NCH Swift Sound
IVM Phone Answering Attendant

This manual has been created for use with IVM version 4.02. More information on other versions of IVM can be found at www.nch.com.au/ivm.

IVM Answering Attendant
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IVM

Contents - Topics

Screen References

Online Resources

IVM Home Page - *www.nch.com.au/ivm/index.html*

IVM Frequently Asked Questions (FAQ) Page - *www.nch.com.au/ivm/faq.html*

Example IVR Setup Files - *www.nch.com.au/ivm/examples.html*

Plugins (List of prepared plugins for download) - *www.nch.com.au/ivm/plugins.html*

Recommended voice modems and telephony boards - *www.nch.com.au/ivm/modems.html*

Recommended free VoIP (SIP) line services - *www.nch.com.au/iv/talk/sip.html*

Software Development Kit (SDK) - *www.nch.com.au/ivm/sdk.html*
    (Write plugins and link your s/w to IVM using the API)

Command Line Arguments - *www.nch.com.au/ivm/sdk.html*

ISO/IEC13714 Summary for IVM Developers - *www.nch.com.au/ivm/iso13714.html*
    (Standard for well designed IVR menu structures)

Technical Support

If you have difficulties using IVM please read the applicable topic before requesting support. If your problem is not covered in this manual (including the Troubleshooting Problems page) please view the up-to-date IVM Online Technical Support at *www.nch.com.au/ivm/support.html*. If that does not solve your problem you can contact us using the technical support contacts listed on that page.

Software Suggestions

If you have any suggestions for improvements to IVM or suggestions for other audio software that you might need please contact our programmers using *www.nch.com.au/suggestions*. Many of our software projects have been undertaken after suggestions from users like you.

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Quick Start Guide

Thank you for installing IVM.

For a quick step-by-step guide to setting this software up, please see the following Quick Start sections of this manual.

I want to use IVM...

- *as an Answering Machine.*
- *to display and log Caller ID.*
- *to transfer calls to different people (Call Attendant).*
- *as an office Voice Mail System (1 - 10000 voicemail boxes).*
- *to accept Payment by Phone.*
- *as an InfoLine (to play recordings on demand).*
- *to Record Dictation over the phone (DialDictate).*
- *to Record Telephone Calls.*
- *to automate Outbound Message Calls.*
- *to use Call Attendant and Voice Mailboxes with Axon.*
- *for other automated Interactive Voice Response Systems.*

If you have any problems when attempting to setup IVM, you can view the associated Help Page online at any time by pressing <F1>. If IVM does not seem to be working properly the page *Troubleshooting Problems* has tips for finding and resolving common problems.

Quick Start Guide - Answering Machine

Step 1: **Call your phone number and record a test message**. If this does not work it means you don't have the correct hardware or there is a problem with your drivers. See *Troubleshooting Problems* for how to fix this. If you don't have hardware yet, you can continue to test IVM using the Call Simulator (from the File menu).

The up-to-date recommended hardware (voice modems and professional telephony boards) is listed at *www.nch.com.au/ivm/modems.html*. You could also always sign up with a VoIP service for a VoIP line and avoid hardware altogether - see *Using Voice over IP (VoIP)* .

Step 2: **Change the Out-Going Message**. If you want to change the Out-Going Message, use the menu OGM -> Properties then click "Change Message Audio" and select "Record" or "Synthesize Speech" to change the greeting.

Step 3: **Setup the Default Mailbox Properties**. Select Mailbox -> Properties from the menu. IVM has many advanced options that can be enabled for the mailbox. These include Call Screening, Message Forward (by email or to a phone number), Remote Access and more. Click on the Help button from Mailbox Properties for a full description of each feature.

There is much more to the IVM than just an Answering Machine. You should explore the options on Settings, OGM Properties and Mailbox Properties and of course read this manual. We hope you will be surprised by some of the powerful tools we have included in this software package.

Quick Start Guide - Caller ID Display

Note: If you want to use IVM as an Answering Machine as well as a called ID display, please see *Quick Start Guide - Answering Machine* first.

Step 1: **Check Caller ID is Supported**. To use CID, your hardware (voice modem) must support it (check the manual). Your telephone company must also offer caller ID (some require you to pay for it). If you are using a PBX phone system then that system must support caller ID.

Step 2: **Turn off Answering**. If you don't want IVM to answer calls (but only display CID) press Ctrl+F to turn it off.

There is much more to the IVM than just an Caller ID Display. You should explore the options on Settings, OGM Properties and Mailbox Properties and of course read this manual. We hope you will be surprised by some of the powerful tools we have included in this software package.

Quick Start Guide - Call Attendant

IVM can play a menu that lets callers select whom they want to speak to and then transfer or announce the call to that person. To setup these systems you need to have a better understanding of the way IVM works. We recommend you start with the manual page *General Concepts (OGMs / Mailboxes / Messages etc*. You should also test IVM and your hardware first using the basic answering machine functionality.

Call Attendant with a PBX (phone key system)

Step 1: Download one of the example IVR files from *www.nch.com.au/ivm/examples.html*.

Step 2: Load the IVR file using the menu File -> Load -> IVR Program File.

Step 3: Run the Call Simulator (File -> Call Simulator) to hear the basic structure. Note: the transfers themselves do not work on the Call Simulator.

Step 4: View / Print the OGM Report so you can see the general structure. Use the menu OGM -> Open Out-Going Messages Report. You can print the report if it makes it easier.

Step 5: Use the OGM List as a base (menu OGM -> Open Out-Going Messages List) and modify the properties of the OGMs as required for your system. If you don't understand any setting press <F1> from the OGM Properties box to open the reference manual. Use the Call Simulator to test changes.

To transfer calls with a PBX, the PBX must be able to transfer calls from an ordinary phone extension using a dial string starting with a flash hook. If you are not sure how to do this with your PBX refer to its manual (or the supplier). You should not proceed until you have plugged in an ordinary analog phone into an extension and have received and transferred a call yourself.

Step 6: On the Transfer / Record tab of Settings enter the sequences that your PBX requires to transfer calls. For more information, please see *Transferring Calls*.

Step 7: Test your system using the phone. If you have problems when transferring see **Troubleshooting Problems**. If you have problems with your menu structure the Most Recent Call Logs (File -> View or Print Logs) can be useful to see what happened.

For more information about work with PBXs please see **Connecting to telephone key systems or PBXs**.

Using your Phone Company to transfer calls externally

If you don't have a PBX you can use a service of your phone company to transfer calls externally. The steps are the same as with a PBX except you may need to modify your Transfer Settings (on the Transfer / Record tab of Settings).

Some companies have a transfer service which lets you transfer calls with a dial sequence usually starting with a flash-hook. (Telstra calls this service Business Links but each company has their own name). If so, subscribe to the service and carefully follow the instructions. Make sure you can initiate a transfer manually using a regular phone before attempting to use the IVM then enter the settings in the Transfer Settings.

If your phone company does not offer this service, you can achieve a similar result using a 3 way call conference service if that type of service is available. Setup the Transfer Settings as if you were making a transfer and also tick the "Simulate Call Transfers as 3 way conference calls".

Using attendant type menus on a single line (eg. Home or Small Business use)

This is called pseudo-transfer. The call is not really transferred. IVM plays an "on-hold" message while announcing who the call is for through the speakers. When you pick up a call you just press # to 'take' the call. Otherwise IVM can be set to send the call to a voice mail box after a set time.

The summary instructions are:

(1) Create an OGM (the "Hold OGM") with an message of say "please hold the line" then say 3 minutes of "hold" music".

(2) Under the Key Response tab of the Hold OGM's Properties have: Press '#' - Hang-up (immediate).

(3) Under the Advanced tab of the Hold OGM's Properties, tick the "announce call through speakers" option and browse to find a suitable wav file (ideally this could say... "Call for ...").

(4) Under the Key Response tab of the Main OGM's Properties have Press 1 - "Go to OGM... Hold OGM". When a caller presses 1, you will here the account file (eg. Call for Jay") through your speakers while the caller hears hold music. To 'take' the call simply pickup the phone and press #.

Transfer with VoIP Calls

"Blind" Transfers with VoIP is automatic and does not require any settings. Just setup your VoIP line and Blind Transfers should work. See **Using Voice over IP (VoIP)** for more.

If you are using the Axon Virtual PBX software (see *www.nch.com.au/pbx*) blind transfers should work automatically.

Quick Start Guide - Voice Mail Systems

Step 1: Download one of the example voice mail IVR files from
www.nch.com.au/ivm/examples.html.

Step 2: Load the IVR file using the menu File -> Load -> IVR Program File.

Step 3: Run the Call Simulator (File -> Call Simulator) to hear and test the basic structure.

Step 4: View / Print the OGM Report so you can see the general structure. Use the menu OGM -> Open Out-Going Messages Report. You can print the report if it makes it easier.

Step 5: Use the OGM List as a base (menu OGM -> Open Out-Going Messages List) and modify the properties of the OGMs as required for your system. If you don't understand any setting press <F1> from the OGM Properties box to open the reference manual. Use the Call Simulator to test changes.

Step 6: For each voice mail box you can change the delivery settings by selecting the mailbox and using the menu Mailbox -> Properties. Press <F1> in Mailbox Properties for a full list of functions. Popular options include using email to send messages directly to their inbox or use the transfer to LAN folder so messages can be checked over the computer network.

Step 7: Test your system calling in from an external line. If it does not work exactly as it does on the call simulator then chances are you have hardware or driver problems. See **Troubleshooting Problems** for how to fix this.

Using VoiceMail Systems with PBXs (telephone key systems)

Most PBXs offer special functions to transfer unanswered or voice mail options to the voice mail computer running IVM. The extension that the call was for is 'communicated' with a dialed number at the start of the call (this is called inband signalling).

If you want to setup this way, you need to read your PBX manual then modify your answer OGM to accept data entry of the number of digits to be entered. That data entry variable is then used as the name of the mailbox. You will probably need to use the 'Use special digits mapping function" to extract the extension number from the string. See **Data Entry** for more.

For more information about integration PBXs with IVM, please see **Connecting to telephone key systems or PBXs**.

Quick Start Guide - Pay by Phone Systems

Step 1: Download one of the example credit card payment IVR files from *www.nch.com.au/ivm/examples.html*.

Step 2: Load the IVR file using the menu File -> Load -> IVR Program File.

Step 3: Run the call simulator (File -> Call Test Simulator, or click the <Simulator> button below the menu bar on the main IVM window) to hear and test the basic structure.

Step 4: View / Print the OGM Report so you can see the general structure. Use the menu OGM -> Open Out-Going Messages Report. You can print the report if it makes it easier.

Step 5: Use the OGM List as a base (menu OGM -> Open Out-Going Messages List) and modify the properties of the OGMs as required for your system. If you don't understand any setting press <F1> from the OGM Properties box to open the reference manual. Use the Call Simulator to test changes.

Connecting to your Payment Gateway

The example credit card payment IVR only logs the payments received. You must later batch run the data to your bank through your normal credit card payment system.

If required IVM can contact your bank directly for immediate authorisation through a payment gateway using a plugin (see ***Using IVM Plugins***). Your payment gateway might be able to provide an IVM plugin or you can write it yourself. If your payment gateway does not provide an IVM plugin and you cannot program, you can request a quote from us at *www.nch.com.au/development* to write the plugin for your particular gateway.

Quick Start Guide - Infoline Systems

Step 1: Download one of the example infoline IVR files from *www.nch.com.au/ivm/examples.html*. A suitable example is the Real Estate Property Information Line - this can be modified for most applications.

Step 2: Load the IVR file using the menu File -> Load -> IVR Program File.

Step 3: Run the Call Simulator (File -> Call Simulator) to hear and test the basic structure.

Step 4: View / Print the OGM Report so you can see the general structure. Use the menu OGM -> Open Out-Going Messages Report. You can print the report if it makes it easier.

Step 5: Use the OGM List as a base (menu OGM -> Open Out-Going Messages List) and modify the properties of the OGMs as required for your system. If you don't understand any setting press <F1> from the OGM Properties box to open the reference manual. Use the Call Test Simulator to test changes.

Step 6: Test the system from a real external phone. If IVM does not answer or fails there is a chance you have hardware or driver problems. Please see ***Troubleshooting Problems*** for solutions.

Quick Start Guide - DialDictate

NCH Swift Sound makes a specialist program to record dictation by phone and transmit it to typists called DialDictate. Please download this from *www.nch.com.au/dialdictate/index.html*.

While IVM can be setup to do the same thing, DialDictate is easier and can run 'out-of-the-box'.

Quick Start Guide - Record Phone Calls

NCH Swift Sound makes specialist programs to record phone calls. Please download the VRS Record System from *www.nch.com.au/vrs/index.html* which automatically records all your phone calls, or the TRx Personal Call Recorder from *www.nch.com.au/trx/index.html* to manually record calls or parts of calls.

Quick Start Guide - Outbound Message Calls

Step 1: Test that your hardware (eg. voice modem) is working well. Call your number and test the IVM Answers and records a message. If this does not work it means you don't have the correct hardware or there is a problem with your drivers. See **Troubleshooting Problems** for how to fix this. The up-to-date recommended hardware (voice modems and professional telephony boards) is listed at *www.nch.com.au/ivm/modems.html*.

Step 2: Use the menu File -> Outbound Autodial Calls and enter a list of 2 or 3 test number separated by semi-colons (;). Return to the main screen and click 'Start Calls' and check that it works.

Step 3: Modify your Out-Going Messages and add menus etc. as required. To do this you are going to need to read this manual. Start with the section **Beyond a Simple Answering Machine** and read on.

Because calls on VoIP lines are much cheaper you should consider using VoIP lines if you are performing large numbers of calls. See **Using Voice over IP (VoIP)** for more.

Quick Start Guide - Other IVR Systems

Step 1: Download one of the example IVR files from *www.nch.com.au/ivm/examples.html* that closest matches what you want to do.

Step 2: Load the IVR file using the menu File -> Load -> IVR Program File.

Step 3: Run the Call Simulator (File -> Call Simulator) to hear and test the basic structure.

Step 4: View / Print the OGM Report so you can see the general structure. Use the menu OGM -> Open Out-Going Messages Report. You can print the report if it makes it easier.

Step 5: Use the OGM List as a base (menu OGM -> Open Out-Going Messages List) and modify the properties of the OGMs as required for your system. If you don't understand any setting press <F1> from the OGM Properties box to open the reference manual. Use the Call Simulator to test changes.

Step 6: Test the system from a real external phone. If IVM does not answer or fails there is a chance you have hardware or driver problems. Please see **Troubleshooting Problems** for solutions. The up-to-date recommended hardware (voice modems and professional telephony boards) is listed at *www.nch.com.au/ivm/modems.html*.

Quick Start Guide - Call Attendant and Voice Mail with Axon

When using IVM in conjunction with Axon virtual PBX software, IVM may be configured to handle Call Attendant actions on line 198 and voicemail access on line 199. That is, when an extension dials 199, that extension is immediately directed to their own Voice mailbox and the first waiting Voicemail, if any, is played for them. Axon will direct Call Attendant through to line 198. The default message on this Call Attendant will direct the user that they should setup their own message and menu system.

Note: IVM has the ability to detect when Axon has been installed on the same computer. The first time that IVM detects Axon, IVM will download the example Axon IVR file from the NCH examples server. This IVR file may be downloaded at any time from the example IVR files download page *www.nch.com.au/ivm/examples.html*. Two VoIP Accounts will also be pre-defined, VoIP Call Attendant (line 198) and VoIP Voicemail (line 199). See *Quick Start Guide - Call Attendant* for more on Call Attendant.

If Axon is running on another computer from the one with IVM, IVM will need to be setup manually to make use of Axon.

Manually setting up IVM

Step 1: Download the Axon example IVR file from *www.nch.com.au/ivm/examples.html*.

Step 2: Load the IVR file using the menu File -> Load -> IVR Program File.

Step 3: From the Settings dialog (File -> Settings), select the Telephony tab.

Now setup the two VoIP Accounts:

The first account:
- VoIP Account Name = 'VoIP Call Attendant'
- Number of simultaneous lines allowed = 5
- Full 'Friendly' Display Name = 'VoIP Call Attendant'
- Sip Number (or User Name) = '198'
- Server (Proxy and Domain) is set to the network address of the computer on which Axon is running
- Password is set to the same password that line 198 is as defined in Axon
- Answer OGM option set to 'Override Out-Going Message for this Line' and 'VoIP Call Attendant Start' is selected from the pull-down selection.

The second account:
- VoIP Account Name = 'VoIP Voicemail'
- Number of simultaneous lines allowed = 5
- Full 'Friendly' Display Name = 'VoIP Voicemail'
- Sip Number (or User Name) = '199'
- Server (Proxy and Domain) is set to the network address of the computer on which Axon is running
- Password is set to the same password that line 199 is as defined in Axon
- Answer OGM option set to 'Override Out-Going Message for this Line' and 'VoIP Call Attendant Start' is selected from the pull-down selection.

NOTE: The "Number of simultaneous lines allowed" defaults to 5 lines. You may have to reduce this number to remain within the total number of lines permitted under your IVM license class.

IVM Overview

IVM is a telephone answering machine, voice mail, call attendant, interactive voice response (IVR) and automated call program for Windows computers with voice modems or professional telephony line devices.

This software is an effective voice mail, call attendant, info-line or audiotext solution for small to medium businesses. For example, IVM can redirect in-coming calls during office hours or take messages for a number of voice mail boxes after hours. All calls (including those answered by you) are logged with date, time and caller ID. The recorded messages can be played at any time, forwarded to an email address, accessed via the Internet or, if necessary, saved for future reference.

IVM can also be used very simply as a computer answering machine. Just run the install file and IVM will be ready to answer calls. But, when you are ready, you can explore the advanced key response and programming options to create a sophisticated telephone interactive response system. You will find many exciting ways to use IVM to provide information, serve your customers and save time.

Typical Applications

- Voice mail (from a single answering message to hundreds of voice mailboxes).
- In-coming caller ID logger or display.
- Call attendant (using the menu call transfer features) to direct calls.
- Telephone information lines or AudioText type systems.
- Automated telephone order taking.
- Automated telephone surveys (using the number entry features linked to a database).
- Credit card telephone account payment.
- Dial in computer control or information (eg. Dial in to test security alarm or to restart server).
- Automated outbound call systems.
- Many more telephone related applications.

Features

- Multiple telephone line support (1 - 64 lines simultaneously).
- Caller ID logging (even if no message is left) and optional on-screen caller ID flash display.
- Key press menus and ability for caller to enter numbers.
- Automatic message forward by email or upload to Internet.
- Call transfer (subject to your phone company or PBX features).
- Remote Access (listen to messages by dialing-in) including tollsaver.
- Save in-coming messages as wav files (keep messages for legal/record purposes).
- Automatic hours feature (enter your office hours and it will automatically answer after hours).
- Unlimited (selectable) out-going messages and menus.
- Call simulator is included so you can test your systems off-line.
- Automated Outbound Calls to play telephone messages to a list of numbers.
- Unlimited voice mail boxes (each with own email forward, Internet access page or remote access).
- Extended message play on key press including support for wav, mp3 and a number of other formats.
- Text-to-Speech voice synthesis as an alternative to recording or importing wav or mp3 files.
- Ability to open files or run other software to process data or report information.

- Support the open standard SIP for voice over IP (VoIP) calls.
- Can work with most TAPI hardware to connect to phone lines.
- Free professionally voiced greetings included.

System Requirements

- Windows 95/NT4/98/2000/Me/XP/2003/Vista.
- Pentium 100 or above with at least 32MB RAM (higher requirements apply for multiple line installations).
- TAPI compliant (100%) telephony device. This includes most voice modems (95/98/Me/2000/XP only) or a professional telephony card (eg. CAHTA, CallURL, etc.).
- Hardware Lines: TAPI compliant (100%) telephony device. This includes most voice modems or a professional telephony card (eg. CAHTA, CallURL, etc.).
- VoIP Lines: Any SIP RFC3261 compliant sip service (free services are available) or the Axon Virtual VoIP PBX (see *www.nch.com.au/pbx*).
- [Optional] Internet Access [to forward by email or VoIP lines]
- [Optional] Website (on local or remote server) [for Internet Access Pages]

Caution: If you intend to use IVM with a voice modem, please note that there are many voice modems on the market with defective TAPI wave / voice drivers. Please install the software and check your modem works before you rely on it. If it does not work properly, check ***Telephony Hardware (TAPI and driver issues)*** for some possible solutions.

For more information about using voice modems or telephony cards, please see: ***Telephony Hardware (TAPI and driver issues)***.

Registration & Purchase Requirements

If you want to use IVM after you have tested it, you must purchase a licence (register) for each installation of IVM. For more information, please see: ***Purchasing and Registering IVM***.

General Concepts

Out-Going Messages (OGMs)

Out-Going Messages ("OGMs") are central to the way IVM works. The call state at any time is centered around the current OGM. The information that attaches to the OGM ("OGM Properties") determines how the call proceeds.

When IVM is used as a simple answering machine, only one OGM is needed. That OGM will be the message "Thank you for calling... please leave a message after the tone". The Properties of that OGM will be set with the active command "Leave Message for Mailbox... Default" at the message end.

A more sophisticated interactive voice response setup might have hundreds of OGMs all chained together with menus and other active commands (an IVR Program see below). Each OGM could have different menus, messages and other properties. If you are creating a complex setup with many OGMs, you will find the "OGM List" to be the central point when setting up the system. From the OGM List you can also view the useful OGM Report which lists all the menus in logical order.

OGMs must not be confused with Mailbox Personal Greetings. While they are both messages and can sometimes do the same thing, Mailbox Personal Greetings cannot have any interactivity attached to them and are linked directly to a single Mailbox.

For more information about OGMs, please see: ***OGM Properties***.

Voice Mailboxes and In-Coming Messages

When the caller leaves an In-Coming Message it is usually recorded into a Voice Mailbox. The Mailbox Properties determine how and where the message will be sent or accessed. Messages can be forwarded as attachments to an email, accessed using an Internet Browser (Web Access), uploaded to a FTP server, copied to a folder on the network, forwarded to a telephone number (outward dial) or accessed from a remote telephone by dialling in to IVM and entering an access code. Of course, the messages for any Mailbox can also be played directly using IVM.

Usually, you would setup one Mailbox for every person in your office who would be receiving IVM messages. There should also always be the "Default" Mailbox which is used when no Mailbox is specified.

A Mailbox can also have a personal greeting that will be played immediately before the message is recorded only if the active command is set to play the personal greeting. In a single Mailbox setup, you would not use this (the OGM would be the greeting), but with multiple Mailboxes you might want to use a personal greeting for each Mailbox.

For more information about Mailboxes, please see: ***Mailbox Properties***.

IVR Programs

An Interactive Voice Response Program (IVR Program) is the system of all the OGMs chained together. These can be saved as IVR files for backup or for distribution on CD-ROM, or by the Internet.

It is not necessary to save your current IVR Program when you exit IVM. IVM will keep all

changes you make automatically until you create a new IVR Program.

For more information, please see: **_Loading or Saving IVR Program Files_**.

Some example IVR Programs are available for download at _www.nch.com.au/ivm/examples.html_. The example IVR Programs can be a useful demonstration when setting up your IVR system but you will still need to read this manual so you can follow the example and modify it for your requirements.

Basic Answering Mode Setup

These are the instructions for setting up IVM to work as a answering machine (ie. single OGM and single Mailbox). Even if you are intending to create something much more elaborate, we suggest you first setup IVM in this simple way to test the modem or telephony card and to give you an introduction to the way IVM works.

After running the IVM install file, you will find that there is already at least one default answering OGM and the default Mailbox. Some installations of IVM will come with multiple default OGMs with different languages and accents. Select the preferred OGM using the pull down list on the IVM Main Window.

Testing Modem/Telephony Device

If you already have a TAPI compliant voice modem or telephony card (with both TAPI and Wave drivers installed) you should be able to call your number and IVM will answer. If you call your number and IVM does not answer or does not play anything, please see: **Telephony Hardware (TAPI and driver issues)**.

Changing the Out-Going Message

To change the Out-Going Message, select "Properties..." from the OGM menu. With the OGM Properties Dialog Box open, click on the "Change Message Audio" button and select either Record, Import wav/mp3 or Synthesize Speech. Click OK to close the OGM Properties Box and click Close to close the OGM List.

Setting up Default Mailbox

Open the Mailbox Properties Dialog Box by selecting "Properties..." on the Mailbox menu from the IVM Main Window. You will then be able to set your remote access code, email address (if you want to messages to be sent to you by email or SMS), web site details (if you want to access your messages on the Internet) or telephone forward number and select whether you want to turn call screening on. For more information, please see **Mailbox Properties**.

Call Screening

If you want to listen to the callers' messages while they are being recorded, you must tick the "Use Call Screening" option from Mailbox Properties.

Remote Access

To be able to check messages by dialling in to IVM, you must tick the "Enable Remote Access" option from Mailbox Properties and enter the access code to use. When you call IVM, press '*' and then enter the access code. For more information, see **Remote Access by Telephone**.

That's it! You have now setup IVM as an answering machine. You can now move forward to add menu options to your OGM.

Now, if you want to create a more advanced setup with menus and data entry, you should continue reading the following sections of this manual. Note that some example IVR Programs are available for download using the examples link at *www.nch.com.au/ivm/index.html*. The example IVR Programs can be a useful starting point in setting up your IVR system. You will still need to read this manual so you can follow the example and modify it for your requirements.

Beyond a Simple Answering Machine (Introduction to IVR Systems)

To create a more advanced interactive voice response (IVR) setup, you will need to use menus, data entry and active commands to chain multiple OGMs together as required.

Your attempts can be facilitated by use of the Call Simulator and by frequent reference to the system logs (File -> View or Print Logs). Take one small step at a time, test the change with the Call Simulator and refer to the logs after every change. If the IVM behaves one way on the Call Simulator and a different way on real calls then that is normally an indication of a modem compatibility issue.

IVM uses an OGM-object oriented system for creating complex menu systems. A number of OGMs are linked together with the menus and active commands that are setup using the *OGM Properties*. When you are setting up your system, you will work from the *Out-Going Messages List* to create and manage OGMs.

You do not need to know any programming languages or to write any scripts to create a system with menus and data entry. If you read the next few sections of this manual carefully, you should be able to setup your system as required.

Some example IVR Programs are available for download using the Examples link at *www.nch.com.au/ivm/index.html*. The example IVR Programs can be a useful demonstration when setting up your IVR system but you will still need to read this manual so you can follow the example and modify it for your requirements.

Tools that are very useful when creating complex systems are the *Call Test Simulator* (so you don't need to call every time you want to test things) and the **Most Recent Call Logs** (for seeing what the IVM is actually doing during a call if it is not doing what you think it should).

If you do not have time to create your own IVM system and would like a consultant to create one for you, see *www.nch.com.au/ivm/support.html* for more information. Our technical support staff will forward your request to those on our IVM consultants list for quotes for the setup of a system.

Using Menu Options

A menu option is an option that a caller can select by pressing a key on their telephone keypad. When they press the key, IVM executes an **active command**. For example, "To hear our opening hours, press 1...".

To setup menu options, select the OGM Properties "Key Response" tab. You can open OGM Properties by selecting the "Properties" item from the OGM menu on the IVM Main Window.

You must select "Menu (single key press)" to use a menu.

For each telephone key that the caller could press ('0' to '9', '*' and '#'), select the **active command** that IVM should execute when the key is pressed. If you do not want to assign an option to a particular key, select either the "No Response" or "Invalid Option" active commands. For more information, please see *Active Commands*.

NOTE: by convention the '*' key is usually used for Mailbox Access Control (on an answering OGM), otherwise it should be set to "Go to..." the previous OGM or to "Repeat OGM". The press '#' key is usually reserved for data entry or otherwise "No Response". Please also see ISO/IEC 13714 (*www.nch.com.au/ivm/iso13714.html*) which is the international standard for interactive voice response systems.

Data Entry

IVM can accept multiple digit data from the caller. This is useful for passwords, order taking, customer surveys, credit card numbers and so on. Data entry will also need to be used if you want to offer the caller more than 10 Mailboxes.

To accept data entry you must select the "Data Entry" option from the "Key Response" tab of OGM Properties.

The number that the caller enters is stored with a variable name. Each number that the caller enters must be given a different name so that the information can be accessed later.

The user normally completes the entry by pressing the '#' key or by reaching the maximum number of digits. In both cases IVM executes the Active Command for "press '#'" (so you must always have an active command for '# or End').

Before executing the active command, IVM can validate the variable using a number range or a list of valid (or invalid) numbers. If this test fails, IVM says "that is not a valid number" and replays the OGM.

The variables can be used at any point later in the call in a number of ways. Generally, anywhere you are able to enter text in an active command (eg. OGM, Mailbox, Logfile, Transfer Number) you can include the variable by circumfixing the variable with two % characters. For example, if you prompt the caller to enter a number which you give the variable name "transferext", you can use "888%transferext%" as the transfer number (assuming 888 was a prefix you wanted). If the user entered 123, the transfer number used would be "888123".

Similarly you could use the variable in the %name% form as part of an OGM name, Mailbox name, Play file name, Record file name and as a parameter to a plugin call.

You can also create a special log file of the data the caller has entered. This is useful for surveys, order taking, credit card payments and so on. You can create the log file as a comma delimited fields which can be imported directly into a database. To setup a log file, use the "Add Entry to Special Log" option on the Advanced tab of OGM Properties.

Variables can be "read" out to the caller. For more information, please see **OGM Properties - Advanced**.

Variables can also be sent to and returned by IVM Plugins for more information, please see **Using IVM Plugins**.

The variables %time%, %date%, %cid%, %callername%, %linenumber%, %linename%, %did%, %drn% and %callsequenceno% are set automatically by IVM.

You can also set 'global' variables. By global we mean it applies to all lines (if set on one call it will apply to all). Set global variables using the Advanced tab of OGM Properties. You can also set them from other programs using the **Command Line Arguments** (see *www.nch.com.au/ivm/sdk.html*).

Active Commands

Active Commands are the commands that IVM can execute when the caller presses a key, at the end of an Out-Going Message or when a transfer fails.

No Response

If this command is selected IVM does nothing when the caller presses the key. This option can only be used in a menu.

Invalid Option

If this command is selected IVM says "that is not a valid option" then replays the OGM. This option can only be used in a menu.

Leave Message for Mailbox...

If this command is selected the caller can record a message for the selected Mailbox.

You can select whether IVM should play the Mailbox personal greeting before recording the message. This depends on the context. Generally with menu options or transfer fail you would want the personal message whereas with end of OGM you would not.

Example: "To leave a message for our technical support department, please press 6". Create a new Mailbox called "Support" which could be set to email the message to support@yourdomain.com. Select "Leave Message for Mail Box... Support" as the OGM Properties Key Response Menu press '6' option.

The mailbox name can include data-entry variable names circumfixed with the % character (often used were the PBX sends the extension number as in-band DTMF).

If the mailbox does not exist with that name it is created with all the mailbox settings copied from the mailbox named "Default".

If you have the option 'Use mailbox special menu' ticked then while the caller is recording a message they can press the # key to have an opportunity to change their message. You can change the text to "..once you have finished recording press #". When they press # they will then be offered the menu option "1 to record again, 2 to to listen or 9 to end the call".

If you have the option 'Use OGM menu for any other keys' ticked then all (other) menu key options are governed by the previous OGM menu properties.

Go to OGM...

If this command is selected IVM opens to another OGM. This command is essential for multiple OGM interactive voice response setup as it lets the caller hear a sub-menu by pressing a key or to sequence OGMs by selecting "Go to OGM..." as the active command for the End of the Message.

Example: In your Answering OGM say "If you know the name of the person you want to speak to, please press 1. Otherwise, for s...". Create another OGM which says "For Joe Bloggs, press 1. For Jane Doe, press 2...". On the Key Response Menu of the first Answering OGM select "Go to OGM..." in the pull down list next to "Press '1'".

The OGM name to go to can include data-entry variable names circumfixed with the % character.

If you are using multiple level folders you can specify OGM names with folders. For example "MyMenus\StartOGM" would specify an OGM in the StartOGM folder. (You must have created the folder using the OGM Manager first). You can also specify relative directories like ".." for the parent folder or "." for the current folder (eg. "..\MyOtherFolder\StartOGM").

Play Wav/MP3 File...

If this command is selected IVM will play the selected wav or mp3 file. When the playback is complete, the OGM Message will be replayed. IVM supports most wav files and mp3 (layer-3 only, not layers 1 or 2).

Example: In your Out Going Message say "To hear our contact details or our office hours, please press 1". On the Key Response Menu of the OGM select "Play Wav/Mp3 File..." in the pull down list next to "Press '1'". When you select the option, you will be able to browse to select a wav file which could be a recording: "Our address is... Our Fax number is... Our email address is... Our office hours are... ". (You could do exactly the same thing by creating another OGM but the play option is sometimes simpler).

NOTE: There are times when it might be preferable to create a new OGM with the audio file and use the "Go to OGM" command instead of the "Play" command because then the audio can have its own menu options.

The play file name can include data-entry variable names circumfixed with the % character.

Record Wav File...

If this command is selected IVM will record the selected audio file.

NOTE: To record simple messages you should consider creating a Mailbox and use the "Leave Message for Mailbox..." option. Mailboxes can be much simpler than manually recording files using the Record Wav file command.

This option can be used to let the user record the audio for other OGMs. For example, if you have an sports results line, this feature can be used to let the reporter (after entering an access code) record the updated results.

The record file name can include data-entry variable names circumfixed with the % character. To ensure that a different files is used for each call, use the variable %callsequenceno% as part of the record file name. The callsequencenumber is a unique number for each call.

The maximum record time and silence detect time must also be specified. If the maximum time is reached or silence is detected, the "After autostop" command will be executed. The minimum silence detect time is 1 second (0:00:01.0) which can be useful when prompting the caller for a sequence of very short statements (eg. callers name).

If you have problems with silence detection when recording, you may need to adjust the Record Detect Level from Settings.

An advanced option is the "Append to end of previous recording" option. When this is ticked, the recording is joined to the file end. This can be useful when you want to prompt the caller for

many items (eg. name, address etc.) but have the recording as a single file.

Rewind/Fast-forward

If this command is selected during playback (of the OGM or an external wav file), playback will skip forward or back a predetermined time. Negative values are rewind and positive are forward. Times are entered under in the format [-]h:mm:ss.s. For example rewind 5 seconds is -0:00:05.0.

Pause / Resume Playback

When this command is selected during playback, playback is paused until it is selected again. You also specify a maximum pause time (default 60s). After this time playback is resumed automatically. Do not select too long periods because if the caller hangs-up while in pause and if the end-of-call tone is not detected the line will be kept off-hook.

Transfer to...

For more information about these options, please see: ***Transferring Calls***.

Dial...

When the Dial active command is executed, IVM dials the entered DTMF digits including hook-flashes ('!') or pauses (','). When dialing is complete IVM executes the "Then" command selected using the Dial "Details".

Access Mailbox Control

If this command is selected the caller will then be asked to enter their access code to check mailbox messages. This command is usually selected as the press '*' option for the answering OGM.

Repeat OGM

If this command is selected the OGM is repeated. Any data entry is also cleared.

Goodbye (Polite Hang-up)

If this command is selected, IVM says "goodbye" then hangs-up.

Hang-up (Immediately)

If this command is selected, the call is hung-up immediately.

Call Test Simulator

If you are making an interactive voice response system, with a large number of OGMs, you can use the Call Test Simulator to save you having to call your phone many times during the testing process.

To run the Call Test Simulator, select the "Call Test Simulator" item from the File menu, or click the <Simulator> button on the IVM tool bar.

The Call Simulator works almost exactly the same as a normal call. The call will always be treated as if the call was on line 1, the caller ID was 555-555-5555 with caller name "Simulator".

You may notice some differences in audio quality and response times (the Call Simulator is faster) when compared to a real call.

If you have problems attempting to record with the Call Simulator, you should check that you have a microphone plugged into the sound card of your computer and that the Sound Record Mixer has the microphone turned on.

Using Voice over IP (VoIP)

Voice over IP means that instead of connecting to a real phone line you connect though a 'virtual' phone line to a voice over IP server through your broadband connection.

This technology means you can get a free number to receive and make free Internet phone calls (from and to Internet calls) and for a fee even have an ordinary phone number which is routed to your computer through the Internet. If you need a dedicated phone line for IVM you will find VoIP numbers usually are much cheaper than having a real line connected. And you don't need any telephony hardware.

For outbound automated calls depending on the gateway you select you will find calls made via VoIP are dirt cheap compared to the cost of phone calls made on an ordinary phone line.

IVM uses the most popular "SIP" protocol for VoIP calls. We fully support the standards RFC3261(SIP), RFC3515(REFER), RFC3891(Replaces) and RFC2833(DTMF).

To sign up for a free Internet phone number or for recommended 'real number' gateways, please see *www.nch.com.au/talk/sip.html*. If this is your first time with VoIP we also recommend you download the free **Express Talk VoIP Softphone** from *www.nch.com.au/talk/index.html*, which is like a telephone in your computer.

You need to have your server, username and password before you can setup IVM to accept or make calls via the Internet.

Once you have signed up use the VoIP tab of Settings to add the lines. You can set multiple lines on the same number if required.

For more advanced setups with transferring calls etc. you can also download the **Axon Virtual VoIP PBX** from *www.nch.com.au/pbx/index.html*. Axon is VoIP PBX software which works exactly like a business phone system.

Connecting to Telephone Key Systems or PBXs

IVM is often installed in an environment where there is telephone system or PBX. Broadly the types of usage are for voice mail (recording messages for unattended phones), call attendant (playing a menu and directing calls accordingly) or other interactive voice response systems (eg. credit card payment or and information line).

NOTE: Even though in some technical dictionaries they mean different things in this manual "PBX" is used for "telephone key system" or "PABX". We intend it just to mean a business telephone box.

For professional setups you need to know you PBX well. If you don't know your PBX and what it can do, read the manual or call in the supplier. The information that follows is intended for more telephone-technical people.

One requirement that applies in all circumstances is that the calls for IVM be directed to **analog ports**. IVM will almost always be running on a computer that has a professional telephony card (see the recommended telephony boards and voice modems list at *www.nch.com.au/ivm/modems.html*). These boards all have analog RJ12 style sockets. The first step is to ensure you have analog ports wired from your PBX.

The next step is to program your PBX to direct the calls as required to those ports.

Voice Mail

In an office IVM needs to decide who the call was for (and which mailbox to use). In a very simple setup the IVM could play a menu and let the caller select. But normally the PBX can send the intended extension to IVM.

Most PBXs can be programmed to send a DTMF dial string (inband signalling) when the IVM picks up the call. This string of digits is dialled within a short time after answering. You need to find the format of this string in the PBX manual.

Once you know the format of the dial string:

1 - On the Key Response tab of OGM Properties select "Data-Entry".
2 - In the maximum digits field enter the number of digits the PBX will send.
3 - Tick the "Allow # in data entry" field.
4 - Tick the "Use special digits mapping function".
5 - Click Settings button next to it. In the box next to "Advanced parsing dial string" enter the dial string in the form XXXX111XXX where 1 corresponds to the intended extension number digits and X are digits to be ignored. In the box to the left of 1 enter mailboxno (all one word, all lower case).
6 - On the Message tab of OGM Properties next to "Then" select 'Leave Message for Mailbox' and type: MailBox%mailboxno%

If your PBX redirects a call meant for extension 123 it will leave it in MailBox123. You can change the settings of the Default mailbox if required.

On some PBXs you can also dial a string to turn off or on a message waiting light. To do this, use the "Mailbox Message Notification" options of MailBox properties.

AutoAttendant - (Menu + Transfer)

For auto-attendant and transferring calls the most important thing is that your PBX allows you to transfer calls with a 'hook flash' dial sequence. Check the manual and then see ***Transferring Calls*** for how to setup for call transfer.

The biggest source of problem is hook flash time (there is no international standard and different PBXs use different times). If the IVM hardware takes too long the PBX thinks it has hung up. If it is too short nothing is transferred. Check the flash time in the PBX manual. And check the driver settings for your telephony card. They must match.

Interactive Voice Response (IVR) Systems

These are easy. Just program the PBX to send the calls to the ports and IVM will do everything from there.

You might want to consider if you need to go through the PBX at all - it might be easier to connect to the external analog lines directly. However sometimes a PBX is an easy way to connect to public digital lines (PBX ports are much cheaper than dedicated T1 telephony boards).

Call Recording

We make dedicated software for call recording applications. See the **VRS Recording System** at *www.nch.com.au/vrs/index.html*.

Telephone On Hold Messages and Music

We make dedicated software for playing telephone on hold messages and music through a PBX. See the **IMS On-Hold Player System** at *www.nch.com.au/ims/index.html*.

VoIP PBx

With VoIP technology you don't need a PBX. Just download the **Axon Virtual VoIP PBX** from *www.nch.com.au/pbx/index.html* and install it on your server. You can plug any VoIP phone into your network and it will work as an extension. IVM can be set as extension(s) using the VoIP tab of Settings.

Remote Access by Telephone

You can check your IVM messages in any Mailbox by dialing into IVM.

To do so, your Mailbox must have the "Remote Access (check messages by telephone)" option ticked and the access code entered. You must also make sure the Answering OGM has "Access Mailbox Control" as the key response item for 'Press '*''.

Note: The access code must be unique to each Mailbox. No two Mailboxes should have the same access code.

To access your Mailbox, when the call is answered, press the '*' key then enter your access code followed by the '#' key.

You will then be played any new messages. The options are:
1. Play the Message Again.
2. Keep the Message and Skip to Next.
3. Transfer to another mailbox (see below).
5. Delete Message.
8. Enter Mailbox Setup.
9. End the Call (Goodbye).
*. Another Mailbox.
#. Keep the Message and Skip to Next.

If you press 8, you can enter Mailbox Setup to record your personal greeting. The Mailbox setup options are:
1. Play Personal Greeting.
2. Record Personal Greeting.
5. Stop (Play or Record).
9. End the Call (Goodbye).
*. Another Mailbox.
#. Stop.

Note: If you want to be able to record personal greetings this way, you must be using the Mailbox personal greeting option as the active command details. In the case where you are using IVM as a simple answering machine, you must clear the audio of the default answering OGM (using OGM Properties) and select the "Use Personal Greeting" option of the "Then:" active command greeting.

To transfer a message to another mailbox press **3** followed by the first few digits of the other mailbox's access code and then **#**. IVM transfers the message to the first mailbox starting with the specified digits. For example if mailbox 10 has access code 101234 then pressing **3 10 #** will transfer the current message to that mailbox.

Tollsaver

If the Tollsaver is enabled, IVM will wait at least 5 rings before answering if there are no unplayed in-coming messages. If there are in-coming messages it will answer at 3 rings. When using remote access you can use this feature so you will not pay for a call when there are no new messages if you hang-up by the fourth ring.

The Tollsaver can be enabled from the General tab of the Settings Dialog Box.

Remote Access by Internet (Web Access)

Please refer to the **Settings ~ Web Access** section of this manual for details.

Transferring Calls

If your telephone company or PBX offers the facility to transfer calls from a normal phone or extension, IVM will be able to transfer calls by dialling the appropriate sequences. The call transfer feature may be branded under trade names by your telephone company (eg. Telstra's "Business Links" service). If your telephone company does not offer an effective, you might be able to use a conference call feature to "simulate" call transfers with IVM (see below).

In addition if you are using VoIP Lines IVM can transfer calls using VoIP. But please note that only Blind Transfer is supported for VoIP lines. Most of the comments below relate to normal lines. For VoIP lines it is really just a matter of selecting Transfer in the menu from OGM Properties.

IVM cannot directly transfer between VoIP and conventional telephone lines. To do this there needs to be some form of VoIP to PSTN gateway, such as a FXO Adapter (for more information see *www.nch.com.au/hardware/fxo.html*) or a VoIP gateway provider (for more information see *www.nch.com.au/talk/sip.html*).

Before you can setup IVM to transfer calls you must understand exactly how to transfer a call using an ordinary telephone handset. It is important that you refer to the documentation of your PBX or of the transfer feature of your phone company. The most common system is to press the (hook) flash button to initiate the transfer ("!"), wait for the dial tone (",,,"), dial the number then either hang-up to complete the transfer or press flash again ("!") to retrieve the call.

Overview (How IVM Transfers Calls)

The only connection between IVM and the telephone system is a simple phone line. The only signals IVM can use to transfer calls is dialled digits, a hook-flash ('!') or pauses.

To transfer calls, IVM follows the sequence (as entered using the Transfer tab of Settings) that a person would need to do using a regular phone. (A regular phone is not the same as phone system handsets that are specially wired to the phone system).

Most problems arise when the sequence has not been properly entered (or understood) or where the voice modem or telephony device does not handle hook-flashes correctly (see below). Use the **Most Recent Call Log** for the line to check IVM is doing what you think it ought to do.

NOTE: this discussion relates just to real call transfers. VoIP blind transfers are easy and automatic.

Blind Transfer

A blind transfer is a transfer where IVM simply hangs up after making the transfer without waiting to confirm that the transfer was accepted. **Blind Transfer is currently the only method supported for VoIP lines**.

NOTE: You cannot use "simulate a blind transfer" with a conference call feature (see the discussion below).

Confirmed Transfer

With a confirmed transfer, the person to whom the call is transferred is given an option to accept or reject the call. If the call is rejected or is not answered, the call is brought back to IVM. If a

call is brought back, IVM will execute the transfer fail active command.

With a confirmed transfer you can set the number of times that the prompt is repeated before fail (the default is 7). You can use this to determine the time before fail. However, you must note that the number you enter is not seconds but the prompt repeat count.

Answer Detect Transfer

When this option is selected, IVM initiates the transfer and then waits for the call to be answered. If the call is answered it plays the answering party a short tone then completes the connection. If the call is not answered, the IVM rejects the transfer.

For this to work well the answer detect settings must first be setup. This is done via the Outbound Autodial Calls window, which is accessed by clicking the <Outbound> button on the main IVM window. See *Call Answer Detect Settings* for details.

Transfer Settings

While the actual transfer number is part of the active command details, the digits to be dialled before and after the transfer number to initiate or complete the transfer must be setup using the Transfer tab of Settings.

The (hook) flash is represented by the '!' character in dial strings. A pause is represented by a ','. We recommend that you always add a pause after a flash when you expect to dial further digits (ie. '!,') to give time for the dial tone to come on.

Simulating a confirmed transfer with a conference call feature

If your telephone company or PBX does not support call transfers but does support a conference call, IVM can use this feature to "simulate" a transfer. When you tick the "Simulate call transfers as a conference call", IVM will run through the normal steps to setup a conference call (thinking it is transferring the call) and then stay online for the call duration. (Note: Your phone line will be busy for the call duration).

This option is usually only effective with confirmed transfers, not blind transfers.

Transfer Problems

If you have problems setting up a transfer with IVM, make sure you are able to transfer correctly using an ordinary telephone.

IVM cannot directly transfer between VoIP and conventional telephone lines. To do this there needs to be some form of VoIP to PSTN gateway, such as a FXO Adapter (for more information see *www.nch.com.au/hardware/fxo.html* or a VoIP gateway provider (for more information see *www.nch.com.au/talk/sip.html*).

The other possible problem with transfers that use a hook flash is that different countries and different phone systems can require different flash times. Check your PBX flash time or ask your telephone company (if you are not using a PBX).

For professional telephony cards, you can usually set the flash time using the Configure Hardware Box. (Use Settings / Devices / Properties / Configure).

For voice modems you can add the Extra Setting S29=X where "X" is the flash time in tenths of a

second. Add the S29=1 setting to the "Extra Settings" for the modem (Settings / Devices / Properties / Configure / Connection / Advanced).

Sometimes IVM dials too quickly for the PBX or your phone company. In that case you may need to insert a pause (',') or longer pauses (',,,') using commas after the flash character ('!') and after the dialled digits.

Log Files

To open, print or delete logs, select the "View or Print Call Logs" item from the File menu.

Call Logs

IVM logs every call (including those calls that are not answered). The log includes the date, time, Caller ID (if supported by your hardware) and whether or not it was answered.

Call Logs are listed by date.

Most Recent Call Logs

For every line, IVM makes a detailed log of the most recent call including call details, each OGM opened, any keys pressed by the caller or any commands pressed.

These can be very useful for diagnostics on complex IVR systems. If there is a mistake in your setup, by viewing the log after a call on the *Call Test Simulator*, you can see where things are going wrong.

The Most Recent Call Logs will be named "Most Recent Call Line X" and can be viewed or printed by selecting the the "View or Print Call Logs" item from the File menu.

System Logs

The IVM Answering Attendant Log daily system logs contain all information including the Call Log information, the Most Recent Call Log information any other system errors and messages.

SIP Trace

IVM will also record IVM Answering Attendant SIP Trace logs for VoIP lines if this has been enabled. See the Advanced tab of *Settings - Telephony - Line Properties - VoIP Line*.

Special Logs

IVM can also create special logs of calls that use a particular OGM including any data that the caller may have entered. These can be used to count the callers (and caller IDs) of callers that select a particular option, or to record the data the caller has entered.

To create a Special Log, tick the "Add Entry to Special Log" option on the Advanced tab of OGM Properties. Enter the log name and the log line format. The log name is usually a name but can be a full file path. The log line format can include any data field variables (between two % characters). You can also use the call variables %time%, %date%, %cid%, %callername%, %linenumber%, %did%, %drn% and %linename%. If you are intending to import the log directly into a database or spreadsheet, we recommend you use commas to delimit each variable. (This is particularly useful when using IVM for customer surveys).

Modem Logs (Voice Modems only)

These are not strictly IVM logs (they are created by TAPI's Unimodem V driver). They are useful when you think there might be something wrong with your voice modem. To view the modem log, select your Modem Properties from the Windows Control Panel and click View Log (under Diagnostics in Windows 2000/XP).

Outbound Autodial Calls

IVM can be used to make automated outbound calls. It automatically dials the number, waits for the caller to answer then starts with an OGM message and follows a normal call flow.

Before IVM can make outbound calls at least one line (or VoIP line) must have "Allow outbound and message forward calls" ticked from *Settings - Telephony*.

To setup for outbound calls, select the "Outbound Autodial Calls..." option from the File menu, or click the <Outbound> button on the main IVM window.

List of telephone numbers to dial

Enter the list of numbers to dial separated with semi-colons. The list will automatically empty as calls are made. If you might want to use the same set of numbers again in future, you can user the Save As button to save the list (as a .txt file). The normal copy (Ctrl+C) and paste (Ctrl+V) functions also work in the numbers list.

OGMs to start with

Select the OGM(s) that IVM starts with when the call is answered.

You can select different OGMs to start with depending on whether the call is answered by a answering machine or by a real person:

- *OGM to start with if answered by a person*
  The selected OGM will be used if IVM determines that the call has been answered be a person.
- *OGM to start with if answering machine*
  The selected OGM will be used if IVM determines that the call has been answered by an answering machine.
- *OGM to start if call is not answered*
  An optional OGM may be started if the call is unanswered. Select "None" if no OGM is to be started for unanswered calls.
  Note that this OGM will have limited functionality due to there not being any telephony line to interact with.
  The intention is therefore to allow actions such as writing to a special log or using a plugin to update a database record.

Note: Detection is not accurate so your system must be tolerant of either. Detection works by using the length of the voice after the call is answered. A longer 'message' indicates an answering machine while a short 'greeting' indicates a real person. This can be adjusted using the *Call Answer Detect Settings*.

Number of attempts for each called number

IVM can be set to attempt to redial numbers that were not answered. It goes through the list once. At the end of the list, it repeats the list calling all numbers not answered.

Minimum interval between reattempted calls

If a call to a particular number fails IVM limits the time before which it will be attempted. Enter the time here in minutes. The default is 30 minutes.

Make calls between times

IVM can be set to only make calls between a fixed time of day (to stop calls late at night for example). Enter the start and end times. To allow calls 24 hours a day enter 00:00:00 to 24:00:00.

Advanced Options

Advanced users can append data to each number if required. For example if the number was *5551234567&ogm=My+OGM&data=999* the call would answer using the OGM named "My OGM" and with the variable "data" set to "999". You can also set ogmanswer to specify a different OGM for answering machines.

For example: *5551234567&ogmanswer=OPerson&ogmmachine=OMachine*

You can specify alternate numbers separating each with a \ character. If the first number fails, when the call is reattempted IVM will use the next number. For example 5551111111\5552222222\5553333333 will try those 3 numbers in turn.

If you need IVM to just dial a some DTMF digits after answering and then disconnect again use the argument dialanddrop. For example, *5551234567&dialanddrop=890* will dial the number 5551234567, wait for it to answer, dial the DTMF digits 890 then hangup. The comma "," can be used to insert pauses.

- &ogmOGM to use for this number

- &ogmanswerOGM to use if this call is answered by a person

- &ogmmachineOGM to use if this call is answered by an answering machine

- &dialanddropdial these digits after the call is answered

If you need one call to initiate other outbound calls, download and install the plugin OUTBOUND from *www.nch.com.au/ivm/plugins.html*

Other software can also initiate outbound calls (or add them to the list). See the IVM SDK (software development kit) at *www.nch.com.au/ivm/sdk.html* about how to link your program to IVM .

General Tips for using Outbound Calls

Answer detection is never accurate because a computer cannot easily tell the difference between voice and some tones. When you design an outbound autodial system, you should make it tolerant of calls that are detected as being answered too early. For example, the initial OGM should be repeating and should ask the caller to acknowledge the call by pressing a key.

Call Answer Detect Settings

Before IVM will correctly detect when calls are answered you must set the "Call Answer Detect Settings". Click on the <Settings> button at the bottom of the Outbound Autodial Calls window to open these.

Use software based answer detection

Voice modems are unable to detect when a call has been answered. IVM includes a software detection system to attempt to accurately detect when a call has been answered.

Note that because IVM will never be able to "understand" what is really happening, it can never be sure that the person who has answered the call has finished their sentence. It must wait for silence (usually about 2 seconds). This means there will always be a short delay after the person answers. Also note that IVM may miss-detect and answer due to messages on the line.

In all circumstances you should design your outbound menu structure to be tolerant of early detections, false detections and late detections.

Ringing silence detect time [ms]

When IVM detects a ring tone it will wait longer before starting than after voice. This time must *always* be a little longer than the maximum time between ring tones in your country. In the USA / Canada use 4100ms (the maximum time is 4000). In Europe and Australia you can reduce this to 3100.

Voice silence detect time [1000 - 4000ms]

After voice is detected IVM waits for a silence gap before it begins. If this is too short IVM can begin between words. A reasonable time is usually 2000ms. Be careful if you expect many answering machines because answering machine message often have longer gaps.

Ringing or busy time out [10 - 15 secs]

IVM will abort the call as being unanswered if it detects ringing or busy tone for longer than a predetermined time. A reasonable value is 15 seconds.

Answer detect fail time out [15 - 60 secs]

IVM will abort all calls as being unanswered (including those with voice detected) after a maximum time without any silence detected. 30 seconds is a reasonable.

Assume answer machine if voice longer than [secs]

If you want to play different messages to calls answered by answering machines, IVM can attempt to guess whether the voice is a real person or an answering machine based on the length of the greeting. A typical value might be 8 seconds. If it is longer than this an answering machine must be assumed.

If you expect many answering machines you should use a longer voice silence detect time because answering messages can often have longer gaps.

Note that answering machine detection is never 100% accurate. You should design you menu structure to be tolerate of misdetections.

Hardware supports answer detection (assume answered)

Use this option when using professional telephony hardware. The hardware is able to detect when a call has been answered as well as when that caller hangs up.

Fax Support

Sending Faxes - Fax-Back Systems

IVM can work as part of a fax back system to receive the caller's fax number and other information (eg. document number) and then fax a document (a tif file) to the specified number. Similarly IVM can also use the fax plugin to fax call logs, information to you at a remote location.

To do this you must download the fax plugin following the "plugins" link at *www.nch.com.au/ivm/index.html*. The plugin uses Microsoft Fax which is supplied with Windows 2000/XP.

To setup a faxback system, you will need to be confident with using IVM **Data Entry** and **Plugins**.

Receiving Faxes

When IVM detects an incoming fax, it can do one of two things...

TAPI Fax Mode Handoff

If your fax software is TAPI based, IVM follows the correct TAPI prescribed call hand-off procedure so the call can be accepted by other fax software.

Unfortunately, as at the date of release of this software version Microsoft does not yet support this feature.

Dial this number

If you run a fax machine on the same line, IVM can trigger your fax machine to turn on when IVM detects a fax tone. After your fax machine is turned on IVM hangs up.

IVM turns on your fax machine using a dial sequence that it dials the moment it detects a fax tone. Refer to your fax machine manual. You will find that you can usually turn on the fax feature if you hear fax tones on the line by dialling digits. Go to Settings -> Telephony and from the Options tab of Line Properties for any of your standard hardware (ie. non-VoIP) telephone lines select the "Dial this number" option and enter the digits that are required by your fax machine.

Distinctive Ring Detection

On some phone lines it is possible to have different ring 'sounds' to differentiate between calls of different type (eg. faxes or voice calls) or calls to different numbers (where different numbers are received on one line). IVM can use this to only answer particular calls or to play different messages to different callers.

Distinctive Ring is processed using a Distinctive Ring Number. The number is somewhat arbitrary (see below). It is used under "Use Number ID Validity Checking" on the Date-Time ID tab of OGM Properties to either move to a different OGM or to not allow (or answer).

Distinctive Ring Settings

The Distinctive Ring Settings are on the Line Properties from the Telephony tab of Settings (see *Settings ~ Telephony ~ Line Properties*).

Use hardware based distinctive ring

When selected the DRN is a number returned directly from the voice modem or telephony voice board. If the hardware supports distinctive ring detection we recommend that you use it. The problem is that many voice modems and telephony voice boards do not support distinctive ring and in that case you need to use software detection.

Use maximum ring interval - software based ring detection

When this option is selected, IVM uses the maximum time between rings to calculate the DRN. If the maximum time is above the set time it will report a DRN of 1. If it is below it will report a DRN of 0.

Setup DRN

The DRN (and the maximum time between rings) for any answered call is recorded on the Most Recent Call log. Before you setup call the line with one ring first, let it answer and then look at the Most Recent Call log. Record the DRN and time (ms). Then call the same line with a different ring type again letting it answer and then comparing the DRN and time on the Most Recent Call Log.

If the DRN number is different you can probably continue to use hardware based distinctive ring. Simply change the settings on the answering OGM (OGM Properties -> Data-Time/ID -> Use Number Validity Checking -> Distinctive Ring).

If the DRN reported for the different calls is the same then your hardware probably does not support distinctive ring. In that case you must use software based distinctive ring detection. Compare the DRN ms times of the two calls. Select the "Use maximum ring interval" option (see above) and enter a time (in ms) that is exactly between the time reported by the different calls. When you next make calls, you will see the different DRNs on the Most Recent Call Log.

Using IVM Plugins

An IVM Plugin is an external program that IVM can run to process or obtain data. For example, if you are making a interactive voice response system to tell the caller the current temperature, a plugin can be used to read from the hardware and return the temperature to IVM. A plugin could also be used to restart the computer, access a database, process credit card orders and more.

A number of useful plugins can be downloaded from *www.nch.com.au/ivm/plugins.html*.

For more information about writing plugins (for programmers), please see the IVM Software Development Kit at *www.nch.com.au/ivm/sdk.html*.

Using a Plugin

A plugin is usually obtained as an exe file (or an exe file in a zip file).

[1] Extract the exe file and save it in the IVM base folder C:\Program Files\NCH Swift Sound\IVM.

From the Advanced tab of OGM Properties,
[2] tick the "Run Exe or Run IVM Plugin" option and then
[3] click "Open Run Exe or Plugin Settings".

From the Run Exe and Plugin Settings dialog box
[4] tick the "Is IVM Plugin Process" option, then
[5] click on the "Add New Exe" button.

In the Run Exe dialog box,
[6] type the exe name including the .exe extension (eg "yourplugin.exe").
[7] Enter the arguments that are sent to the plugin.

The plugin writer will prescribe the arguments that must be passed to the plugin (check for a text file in the zip file distribution). Take care to get the order exact. You can include any variable as an argument by circumfixing it with %. Variables can include the system variables %time%, %date%, %cid%, %callername%, %linenumber%, %linename%, %did%, %drn% and %callsequenceno%.

Information from the plugin is returned as one or more variables which you can use at any stage later in the call. Often one of these can determine which OGM to play next using the return variable name (circumfixed with % characters) as part of the OGM name to go to at the end of the current OGM. If it is a number, it can also be "Read" using the read number feature.

Multiple plugins can be run in sequence by adding them to the list in the Run Exe and Plugin Settings dialog box. Arguments returned in variables from one plugin can be passed to the next using %variablename% as the argument(s).

If you have difficulties using the plugin see the Most Recent Call Log for the line to view the exact data sent and returned from the plugin.

Running other Programs or Files

IVM can also run any other exe file (which in turn can be used to open almost all file types). However, if it is not a plugin, IVM will not be able to retrieve data from the process. To run or

open a file that is not a plugin, untick the "Is IVM Plugin Process" option.

If the file is not a true IVM Plugin the "Is IVM Plugin Process" option must NOT be ticked.

Running a Plugin on Call Disconnect

Sometimes you need to set your call so that if the call disconnects for any reason at any time later another plugin will be run. For example, this can be used to time call duration or to cleanup data relating to the call. To do this you set the variable "RunExeDisconnect".

For example if somewhere early during your call your run a plugin "startcalltimer.exe", that plugin can return a variable "RunExeDisconnect=[path].exe%20%-stop". Then whenever the call disconnects however it disconnects IVM will run that plugin.

Loading or Saving IVR Program Files

An Interactive Voice Response Program (IVR Program) is the system of all the OGMs with all the program information (ie. properties). This can be saved as an IVR file for backup or for distribution on CD-ROM, or by the Internet.

Loading an IVR Program File

To load an IVR Program file, select Load / IVR Program from the File menu and then browse to locate the file.

Note: Because update files can be saved in cumulative format (see below), you must take care not to accidentally load an early file. Cumulative update files must always be loaded in the order they are received.

Loading using a Direct Remote Download

IVM can download files directly from a remote server. You can then set IVM to automatically check the server for updates at the predetermined interval. This is ideal if the person who sets-up and maintains the IVR Program is remote from where the IVM runs.

If you have been given a remote server (eg. ftp.nch.com.au) by the provider of your IVR service, select Load / Direct Remote Download, tick "Download using the Internet" and enter then server name. You should also tick "Automatic Regular Update Check".

For more information about setting up and operation of a remote server, see **_Setup of a Remote Server System_**.

Saving an IVR Program Files

To save an IVR Program file, select the Save IVR Program File item from the File menu.

Cumulative Update Files. Because audio files can be large, IVM lets you select what you want to save in the IVR Program. If you are using IVR Program files to distribute updates to a remote IVM, you can use this to send only the items that you have changed. When the remote IVM loads the file, it automatically collates the new material with the old.

If you simply want to backup the complete IVR Program, just accept the defaults and click Save.

If you want to save only a cumulative update file, select the modified OGMs (by holding down the control key) and then click Save.

Save OGMs

This is the list of OGMs that you want to include in the IVR file. Use the shift or control keys to select multiple files.

Save OGMs - Remote Auto-Delete

If this box is ticked, any OGMs which do not exist in the local IVM will be deleted on the remote IVM.

Save Mailbox Settings

To include mailbox properties, select the mailboxes in the Save Mailboxes list.

You can also tick the remote auto-delete box to delete any mailboxes on the remote IVM that do not exist on the local IVM.

By default, IVM only saves the mailbox properties and not the mailbox personal greetings. To save the mailbox greetings, tick the "Include Greeting(s)" box.

Advanced

Use the <Advanced> button for additional options related to saving IVRs.

Advanced - System Prompts

If you have changed any of the IVM System Prompts, you can include those files in the IVR file by selecting them in the System Prompts list.

Advanced - Settings

You can change any of the remote IVM settings by including the settings in the IVR file. The settings are not documented in this manual. We suggest you open the settings.ini file in the Program Files\NCH Swift Sound\IVM folder with notepad to view the possible settings.

Advanced - Save Plugin(s)

If you use plugins, they can be saved in the IVR. Select the exe files to be include using this list.

Set Audio Compression Format to Reduce File Size

Audio recordings can be large which can make the IVR file large. If you want to reduce the file size you can use an audio compression codec.

Click on the "Set Audio Compression Format to Reduce File Size" button and select the format. The recommended format is GSM6.10. For others see our codecs information page at *www.nch.com.au/acm/index.html*. You should only use formats with 8000 sample rate.

Advanced - Notes

The IVR Program Notes are notes about the IVR Program. You can edit the IVR Program Notes by selecting the Notes item on the File menu.

Tick the "Save IVR Program Notes" box to include the notes in the IVR file.

If you tick the "Popup IVR Notes when Loaded" box, the Notes will open when the file is loaded. This is useful where you want to encourage the remote user to read instructions.

Remote Server Setup

IVM can operate remotely. At regular intervals IVM can check a server for any updates and, if the file has been changed, automatically load the updates. The updates can include changes to the OGMs, Mailboxes, System Prompts or Settings.

This can be used in a single IVM system (for example where you want to setup and test the IVM program in your office but where the active IVM runs on a computer in the Telephone Room in the basement).

It can also be used by voice prompt studios and telephone system consultants who offer system updates for any number of remote customers. A single Internet server setup can serve an almost unlimited number of remote systems.

To setup a remote update server system, you must have a good understanding of computers, networks and the Internet (including FTP client software like WS_FTP).

Basics

All updates are with IVR Program Files. For more information about saving IVR Program Files see **Loading or Saving IVR Program Files**.

File Names. To reduce the chance of errors (or the wrong file being loaded), the file the remote IVM loads has an implicit name based on the registration ID of the remote IVM. If you are testing IVM and have not yet registered, this is 0. The file name is ivmX.ivr where 'X' is the ID number. For example, if your registration ID for the remote IVM is 1078, the file name will be ivm1078.ivr. THIS IS CASE SENSITIVE.

On the remote IVM, setup is straightforward. Simply point the IVM to the server using the Load / Direct Remote Download item from the File menu, tick the Automatic box and enter the interval.

Internet FTP Servers

To use this feature, you must have access to an FTP server that offers anonymous FTP access. You do not need to setup your own server. Most web hosting services include FTP. If you have a web site, there is a good chance you will already have access to an FTP server.

To upload files, you must have a FTP client. For example, WS_FTP or CuteFTP. If you have your own web site, you probably already use one of these to upload your pages.

Before you proceed, you must know the exact folder into which you must load files so that they can be downloaded directly from the root directory of the anonymous ftp account. This is often something like /home/youraccount/www/anonftp on UNIX / LINUX web hosting servers. As a test, you must be able to download the file (say for ivm0.ivr) directly by typing *ftp.yourdomain.com/ivm0.ivr* into Internet Explorer.

The steps to update your remote IVM are:

1. Save the IVR Program File. The file name must be ivmX.ivr where X is the remote IVM's registration ID (case sensitive). For unregistered remote IVMs use the file name ivm0.ivr.

2. Upload the file using CuteFTP or WS_FTP into the root directory of the anonftp folder.

3. From the remote IVM, point it to your server using the Load / Direct Remote Download item of the File menu. For example, enter the server ftp.yourdomain.com. Also set the Automatic Interval. The recommended intervals are either 60 minutes (hourly) for fixed Internet connections or 1440 minutes (daily) for dial up connections.

Local Area Networks

If the remote IVM is running in the same building, you can use the LAN to update the IVM. This is usually faster than using the Internet.

Create a shared folder on the network server. Save the IVR Program File with the correct file name (see above) into that folder. Then point the remote IVM to the folder using the Download Remote Direct option. The recommended time for the Automatic Check Interval is 2 - 3 minutes.

Telephony Hardware (TAPI and driver issues)

IVM uses the TAPI (Telephony Application Interface) standard to connect to a wide range of telephony hardware devices (including voice modems or professional telephony voice cards). Often when IVM does not work, it is because the hardware is not TAPI compliant or because there is some problem with the drivers or driver installation.

If the drivers are not working properly:
- There will be no device listed in the add device pull down list; or,
- IVM will not be able to detect and answer in-coming calls; or,
- IVM will not be able to play the out-going messages; or,
- IVM will not be able to record messages.

Customers frequently report that their modems are nearly working. Perhaps some key responses are not working, the audio quality is poor or there is an excessive delay in reaction time. These problems are related to modem performance and not to any setting in the IVM software. The wave drivers associated with the modem turn the modem into a "pseudo sound card" for the production and recording of sound and for the detection of DTMF tones. The IVM requires that information collected by the modem (DTMF responses and CID information) be supplied to the IVM via TAPI. Some modems will for instance supply their own software with CID information but will not supply the information via TAPI. They are not 100% TAPI compliant and are not completely compatible with the IVM.

Please refer to the notes below on Voice Modems and Professional Telephony Cards for some solutions if your device is not working.

For up-to-date information, please view *www.nch.com.au/ivm/modems.html*.

You must be aware that we are unable to provide technical support for these problems. You should refer the problem to the manufacturer of your telephony card or modem. If you are a technical person, it can be useful to view the modem logs to see where the problem occurs.

Voice Modems

Voice Modems must be VOICE modems

You must check that your modem is actually a voice modem. Refer to the modem documentation and specifications. Modems which are not voice modems cannot work with IVM.

Voice Modems under Windows - Problems with W95A and WNT4

Windows 95B/98/Me/2000/XP: These versions of Windows have the Microsoft Unimodem V drivers which work with many (but not all) voice modems. Because modem models change so frequently, we cannot provide a list of all the models that do work, we can only recommend that you simply "try it and see". If you have problems, you should also refer to the modem manufacturer. Some have fixes or upgrade drivers which are TAPI compliant.

Windows 95A: Windows 95A was not shipped with the Unimodem V drivers. However, they can be downloaded from the Microsoft site at *www.microsoft.com/windows/software/drivers/unimodem.htm*. Microsoft may have moved the driver again by the time you read this. If so, simply search *www.microsoft.com* for Unimodem Download.

Windows NT4: Windows NT4 does not support voice modems. You will need to use a professional telephony card or upgrade to Windows 2000/XP.

Voice Modem Driver Installation - Remove unneeded/old modem drivers

If you have upgraded your modem or installed additional modems without removing the unneeded drivers, Windows TAPI drivers might fail. If that is the case, the only solution is to uninstall all modems, and then reinstall your single modem.

Voice Modem Driver Updates

Some modems are distributed with the drivers supplied on the CD-ROM being only for the non-voice modem version or are otherwise defective. Some manufacturers have fixed this problem with updated drivers that you can download from their websites. If your modem is not working with IVM, check your modem manufacturer's website for an updated modem and wave driver.

There are update drivers for Zoom Voice Modems, USR (US Robotics) modems, Maestro Modems and many more. Visit the manufacturer's website to download the updated driver.

Voice Modem Plug & Play Problems

Sometimes when a modem is first installed, plug & play detects and installs the drivers for the non-voice modem equivalent. The solution to this is to uninstall your modem (you must to this), restart your computer then when plug and play detects your modem again, manually select the modem (instead of using the automatic driver selection feature of plug and play).

Professional Telephony Cards

Professional telephony cards tend to have much better audio quality and, once they have been correctly installed, work very reliably.

More information about Professional Telephony Cards that are suitable for use with IVM is available at *www.nch.com.au/hardware/telephony.ht*ml. CAHTA and CallURL telephony cards can be purchased directly via links on this web page.

Dialogic Cards

Dialogic have announced that from 1 January 2006 their telephony cards do not support TAPI. We therefore can no longer recommend their cards for use with our software.

Music Telecom Cards

Music Telecom cards are no longer recommended because they are defective.

If you find other professional telephony devices that work well with IVM, please let us know.

How To Guide

Note that these are just short-hand tips. For more information, please refer to the other reference pages of this manual.

How to (Re)Record the Out-Going Message
Select the "Properties" item from the OGM menu. When the OGM Properties box is displayed click on the "Change Message Audio" button and select "Record...".

How to Check Messages by Telephone
See the manual page *Remote Access by Telephone*.

How to (Re)Record the Greeting by Telephone
On a single mailbox system, (1) clear the OGM message (select "Clear Audio" from the "Change Message Audio" menu of OGM Properties), (2) tick the "Leave Message for Mailbox" details "Play Mailbox Personal Greeting" option and (3) to Record a Personal Greeting for the Mailbox (Mailbox / Properties / Change Greeting / Record).

How to Make it Louder/Softer on the Telephone
From the General tab of Settings, change the Volume Level Adjust setting. (Note the actual change is limited by your telephony device).

How to Make it Louder/Softer through the Speakers
From the Recording tab of Settings, change the volume setting in the Play Device and Volume box.

How to Handle more than 10 Mailboxes
When you create your Mailboxes, give them sequential number (eg. Mailbox 20, Mailbox 21...). Use *Data Entry* to let the caller enter the mailbox number with a named variable (say "mailboxno"). As the details of the "Leave Message for Mailbox" *Active Command* enter the Mailbox name as "Mailbox %mailboxno%".

How to Pick-up Call using Same Line (pseudo-transfer)
(1) Create an OGM (the "Hold OGM") with an message of say "please hold the line" then say 3 minutes of "hold" music. (2) Under the Key Response tab of the Hold OGM's Properties have: Press '#' - Hang-up (immediate). (3) Under the Advanced tab of the Hold OGM's Properties, tick the "announce call through speakers" option and browse to find a suitable wav file (ideally this could say... "Call for ..."). (4) Under the Key Response tab of the Main OGM's Properties have Press 1 - "Go to OGM... Hold OGM". When a caller presses 1, you will hear the account file (eg. Call for Jay") through your speakers while the caller hears hold music. To 'take' the call simply pickup the phone and press #.

How to send an SMS message when a message is received
You need to use an email->SMS gateway. See *www.nch.com.au/kb/10003.html* for detailed instructions.

How to 'ban' calls from certain caller IDs
Using the menu open OGM -> Properties. From the Date-Time/ID tab tick "Use Number ID Validity Checking" and select "If CID is XXX don't allow" where XXX is the number. This will mean IVM will not answer those calls. Alternatively you can force IVM to take messages only for particular numbers by doing the reverse "If CID is not XXX don't allow".

How to talk to a caller while the IVM is kept active
You might have a situation in which you want to discuss a point with the caller and then want to return the caller to the IVM. Create a "silent OGM" . This is an OGM with no message but which waits for a certain extended length of time and perhaps repeats many times. In the key response menu of this OGM you create a suitable escape - eg "# - goto 'OGM get details'". As soon as the right moment arises you can press # on the local phone and the caller will be sent to the next appropriate OGM. You could even design several different paths depending on the caller's response.

How to place a caller "on-hold"
In the previous example you might want to place the caller "on-hold". You could have a response such as "* - goto 'OGM on-hold' " . The on-hold OGM will play a suitable .wav file (and repeat it if necessary). There would be an escape response in this OGM - eg to return to the previous OGM or to be transferred.

Troubleshooting Problems

IVM does not answer calls

1. Is IVM in [ON] Mode? Click on the [ON] button on the top right of the IVM Main Window so that it displays red.
2. Is your voice modem or telephony device listed in the line devices list on the Telephony tab in Settings? If you are unable to add the device, please see *Telephony Hardware (TAPI and driver issues)*.
3. Turn Autohours off in Settings.
4. Check your OGM using OGM Properties. Can you play the message? Turn off all Date and CID Validity Checking and untick the Play External Wav File option.
5. Is some other software using the modem or telephony line device? Are you currently connected to the Internet using that line?
6. If you are attempting to use a modem, is it a true voice modem?

If none of the above solves your problem, please see *Telephony Hardware (TAPI and driver issues)* for some hardware related tips.

IVM answers the call but does not play a message

1. If you are attempting to use a modem, is your modem a true voice modem?
2. If you are attempting to use a Dialogic Telephony Card, have you installed the Wave drivers (in addition to the TAPI drivers)?
3. Check the OGM, using OGM Properties.

If none of the above solves your problem, please see *Telephony Hardware (TAPI and driver issues)*.

No Line Devices appear when you Add a line device in Settings

If you do not see a device, your TAPI drivers have either not been installed or have failed. For more information, please see: *Telephony Hardware (TAPI and driver issues)*.

Call hangs-up mid message or during recording

This can happen when the hardware is miss-detecting the end-of-call tone during playback or recording. If it happens during playback, turn off the "Enable end-of-tone detection during playback" option on the Line tab of Line Properties for the line. This is accessed from the Telephony tab of IVM's Settings. If it only happens during recording, turn on the "Enable end-of-tone detection during playback" option but turn off the "Enable software based end-of-call detection" option.

Recording does not stop when the caller hangs-up

If you have end-of-call tones on your line check you have turned on the "Enable end-of-tone detection during playback" option using the Line tab of the Line Properties, accessed from the Telephony tab of Settings.

If your line has silence at the end of calls increase the Record Detect Level a little.

The audio quality is poor

The audio quality is determined by the modem. Some voice modems offer only very poor quality voice.

If audio quality is important, you should consider purchasing a professional telephony card. See *Telephony Hardware (TAPI and driver issues)* for suitable cards.

IVM includes a playback gain device, playback tone control and playback dynamic range compressor which can be used to improve audio quality. For more information, please see *Settings - General*.

Playback is too soft

You can adjust the playback volume using *Settings - General*.

Call transfer fails

If you have problems setting up a transfer with IVM, make sure you are able to transfer correctly using an ordinary telephone.

The other possible problem with transfers that use a hook flash is that different countries and different phone systems can require different flash times. Check your PBX flash time or ask your telephone company (if you are not using a PBX).

For professional telephony cards, you can usually set the flash time using Phone and Modem Options from Windows Control Panel. For voice modems you can add the Extra Setting S29=X where "X" is the flash time in tenths of a second. Add the S29=X setting to the "Extra Settings" for the modem (Phone and Modem Options / Modems / [select modem] / Properties / Advanced).

Sometimes IVM dials too quickly for the PBX; in that case you may need to insert a pause (',') or (',,,') using commas after the flash character ('!') and after the dialled digits.

Caller ID is not displayed or displays "Unknown"

1. Your voice modems might not support caller ID (not all do). Check your modem manual.
2. You need to set IVM to answer after at least 2 rings.
3. Your phone system may not have caller ID (sometimes you need to pay for the feature).
4. If you are using a PBX extension, your PBX might not support caller ID.

Email forward of messages fails

If you have email problems when using MAPI:

1. Do you have MAPI compliant email software installed? Eudora, Netscape Mail, Lotus Notes and Outlook(*) are MAPI compliant. If you do not have MAPI software installed, simply download and install the free version of Eudora from tucows.com.

2. Have you setup your email software as the default MAPI server? In Eudora use Tools / Advanced / MAPI / Always. In Outlook use Tools / Options / Make Default.

3. Are you running as a service under Windows NT/2000/XP? If so, you must change the "Log On As" password for the IVM Service to be able to send email. To do this, after you have set Run as Service, open Control Panel / Administrative Tools / Services. Double click on "IVM

Service", select the Log On tab, select this account and then enter the name and password of the user account IVM must use to send email.

4. *Outlook Problems: Some versions of Outlook cause problems because the automated send feature is disabled or it prompts you every time it needs to send a message (which defeats the purpose of automated email!). The easiest solution to this problem is to simply download the free version of Eudora from tucows.com. You will still be able to use Outlook as your main email application but you can setup Eudora simply for sending automated mail.

If you have any of the above problems you should consider using the IVM Internal Simple SMTP. To do this, click on the Email Settings button next to email on the Mailbox Properties box. Select Internal Simple SMTP and enter your ISP's mailhost server and your email address.

If you have email problems when using Internal Simple SMTP:

1. Have you entered your ISP SMTP mailhost server using the Email Settings button on Mailbox Properties?

2. If you receive an error message when attempting to send mail with SMTP your server may require authentication (ie. username and password) to send email. Use the format username:password@smtp.yourmailhost.com for the mailhost.

If none of the above solve your problem, please view the up-to-date IVM Online Technical Support at *www.nch.com.au/ivm/support.html*. If that does not solve your problem, you can contact us using the technical support contacts listed on that page.
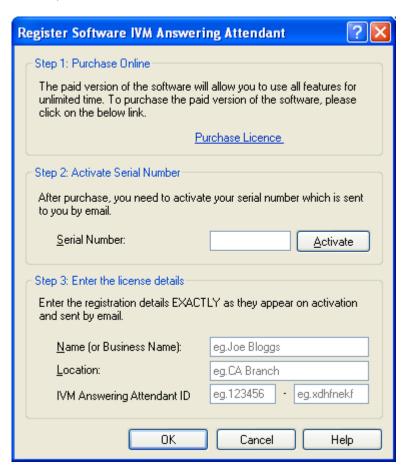
Purchasing and Registering IVM

IVM requires purchase and registration of a license for each installation of the software. You can view current pricing and purchase a licence online at *www.nch.com.au/ivm/register/index.html*. You can choose between a number of licence classes depending on the maximum number of lines, OGMs, and Voice Mailboxes require or whether Outbound Calls are required. Please refer to the table at *www.nch.com.au/action/reginfo.html#ivm* for details.

After buying a software licence you will receive two emails. One email is the 'Invoice/Receipt', and the other 'Software Purchase' email contains your full 11-digit licence serial number and instructions on how to use this serial number to activate your software licence.

This is done by selecting *File -> Register Software* from the IVM menu bar, entering the licence serial number in the 'Step 2: Activate Serial Number' section of the software's registration window, and clicking the <Activate> button. This takes you to the Activate Software page on our website, where you enter your personal registration details and then click the <Activate Software License> button at the bottom of the web page.

The licence registration and activation code details (Name - Location - ID - Key) will be displayed on your browser window, and they will also be automatically emailed to you.

Upon receipt of your registration and activation code, enter the code details - exactly as provided - into the 'Step 3: Enter the license details' section of the Express Burn software registration window, and then click the <OK> button:

NOTE: When you receive the email containing the registration and activation code you should heed the advice on that email and print out a copy of it immediately, and keep that hard copy in a safe place.

If your key is not accepted...

1. Check you have entered the Name, Location, ID and Key exactly as they appear on the email containing the license registration and activation code.

2. If the software license was purchased a while ago for a previous version of the software, the registration and activation code that you are using may not work with more recent versions of IVM. In this case you must purchase a license upgrade at *www.nch.com.au/upgrade*.

Backup IVM

Once you have registered and configured the software we strongly advise you to backup IVM in case your hard drive fails. The easiest way to do this is to save your IVM setup as an IVR program file - see **_Loading or Saving IVR Program Files_** for more information.

We recommend that you place a backup copy of the saved IVR program file and a copy of the 'ivmsetup.exe' software installation file on a portable medium such as a CD or a USB flash drive. Store this backup, and a hardcopy of the email containing your registration code details, in a safe place for future use - in case you have to reinstall IVM following a hard drive failure, or an upgrade to a different computer. (We do not keep copies of registration and activation codes or old software versions).

Software Licence Terms

1. The copyrights in this software and any audio or visual work distributed with the software belong to NCH Swift Sound. NCH Swift Sound reserves all rights. NCH Swift Sound licences the distribution and installation of this software only in accordance with these terms.

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3. This software, and all accompanying files, data and materials, are distributed "as is" and with no warranties of any kind, whether express or implied except as required by law. If you intend to rely on this software for critical purposes, it is essential that you should test it fully prior to using it for critical applications and you must assume the entire risk of using the program.

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5. You may not use this software in any circumstances where there is any risk that failure of this software might result in a physical injury or loss of life. Any such use by you is entirely at your own risk, and you agree to indemnify NCH Swift Sound from any claims relating to such unauthorized use.

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7. This software is free for evaluation use only. To use the software for professional purposes, you must purchase (register) a licence for each location (address) where the software will be used.

8. The contract arising out of this agreement is governed by the laws and courts of the Australian Capital Territory.

IVM
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www.nch.com.au/ivm/index.html

Main Window

Out-Going Message (Default Answer OGM)

This is the default OGM that is used to answer calls. You can select the OGM using the pull down list.

The default OGM can be overridden by the AutoHours Settings and the Line Properties.

If the OGM you want to select does not appear in the pull down list, tick the "List as answer OGM" option from OGM Properties.

You can right click on this pull down list to access the OGM menu.

On/Off button

Click this button to turn IVM On or Off.

This setting can be overridden by the AutoHours option and the OGM Properties for the answering OGM.

Voice Mailbox

Select the mailbox you wish to view using this pull down list.

You can right click on this pull down list to access the Mailbox menu.

In-Coming Messages

This lists all the messages in the selected mailbox. Select message by clicking on their file name.

The icon next to the message will be red when the message is new.

If you do not see any caller ID (or see Unknown) it means that your voice modem or telephony card does not support caller ID or your telephone company does not support the feature.

Play (F9): Click on the Play button to play the selected message. You can also doubleclick on the message or press the F9 key to play. If you do not hear the playback, tick that you have setup the Play Device and Volume in Settings.

Send (Ctrl+S): Click on the Send button to send the selected message(s) as an attachment to an email. You will be able to add optional text to the email after you click on the button.

Delete (Ctrl+Del): Click on the Delete button to delete the selected message(s). You can select multiple messages by holding down the Shift or Ctrl keys while selecting.

Save as Wav File (Ctrl+W) Press Ctrl+W to save the selected message(s) as wav file(s) on your hard drive. This is useful for legal or achive record purposes.

Transfer Message to Mailbox (Ctrl+T) Press Ctrl+T to transfer the selected message(s) to a different Voice Mailbox. When selected you will see a list of all the Mailboxes. Select the MailBox and click OK.

You can right click on the in-coming message list to access the Messages menu.

Keyboard Shortcuts:

F1   Help

F9   Play Message

Esc   Stop

Ctrl+F Off

Ctrl+O On

Ctrl+S Send Message by Email

Ctrl+T Transfer Messages to another Mailbox

Ctrl+W Save Message as Wav File

Ctrl+Del Delete Message

Ctrl+F9 Play Current OGM

Settings

To open the Settings dialog box, select the Settings item from the menu of the IVM Main Window.

Settings Tabs

> **General**
> **Telephony**
> **Caller ID**
> **AutoHours**
> **Call Transfer**
> **Audio**
> **Web Access**
> **Mailbox - see Mailbox Properties**
> **Prompts**

To close the Settings Box, click on the OK button.

Settings - General

General Options

Run IVM automatically

IVM can be set to run automatically when the computer starts. To enable or disable this, tick or untick the "Run IVM automatically as tray icon on Startup" option. If you want to use IVM for a permanent telephone service, you should select this option.

There are many modes of running automatically which you can select in the pull down list.

If you want IVM to run always irrespective of whether anyone is logged on select one of the "Run As Service" options. When running as a service IVM will work before logon and after log off.

By default when running as a service IVM will 'show' and be accessible to all users as an icon on the tray of task bar. You can change this to limit it to the current user or no users. If you plan to use Windows Terminal or Remote Desktop you probably should restrict IVM to a local user or no users because 'showing' on a remote desktop can sometimes knock out local devices because they attempt to use the remote devices!

Running as a service only takes effect the next time you restart the PC. You should also check that it works after restarting your computer. If you have any problems check any folders are accessible from the "Local System" account. If you need to send email from IVM using MAPI, you must change the "Log On As" password for the IVM Service. To do this, after you have set Run as Service, open Control Panel / Administrative Tools / Services. Double click on "IVM Service", select the Log On tab, select this account and then enter the name and password of the user account to use to send email.

Bring IVM to foreground when new message is received

When this option is ticked, IVM will open to the foreground when a new message is received. This is useful if it is important that you know someone has left a message, but you may want to turn it off if you are working on your computer and do not want to be interrupted.

Answer Mode

Answer calls after fixed number of rings

This is the default option (tollsaver off). Enter the number of rings to answer after. With hardware that supports caller ID, you should allow at least 2 rings because caller ID information is transmitted between the first and the second ring.

Tollsaver

If the Tollsaver is enabled, IVM will wait at least 5 rings before answering if there are no unplayed in-coming messages. If there are new incoming-messages, IVM will answer at 3 rings. When using remote access you can use this feature so you will not pay for a call when there are no new messages if you hang-up by the fourth ring.

Telephone Audio Play Process

Volume Level Adjust

The gain of audio playback on the telephone lines can be adjusted down or up from -8dB to +8dB. The default is 0dB.

Tone High Pass Filter

You can use a high pass filter to improve the intelligibility of audio on poor quality phone lines.

The filter is a soft (3dB per octave) high pass (low cut) filter. The filter is specified in Hertz. To turn the filter off, enter 0Hz.

Recommended settings are:

> Good Quality Lines - 0Hz
> Medium Quality Lines - 350Hz
> Poor Quality Lines - 1000Hz

If you use the filter you might need to add additional gain to the line at the same time (see above).

Compressor Threshold

This refers to an audio dynamic range compressor (sometimes called a compander) which should not be confused with the Audio Compression Format.

A compressor is in effect a very fast and automatic fader which attenuates the message level when it is above the "threshold" level. The attenuation is determined by the "compressor ratio" which is a ratio of input level to output level. The most extreme compression is limiting (an infinite ratio) which means that the mean level of the audio will not exceed the threshold level. The IVM compressor has a fixed ratio of 3:1 above threshold and infinite ratio (ie. limiter) above +3dB.

A compressor can improve playback where the levels or the messages are inconsistent (too soft or too loud) or where the line quality is poor and louder signals are distorting.

The default threshold is 0dB (almost off). If you find the levels of the playback are a problem, a compressor threshold of say -15dB might improve this.

Settings - Telephony

This is the list of all the telephone lines (PSTN and VoIP) currently configured for use.

They should include all voice modems or professional telephony devices as well as all of the VoIP lines that you wish to use.

Add

Adds a new line device. This button displays a list of all the available telephone line devices that may be added.

Select the *New SIP based VoIP Account* item to add new VoIP account details.

If you are attempting to add some hardware device and do not see that item in the list then refer to the Knowledge Base article "My Modem or Telephony Board is not listed as a valid telephony device" at *www.nch.com.au/kb/10045.html* on the NCH Swift Sound website.

Select the device that you wish to add, then click the <Add> button.

Remove

Removes the selected line device from the configuration.

Properties

Change the properties of the selected line device. For setting details see ***Settings ~ Telephony ~ Line Properties***.

Settings - Telephony - Line Properties - Hardware Line

This is for adding devices to connect to 'real' (non-VoIP) telephone lines.

Line Tab:

Line Name

User defined name for this telephone line. If you have multiple lines, it is useful to name each line so you can see clearly which line you are referring to. We recommend in multiple line setups that you name each line with the real number of the line.

End-Of-Call Detection

Use the end-of-call tone detection from both the hardware and its internal software detection. The default settings usually work well but if you find that calls hang up unexpectedly (during playback or record) or you have good hardware and want to reduce call online times, use these End-of-Call Tone Detection Settings.

Enable end-of-call tone detection during playback. By default this is off to stop the out-going audio being mistaken for an end-of-call tone by cheaper voice modem circuits. If you have a professional telephony device and are playing long recordings you might try turning this on so that IVM will disconnect immediately if the caller hangs up during playback. Otherwise IVM waits to the end of playback.

Enable software based end-of-call tone detection. By default this is on so IVM detects the end-of-call tone even when the hardware fails to detect it. This must be on if end-of-call tone detection during playback is off.

Call Detection Timing

Most hardware takes a little time to detect end-of-call tones or DTMF tone presses. The end-of-call or key press will only be reported after it has been recorded. To compensate for this IVM rewinds the recording a preset time so that the end of the recording is more exact. Because different hardware has different timing you may need to adjust these for optimal performance.

End-Of-Call Detect Delay (ms). This is the time that IVM trims a recording back after the end of call tone is detected. If you find your recordings are chopped off (at the end of a recording) reduce this time. If you find too much of the end-of-call tone is recorded, increase this time. (Note: if you find it is very long make sure you have enabled software end-of-call detection as described above). The default value is 4500.

DTMF Tone Detect Delay (ms). This is the time that IVM trims a recording back after a caller presses a key. If you find the recording is chopped off you can reduce this a little. Beware: a too short time can cause unpredictable results if a recording includes the DTMF tone itself because when that recording is replayed the tone will be redetected. The default value is 350ms.

Distinctive Ring Detection

For more information about the Distinctive Ring Detection settings, please see the **Distinctive Ring Detection** section of this manual.

Options Tab:

Answer OGM

By default, all lines answer starting with the default OGM selected in the pull down list of the IVM main window.

If you are running multiple lines, and want different lines to have different start OGMs (for example if different lines are doing different things), then you can override the Default OGM by using *Override Out-Going Message for this OGM* and selecting another answering OGM from the pull down list.

Disable CID Flash for this line

If you are running multiple lines, but want Caller ID Flash on only some lines, you can use this check box to disable CID Flash on the selected line.

For more information about CID Flash see: ***Settings - Caller ID***.

Allow outbound and message forward calls

When this option is ticked IVM will use this line when making outbound or mailbox message forward calls. Normally all lines should be ticked. If you have multiple lines and one is a priority incoming line that you do not want to be busy you can turn off outbound calls on the line.

When making outbound calls, IVM searches for a free line in the order the lines are listed. If you want IVM to prefer particular lines for outbound calls you should remove all lines and add the in the preferred order.

For more information see ***Outbound Autodial Calls*** and ***Mailbox Properties - Message Forwarding***.

Fax

These options determine what IVM does when it detects an incoming fax.

TAPI Fax Mode handoff

If this option is selected, IVM performs a TAPI Mode Handoff so any other TAPI Fax Software running on the same computer can take control of the call. Unfortunately, no fax software on the market at the time of release of this software works accepts a TAPI handoff correctly.

Dial this number

Many fax machines will let you activate them by dialling a digit or digits when you hear a fax tone. IVM can do exactly that when it detects a fax call. With the "Dial... then Hang Up" option, IVM can dial the digits to make your fax machine turn on and answer the call. Refer to the manual of your fax machine for more information.

For more information about Faxes and IVM, please see ***Fax Support***.

Settings - Telephony - Line Properties - VoIP Line

For an overview of VoIP please see the topic **Using Voice over IP (VoIP)**.

To receive (or make) VoIP calls with IVM you need to add a number of virtual VoIP lines. To add a line, or open VoIP line properties, use the Telephony tab of Settings. Lines can have the same details (to receive or make multiple calls on one line) or different details (for many numbers).

In order to have a VoIP number or 'SIP address' you need to sign up for a free Internet call server (for Internet to Internet calls) or a VoIP gateway service (for calls from real lines). See **SIP Service Providers** at *www.nch.com.au/talk/sip.html* for more.

Account Tab:

VoIP Account Name

This is the name that is used to identify the line - for example on the logs, the status window etc. It can be any text but we recommend something useful like "Line 1" or "5551234567 - 1" or "Help Desk line".

Lines can be duplicates of the same SIP number (to handle multiple calls on the same number) or have different line settings and numbers for different lines.

VoIP Connection Settings

Number of simultaneous calls allowed

SIP lines can have multiple connections at the same times. Set the maximum number of simultaneous calls allowed on this particular VoIP Account here.

Remember that IVM treats a line as being a concept that can only have one call on it at a time. If you set too many simultaneous lines you could exceed the total number of lines permitted under your IVM license class.

SIP Number (or User Name)

Enter the SIP number that you were assigned when you signed up with a SIP service provider.

Password

Enter the password you chose or were supplied when signing up with your SIP service provider.

Server (Proxy and Domain)

Enter the SIP server name that was given to you by your SIP service provider. If they ask you to provide a port for their SIP server enter the port number after a colon (eg. mysipserver.com:5060). If the port number is the default 5060 you do not have to enter it.

<Advanced SIP Server Settings> button

The Advanced SIP Server Settings only need to be modified if your SIP provider...

- uses different outbound and proxy server names, or
- uses different a user name for server authentication.

Outbound Server

This is the server where you send all data to when registering your SIP line and conducting phone calls.

Use the specified server as the outbound server - use the SIP proxy server as the outbound server.
Use a different outbound server - specify another outbound server.
Do not use an outbound server - select this option to disable the outbound proxy. This will essentially disable your SIP line, as you will not be able to send data anywhere on a LAN or the Internet.

Authentication User Name

This option allows a different username from the Sip Number (or User Name) used for the Sip line to be used to authenticate the connection to the SIP server.

Use the default User ID for authentication - use the Sip Number (or User Name) defined for the default Sip line for server authentication.
Use a different username just for authentication - specify another username to authenticate the connection to the Sip server.

Click <Restore Defaults> if you want to rollback any changes that you have made to the Advanced Line Settings dialog.

Networking Tab:

Internet Connections

These settings relate to the ability to connect over a network or the Internet. If your computer cannot determine what its external IP address is, you will have problems receiving and conducting phone conversations. **People with computers behind NATs or firewalls should pay careful attention to this section!**

Most of the options here are fairly advanced, so **don't change them** unless you understand them fully. This section is intended for network administrators or like-minded individuals.

Local SIP Port to listen on

The UDP port on your computer that will be used to create a SIP signalling connection. The default port used here is **5070**. If you have some other SIP software running on your computer you can pick another number (say 5071) to avoid a conflict.

* You must open this port on your local computer's firewall. Your router should be able to handle opening its own ports automatically, but if it can't then you may need to setup port forwarding.

Local RTP ports to listen on starting from

The UDP port on your computer that will be used to for the audio connection. The default port

here is **8000**. If the port is in use then the software will find the next available port.

* You must open this port on your local computer's firewall. Your router should be able to handle opening its own ports automatically, but if it can't then you may need to setup port forwarding.

Use uPnP to find external IP address

Uses the Universal Plug 'n' Play protocol to determine your external IP address. Note that if you are using Microsoft Internet Connection Sharing (ICS) over a LAN, you may need to enable uPNP. To do this, on the computer running Internet Connection Sharing select Start -> Settings -> Control Panel -> Network Connections and then right click on the Internet connection. Select Properties, go to the Advanced tab, and tick the option "Allow other network users to control the shared connection".

Use STUN servers to find external IP Address and Port

Uses the "Simple Traversal of UDP protocol through NAT" technique to ask a server on the Internet if you are behind a NAT or firewall, and if so, what your external IP address is. The default server addresses listed only need to be changed if both STUN servers are offline - in other scenarios you can leave them as they are.

Use static IP address and static mapped ports (Advanced Options)

This is where you can enter your external IP address and SIP/RTP ports if your computer or the gateway computer on your network connects to the Internet using a static IP address. Again, the default SIP and RTP port settings to try here are **5070** and **8000**.

If you are having problems with SIP calls and suspect the issue is network-related, then click the <Run Network Setup Wizard> button in order to launch a wizard that will guide you through the network troubleshooting process.

Advanced Tab:

Quality / Bandwidth

These settings relate to the choice of codec when making a phone call.

Prefer lower bandwidth (but with lower audio quality)

This options forces the use of a low bandwidth codec. Useful for slower Internet connections.

Use default settings (Recommended)

This option allows the software to select the choice of codec. The software will make the best compromise between quality and bandwidth.

Prefer higher quality audio (but using more bandwidth)

This option forces the use of a high bandwidth (and high quality) codec. Useful for faster Internet connections.

SIP Message Logging

Log all SIP messages

This will log all the SIP messaging data into a file.

Log all RTP (audio) packets

This will log all audio data that is sent and received.

Click the <View Logs> button to view the folder where these logs are stored.

SIP and RTP data are both stored in the one file for convenience. Files are split up according to day in order to avoid creating large files.

Options Tab:

Answer OGM

By default, all lines answer starting with the default OGM selected in the pull down list of the IVM main window.

If you are running multiple lines, and want different lines to have different start OGMs (for example if different lines are doing different things), then you can override the Default OGM by using *Override Out-Going Message for this OGM* and selecting another answering OGM from the pull down list.

Disable CID Flash for this line

If you are running multiple lines, but want Caller ID Flash on only some lines, you can use this check box to disable CID Flash on the selected line.

For more information about CID Flash see: ***Settings - Caller ID***.

Allow outbound and message forward calls

When this option is ticked IVM will use this line when making outbound or mailbox message forward calls. Normally all lines should be ticked. If you have multiple lines and one is a priority incoming line that you do not want to be busy you can turn off outbound calls on the line.

When making outbound calls, IVM searches for a free line in the order the lines are listed. If you want IVM to prefer particular lines for outbound calls you should remove all lines and add the in the preferred order.

For more information see ***Outbound Autodial Calls*** and ***Mailbox Properties - Message Forwarding***.

Settings - Caller ID

These options will notify you of the caller's number whenever a call is received by IVM.

To use caller ID with normal telephone lines:

1. Voice modem/telephony card must support caller ID (not all do).
2. The phone company must send caller ID information (sometimes you need to pay your phone company for this feature).
3. If you are using a PBX extension, your PBX must carry the caller ID to the IVM extension.
4. You must answer after 2 rings (the caller ID information is carried between the first and second ring).

All VoIP systems support caller ID.

Flash Caller ID of incoming call on screen

When this option is ticked, IVM will display the caller number and name of any caller as a bubble on the tray of the task bar whenever the phone rings so you can know who is calling. It does this even when IVM is in Off mode.

Announce Caller Name through Speakers

When this option is ticked, IVM 'says' the name of any caller through the speakers whenever the phone rings so you can know who is calling. It does this even when IVM is in Off mode.

If you don't see any voices in the pull down list it means you do not have a speech engine installed. You can download one of the text-to-speech engines using the links at *www.nch.com.au/speech/index.html* (the Microsoft engine is free).

Announce caller's number as digits

Some speech engines may normally say the number as a whole number (eg. "Forty eight million, one hundred and seventy two thousand, three hundred and ninety six") rather than as a list of digits (eg. " 4 - 8 - 1 - 7 - 2 - 3 - 9 - 6"). Enable this option to force the caller's number to be spoken as a list of digits.

Caller Blocking

This feature is used to block callers from particular numbers (for example to block abusive callers) or even block callers with caller ID turned off.

This feature works even when IVM is off. But you must answer after the second ring (because caller ID information is sent between the first and second ring).

Block Numbers

Enter the number that you want to block. To block more than one number list the numbers separated with ; (a semi-colon). You can also specify a number prefix - in which case IVM blocks all calls starting with that number.

Block Private or Unknown Numbers

When this option is enabled any call with caller ID turned off, blocked, or not carried by the network will be blocked.

If call is blocked... Disconnect the call immediately

If selected, IVM will pick up the call, play a short tone and then hang up on any blocked call.

If call is blocked... Answer with this OGM

If selected, IVM will answer the call with a special OGM which you can record. For example, you might select an OGM with the message "For security reasons we cannot accept calls with caller ID turned off. Please call from another phone which supports caller ID."

Settings - AutoHours

The IVM AutoHours schedule can be used to make IVM answer automatically only after business hours, to use different OGMs at different times of day or to change the number of rings to wait for at different times of day. This will save you having to manually turn IVM On/Off or select OGM every day.

Similar results can be obtained using the OGM Properties Date-Time Scheduling, but the system-wide AutoHours Settings are simpler.

To use AutoHours tick the "Use AutoHours" box and enter the applicable hours for weekdays, Saturday and Sunday. Then select what you want IVM to do between these hours and what you want IVM to do outside these hours.

Typical settings for a normal business offices are:

Weekdays	09:00:00	17:00:00
Saturday	09:00:00	12:00:00
Sunday	00:00:00	00:00:00

Between these hours: Do not answer calls

After hours: Answer with default OGM

NOTE: For AutoHours to work, the IVM <On> button on the main windows must be clicked "On".

Settings - Call Transfer

Transferring Calls

Before changing these settings you must read the topic *Transferring Calls* to understand call transfer.

Blind Transfer

Enter the digits that IVM needs to dial to initiate a blind transfer (usually flash pause '!,') and any suffix needed to complete the call (not often required).

If your TAPI hardware can transfer calls using hardware, you can tick the "Use TAPI hardware box". Otherwise, leave this box unticked to make the transfer by simply dialling the digits.

Confirmed or Answer Detect Transfer

Enter the digits that IVM needs to dial to initiate a confirmed or answer detect transfer (usually flash pause '!,'), the digits to dial if the call is accepted before hanging-up (usually nothing) and the number to dial if the call is rejected (usually another flash).

Simulate call transfers as a 3 party conference call

If your telephone company or PBX does not support call transfers but does support a conference call, IVM can use this feature to "simulate" a transfer. When you tick the "Simulate call transfers as a conference call", IVM will run through the normal steps to setup a conference call (thinking it is transferring the call) and then stay online for the call duration. (Note: Your phone line will be busy for the call duration).

This option is usually only effective with confirmed transfers, not blind transfers.

Settings - Audio

Recording Messages

Maximum Record Time: The default maximum record time for a message is 30 seconds.

Record Detect Level: This is for automatic voice activated recording and for end of call (silence) detection. If messages are not recorded fully, reduce this level (to say -36dB). If messages do not stop at the end of the call, increase this level (to say -15dB).

Delete Messages: IVM automatically deletes in-coming messages after a set number of days. You can change the number of days using this setting. A value of 0 means the messages will never be automatically deleted.

Set Audio Compression Format

If you are sending messages as attachments to an email, or uploading to an Internet access web page, you can use a number of different codecs to compress the audio (reduce the file size and download time). The recommended format is GSM 6.10 or DSP GROUP TRUESPEECH. For others see our codecs information page *www.nch.com.au/acm/index.html*.

Play Device and Volume

This is the device (sound card) that IVM uses to play messages through your speakers. If you have more than one sound card you can select the sound card to use with this pull down list. You can also adjust the playback volume.

Call Announce and Call Screen Device and Volume

This is the device that IVM uses to screen calls (see **Mailbox Properties**) and to play call announce messages (see **OGM Properties - Advanced**). You might want call screening or call announcements to be louder.

Settings - Web Access

IVM supports web access which, if enabled, lets you log onto the IVM using any ordinary web browser over your network or even the Internet (if you set your firewall to allow it). After you log in with your a mailbox remote access code you check the messages for that mailbox remotely.

To activate this feature tick the "Enable web control..." option and make sure the mailbox has remote access enabled with a suitable unique access code for each mailbox (see **Mailbox Properties**).

To offer the web access control panel this software runs as a mini web server. It runs on port 82 (the normal port is 80 but IVM does not use this in case you have another web server on the same computer).

To access your mailbox use one of the following address formats in your Internet browser.

http://localhost:port   eg. http://localhost:82 (if IVM is running on this computer)

http://computername:port   eg. http://mycomputer:82 (for use on a local computer network)

http://privateip:port   eg. http://192.168.0.1:82 (for use on a local computer network)

http://publicip:port   eg. http://212.137.22.14:82 (for Internet use)

http://domainname:port   eg. http://vrs.mycompany.com:82 (advanced option - if you have a DNS)

You need to make sure your firewall is not blocking the port (default port 82). Refer to your firewall settings to check the correct TCP/IP port is opened.

Speak to your network administrator about any networking problems you have. They can usually quickly fix routing or firewall problems.

Settings - System Prompts

The IVM System Prompts can be changed using the Prompts tab of Settings. To change a prompt, select the prompt, click on the Change button and then select Record / Load Wav/mp3 / Synthesize Voice from the menu.

Advanced Option. If you need two sets of prompts (for example one English and another French) create a copy of the System Prompts folder (C:\Documents and Settings\All Users\Application Data\NCH Swift Sound\IVM\System Prompts) somewhere else on your hard drive. For example (C:\Documents and Settings\All Users\Application Data\NCH Swift Sound\IVM\French Prompts).

Then at any point during the call to 'switch on' French prompts use the variable SystemPromptsFolder. In the Advanced tab of OGM Properties in the "Set local call variable" field enter "SystemPromptsFolder=C:\Documents and Settings\All Users\Application Data\NCH Swift Sound\IVM\French Prompts".

Mailbox Properties

Open Mailbox Properties using the menu item Mailbox->Properties, or <Settings> -> Mailbox -> Properties.

General

Mailbox General Properties

Use Call Screening

If you tick this box, you will be able to monitor the callers' messages as they are being recorded through your computer speakers.

To use call screening, you must also select the Call Screen Device and volume from **Settings - Recording**.

Sound beep through speakers when new messages

When the "Sound beep through speakers when new messages" option is selected, IVM will play a short tone every 15 seconds when there are new messages in the mailbox. This is useful to notify you when there are new messages.

Mailbox Message Notification

These features are normally used with a PBX to dial a number to turn on or off a mailbox light (see **Connecting to Telephone Key Systems or PBXs**). It can also be used to dial a pager number to set a pager message.

Enter the number to dial, followed by a comma followed by any DMTF digits to dial after the call is answered. You can use additional commas to add 500ms delay each comma.

When a new message arrives, dial

Dial this sequence when a new message has been left in the mailbox.

After a message is checked, dial

Dial this sequence when a message has been played by someone checking their messages via the telephone.

Mailbox Personal Greeting

Each mailbox can have a personal greeting that will be played immediately before the message is recorded only if the active command is set to play the personal greeting. In a single mailbox setup, you would not use this (the OGM would be the greeting), but with multiple mailboxes you might want to use a personal greeting for each mailbox.

Play Greeting

Click on the <Play Greeting> button to play the current mailbox greeting. Click on the button again to stop playback.

Change Greeting Audio

Click on the <Change Greeting> button to record a new greeting, import a wav or mp3 file, synthesize speech (text-to-speech) or restore to the default greeting.

To synthesize speech, you must have a speech engine installed. If a speech engine is not already installed with your version of Windows or if you want to add different voices, you can download one of the text-to-speech engines using the links at *www.nch.com.au/speech* (The Microsoft engine is free).

Minimum Voice Mail length

IVM will treat any Voice Mail that is shorter than the set minimum length as being too short, and will delete it without any further action.

Use system default

Use the system default, usually about 3 seconds, for this Mail box.

Customized for the Mail Box

Use this value for the minimum for this Mail Box.

Delivery

Remote Access

Tick this box and enter an access code if you want to be able to dial into IVM and listen to messages by telephone or by Internet using your web browser.

For more information about the telephone remote access feature, please see: **Remote Access by Telephone**. For more information about checking mailboxes by Internet see **Web Access**.

NOTE: The access codes must be unique for each mailbox. No mailboxes should have the same access code. Usually on large mailbox systems the access code contains a mailbox number and password (eg. mailbox 22 could have access code 22123).

If you tick the "Read Time of Message" option, the caller will hear the time that the message was called when they use Remote Access.

Send to Email

If this option is selected IVM will automatically send the message, or a notification of receipt of the message, to an email address.

To receive messages by email tick the "Send to Email" box, enter your email address and tick "Send audio file as attachment". If you only want to receive notification of receipt of a message (not the actual message), untick the "Send audio file as attachment" box.

If you are sending messages by email over slow Internet connections, you should consider setting

the audio compression format to reduce file size. See **Settings - Recording** for more information about settings the compression codec.

You can send emails to multiple addresses by listing them separated with commas. Additionally variables, normally retuned by a plugin, can also be used (eg. %emailaddress%).

This option can be used to send email notifications by SMS or a paging service. You need to use an email->SMS gateway (eg. www.kapow.co.uk). Change the subject and template text using the email settings as required by your email->SMS gateway. Of course, you should not attach audio to an SMS email!

To change the way emails are sent (MAPI/SMTP) or to change the default email subject line or text, click on the "Email Settings" button. See **Email Settings** for more information.

If you have a speech-to-text engine installed (eg. Dragon Naturally Speaking) IVM can be set to automatically transcribe the messages with the speech recognition technology. To enable this, tick the "use speech recognition" option and select the engine in the pull down list. Emails will then be sent with the transcription. Note that the default Microsoft engine is not good enough and that because almost all messages will be with "untrained" voices even with the best engines available today there will be many errors.

If you have problems with the send to email feature see **Troubleshooting Problems** for some solutions.

Upload to Internet Web Page using FTP

IVM can automatically create a web page on your web site where you can listen to your messages online.

To use this feature you must have a space on a web server which will be used for the web page. Most Internet Service Providers (ISPs) allow their customers to have some space to have their own web site free (usually subject to a maximum number of MB). If you do not know if your ISP offers the service, call your ISP and ask whether they offer that service.

IVM uploads the page (and the recordings) using FTP. To upload a file you need to know the ftp server name (eg. ftp.yourdomain.com), your user name, your password and the directory into which you want to upload the page (eg. /home/yourusername/www). If you do not know these, please contact your ISP.

Tick the "Upload to Internet Webpage using FTP" option and enter the ftp details.

The name of your page will be based on your mailbox name. It will be in lower case with all spaces replaced with '_' characters and with the '.html' suffix. For example, if the mailbox is called "Mailbox 1" the webpage to access will be "mailbox_1.html" on your website.

If you are accessing the page over slow Internet connections, you should consider setting the audio compression format to reduce file size. See **Settings - Recording** for more information about settings the compression codec.

You can apply a security password to the site if required. Speak to a web designer for more information.

NOTE: You must not have any other wav files in the same directory used by IVM because IVM will delete any unidentified wav files (it will think they are outdated

messages).

Send to (LAN) Folder

When this option is ticked, IVM copies the message (as a wav file) to any folder. This can be on the local computer or on the Local Area Network. This option is useful if you want to collect voice mail over your computer network. Create (shared) folders for each voice mail box. When IVM receives a message it will copy the wav file to that folder. The user can have a link on their desktop to that folder so they can check their messages at any time from their computer.

Forward to Telephone Number

When this option is selected, IVM will automatically dial a phone number after it receives new messages in the mailbox and offer the option to listen to the message.

You can also set the number of times IVM will attempt to forward the message and the wait time between calls.

If the "AutoAnswer" option is ticked, IVM will automatically detect when the call is answered and play the single message directly. This is useful if it is possible that a phone with an answering machine will answer the call. Even though the menu is not played at any time during the message the menu commands for delete and/or transfer message can be used (see **Remote Access by Telephone**).

IVM uses ring-tone and silence detection to tell if a call is answered in AutoAnswer mode. The timing settings can be adjusted using the **Outbound Autodial Calls** Settings.

The Forward to Telephone feature can also be used with some pager systems but remember to set number of attempts to 1.

Before IVM can forward messages by telephone at least one line must have "Allow outbound and message forward calls on this line" ticked on the Options tab of the line's Properties in **Settings - Telephony**.

Email Settings

Email Settings can be opened by clicking on the "Email Settings..." button from Mailbox Properties or from Send Email.

Sending using a SMTP Server

You must enter the SMTP mailhost used by your ISP for sending of mail (call them if you do not know it) and your email return address. If you have a problem when using SMTP, try sending an email manually from the main window of IVM to view progress and errors.

If when using SMTP you receive an error message, it might be that your server requires an authenticated login (a username and password) to send email. If this is the case, check (tick) the "Server requires authentication" box and enter your User Name and Password in the boxes provided.

Send directly to other side (work as own SMTP Server)

Email is sent directly by IVM using a simple internal SMTP server.

Email Template Text

When IVM sends an email, the subject line and email body text is created from a template text. You can modify this text as required. The variables %date%, %time%, %cid%, %callername%, %mailboxname%, %linenumber%, %linename% and %callsequenceno% can be included in the text in addition to any variables entered by the caller.

Example:

Subject   IVM Message Mailbox: %mailboxname% CID: %cid% %callername%

Attached is a message received in your voice mailbox by the IVM Telephone Attendant.

      Date: %date%
      Time: %time%
      CID: %cid%
      Caller: %callername%
      Mailbox: %mailboxname%

Open the attachment to listen to the recording.

OGM List

The Out-Going Messages List can be opened by selecting the "Out-Going Messages List" item from the OGM menu.

The OGM List is useful for managing all the OGMs in the system. Some OGMs (those that are not answering OGMs) can only be accessed through the OGM List.

Play

Click on the Play button to play the current Out-Going Message. To stop, you can click on the button again.

New

To create a new OGM, click on the "New OGM" button and enter the name of the new OGM.

To save you time when creating many similar OGMs, the New OGM function will duplicate the properties of the selected OGM into the new OGM. Before you click on the New OGM button, select the old OGM that you want to use as a base for the new OGM (the one that is most similar). This saves time when creating a large number of similar OGMs.

A relative path can be specified with the new OGM's name. In this way OGMs may be copied from one folder to another.

Examples:
• Entering *..\OGM 1* places the OGM named *OGM 1* into the folder one level up.
• Entering *Answer\OGM 2* places the OGM named *OGM 2* into the folder *Answer*.

Clone OGM

This is the same as New OGM. It is included to make it clear that the current OGM settings are cloned.

Delete

Click on this button to delete the selected OGM.

CAUTION: You must change manually all references to this OGM before deleting the OGM.

Rename

Click on this button to rename the selected OGM.

CAUTION: You must change manually all references to the OGM.

Refresh

Redraws the list.

Report

Selecting Report creates and opens a document listing all the OGMs with there scripts, menus and other properties. This is very useful when working with very large IVR systems. The report can be saved, copied or printed.

Properties

Click on the Properties button to change the properties for the selected OGM.

For more information, please see *OGM Properties*.

List Ordering

By default the list of OGMs are listed in alphabetical order. Alternatively the list can be ordered in 'logical' order. This starts with the current answering OGM and lists then OGMs making an attempt to follow the menu structure. This logical order can sometimes make it easier to follow the system.

OGM Properties

To open the OGM Properties dialog box, select the Properties item from the OGM menu of the IVM Main Window.

OGM Properties Tabs

> **Message**
> **Key Response**
> **Date-Time / ID**
> **Advanced**

To close the OGM Properties dialog box, click on the OK button.

OGM - Message

Out Going Message Audio

Play Message

Click on the Play Message button to play the current message. To stop, click on the button again.

Change Message Audio

Click the Change Message Audio button to record the message, import a wav or mp3 file or to synthesize speech (text-to-speech).

To synthesize speech, you must have a speech engine installed. If a speech engine is not already installed with your version of Windows or if you want to add different voices, you can download one of the text-to-speech engines using the links at *www.nch.com.au/speech/index.html* (the Microsoft engine is free).

End of the Message

This box determines what IVM does after the Out-Going Message has played if there has been no other interaction from the caller.

Wait

This is the silent wait time to wait for the caller to press keys. Under ISO/IEC13714 (*www.nch.com.au/ivm/iso13714.html*) this should be between 3 and 10 seconds depending on the menu complexity.

If the OGM asks the caller to leave a message, or is intended to sequence directly to another OGM without any other input from the caller, set the time to 0.

Repeat

This is the number of times that the OGM is repeated if the user fails to enter anything.

If user input is expected the recommended value is 2.

If user input is not expected (for example if OGM asks the caller to leave a message, or it sequences directly) then set this value to 0.

Then

This is the **Active Command** to execute at the end of the Out-Going Messages (after any required wait or repeats).

If the OGM asks the caller to leave a message, the active command would be "Leave Message for Mailbox..." with the "Use personal greeting" option not selected.

If the OGM is a sequence OGM, the active command would be "Go to OGM...".

If the OGM really needs the caller to input information, the active command would most likely be "Goodbye (Polite Hang-up)" after a wait and number of repeats.

Script Notes

This field can be used for any purpose. It is recommended that you paste the message script into this field because this will make it much easier to see what each OGM asks.

Where you use the synthesize speech option, the synthesized speech text will automatically be placed in this field.

List as an Answer OGM

To simplify the main window, and to reduce the likelihood of the user accidentally selecting the wrong default start OGM, you can select which OGMs will be listed as "Answering" OGM, that is, which OGMs can be used as the very first OGM at the start of the call.

If an OGM is not suitable to be the first OGM a caller hears, untick the "List as an Answer OGM" box.

OGM - Key Response

IVM has 2 key response modes - a single digit menu option and data entry for 1 or more digits (usually followed by the # key).

Menu (single key press)

When this option is selected, IVM will execute an **_Active Command_** when the caller presses a key.

For more information about using menus, please see the topic **_Using Menu Options_**.

Data Entry (variable)

When this option is selected the caller can enter a number (1 to 16 digits) followed by the # key. The number is then validated and then stored in a variable which can then be used later in the call.

For more information about data entry, please see the topic **_Data Entry_**.

IVM can validate the entry by range (minimum and maximum) or using a comma delimited list (for example to check an access code).

If the data entry dial string is from an automated system (like a PBX) the "Use special digits mapping function" can be enabled. Click settings to enter the string. A parsing string like X111X222 will map the second to fourth digits to variable 1 and the sixth to eighth to variable 2. This is useful for decoding PBX in band signalling (see **_Connecting to telephone key systems or PBXs_**).

When the caller has entered the maximum number of digits or the caller presses the # key the "Press '#'" active command is executed. **_To use data entry, you must select a valid active command for # or End._**

If you need to allow the # key during data entry (and to stop it being used as the data-entry-terminator) you can tick the option 'Allow # in data entry'. Then data entry is only terminated by the maximum number of digits being reached and if # is pushed it becomes part of the entered data.

OGM - Date-Time / CID

Date-Time Validity Checking

Use this option to change the way a call proceeds depending on the date, time or week day.

This can be used to have different call paths for business hours, to have particular OGMs scheduled to commence or expire on set dates (for example, for seasonal messages or to correspond with promotions) or many other date-time related functions.

Dates are entered in the format YYYY-MM-DD and times in HH:MM:SS.

Use Number ID Validity Checking

Use this option to change the way a call proceeds depending on the Caller ID (the number of the caller), the Dialled ID* (the number that the caller dialled) or the Distinctive Ring Number** (DRN).

To use the caller number id, your telephony hardware (eg. voice modem) must support caller ID (check its manual) and you should set IVM to answer after at least 2 rings.

This feature can be useful to detect which area the caller is calling from (based on the start numbers of the caller ID) and to change the OGM accordingly. This feature can also be used to "ban" certain numbers from the system.

NOTES:
* Dialled Number ID is only available with special telephone networks and hardware. Consult a telecommunications expert for more information.

** For more information about the Distinctive Ring Number (DRN) see **_Distinctive Ring Detection_**.

Both date-time validity checking and caller ID validity checking occur before the OGM starts so you can skip through a whole chain of OGMs without the caller being aware of this. This is useful if you need more complex validity requirements. Take care to avoid circular loops!

OGM - Advanced

Play external wav/mp3 file

Usually IVM copies any wav or mp3 file into the system when you use the "Change Message Audio" button from the OGM Properties Message tab. However sometimes it is necessary to play a file directly from your hard drive where, for example, that file is regularly changed by another program (for example the AudioTime programmable audio recorder and player - see *www.nch.com.au/atime/index.html*).

To use an external wav/mp3 file as the message, click on the "Play external wav/mp3 file" and then click browse.

Read out number after OGM

IVM can read out numbers from a variable that has been entered by the caller or returned from a plugin (eg. database results). This can be used to confirm data entry (eg. "the number you entered was...") or to return information to the caller (eg. "your account balance is...").

To use this, tick the "Read Out Number" box and enter the variable name. The variable name must *not* include the % characters.

You can also select the way IVM reads numbers. For example if the number to read was "1234", "Digits" would be "one two three four", "Number" would be "one thousand two hundred thirty four", "Dollars & Cents" would be "twelve dollars thirty four cents" and "Dollars Whole" would be "one thousand two hundred thirty four dollars".

The number is read at the end of the OGM. Usually this OGM would then be chained onto a further OGM using the "Go To" active command for the End of Message.

Text to Speech Voice Synthesis

When this option is selected, IVM will use the selected text-to-speech engine selected in the pull down list next to this option to synthesise the speech.

The text used is text entered in the "Speech/Notes" section under the Message tab of OGM Properties. You can include variables (circumfixed with %) in the script if required (eg. to read data returned from a plugin).

To synthesize speech, you must have a speech engine installed. If a speech engine is not already installed with your version of Windows or if you want to add different voices, you can download one of the text-to-speech engines using the links at *www.nch.com.au/speech* (the Microsoft engine is free).

Add entry to special log

IVM can create special logs of calls that play a particular OGM. including any data that the caller may have entered. These can be used to count the callers (and caller IDs) of callers that select a particular option, or to record the data that the caller has entered.

To create a Special Log, tick "Add Entry to Special Log". Enter the log file name and the log line format. The format can include any data field variables (between two % characters). You can also use the call variables %time%, %date%, %cid%, %callername%, %linenumber% and %linename%. If you are intending to import the log directly into a database or spreadsheet, we recommend you use commas to delimit each variable. (This is particularly useful when using IVM for customer surveys).

To open, print or delete logs, select the "View or Print Call Logs" item from the File menu.

Announce call through speakers

If you tick this and click browse to locate a file on your hard drive, whenever the caller reaches the current OGM, the wav file will be played through the speakers.

Often this can be used to play a wav file which might be a message "Call for Joe Bloggs... Please pickup line...". In the interim you select OGM audio which would probably be on-hold music or messages. When Joe Bloggs picks up the call, he presses a key which would be set using the Key Response line to make IVM hang-up immediately. That way the caller thinks they have been transferred but it really has just been on the same line. If the call is not picked up after the duration of the OGM on-hold music or messages file, IVM could be set to take a message.

Set Variables

When each OGM starts IVM can set variables which can be used later in the call (local call variables) or at any time in future (global variables).

The set string needs to be in the form variable=data. For example language=french will mean later you can use %language% almost anywhere in call flow settings and french will be substituted. Optionally more variables can be set separating each with & (eg. variable1=data&variable2=otherdata).

The local call variables apply to this call and last for the duration of the call only.

Global variables last forever (or until you set them to blank) and apply to other calls. They are one way something somebody does on one call can change other calls.

The other two common ways of setting local call variables are data entry and plugins. Global variables are commonly set or changed by other programs using an IVM command line option. See *www.nch.com.au/ivm/sdk.html* for more.

Run Exe or Run IVM Plugin

IVM can run an exe or plugin as the OGM starts. This can be used to run another program to open almost any file (a movie mpg for example), or an exe or plugin which could do almost anything on your computer.

For more information about running exes or plugins, please see the topic ***Using IVM Plugins***.

Tick this option then browse to the program you want to use. You can add command line arguments to the end of the exe if required. The command line arguments can include caller data entry variables, circumfixed with the % character or the call variables %time%, %date%,

%cid%, %callername%, %linenumber% and %linename%.

IVM can also run special IVM Plugins - an external program that IVM can run to process or obtain data. For example, if you are making an interactive voice response system to tell the caller the current temperature, a plugin could be used to read from the hardware and return the temperature to IVM. A plugin could also be used to restart the computer, access a database, process credit card orders and more. For more information about using plugins, please see the topic **Using IVM Plugins**.

If the exe is a plugin, tick "Is IVM Plugin Process". **You must not tick "Is IVM Plugin Process" unless the process is a true plugin!**

Notes

Notes