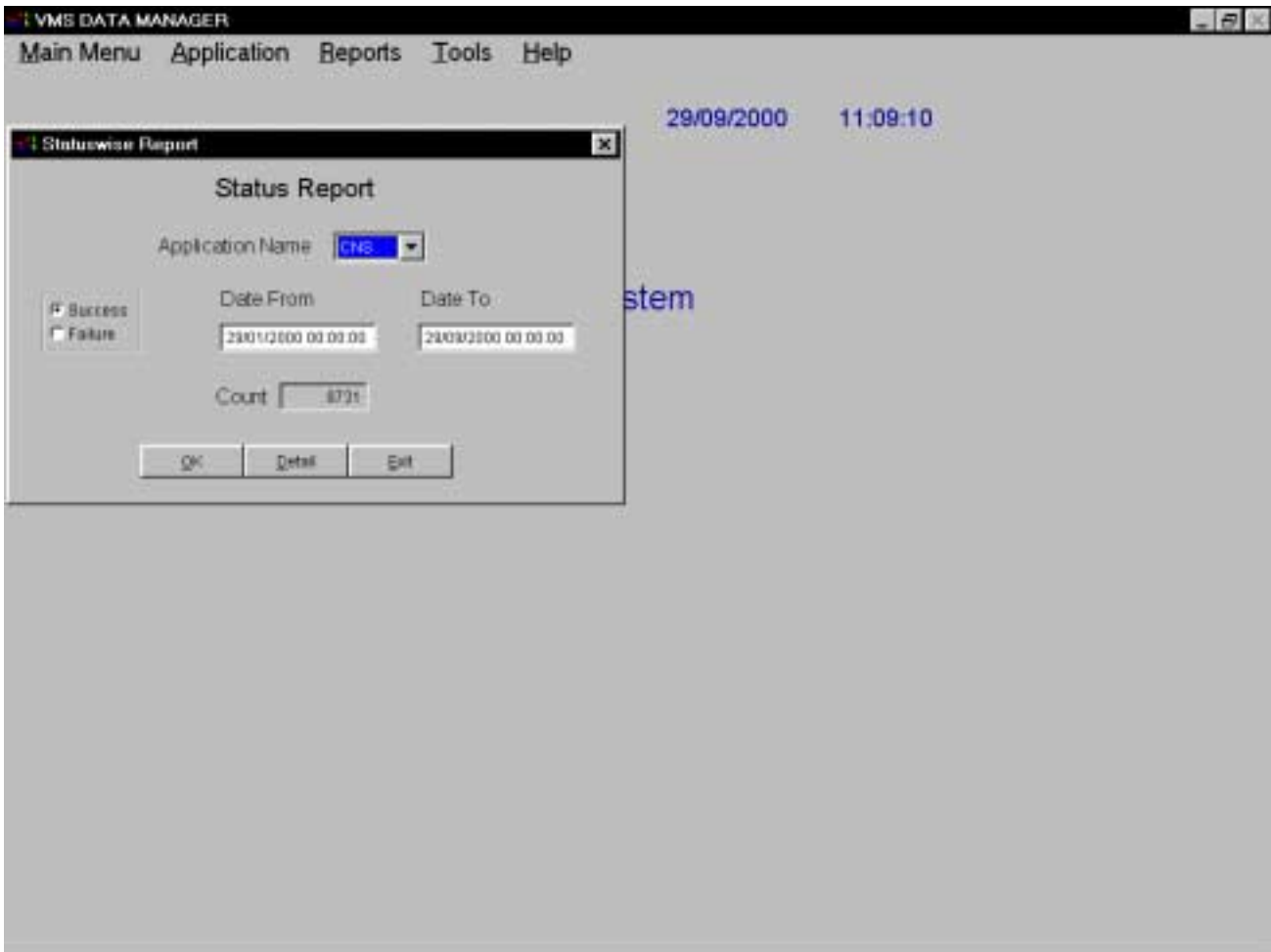


## 12.2. STATUSWISE

Select 'Reports' from the menu and further goto 'Statuswise' option as shown in the figure.



Now enter the application name and select the status as 'Success' or 'Failure'. Enter the date parameters and press 'OK'. The 'count' is displayed as shown for 'CNS' application. Similarly we can check for other applications also.



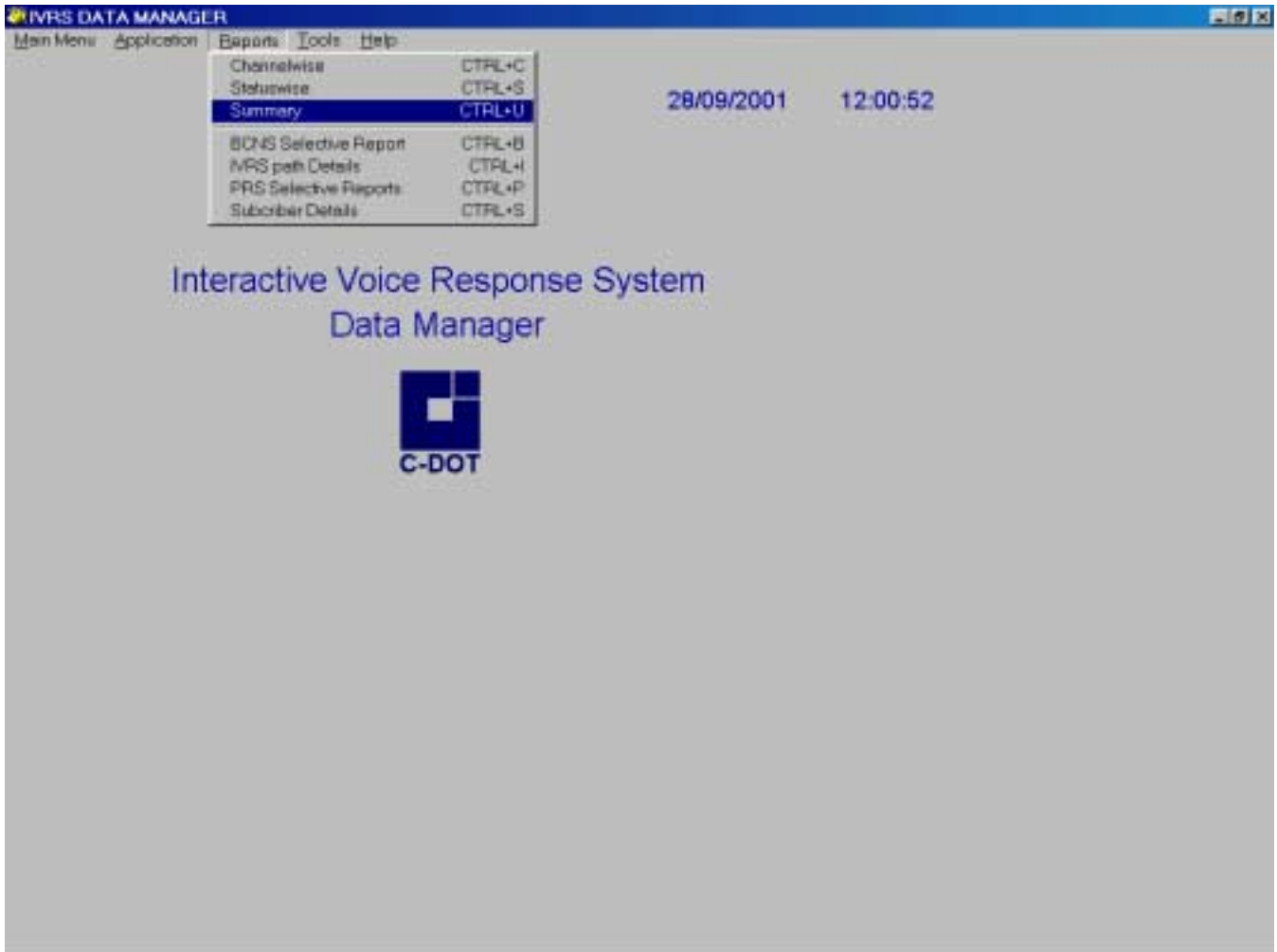
To get the detail information press 'Detail'. The detailed report can be printed by using the print option on the menu. To go to the end of the page use the scroll bar and to go to the next page of the report use the arrow mark facing to the right side. One page of the detailed report is displayed below.

**CNS Status Report for Success**  
11/10/2000

Sl. No.	Chn No	Old No	New No	Dial Date & Time	Reason
1	11	1234567	9876543	21/09/2000 13:21:36	MatchFound
2	13	1234567	9876543	21/09/2000 13:21:25	MatchFound
3	10	1234561	NIL	21/09/2000 13:21:21	NoMatch
4	19	1234563	NIL	21/09/2000 13:21:11	NoMatch
5	7	1234567	9876543	21/09/2000 13:21:06	MatchFound
6	6	1234567	9876543	21/09/2000 13:21:03	MatchFound
7	31	1234567	9876543	21/09/2000 13:20:59	MatchFound
8	25	1234567	9876543	21/09/2000 13:20:48	MatchFound
9	26	1234567	9876543	21/09/2000 13:20:43	MatchFound
10	12	1234547	NIL	21/09/2000 13:20:27	NoMatch
11	23	1234567	9876543	21/09/2000 13:20:21	MatchFound
12	9	1234567	9876543	21/09/2000 13:20:13	MatchFound
13	14	1234567	9876543	21/09/2000 13:20:09	MatchFound
14	3	1234567	9876543	21/09/2000 13:20:00	MatchFound
15	21	1234567	9876543	21/09/2000 13:19:58	MatchFound
16	22	1234567	9876543	21/09/2000 13:19:58	MatchFound
17	18	1234567	9876543	21/09/2000 13:19:57	MatchFound
18	2	1234567	9876543	21/09/2000 13:19:52	MatchFound

### 12.3. SUMMARY

Select 'Reports' from the menu and further go to 'Summary' option as shown in the figure.



Now enter the application name and date parameters and press 'OK'. Success and Failure counters are displayed as shown for 'CNS' application. Similarly we can check for other applications also.

The screenshot displays the IVRS DATA MANAGER interface. The main window has a menu bar with 'Main Menu', 'Application', 'Reports', 'Tools', and 'Help'. The title bar reads 'IVRS DATA MANAGER'. In the top right corner, the date '11/10/2000' and time '11:56:36' are shown. A 'Summary Report' dialog box is open, featuring a title bar with a close button. The dialog contains the following fields and values:

Application Name	
	CNS

From	Date	Time	To	Date	Time
	11/10/2000	00:00:00		11/10/2000	00:00:00

Success Count	8731	Failure Count	1751
Match Found	5791	Partial Dialing	0
No Match	2940	Not Dialed	1751

At the bottom of the dialog are three buttons: 'OK', 'Detail', and 'Exit'.

To get the detailed information press 'Detail'. The detailed report can be printed by using the print option on the menu. To go to the end of the page use the scroll bar and to go to the next page of the report use the arrow mark facing to the right side. One page of the detailed report is displayed below:

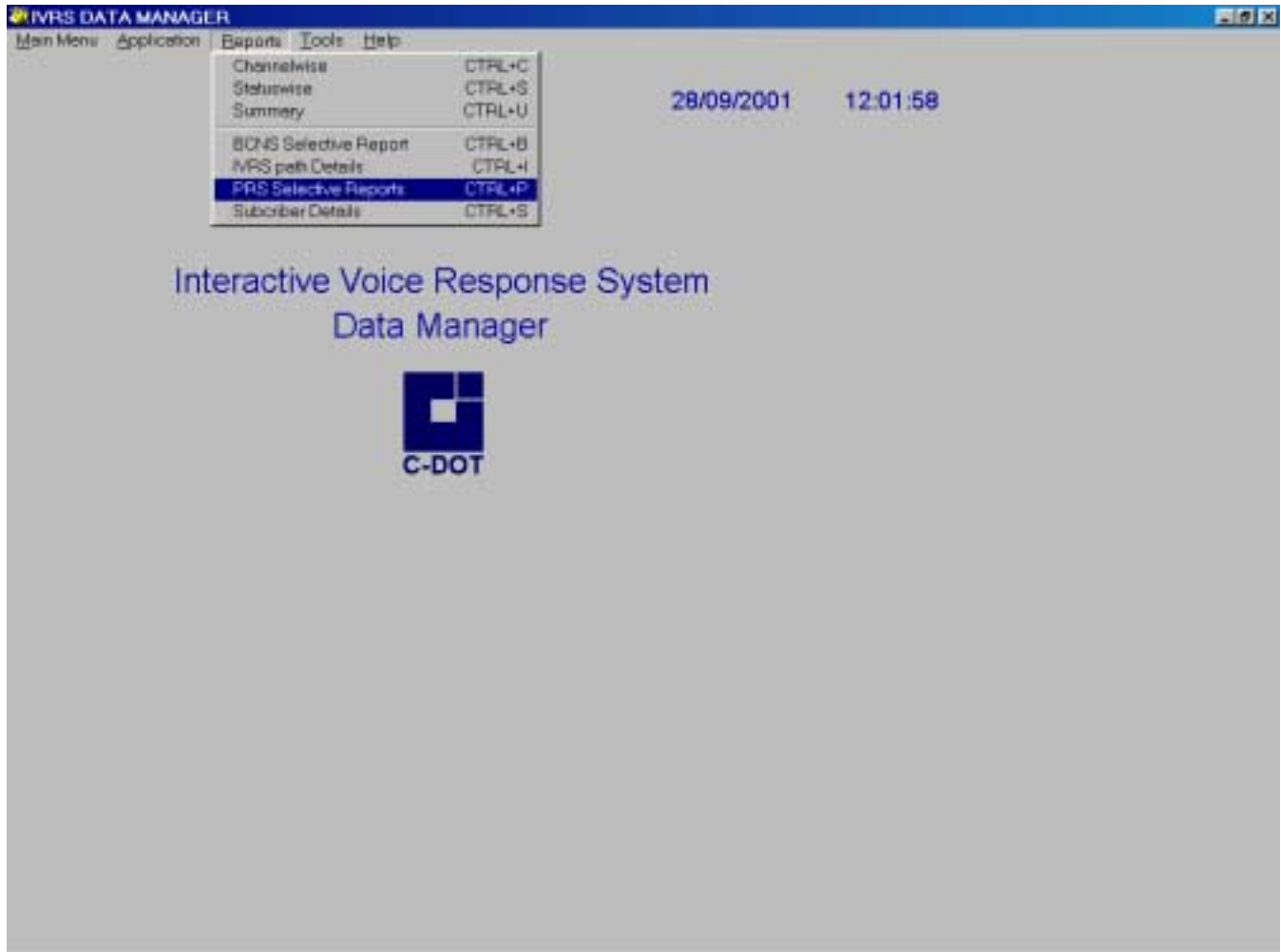
The screenshot shows a software window titled "Report Designer - cassum.frx - Page 1 - IVRS DATA MANAGER". The menu bar includes "Main Menu", "Application", "Reports", "Tools", and "Help". The toolbar contains several icons, including a right-pointing arrow labeled "Next Page", a double right-pointing arrow labeled "Last Page", a printer icon labeled "Print", and a square icon labeled "Exit".

The main content area displays a report titled "CNS Summary Report" dated "11/10/2000". The report is a table with the following data:

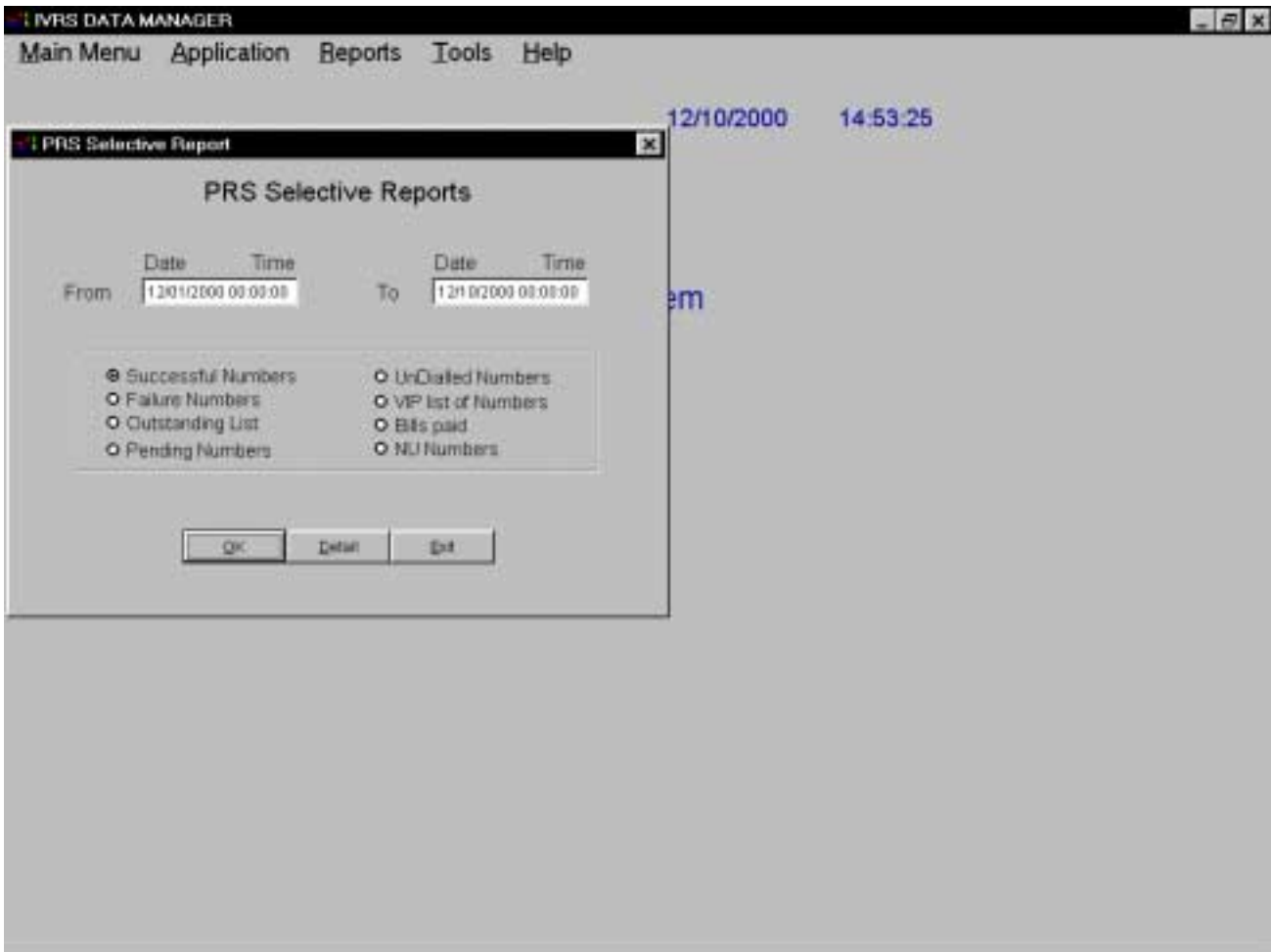
Sl. No.	Chn No	Old No	New No	Dial Date & Time	Status	Reason
1	11	1234567	9876543	21/09/2000 13:21:38	Success	MatchFound
2	13	1234567	9876543	21/09/2000 13:21:25	Success	MatchFound
3	12	NIL	NIL	21/09/2000 13:21:22	Failure	NotDialed
4	10	1234561	NIL	21/09/2000 13:21:21	Success	NoMatch
5	19	1234583	NIL	21/09/2000 13:21:11	Success	NoMatch
6	7	1234567	9876543	21/09/2000 13:21:06	Success	MatchFound
7	6	1234567	9876543	21/09/2000 13:21:03	Success	MatchFound
8	31	1234567	9876543	21/09/2000 13:20:59	Success	MatchFound
9	25	1234567	9876543	21/09/2000 13:20:48	Success	MatchFound
10	26	1234567	9876543	21/09/2000 13:20:43	Success	MatchFound
11	30	NIL	NIL	21/09/2000 13:20:31	Failure	NotDialed
12	12	1234547	NIL	21/09/2000 13:20:27	Success	NoMatch
13	23	1234567	9876543	21/09/2000 13:20:21	Success	MatchFound
14	9	1234567	9876543	21/09/2000 13:20:13	Success	MatchFound
15	14	1234567	9876543	21/09/2000 13:20:09	Success	MatchFound
16	3	1234567	9876543	21/09/2000 13:20:00	Success	MatchFound
17	21	1234567	9876543	21/09/2000 13:19:58	Success	MatchFound

## 12.4. PRS SELECTIVE REPORTS

Select 'Reports' from the menu and further go to 'PRS Selective Reports' option as shown in the figure.



Now enter the date parameters and select the appropriate option for which the report is required and press 'OK'. In the following figure PRS selective Report is generated for the successful Numbers.



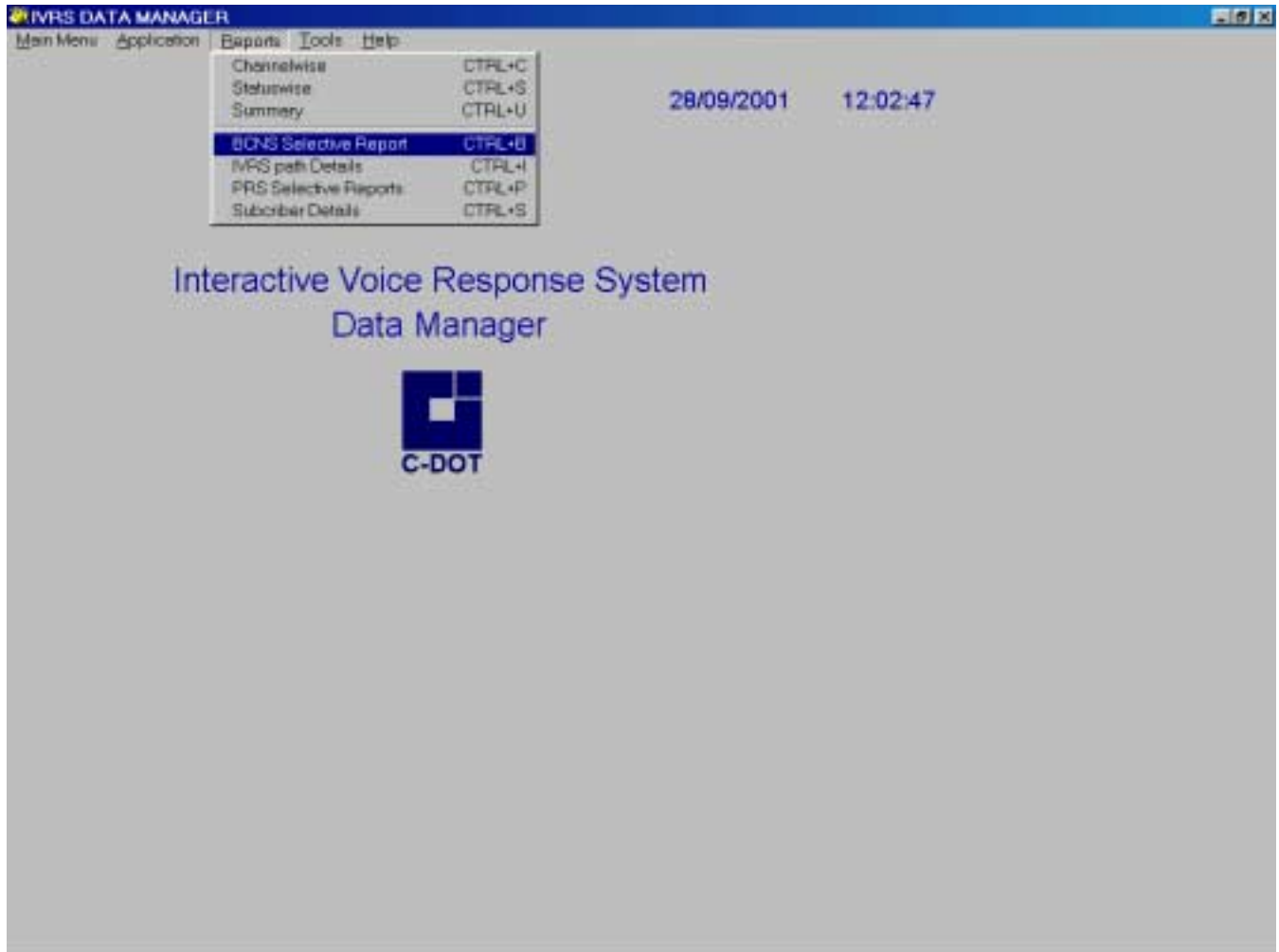


To get the detail information press 'Detail'. The detailed report can be printed by using the print option on the menu. To go to the end of the page use the scroll bar and to go to the next page of the report use the arrow mark facing to the right side. One page of the detailed report is displayed below.

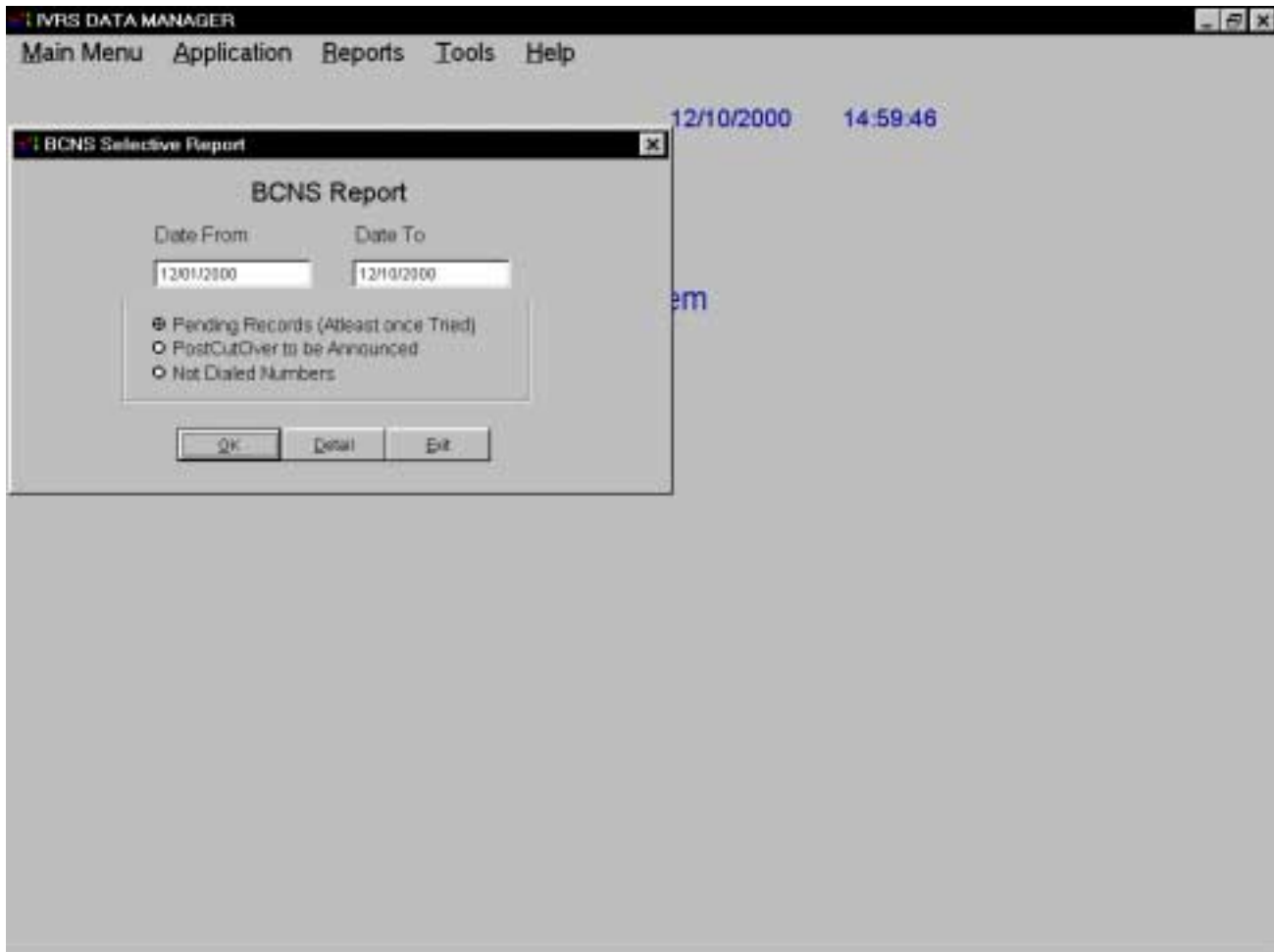
Sl. No.	Chn No	Phone No	Bill Date	Bill Amount	Dial Date & Time	Reason
1	1	580010	20/09/2000	2030.00	21/09/2000 13:16:18	REPEATED 8
2	3	580014	20/09/2000	2030.00	21/09/2000 13:11:02	REPEATED 9
3	2	580010	20/09/2000	2030.00	21/09/2000 13:07:02	REPEATED 7
4	1	580010	20/09/2000	2030.00	21/09/2000 13:01:16	REPEATED 6
5	2	580014	20/09/2000	2030.00	21/09/2000 12:57:03	REPEATED 8
6	3	580009	12/01/2000	4323.00	21/09/2000 12:55:07	REPEATED 9
7	1	580010	20/09/2000	2030.00	21/09/2000 12:53:06	REPEATED 5
8	2	580008	28/07/2000	2345.00	21/09/2000 12:52:07	REPEATED 9
9	1	580014	20/09/2000	2030.00	21/09/2000 12:51:05	REPEATED 7
10	4	580014	20/09/2000	2030.00	21/09/2000 12:48:03	REPEATED 6
11	4	580009	12/01/2000	4323.00	21/09/2000 12:45:14	REPEATED 8
12	3	580008	28/07/2000	2345.00	21/09/2000 12:45:04	REPEATED 8
13	9	580076	12/01/2000	4323.00	21/09/2000 12:43:31	SUCCESS
14	13	580072	20/09/2000	3409.00	21/09/2000 12:43:29	SUCCESS
15	5	580009	12/01/2000	4323.00	21/09/2000 12:42:07	REPEATED 7
16	4	580008	28/07/2000	2345.00	21/09/2000 12:42:06	REPEATED 7
17	9	580010	20/09/2000	2030.00	21/09/2000 12:37:06	REPEATED 4
18	17	580048	20/09/2000	3409.00	21/09/2000 12:36:06	REPEATED 2
19	14	580014	20/09/2000	2030.00	21/09/2000 12:36:06	REPEATED 5

## 12.5. BCNS SELECTIVE REPORT

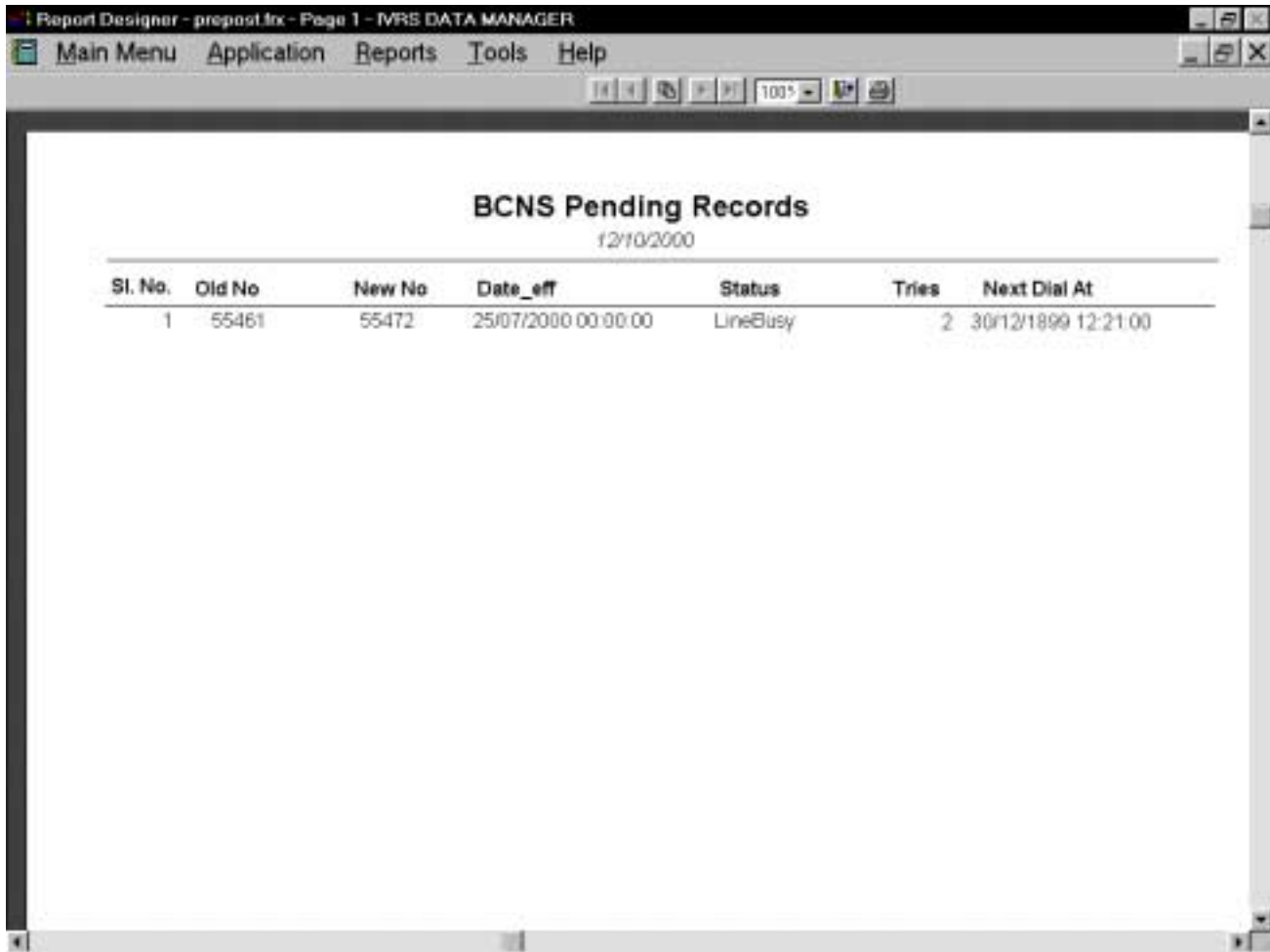
Select 'Reports' from the menu and further go to 'BCNS Selective Report' option as shown in the figure.



Now enter the date parameters and select the appropriate option for which the report is required and press 'OK'. In the following figure BCNS Selective Report is generated for the pending records (at least once tried).



To get the detail information press 'Detail'. The detailed report can be printed by using the print option on the menu. To go to the end of the page use the scroll bar and to go to the next page of the report use the arrow mark facing to the right side. One page of the detailed report is displayed below.



Report Designer - prepost.frx - Page 1 - WRS DATA MANAGER

Main Menu Application Reports Tools Help

100%

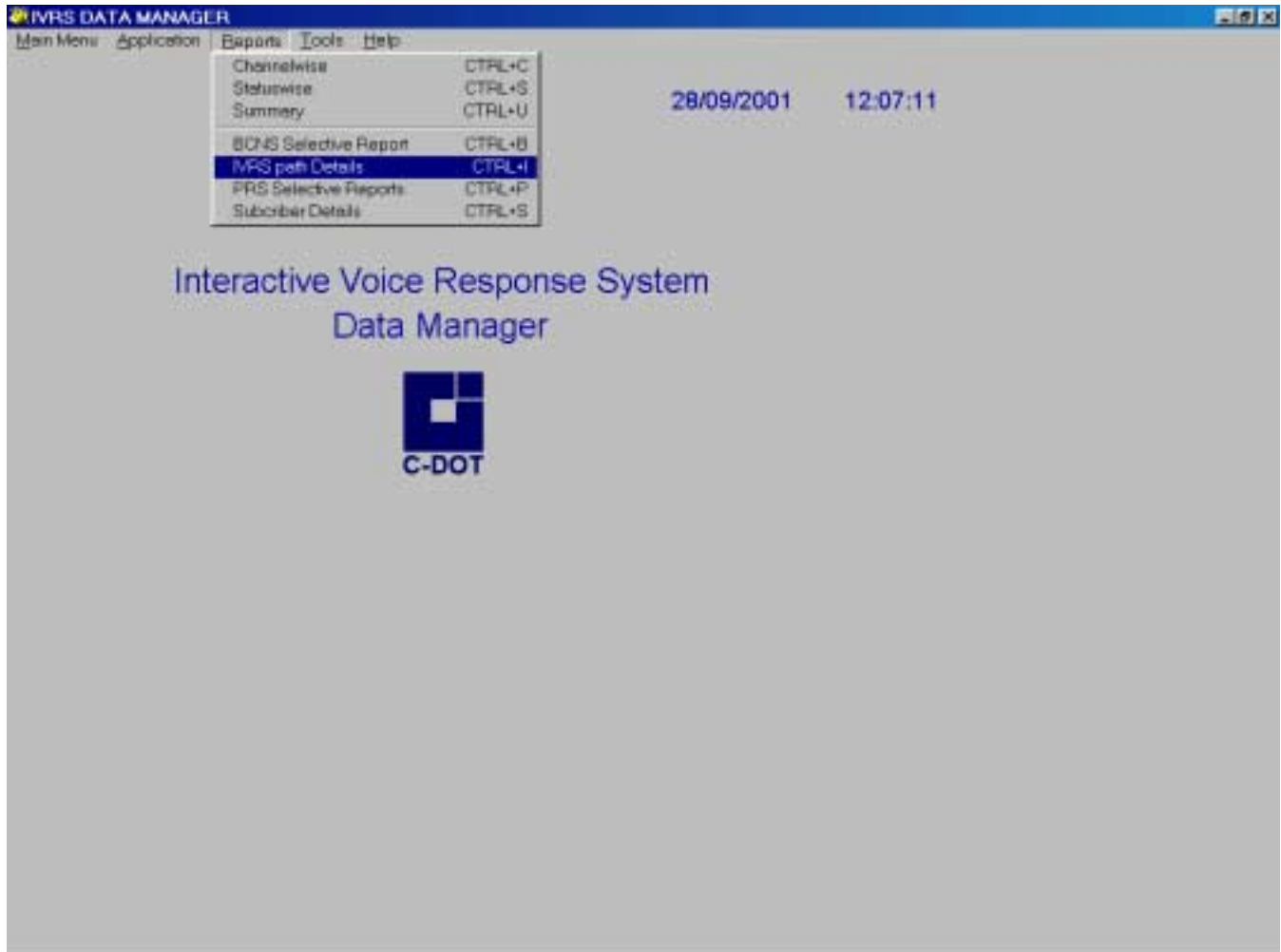
### BCNS Pending Records

12/10/2000

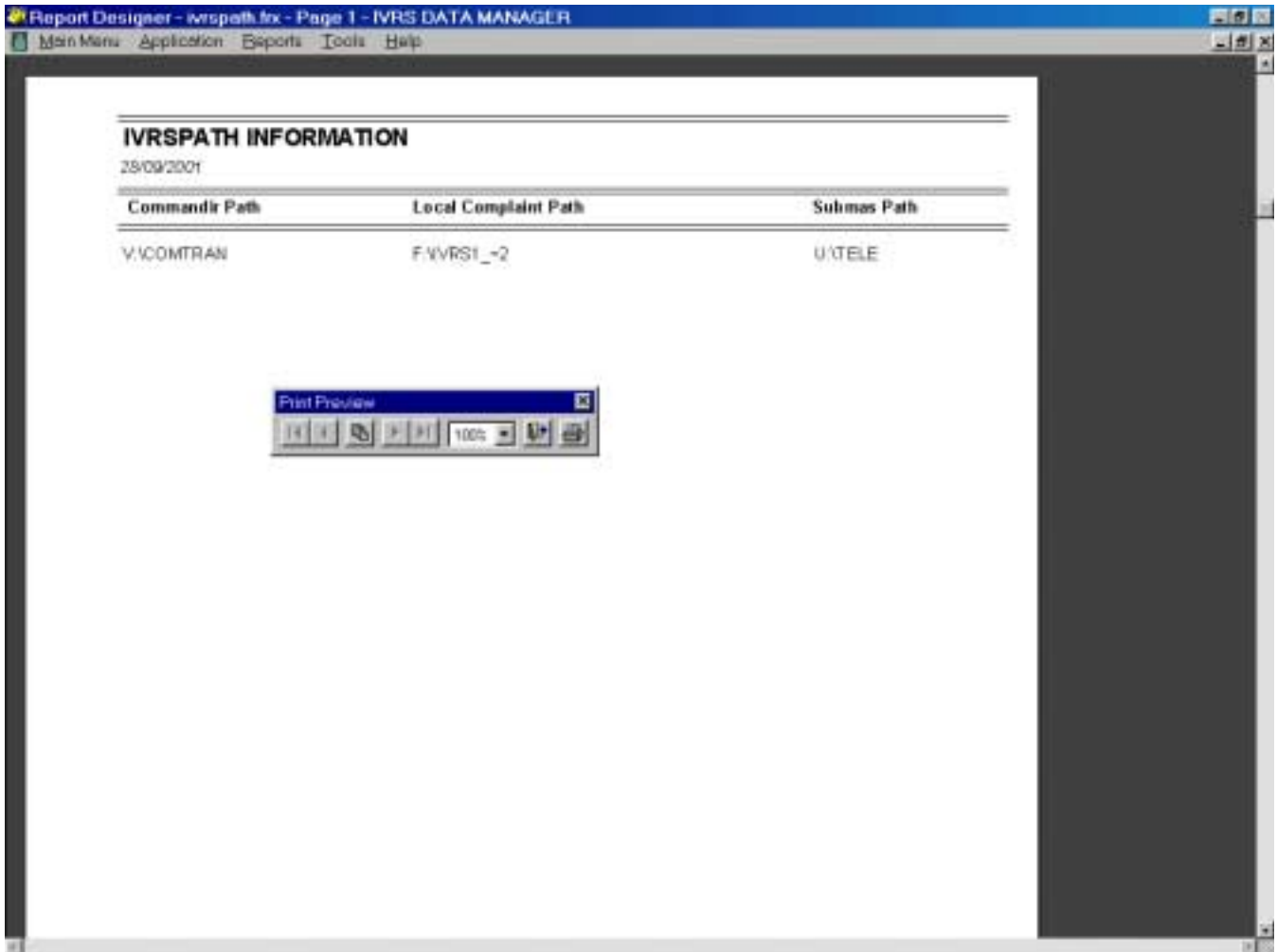
Sl. No.	Old No	New No	Date_eff	Status	Tries	Next Dial At
1	55461	55472	25/07/2000 00:00:00	LineBusy	2	30/12/1899 12:21:00

## 12.6. IVRS PATH DETAILS

Select 'Reports' from the menu and further go to 'IVRS Path Details' option as shown in Fig.

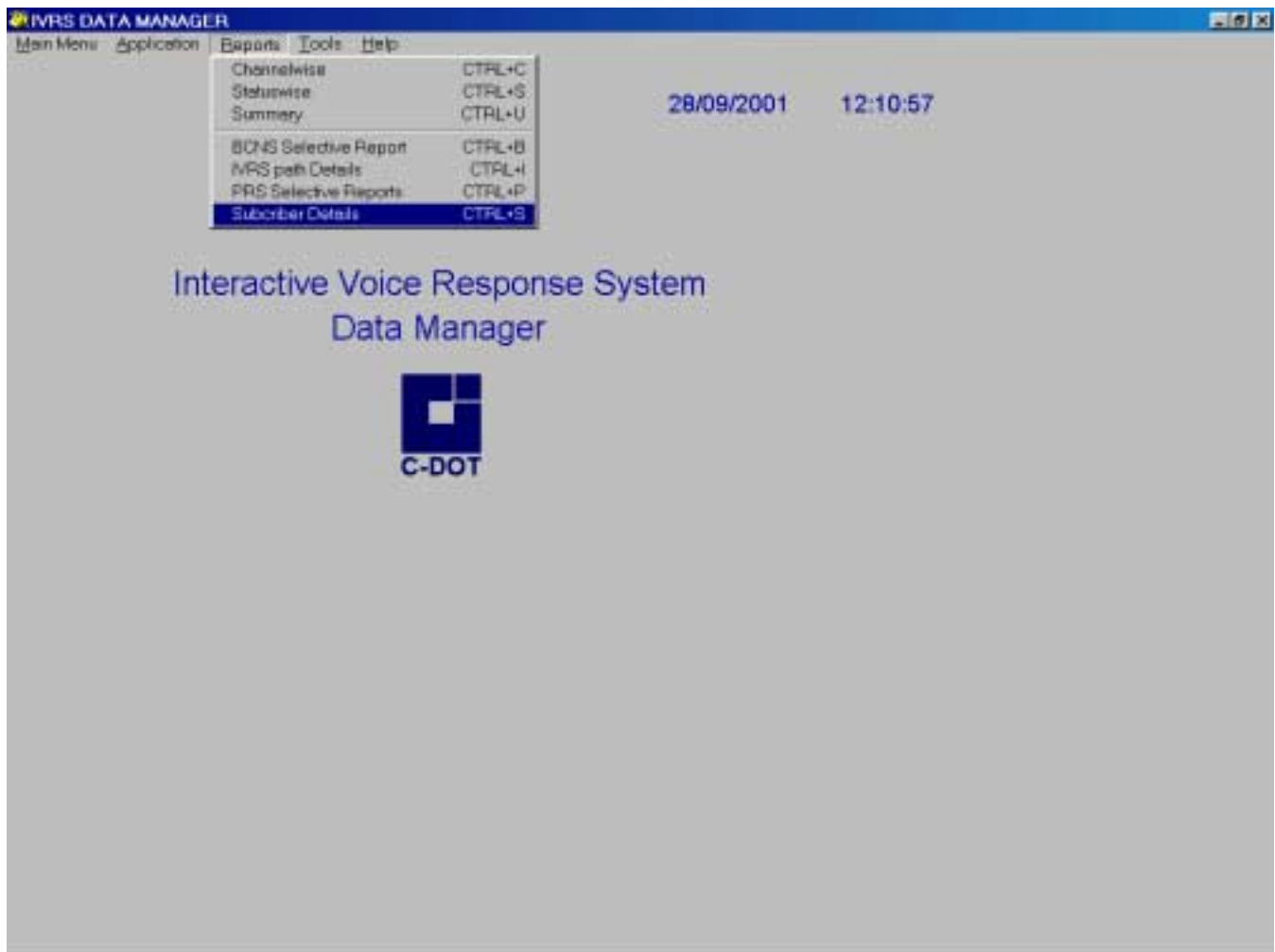


To get the detail information about IVRS path detail click IVRS path option. The detailed report can be printed using print option on the menu. One page of detailed report is displayed below.

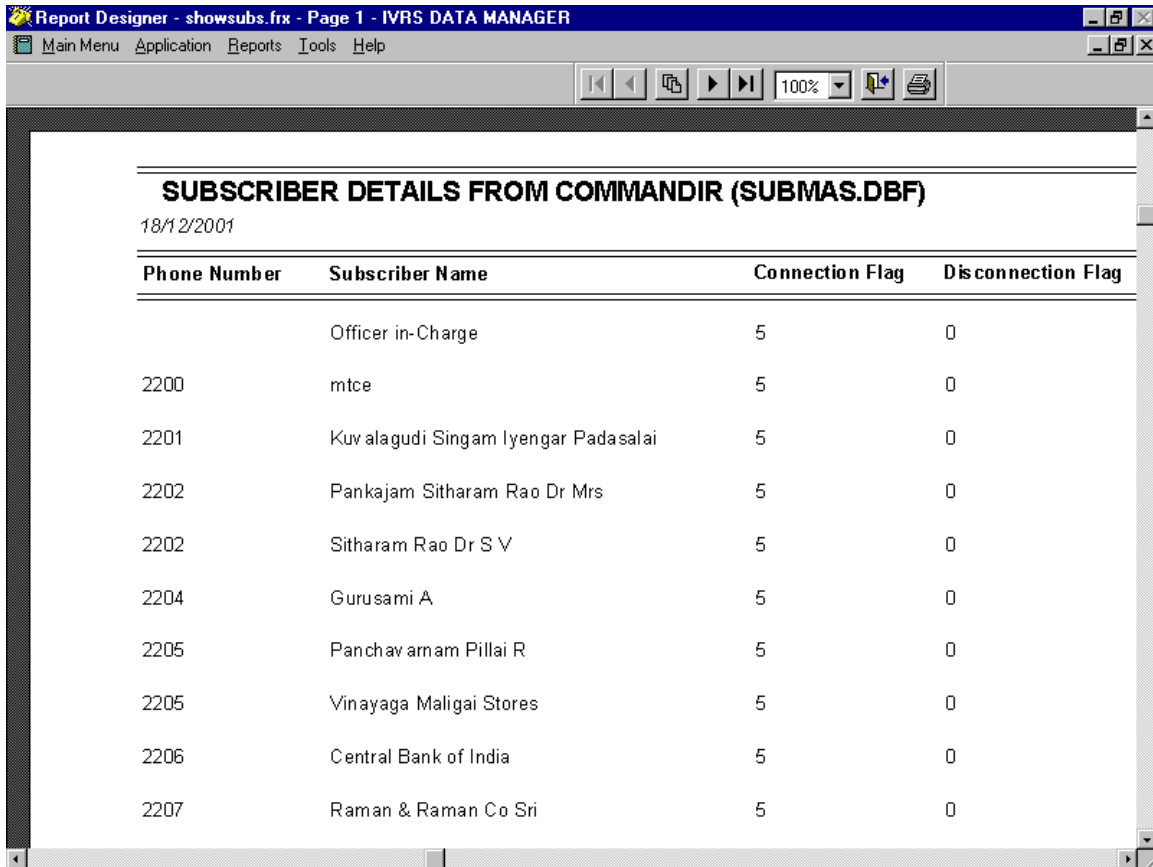


## 12.7. SUBSCRIBER DETAILS

To get the detailed information about the subscriber click subscriber detail option.



The following window will appear on screen. One page of detailed report is shown below.



**Report Designer - showsubs.frx - Page 1 - IVRS DATA MANAGER**

Main Menu Application Reports Tools Help

100%

**SUBSCRIBER DETAILS FROM COMMANDIR (SUBMAS.DBF)**

18/12/2001

Phone Number	Subscriber Name	Connection Flag	Disconnection Flag
	Officer in-Charge	5	0
2200	mtce	5	0
2201	Kuv alagudi Singam Iyengar Padasalai	5	0
2202	Pankajam Sitharam Rao Dr Mrs	5	0
2202	Sitharam Rao Dr S V	5	0
2204	Gurusami A	5	0
2205	Panchav amam Pillai R	5	0
2205	Vinayaga Maligai Stores	5	0
2206	Central Bank of India	5	0
2207	Raman & Raman Co Sri	5	0



## Chapter 13.

# Maintenance of IVRS Datamanager

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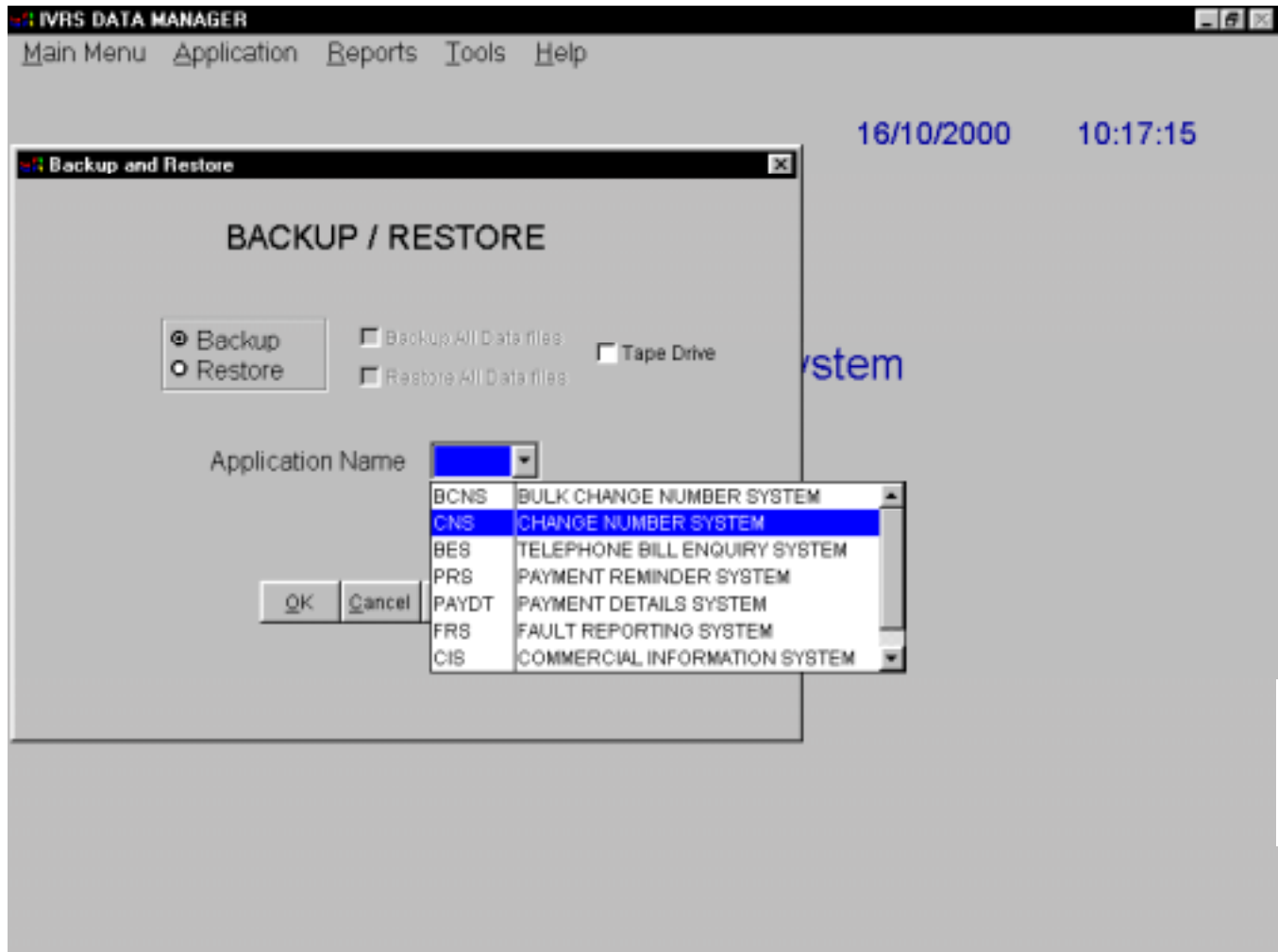
For the maintenance of IVRS Datamanager various tools are given to the supervisor. Supervisor has the options to do the following:-

- Backup - Restoration
- Data Porting
- Pack Utility
- Delete Log Files
- User Administration
- Paid - Details info
- STD information
- Fax list
- Zap tables
- Submas series

For performing these operations, the user must login as supervisor to the Datamanager. The Username is 'SUPERVISOR' and Password is 'ivrs123'. This password should be changed by the supervisor and should be written somewhere for future reference. (To change the password, see the User Administration in this chapter.) Changing the password in six months time is a good practice to keep the system secure from the unwanted users.

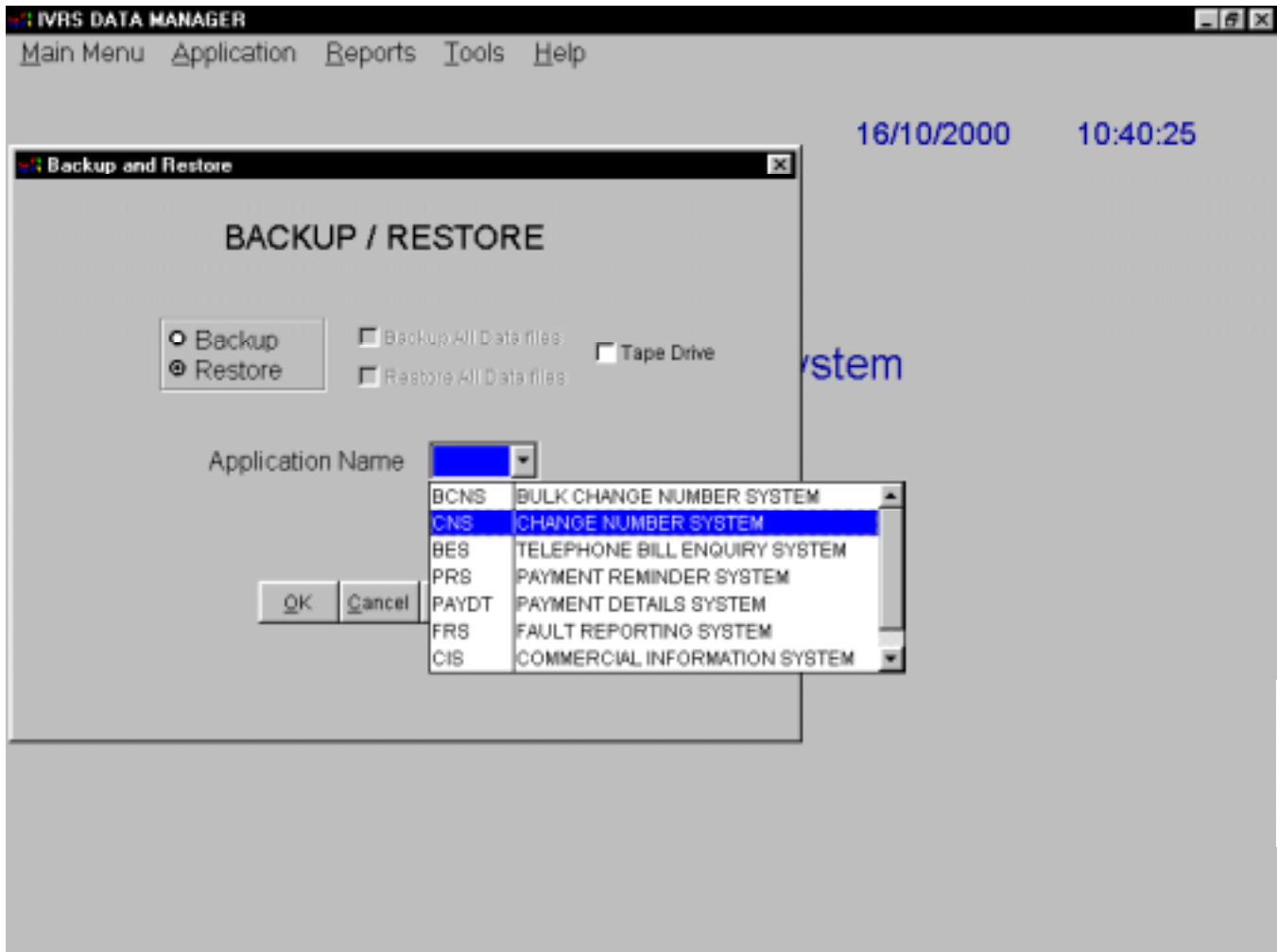
### 13.1. BACKUP - RESTORATION

Go to => 'Tools' and click 'Backup-Restore' box. Now select the 'Application name' as shown in the figure.



Now select the destination where 'Backup' is to be taken and select the 'Save' option. Now press 'OK'. Backup is over now.

For restoring the database file, first select the option to 'Restore' and then select the 'Application Name'.



Select the appropriate filename and press 'Restore' and then select 'OK'. Restoration of the database for the selected application is over now.

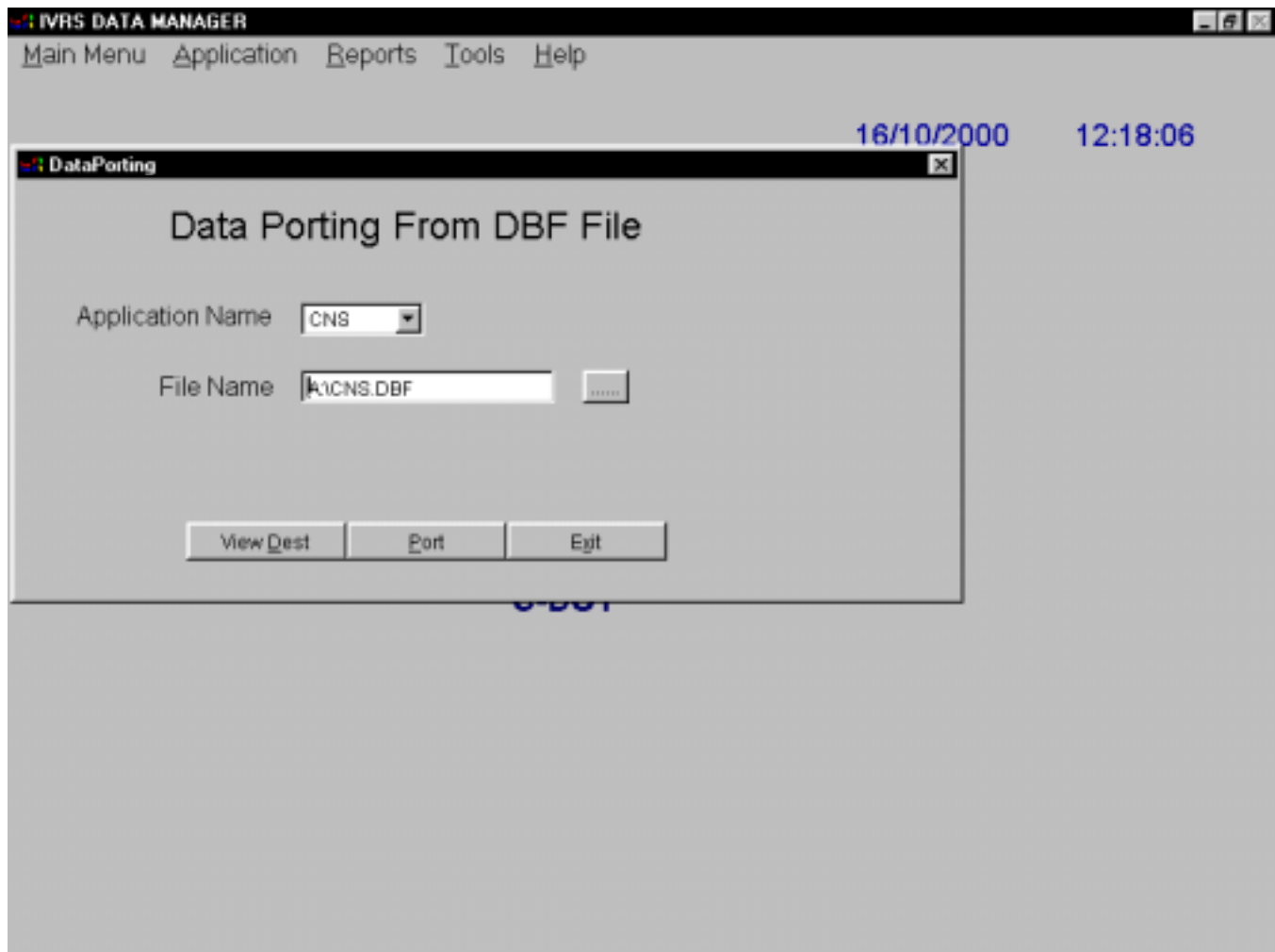
To choose the backup/restoration on/from the Tape Drive select the 'Tape Drive' and proceed same as given above.

## 13.2. DATA PORTING

To import the data from the other databases such as TRA, this feature of Data porting is provided. Porting is permissible in two possible formats.

- From Database File

Go to 'Tools' => 'Data Porting' => 'From Database File'. Now select the 'Application Name' and enter the filename along with the path as shown.



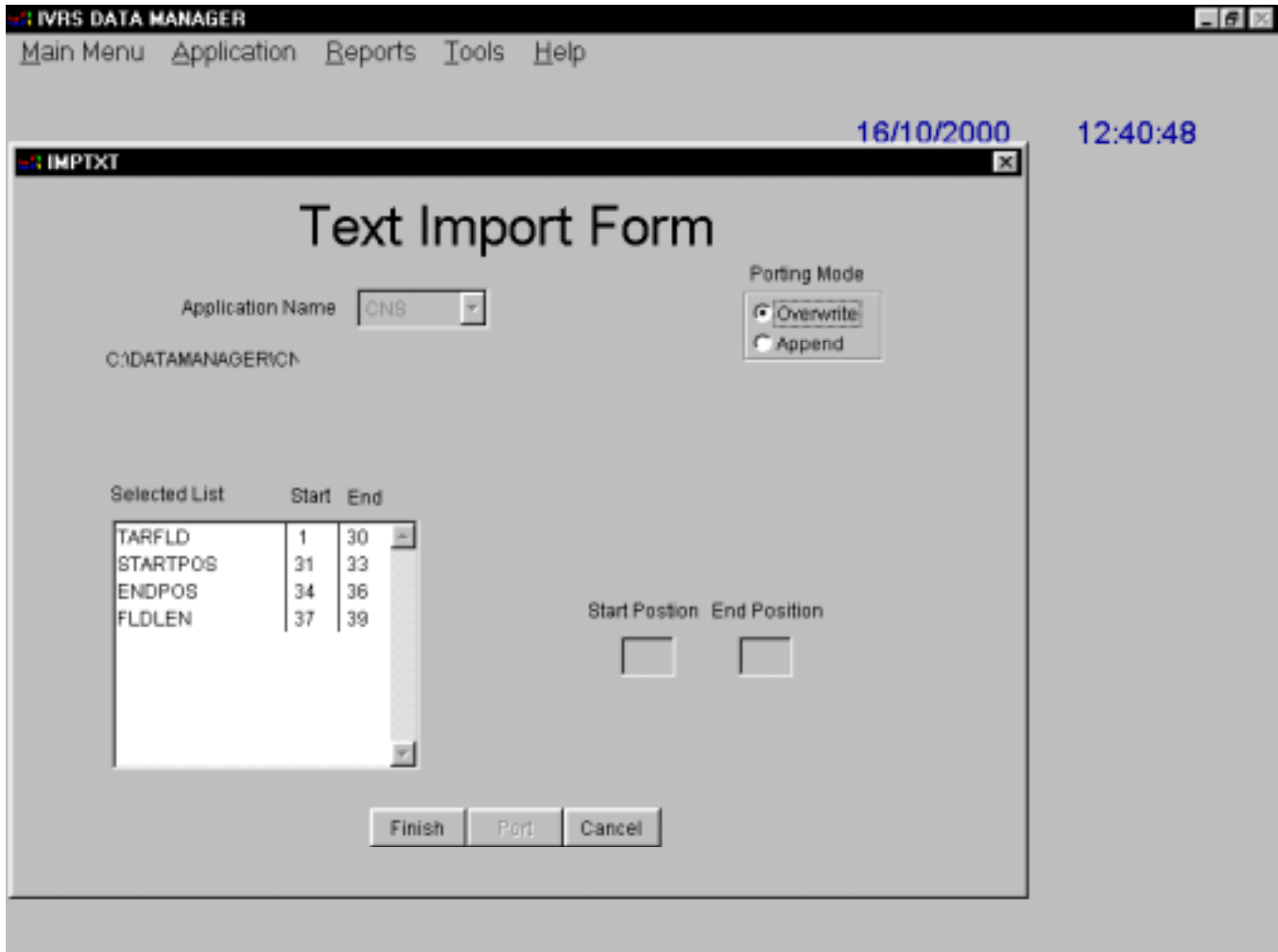
Now press 'Port' to port the data. Messages are displayed to show the number of accepted and rejected records.

- From Text File

Go to 'Tools' => 'Data Porting' => 'From Text File'. Now select the 'Application Name' and press 'Tab' key on the keyboard. Select the required text file which is to be ported and press 'OK'. Select the appropriate choice as 'overwrite' or 'append'.

The fields which exist in the file are displayed under the heading 'Selected list' and their starting position and end position is also shown. On selecting any one of these field and double clicking on it we can even change the starting and end position of the selected field. Thus, the files which are brought to the IVRS for data porting can be ported even if they are not in the standard format.

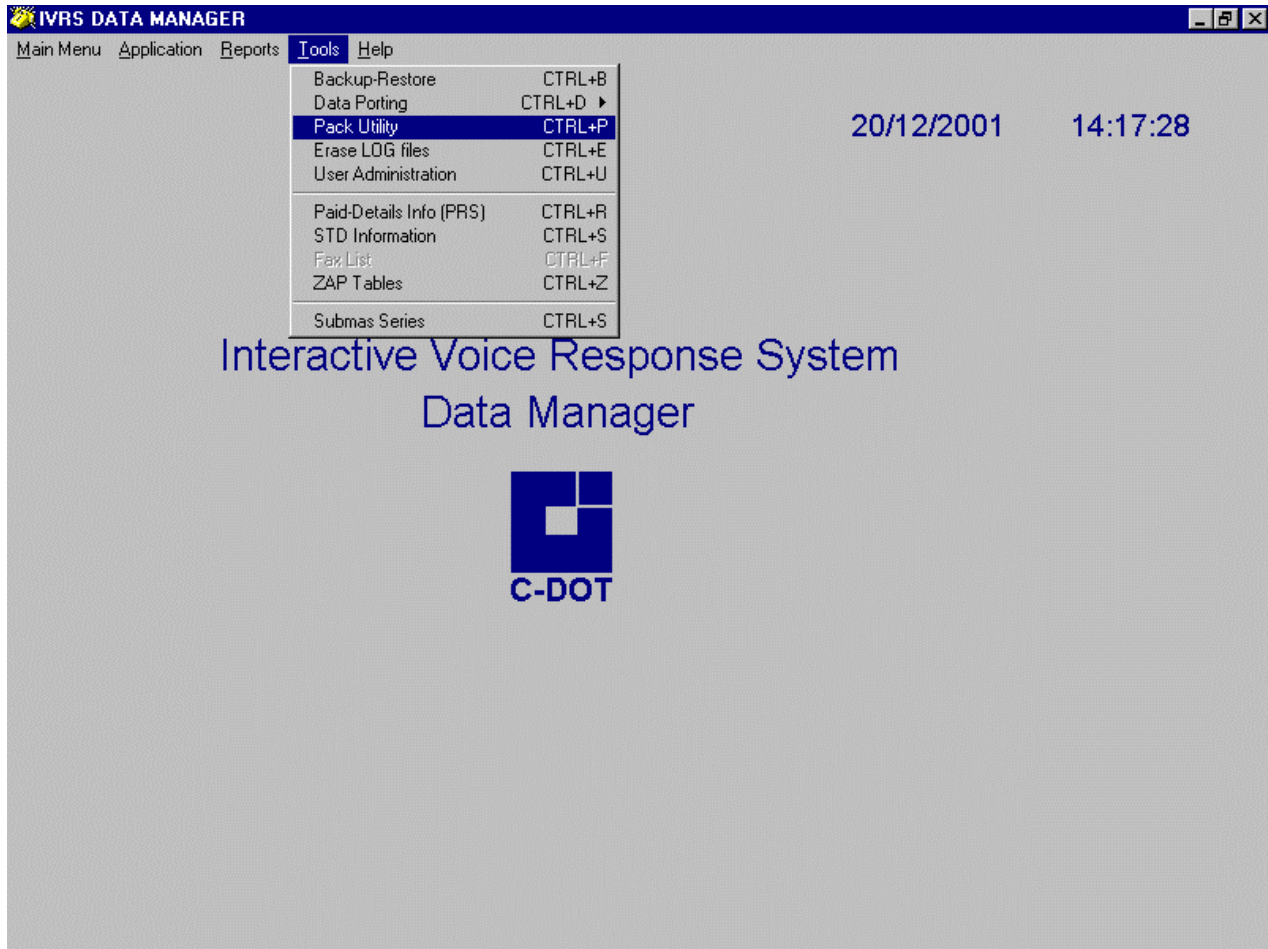
**Note:-** Care should be taken before changing the start and end values as by default they are the standard values.



After the start and end position of all the fields is confirmed press 'Finish' and then 'Port'. In case of porting failure a log file will be displayed. This shows the number of accepted and the rejected records. Press 'Cancel' to exit the Text Import Form.

### 13.3. PACK UTILITY

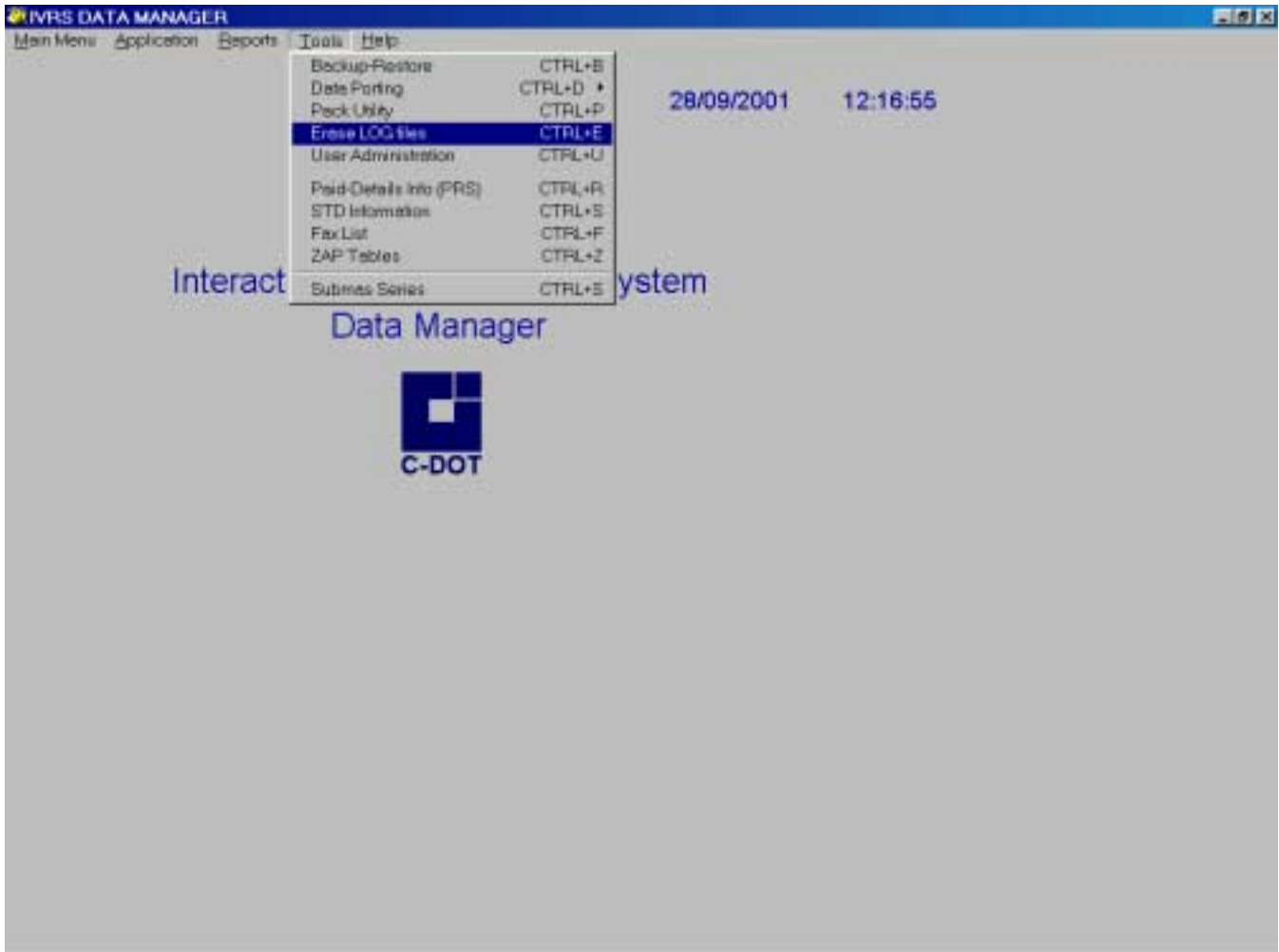
To permanently delete the records which are already marked for deletion, pack utility is used. Before running the pack utility make sure to close the IVRS application and login as 'SUPERVISOR'. Now go to 'Tools' => 'Pack Utility' as shown in the figure.



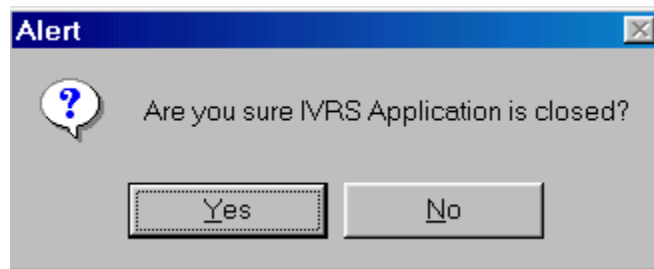
It is advisable to run the pack utility once in one month, to keep the database size in check and to remove the unnecessary datafiles.

### 13.4. ERASE LOG

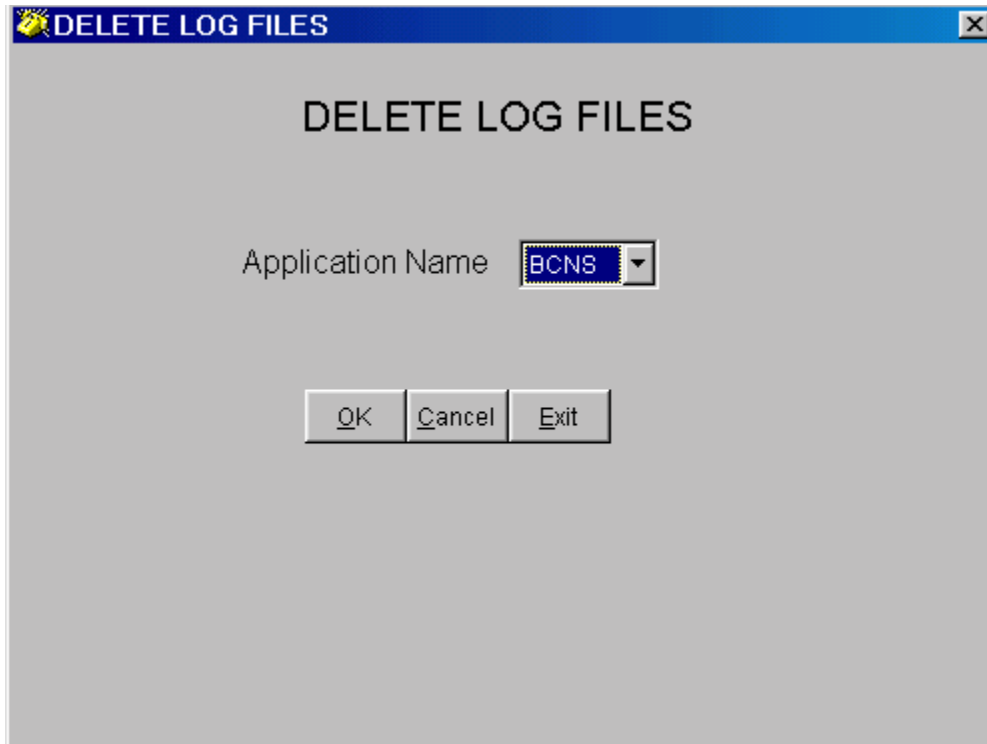
To delete all the logs of files, Erase log utility is used. To use this utility go to tools and click erase log file option as shown in fig.



It will show the dialog box as shown below.



After clicking OK following window appear.



To delete the log file, select the application from drop down menu and click OK.

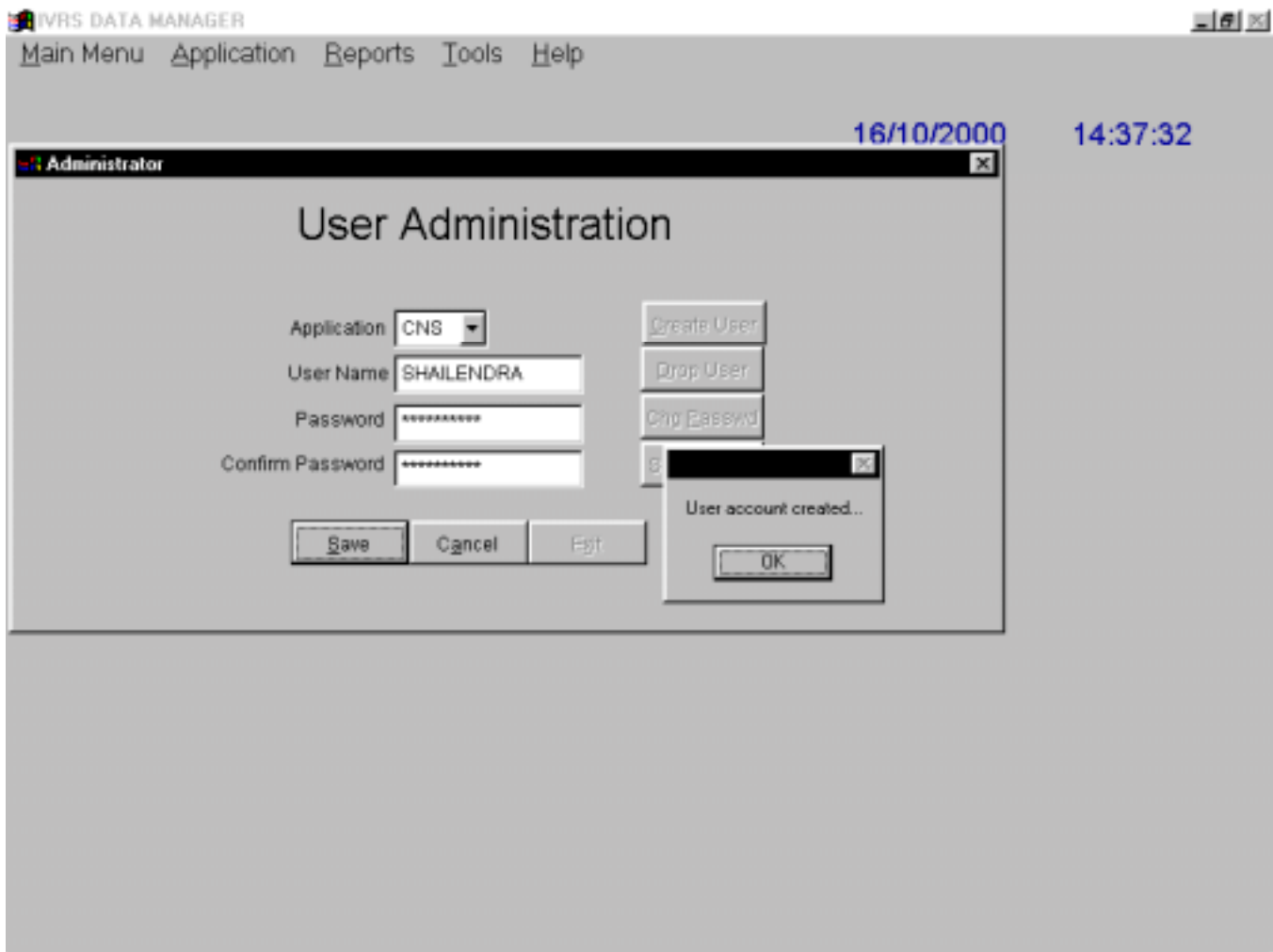


### 13.5. USER ADMINISTRATION

Supervisor can create/delete/add the user accounts. Supervisor can also change the passwords of the users.

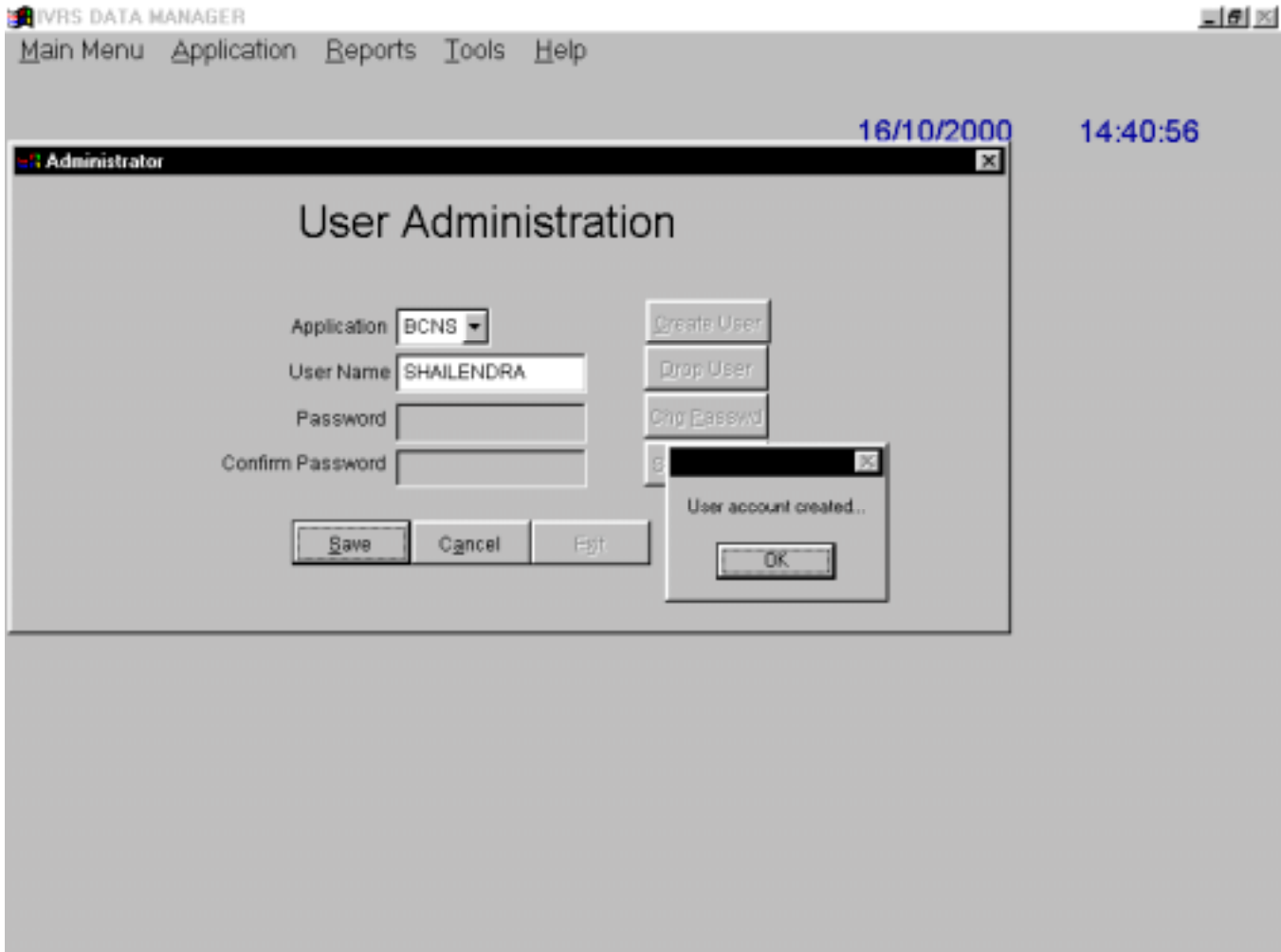
#### 13.5.1. Creation of an Account

To create an user's account go to 'Tools' => 'User Administration' and select 'Create User'. Now select the application name for which the account is to be created and then enter the username and password. Select 'Save' to enter this record as shown in the figure.



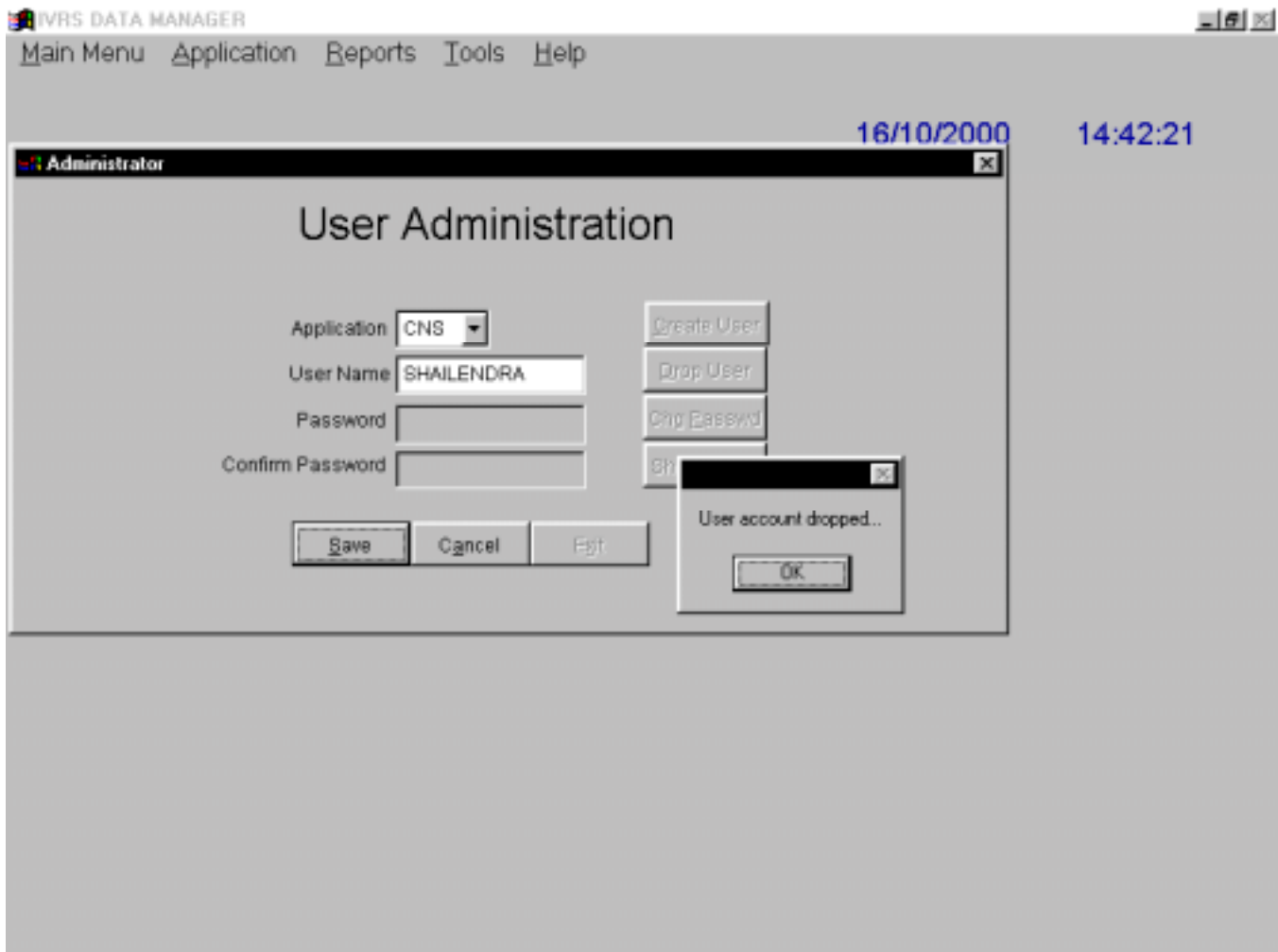
### 13.5.2. Adding an application

To add an application to an existing user's account go to 'Tools' => 'User Administration' and select 'Create User'. Now select the application name for which the account is to be added and then enter the username. Password is not required as it is already entered. Select 'Save' to enter this record as shown in the figure.



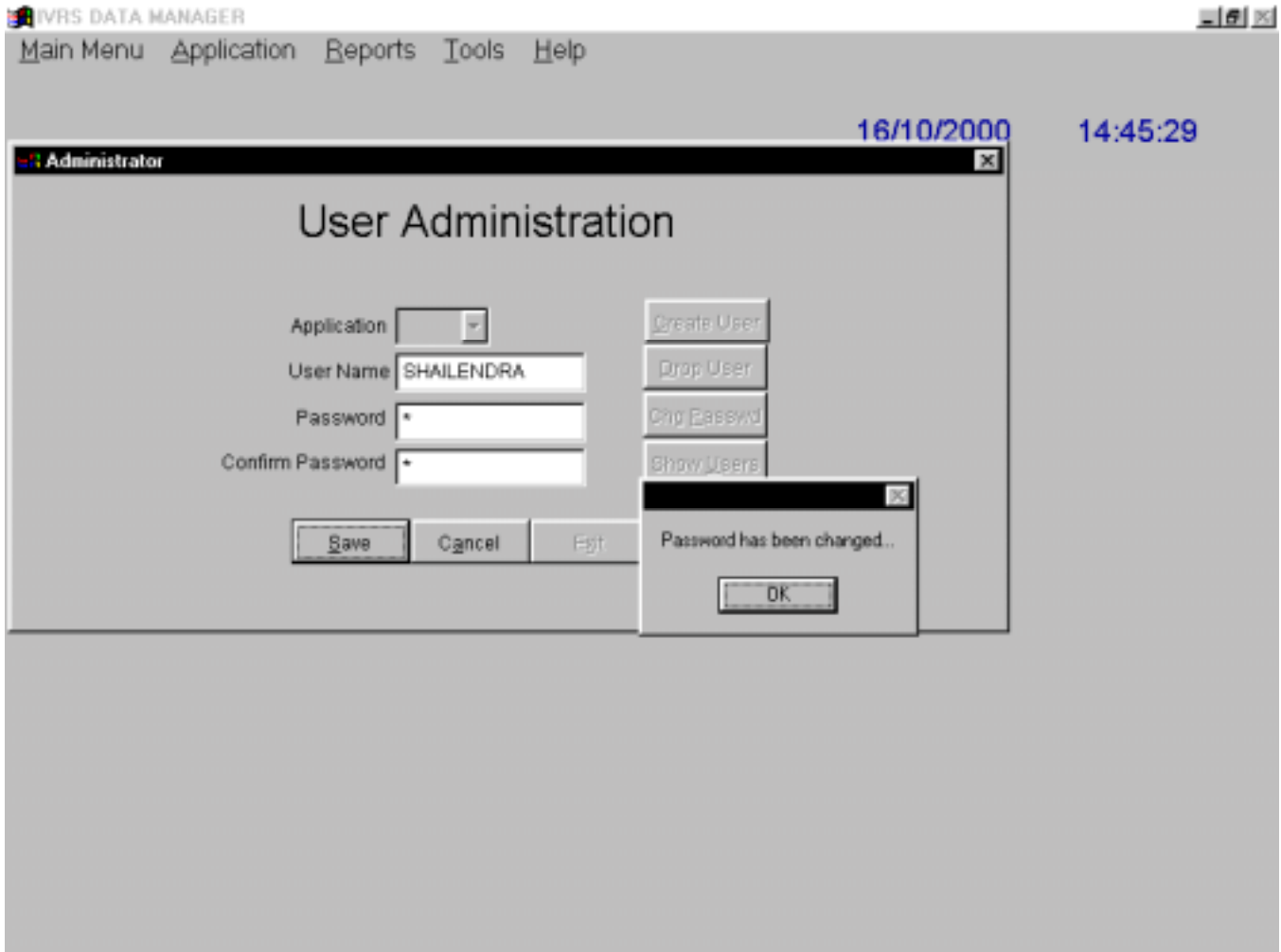
### 13.5.3. Deletion of An Account

To delete an existing user's account go to 'Tools' => 'User Administration' and select 'Drop User'. Now select the application name for which the account is to be added and then enter the username. Password is not required. Select 'Save' to delete the user's account for the selected application as shown in the figure.

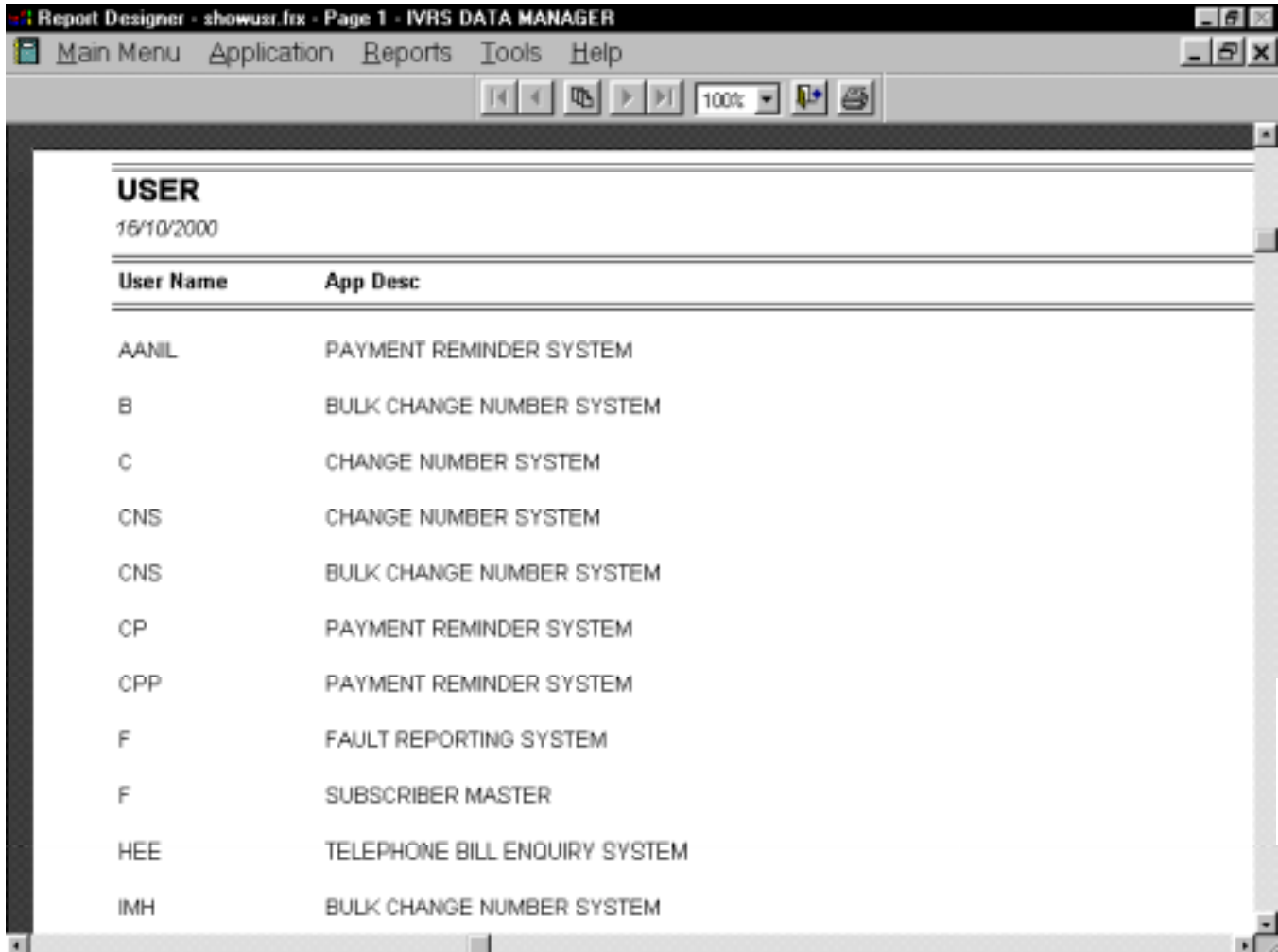


### 13.5.4. Changing the Password

To change the password of an user's account go to 'Tools' => 'User administration' and select 'Chg-passwd'. Now enter the user name whose password is to be changed and enter the changed password. Select 'Save' to enter this record as shown in the figure.



The whole list of users can be displayed by selecting 'Show Users'. For example:-



The screenshot shows a window titled "Report Designer - showusr.frx - Page 1 - IVRS DATA MANAGER". The window has a menu bar with "Main Menu", "Application", "Reports", "Tools", and "Help". Below the menu bar is a toolbar with navigation and printing icons. The main content area displays a report titled "USER" with a date "16/10/2000". The report contains a table with two columns: "User Name" and "App Desc".

User Name	App Desc
AANIL	PAYMENT REMINDER SYSTEM
B	BULK CHANGE NUMBER SYSTEM
C	CHANGE NUMBER SYSTEM
CNS	CHANGE NUMBER SYSTEM
CNS	BULK CHANGE NUMBER SYSTEM
CP	PAYMENT REMINDER SYSTEM
CPP	PAYMENT REMINDER SYSTEM
F	FAULT REPORTING SYSTEM
F	SUBSCRIBER MASTER
HEE	TELEPHONE BILL ENQUIRY SYSTEM
IMH	BULK CHANGE NUMBER SYSTEM

### 13.5.5. Paid - Details info

This utility is used to filter the announcements for payment reminder system (PRS). Goto=> tools and click paid-details info option. Click add button to enter the details of the phone number as shown in fig. 13.6.1.

The screenshot displays the 'IVRS DATA MANAGER' application window. The main window has a menu bar with 'Main Menu', 'Application', 'Reports', 'Tools', and 'Help'. The title bar shows 'IVRS DATA MANAGER'. The date '20/12/2001' and time '14:26:37' are displayed in the top right corner. A sub-window titled 'paydetl' is open, showing a 'PAYMENT DETAIL' form. The form contains the following fields and values:

Phone Number	548007	Uniq ID	1
Bill Date	20/12/2001	Amount	2000.00
Date Paid	20/12/2001		

At the bottom of the sub-window, there is a row of buttons: Add, Modify, Delete, Find, Show All, Chgpwd, Save, Cancel, and Exit.

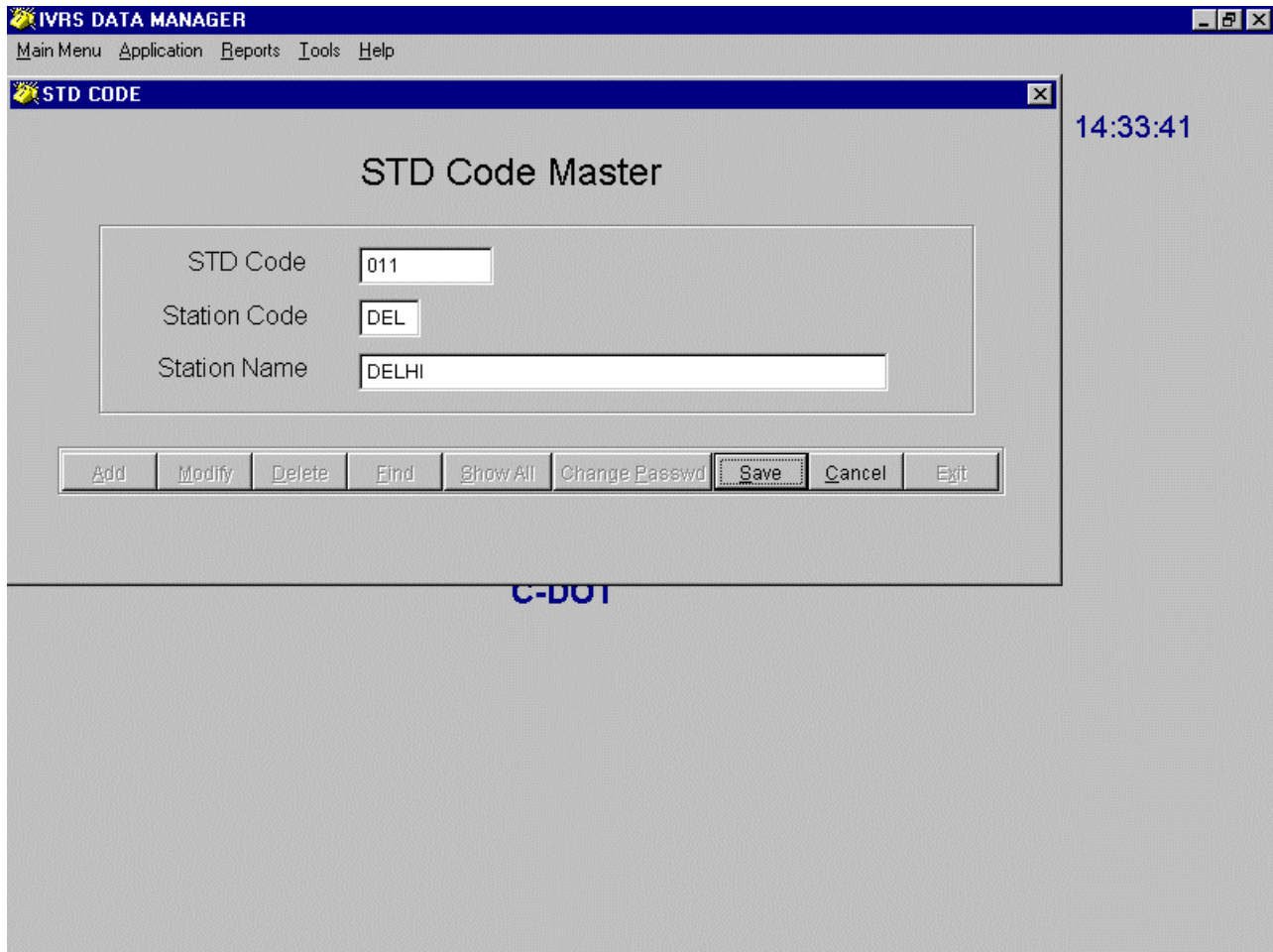
The purpose of the above displayed options is as follow

Sl. No.	Options	Functions
1	<b>Add</b>	This option enables you to add the information about a bill for a telephone number.
2	<b>Modify</b>	This option allows doing a change in an existing record.
3	<b>Delete</b>	This option allows you to delete an existing record.
4	<b>Find</b>	This option allows you to find an existing record in database.
5	<b>Show All</b>	This option allows you to have a look at all the existing records. If no records are there in the database it will alert that no records found.

Sl. No.	Options	Functions
6	<b>Change Password</b>	This option allows you to change the login password.
7	<b>Save</b>	This option allows you to save a particular record you have added / modified.
8	<b>Cancel</b>	This option allows you to cancel a particular operation initiated by you such as Add, Find, Modify.
9	<b>Exit</b>	This option allows exiting from the database at any moment.

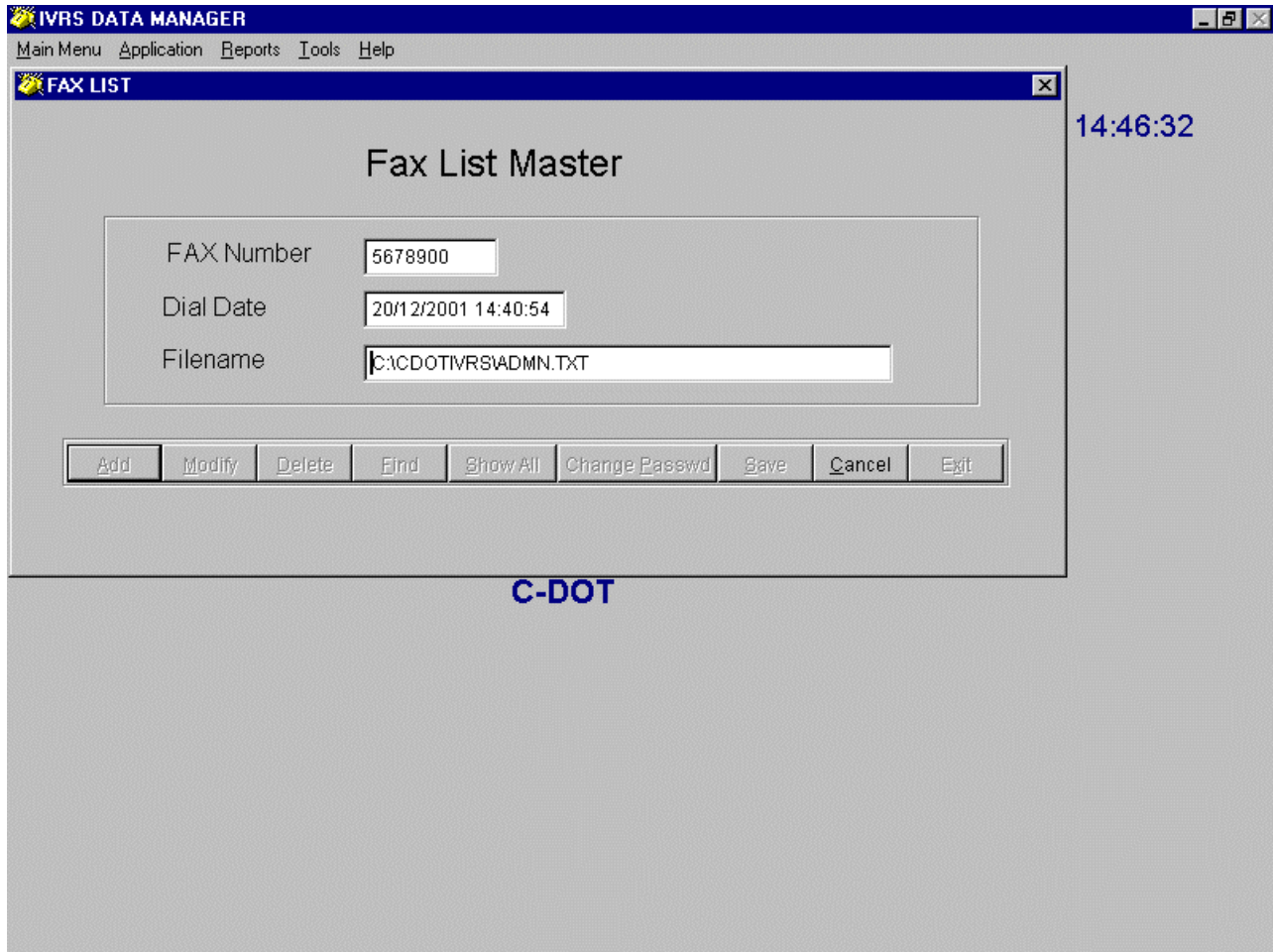
**13.5.6. STD Information**

This utility is used to maintain the STD information. Goto => tools and click STD-information option. The following window will appear on screen.



### 13.5.7. Fax List

Using this utility any text file can be sent to the subscriber. Goto =>tools and click fax list following window will appear.



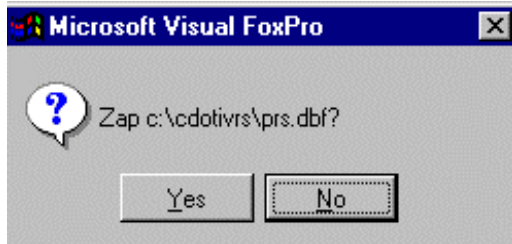
To use this application we just have to enter the fax number of the subscriber. Dial date (on which date fax has to be sent to the subscriber) and the name of the file which has to be faxed to the subscriber.

**Note :** *This option can be used only after we have checked fax required option in settings of CDOT IVRS software.*



**13.5.8. Zap Tables**

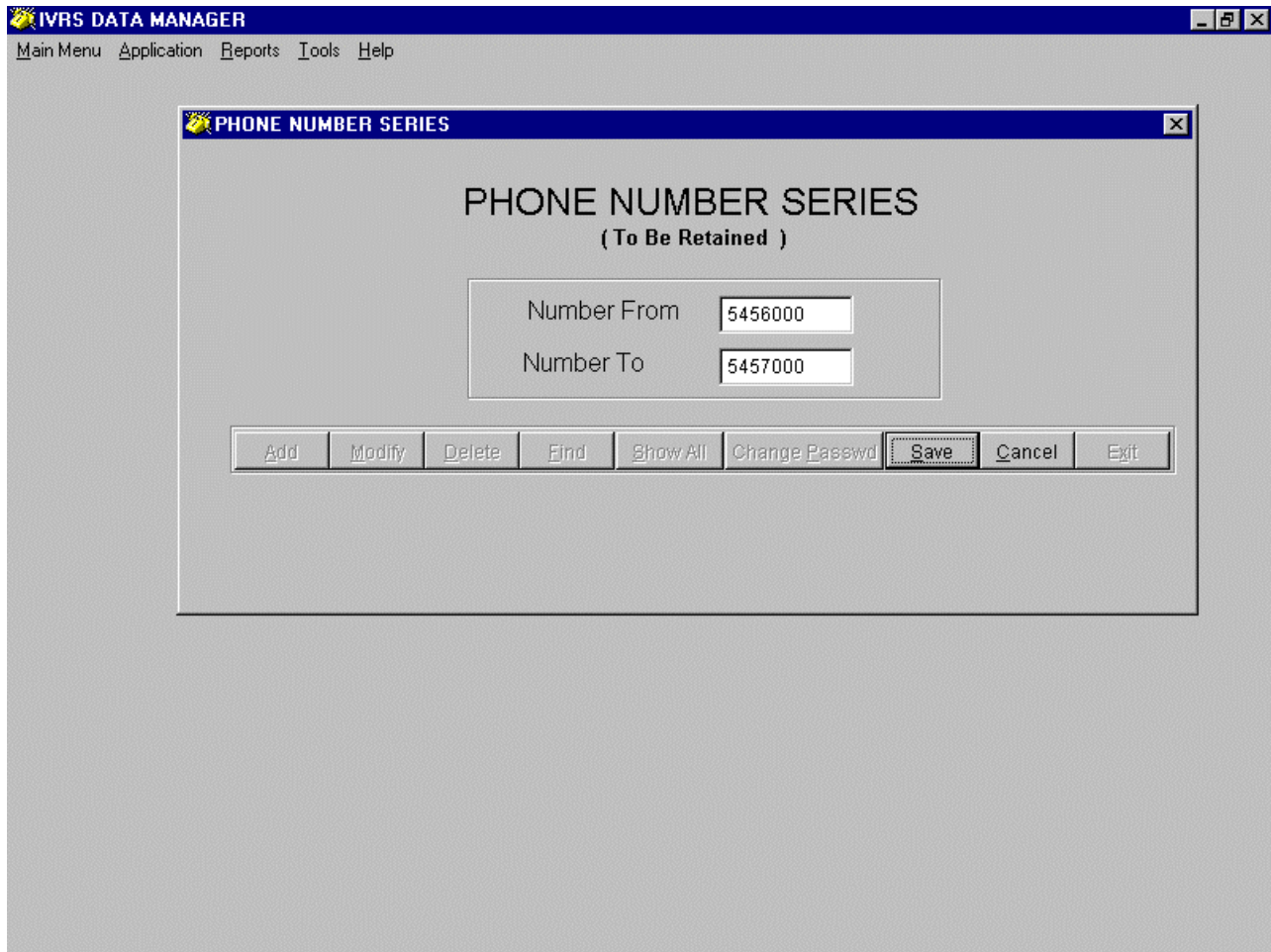
This utility is used to initialize all the def tables. Goto => tools and click zaptables following window will appear Fig. 3.6.4.



Click yes if you wanted to initialize that particular dbf table otherwise click no.

***Submas series :***

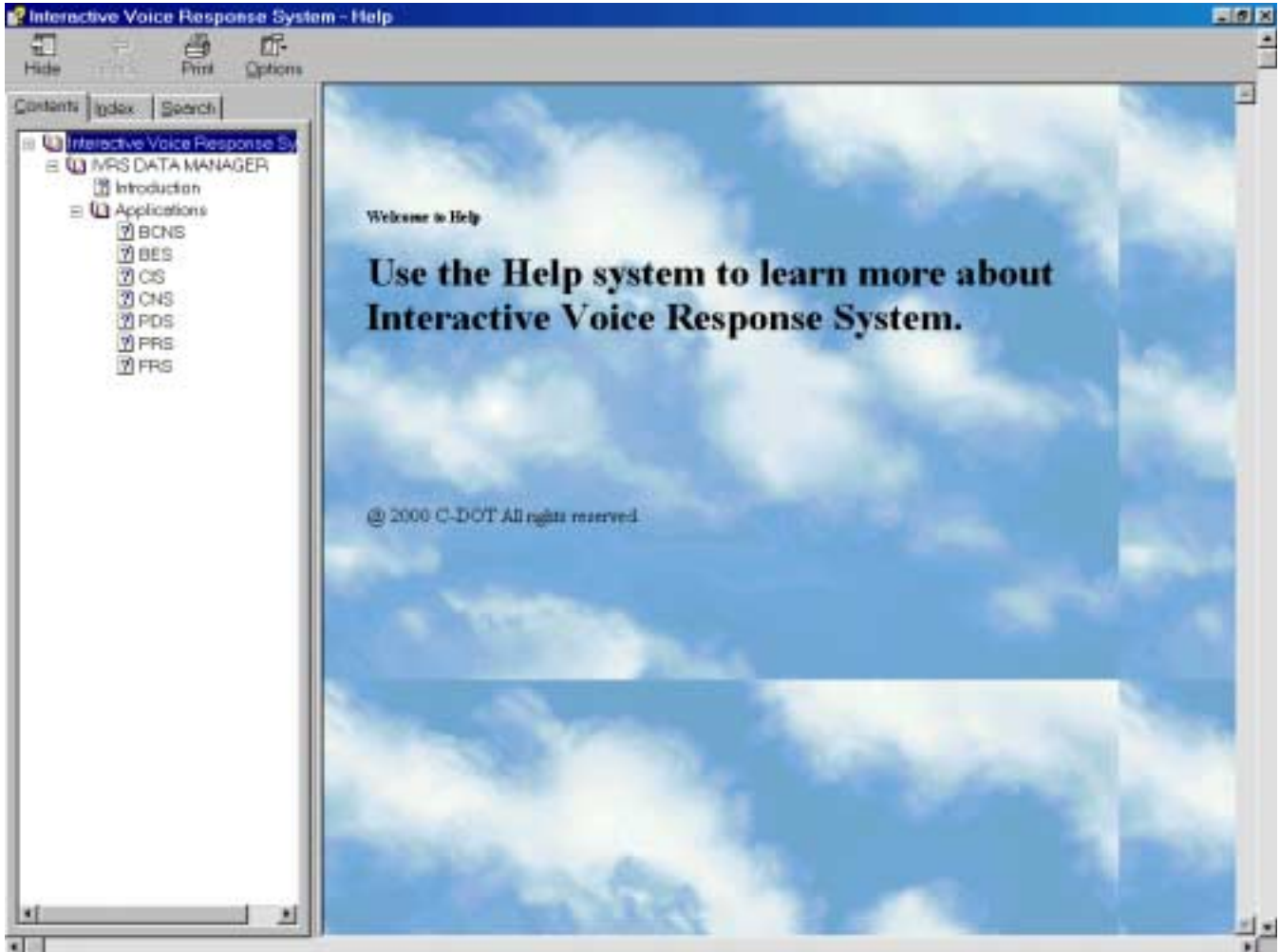
This utility is used to retain the level numbers for which complaints need to be booked. This option alongwith phidel.exe does the job. Goto=>tools and click. Submas series following window will appear on screen.



Enter the range of phone numbers for which you wanted to book complaints. Phone numbers out of these range can't be booked for FRS application.

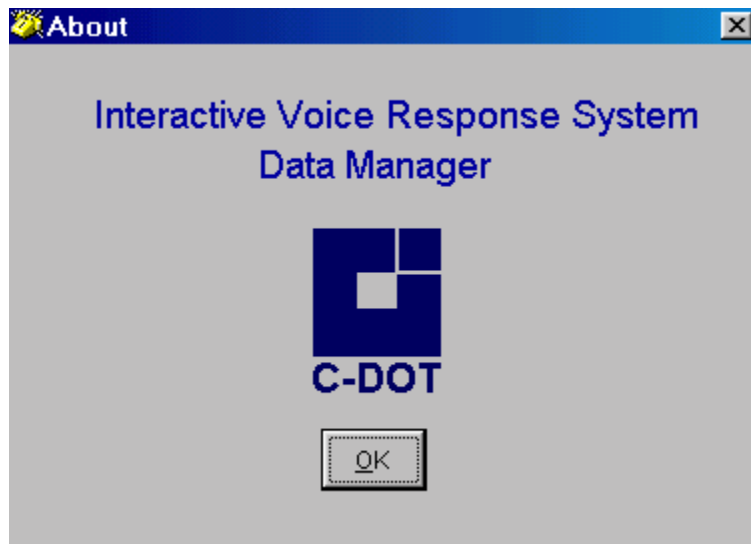
### 13.6. HELP

Use the Help system to learn more about Interactive Voice Response System.



**13.6.1. About**

On clicking this option you will find the following window will appear.



## Annexure - A

# Alarms Generation for Fan Failure

---

LED status for IVRS

LED1 : Green (For -48V)

LED2 : Green (For FAN2)

LED3 : Green (For FAN1)

LED4 : Red (For Buzzer)

S. No.	Switch Position	Buzzer		Remarks
		Audio	Visual (LED4)	
1.	ON	ON	OFF	Fan Failure alarm Raised and corresponding LED goes OFF. For example if fan2 is fail then alarm is raised and LED2 goes OFF.
		OFF	OFF	No alarms. Both fans are OK and LED2 and LED3 are green.
2.	OFF	OFF	ON	No audio alarms will be raised in case of fan failure i.e. buzzer is deactivated. For example if Fan2 is failed then there will be no alarm. But LED2 goes OFF.
3.	TEST	ON	ON	Alarm is working properly (Just to check the functioning of Buzzer)

## Annexure - B

# Procedure for Announcement Downloading

---

To record the announcements we can use the creative wave studio software and the recording format should be selected as PCM 8000Hz, 16 bit, mono. Then record the voice. Save as .wav file, compression type, CCITT-A law. The resultant .wav file should be given to wav2asc.exe, with the appropriate options.

After saving the file in .wav format suppose the file size is 19000 bytes, number of samples in the announcement is  $19000 - 62 = 18938$ . Now for one page it is 4000 samples. Therefore 18938 means 4 pages + 2938 samples. But we will give it as 5 pages and wav2asc.exe adds the remaining samples as silence. The above mentioned procedure is useful for calculating the number of pages.

Now suppose the file size is 20049 bytes, do the above calculation and convince yourself that it can still be accommodated in 5 pages.

Downloading of Announcement Files using the Xtalk.

1. Replace the system EPROMS (U6 and U7) with Tester EPROMS (version 3.0)
2. The Utility Tera Term (available on the CD) is used to run the Tester Monitor.
3. The Tester normally works at a baud rate of **9600**, change this to **38400** for the announcement download using the "**baud-chng**" command at the command prompt.

**Usage : baud-chng <0..5>**

**Change UART baud rate..0->4800 bps.. 5->115200 bps 0 -> 4800 bps**

**The parameters are**

1 -> 9600 bps

2 -> 19200 bps

3 -> 38400 bps (PREFERRED for high speed & lower bit error rate)

4 -> 57600 bps

5 -> 115200 bps

4. Change the terminal speed from the **Serial Port properties** under the **Setup** tab in Tera Term to **38400**.
5. Use the "**dl-ann**" command to start the download process
6. At the "send the file" prompt use the Send File... option from the File dropdown menu to select the file to be downloaded.
7. After the "**flash programming is over**" message, replace the tester EPROMS with the system EPROMS

## Annexure - C

# Interface with Commandir

---

### Procedure for COMMANDIR (LAN Version) Interface

1. Files in LAN i.e., SYS:COMTRAN and SYS.TELE should be made Sharable/Read/Write. Run this command on NOVELL server.
  - Command: Flag \*.\* SRW
2. Use "Map Network Drive" option under "Tools" menu of windows NT explorer.
3. SUBMAS.DBF should be copied to NT machine where IVRS software is installed at particular time every day
  - Use "Scheduled Task" under "My Computer" directory to achieve this activity. If "Scheduled Task" is not found in "My Computer" folder. Install IE 5.0 or above.
4. Create a batch file in the directory specified in point 3 and type the following command and save (as abc.bat).
  - Command: Copy G:/comtran/submas.dbf c:/cdotivrs/submas.dbf

## Annexure - D

# IVRS and TRA Interfacing Procedure

---

TERATERM software needs to be installed on the IVRS PC. To get the information from TRA server TERATERM scripting language is used. The script files and batch files provided can be altered based on the location of the TERATERM and IVRS software installed. The login, password and sql script to be executed need to be specified in .ttl files. The script files use serial port for connecting to TRA server. TRA server needs to be connected to the PC where IVRS is installed through a serial port.

COPYBES.BAT and TRABES.TTL for porting bes data.

COPYPRS.BAT and TRAPRS.TTL for porting prs data.

Serial port used for data transfer is specified in the configuration file COMPORT2.INI. This can be altered if connectivity needs to be established through a different port. Batch files are used for executing set of statements and script files (\*.ttl) are used for automatic login to TRA server and for executing the specified sql scripts and store the result to a specified log file.

Port application is used for porting the data to the respective applications.

Only for the first time the field definitions need to be specified using datamanager without the header information in besport.txt file.

Tools -> Data porting-> From test file.

For other details about porting procedure refer user manual.

Once the field definitions are available, process can be automated and can be put in scheduler.

Consider the commands in the following batch file copybes.bat

```
del c:\teraterm\bes.log
c:\teraterm\ttermpro /F=comport2 /L=bes.log /FD=c:\teraterm /M=trabes.ttl
copy c:\teraterm\bes.log c:\cdotivrs\besport.txt
cd c:\cdotivrs
port BES 1 $
cd c:\
```



The first command is `del c:\teraterm\bes.log`

This command deletes the previously copied bes data in bes.log. Next command is

```
c:\teraterm\ttermpro /F=comport2 /L=bes.log /FD=c:\teraterm /M=trabes.ttl
```

This command invokes ttermpro with 4 arguments. /F=comport2 is the first argument uses the specified comport in comport.ini file for connectivity. The com port with which the connectivity needs to be established is specified in comport2.ini called ComPort=X (X is serial port number) which can be changed. /L=bes.log specifies the logfile to be used. /FD is the file location. /M=trabes.ttl is the macro that need to be executed. Macro files \*.ttl and log files \*.log are placed in the location specified in /FD.

This command extracts the data from TRA server based on the inputs provided in .ttl file and generates the specified log file mentioned in /L switch of the command. Next command is `copy C:\teraterm\bes.log c:\cdotivrs\besport.txt`.

Next command copies the bes.log file to the location where cdotivrs is installed with filename besport.txt. The destination file names in this line should not be changed.

Next command transfers control to c:\cdotivrs. This line needs to be changed based on location where cdotivrs is installed.

Next command is `port BES 1 $`. This command invokes port.exe and data to be ported to bes application. Lines to be skipped (unwanted if any else specify 0) in besport.txt is 1.

Port is the application that ports data to ivrs. It initializes respective tables every time it ports data. It takes three parameters. First one is the application name which is either PRS or BES. Second is the no. of lines to be skipped while porting. Port expects the file names to be either besport.txt for BES porting or prsport.txt for PRS porting. Similar procedure is followed for porting PRS data.

Sample sql files and commands to run sqlplus need to be modified as per site specific changes. PRS and BES files are sample command files to execute sql scripts bes.sql and prs.sql.

## Annexure - E

# IOP - PC Connectivity for Line Testing ETC

---

- This can be done by connecting the IOP serial port and the PC COM. port with the help of a RS232 cable. The system (IOP) should have an opr account named as 'ivrs' and passwd 'ivrs'. This can be created as follows :

<Add-opr

Opr-Name : ivrs

Grp-Name : admin

New-Pwd : ivrs

Ver-Pwd : ivrs

A-Class : 9 (Charge calendar Mgmt display) & 22 (command file related commands)

M-Class : 7 [tst-trm] Terminal maintenance routining commands

## Annexure - F

# Do's and Don'ts

---

1. By default IVRS application selects the COM2 port. Therefore, before starting the IVRS application be sure to connect the RS-232 cable to the COM2 port. If RS-232 is connected to COM1 then in IVRS software Goto=>Configuration => settings and select COM1.

2. By default the password of C-DOT IVRS Application is 'c' and for the datamanager username is 'SUPERVISOR' and the password is 'ivrs123'. Before entering the password make sure that capslock is off.

3. If the IVRS-PC link is not up then the possible reasons are :

On the PC Side-

- a) The COM port selected in the IVRS application is not the one which is connected to the IVRS.
- b) Some other application is connected to the COM port like Hyper-terminal etc.

On the IVRS side -

- c) Check whether the ASV card is in the correct slot. For junction cards, ASV0 is put in slot 9, for 1<sup>st</sup> E1 link, ASV1 is put in slot 10 and for 2<sup>nd</sup> E1 link, ASV2 is put in slot 11.
- d) Check whether the RS232 cable is connected to the correct ASV. For junction cards, connect the RS232 cable to ASV 0, for 1<sup>st</sup> E1 link, connect the RS232 cable to ASV1 and for 2<sup>nd</sup> E1 link, connect the RS232 cable to ASV2.
- e) Make sure that E1 link is connected appropriately. For 1<sup>st</sup> E1 link, blue-white pair is transmitter for IVRS & orange – white pair is receiver. Similarly, for 2<sup>nd</sup> E1 link, green-white pair is transmitter for IVRS & brown-white pair is receiver. Looking at the IVRS from front the leftmost MDF is having the E1 terminations.

4. Power Cable should be connected according to the following Convention:-

Red is –48V Ground

Yellow is Digital Ground

Yellow Green is Chasis Ground

Blue is -48V.

In case separate chasis ground is not available, then short all the ground cables and connect the power supply.

## **Annexure - G**

# **Glossary**

---

ASV	-	Advanced Service Card
BCNS	-	Bulk Changed Number System
BES	-	Bill Enquiry System
CIS	-	Commercial Information Service
CNAS	-	Changed Number Announcement System
CTC	-	Compact Terminal Controller card
DTK	-	Digital Trunk
FCS	-	Fault Clearance System
FRS	-	Fault Reporting System
GUI	-	Graphics User Interface
H/W	-	Hardware
IVRS	-	Interactive Voice Response System
JUN	-	Junction Card
PC	-	Personal Computer
PRS	-	Payment Reminder System
DSS	-	Digital Switching System



**System  
Practices**

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