

**NCH Swift Sound
VRS Recording System
Audio & Telephone Recorder**

*This user guide has been created for use with VRS Version
5.09. More information on other versions of VRS can be
found at www.nch.com.au/vrs.*

VRS

Contents

Page 3 -	About the VRS Recording System (Overview)
Page 5 -	Getting Started with VRS
Page 6 -	Options
Page 7 -	~ General
Page 9 -	~ Channels
Page 10 -	~ Recordings
Page 13 -	~ Transmit
Page 15 -	~ Database
Page 17 -	Channel Properties
Page 20 -	Date-Time Scheduling
Page 21 -	Find and Play Recordings
Page 24 -	Audit Logging and Call Cost Estimates
Page 26 -	Using Recording Logs and Data
Page 27 -	Virtual Audio Sources (VoIP)
Page 28 -	DTMF Dial Digits Detection
Page 29 -	Hardware Control Connection
Page 31 -	Password Options
Page 32 -	Trouble-Shooting Problems
Page 35 -	Purchase and Register the Software
Page 37 -	Software Licence Terms

Online Resources

VRS Home Page - www.nch.com.au/vrs/index.html
VRS FAQ (frequently asked questions) - www.nch.com.au/vrs/faq.html
VRS Software Development Kit (SDK) and API - www.nch.com.au/vrs/sdk.html
Sound Card & Call Recording Hardware Information - www.nch.com.au/vrs/acc/index.html
Telephone Recording Guide - www.nch.com.au/hardware/setup/callrec/index.html

Technical Support

If you have difficulties using VRS please read the applicable topic before requesting support. If your problem is not covered in this manual (including the **Trouble-Shooting Problems** page) please view the up-to-date VRS Online Technical Support at www.nch.com.au/vrs/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 VRS 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.

VRS Recording System

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www.nch.com.au/vrs/index.html

About the VRS Recording System

The VRS Recording System is multiple channel automatic audio recording software for Windows.

Typical Applications

- Telephone line recording
- Radio station program logging
- Radio communication recording
- Control room voice communication logging
- Remote conference or other voice recording
- Remote monitoring of telephone recording
- Other specialized applications

VRS is designed to record 1 - 32 independent channels and processes and stores each channel separately. For a recorder that is more suited to recording many microphones in the same room in a combined synchronous form you should consider using the MSRS Multichannel (Synchronous) Recorder at www.nch.com.au/msrs/index.html.

VRS Features

- Record up to 32 audio channels simultaneously on one PC.
- Automatic voice activated, hardware port control or continuous recording modes.
- Date-time scheduling (eg. record at set times of day or days of week).
- RemoteMonitor to listen to remote recording live over a network or internet with TCP/IP streaming.
- Signal processing including automatic level control, high pass filters, hum filters and more.
- Advanced audio compression with selectable codec to reduce file size. Supported file formats include wav, mp3 and gsm with many other codecs including G711, CELP, Truespeech and more.
- Find and play recordings ordered by date and channel or from other computers on the local area network.
- [Phone Recorder Mode Only] Logs dialed numbers (DTMF) and if you have a modem that supports caller ID, VRS can also log the caller's names and phone numbers.
- [Phone Recorder Mode Only] Ability to calculate, display and log outbound call cost estimates for auditing.
- Mirror recordings to backup drive(s).
- Automatic upload of recordings to FTP server for web or internet access.
- Automatically send recordings to an email address in the background.
- VRS Remote Control can start and stop recording from other workstations on the network.
- Includes an API and SDK so your third party programs can control VRS recording (see www.nch.com.au/vrs/sdk.html). Plus VRS can be set to run other programs for special file processing.

Audio Hardware

Audio Connection

Audio for VRS can be from the following sound devices:

- The standard computer sound in (1 channel only). Just plug the audio source in.
- The standard computer sound in split to 2 mono channels. Buy a simple Y cable from your local electronics to wire 2 mono sockets to a stereo plug. Then using Channel Properties assign one channel to "left mono" and the other to "right mono".
- Multiple sound cards in one PC. Depending on slots and resources you can install up to 3

sound cards in one PC. Each stereo input can be split (ie. a total of 6 inputs). This requires a bit more technical work than a multichannel card (next).

- Multiple channel sound cards. There are many multichannel sound cards on the market today - see www.nch.com.au/vrs/acc/index.html to find links. VRS can be setup to use these channels. You can probably also install multiple devices to get more channels (check with the manufacturer first).
- USB sound devices. USB devices usually can be used with a hub to connect many devices to one PC. Most modern USB sound devices let you do this (but check with the manufacturer before purchasing). Stereo devices can be split (see above).
- Professional Telephony Boards [for Call Recording]. Professional telephony boards including CallURL and CAHTA be used directly. They can usually be purchased in 2/4/8 line versions and many can be installed in one PC. They also have the advantage of allowing caller ID and hardware control. See www.nch.com.au/hardware/telephony.html for more information.

The noticeable exception is that VRS does not record through voice modems. For that you need the TRx recording software (see TRx Manual Call Recorder at www.nch.com.au/trx/index.html).

Telephone Call Recording

For recording telephony calls you should either:

- Telephone Interface Connectors for each line. In USA or Canada, Radio Shack (Tandy) supply a FCC approved unit for \$US22 (cat no. 43-228A or 43-1236). But there are many better quality units available. You can also order these types of connectors online using the links from www.nch.com.au/hardware/callrec.html.
- A Professional Telephony Board (multiline). Both CallURL and CAHTA make these in 2/4/8 and more line version. See www.nch.com.au/hardware/telephony.html. The boards cost more but include multichannel sound, caller ID, hardware control and telephone connection in one turn-key unit.

If you are using VRS to record telephone lines, you should compare TRx Personal Call Recorder at www.nch.com.au/trx/index.html. The difference with the TRx call recording manual (where the user must start recording manually) is that VRS automatically records. TRx only records a single line where VRS records up to 32. TRx uses a voice modem rather than a telephony card.

For more information about technical setup please refer to **Options**.

To use the software you must purchase a licence for each installation at a specified location (address) where the software will be used. For more information about purchasing a registration, please visit www.nch.com.au/vrs/register/index.html.

If you need to transcribe recordings made by VRS, we recommend you download Express Scribe (free) from www.nch.com.au/scribe/index.html. It is playback software designed specifically for transcription work including variable speed playback, hot-key or foot pedal control and more.

A Sound File Editor and Sound File Converter are also available free from www.nch.com.au/wavepad/index.html and www.nch.com.au/switch/index.html if you require.

VRS is part of the NCH Swift Sound suite of Business Audio Software. For more information including free downloads, please see www.nch.com.au/software/index.html.

Getting Started with VRS

If you are new to the VRS Recording System you should refer to this manual to understand how to setup the software correctly. You can also press the F1 key at just about any time while using VRS to view context sensitive help about the screen you are looking at.

VRS has been pre-configured to have one channel voice-activated with your default sound device. This channel can be setup in 5 different control modes: continuous, manual, voice activated and telephony or hardware device control. Please note that for the VRS Basic (1 channel) and VRS Lite (1 - 3 channels) license classes, voice-activated recording is the only control mode available.

You can setup VoIP lines by selecting Add Virtual Audio Sources (VoIP) in Options → Channels. You can also download the free virtual PBX server Axon (see www.nch.com.au/pbx/index.html) that will automatically set up 10 lines for VRS to record.

For additional hardware, including sound cards and (if required) hardware controllers or (for phone recording) telephone adapters, you should review www.nch.com.au/vrs/acc/index.html. That web page has the most up-to-date model recommendations, comments and pointers to where you can purchase.

If you have any problems when using VRS and the Help Manual does not assist, technical support is available online at www.nch.com.au/vrs/support.html. That page lists solutions to common problems and gives the contact details of NCH Swift Sound technical support.

After you have tested the software, under the license terms you must purchase a registration for each installation. If you have already purchased, select Register Software from the File menu and enter your licence registration and activation code. If not, you can purchase with a credit card online at www.nch.com.au/vrs/register/index.html.

Options

To open the Options window, select Settings → Options from the menu bar, or click the <Options> button below the menu bar on the VRS main window.

- ~ **General**
- ~ **Channels**
- ~ **Recordings**
- ~ **Transmit**
- ~ **Database**

Options ~ General

Run VRS automatically on Startup

VRS can be set to run automatically when the computer starts. To enable or disable this, check (tick) or uncheck the "Run VRS automatically on Startup" option.

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

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

By default when running as a service VRS 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 VRS to a local user or no users because 'showing' on a remote desktop can sometimes knock out local sound devices because they attempt to use the remote devices!

Running automatically as a service only takes effect the next time you restart the PC. Therefore you should confirm that it works after restarting your computer. If you have any problems check any folders are accessible from the "Local System" account.

Display Icon on Tray of the Task Bar

VRS will usually appear as an icon on the Tray on the Taskbar. To hide the VRS icon (and the splash screen), uncheck the "Display Tray Icon" box.

Allow others to listen live with RemoteMonitor

When this option is enable you can listen to any recording live over your network on the internet with the RemoteMonitor program. Download RemoteMonitor by following the links on www.nch.com.au/vrs/index.html.

To restrict those who can listen add a user name or password. If you do this, the user of RemoteMonitor will need the same UserName and Password to be able to connect to VRS.

When this feature is enable VRS listens for TCP connections on port 264. If VRS is running behind a Firewall or NAT Gateway device you must set it to allow connections on that port (and redirect connection to that computer). If you do not know how to do this, speak to your network administrator.

Allow network control with VRS Remote Control

If you are running VRS on a central server you can start and stop recording on particular channels from other workstations on the network using VRS Remote Control. To enable this feature tick this option enter a user name and password and install VRS Remote Control on each other workstation. More information is available on the Help Pages of VRS Remote Control.

Download VRS Remote Control from www.nch.com.au/vrs/vrc.html.

Enable Web Control Panel

VRS has a web control panel which, if enabled, lets you log onto VRS 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 username and password you can search for, play or download recordings directly. This is perfect if VRS is running on a remote computer.

To access the VRS Web Control Panel, tick the "Enable web control..." option and enter a user name and password.

To offer the control panel VRS runs as a mini web server. It runs on port 81 (the normal port is 80 but VRS does not use this in case you have another web server on the same computer).

To access the VRS Web Control Panel use one of the following address formats in your browser:

http://localhost:port (if VRS is running on this computer)
eg. http://localhost:81

http://computername:port (for use on a local computer network)
eg. http://mycomputer:81

http://privateip:port (for use on a local computer network)
eg. http://192.168.0.1:81

http://publicip:port (for internet use)
eg. http://212.137.22.14:81

http://domainname:port (advanced option - if you have a DNS)
eg. http://vrs.mycompany.com:81

You need to make sure your firewall is not blocking the port (default port 81). 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.

Options ~ Channels

Record Channels

VRS can record 1 to 32 channels. These inputs could be you from your standard sound device, additional sound cards installed in your computer or to the USB port, multi-channel sound cards or devices, or a professional telephony board.

When using ordinary stereo sound inputs VRS lets you split and record with the left and right channels as separate mono sources. This way a standard stereo input could be used to record 2 audio input sources. To split 2 mono inputs into one stereo input you will need a Y cable - ask at your local electronics store.

To change the number of channels or lines to record, use the Add or Remove buttons. To setup the channel, click on the "Properties" button or double click on the line.

See ***Channel Properties*** for more information about channel setup. The channel properties are important and should not be skipped.

Hardware record sample rate

This is the sample rate that VRS uses to input audio from the sound card(s). Check the documentation of your sound card for supported sample rates.

By default if you are using an audio compression codec (see the Recording tab) that sample rate will be used. This is the rate set when you set the wav file codec, or 8000 if you select GSM. If you select mp3, we recommend you specify a hardware sample rate.

For telephone recording or basic voice logging the recommended sample rate is 8000 (if your sound device supports it).

Virtual Audio Sources (VoIP)

VRS can also record from other audio sources that are from other computers on the network (or even over the Internet).

This can be used for a number of different applications. It is most often used with the Express Talk SIP Softphone to record the VoIP calls. See www.nch.com.au/talk/index.html for more information. Express Talk v 1.01 or later is required.

Run Server on TCP/IP Port

This port must be the same as specified in all the source software. By default it is 4080 and you should leave it as that unless something else on this computer needs to use that port. You must open that port with your firewall to allow connections.

Options ~ Recordings

Recording Options

Record file name format

You can select the file name format used by the VRS for audio files. Since recordings are usually displayed in file-name order, if you will usually want to search for a file by line then date select the file name accordingly.

Maximum record file length (file break time)

When VRS is recording long or continuous files it needs to break the recording into separate files. The default value is 60mins which is suitable for most logging applications.

If you are emailing or uploading files and want a quicker turnaround you can reduce this. Take care not to use too short times when recording continuously otherwise the number of files can increase rapidly.

File overlap time (after break time)

When a long recording 'breaks' to a new file, VRS can use a preset overlap time when the original and the new record file are both recording. This can be used to ensure that the voice at the break time may be easily transcribed. Only a few seconds should be necessary for this.

Align recording break times with time-of-day

If this option is checked (ticked), VRS attempts to align the recording break times to the time of day. For example, if you have a 60min maximum record time, VRS will attempt to break each file on the hour (rather than exactly 60mins from the start of recording).

Note that when this option is enabled the actual file length might not be exactly the record file length because VRS attempts to align the recordings to the time of day.

If this option is disabled, VRS breaks the file at the exact maximum record file length.

Prompt for Recording Data on start (manual recording only)

When recording is prompted manually, if this option is checked (ticked), VRS will prompt the user for additional text data (eg. a file number). This data is then logged with the recording and can be viewed and searched using Find & Play.

Stop Recording during Find & Play

When checked (ticked), recording is stopped when you open the Find & Play tool. This option is required if your sound card is not duplex (ie. it cannot play while recording).

Reduce file size using audio compression

If this option is Checked (ticked), VRS will compress the recording to reduce storage or upload requirements.

VRS currently supports the file formats ".wav", ".mp3" and ".gsm".

The Wave File Format ".wav" is a broad file type that supports multiple codecs within it. Click on "Set Audio Compression Codec" to see the options. Make sure you select a mono codec if you are recording mono from Channel Properties. See www.nch.com.au/acm/formats.html for a detailed explanation of codecs. Please note the ".wav" file format can contain MPEG-Layer 3 or GSM6.10 encoded audio, so for example a gsm encoded file can be either ".gsm" or ".wav".

MPEG Layer-3 ".mp3" files are very popular for music storage and VRS supports it for logging radio stations. You can select the bitrate using the "Set Audio Compression Codec". 128kbps is high (for stereo music). 8kbs is the low end (for mono voice). It is not very good for low bitrate voice encoding so we do not recommend mp3 for voice recordings.

GSM compression (".gsm" files) is commonly known because it is used for cell phone transmission. It is not the smallest file size but it makes a good compromise between quality and file size so we recommend it for phone and voice logging. Note: It always uses a 8000 sample rate.

Audio Quality Options

Line Hum Reduction Filter

If you have a hum or buzz on recordings, VRS includes signal processing to reduce some of this. Check the Line Hum Reduction box and enter the hum frequency. Usually hums are caused by power supplies which are 60Hz (North America) or 50Hz (rest of the world). You must set the hum frequency exactly for the hum reduction to work.

Hums are usually caused by cheap audio interface devices that have a low impedance microphone output (or do not have sufficient balancing isolation) being used with cheap sound cards that have poor high impedance microphone inputs. The ideal solution is to replace the interface or include an impedance matching or balancing audio transformer. Line hum reduction signal processing should only be used as the last option since it affects overall audio quality. Customers have reported success with the Radio Shack Ground-Loop Isolator (270-054) which can remove hums.

NOTE: Hum filtering places more demand on the CPU so do not use it if it is not necessary.

Low Frequency Cut Filter

Voice can have a high proportion of its energy in the low frequency bands that do not add much to voice intelligibility but can make the voice sound 'muddy' particularly when using audio compression (see below).

Turning on the low frequency filter with a low cut frequency of between 100 and 600Hz will make the voice sound less muddy (but 'thinner') which can improve the recording.

NOTE: Low cut filtering places more demand on the CPU so do not use it if it is not necessary.

Use Automatic Gain Control

If the input level is not constant VRS can apply signal processing to regulate the recording volume. For example, if you are recording telephone conversations but find the local and remote volumes are very different.

NOTE: Automatic gain control places more demand on the CPU so do not use it if it is not

necessary.

Detect and Log DTMF Tones

Only use this if you are recording telephone calls. When selected, VRS will log the outward dialed DTMF tones.

When DTMF tone detection is enabled you can also use VRS to create outbound call logs with optional call cost estimates. Click on the "Log & Audit" button to set this up. See the ***Audit Logging and Cost Estimates*** topic for more information.

If you have any false digits detected or misdetection you can adjust the DTMF detection settings. Click on "DTMF Advanced Settings" and see ***DTMF Dial Digits Detection*** for more information.

Auto-Delete

Delete any file shorter than (seconds)

Sometimes recording may be started unnecessarily when a (substantive) recording is not made. To save these files cluttering up your lists tick this option to set VRS to auto-delete the files if they are shorter than the set length (default 5 seconds).

Auto-Delete (Days)

VRS will automatically delete recordings after a set number of days to stop the hard drive becoming full. This can be between 1 and 800 days (over 2 years). To disable auto-delete, set it to 0. VRS auto-deletes files in the default internal recordings folder and the specific line folders.

Logging MD5 Verification

To provide security against possible tampering with recordings after they have been made, when this option is enabled VRS will log the MD5 checksum of each recording.

Options ~ Transmit

Send recordings by Email

If this option is selected, VRS will send all recordings to the specified email address as an attachment to an email. This can be useful if you want to listen to recordings remotely.

VRS can send email in two ways. Click the <Email Settings> button and select the method you wish to use:

Send using a SMTP Server

This is the process where the email is sent using a networked SMTP server. The SMTP server usually is provided by your ISP. Its role is to relay emails for you. You do not require an installed email client. You must enter the SMTP mailhost used by your ISP for sending of mail (ask them if you do not know it) and your email return address.

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)

When this option is selected the software sends the email directly to the remote persons email address using a simple internal SMTP server. No outgoing server relays the email.

NOTE: An SMTP server option is preferred. The problem with the direct method is that if the remote email server is down, email will fail. SMTP servers normally queue or spool mail for 12 hours.

Upload recordings via the Internet using FTP

If you have a FTP server or a website (with FTP access), select this option to make VRS upload all recordings to your server. This can be useful for backup purposes or to make the recordings available on the Internet (either public or private depending on your FTP server setup).

You must enter the FTP server (eg. ftp.yourdomain.com), your username, password and the exact full folder into which you want the files uploaded (eg. /home/yoursite/www/recordings).

If you have any problems with the FTP setup, we strongly recommend you attempt to login manually with FTP software (eg. WS_FTP, CuteFTP) to double check you have the correct full path to the upload folder.

Mirror all recordings to this folder

If you have a backup drive, or want to backup all recordings over the network, you can use this option.

NOTE: recordings are only transferred after recording and compression is complete.

Run external exe

This is an advanced option to allow IT professionals to add other transmit features to VRS - for example, to use a proprietary codec or to insert the file in a database.

If this option is checked (ticked), after VRS has completed compressing the file it will run the specified exe program. The program is usually a command-line program. The name of the file can be sent as an argument using %s, which VRS replaces with the full path to the file. Remember to include the full path to your exe (enclose it in "") and to enclose the %s in inverted commas too.

An example might be: "C:\Program Files\MyProgram\myexe" -myoptions "%s"

When you are running as a service you must consider the following:

Running as Local Service - Executables that have any form of display or input will fail in this mode. This also includes command line applications that display a DOS Windows/Command Window.

Running on a User Account - All executables should run correctly in this mode

Transmit Attempts Option

If email, ftp or network copy fails, VRS will wait a set time (default 600 seconds) and try again for a set number of attempts (default 3). If it fails after this the file is abandoned.

You can change the wait time and number of attempts. In order to help you fix mistakes during setup, VRS will automatically restart attempting any pending failed transmit after you close Options.

Options ~ Database

Database and Table Selection

Log Recording Details to Database

If this option is selected, VRS will log information regarding each channel's recording to a specified database. This can be useful if you want to keep a complete listing of each recording's details for future reference.

To be able to select this option you will need to have an ODBC Data Source already created (see following text).

Setting up an ODBC Data Source.

Go to Control Panel → Administrative Tools → Data Sources.

Under 'User DSN' Tab, Select 'Add' → Complete the Wizard by specifying a database driver, name and location.

When you click Log Recording Details to Database in VRS, you should now see the Database name you specified in Data Sources.

Database to Insert Into

Select from the Databases listed the one you wish to insert into.

If your database has a username and password specify these and test that your login details are correct. You must be able to access the database and have a correct login in order to insert into it.

SQL Command to INSERT

Specify what you require to be inserted into the database. An example insert statement follows:

```
INSERT INTO LogTable
("Date","Time","Channel","FileName","Folder","Duration","Data","MD5Value")
values
('%date%', '%time%', '%channel%', '%filename%', '%folder%', '%duration%', '%dial/data%', '%md5%')
```

Where:

- the field or column names are : Date,Time,Channel... etc.
- the keywords that VRS uses include:
%date%, %time%, %channel%, %filename%, %folder%, %duration%, %dial/data%, %md5%

Extra columns/fields may be used to store further information such as UserName, ComputerName, etc, providing a value instead of a keyword.

- To use your own fields please remember to place % around each other word you wish to insert. eg: %MyComputer%

You can then test the SQL command for using the correct syntax and the correct field names.

NOTE: You need to be able to connect to the database to test this syntax as it inserts and then removes the insertion in its test.

SQL INSERT Line Backup

If for some reason the Database file is not able to be accessed at any particular time, VRS will store the SQL command and attempt to insert it at the end of the next recording.

Besides receiving a Log Error when it fails the first time, it is possible to check that the SQL Commands are executed correctly by viewing the "C:\Documents and Settings\All Users\Application Data\NCH Swift Sound\VRS\failedSQLCommands.txt".

If the file doesn't exist, all INSERT commands have been successful.

CSV Logging Options

Log Recording

Instead of Logging to a Database, or along with, it is possible to log your recordings to a Comma Separated Value file.

This logging will not replace any lines in the selected file.

CSV files can then be read into Spreadsheets or used in conjunction with other files.

Simply specify the file name, (if it does not exist it will be created at the end of the next recording).

CSV Line to INSERT

Specify what you require to be inserted into the CSV file. An example insertion line follows:

```
%date%,%time%,%channel%,%filename%,%folder%,%duration%,%dial/data%,%md5%,Computer1
```

- Keywords that VRS uses include:

```
%date%,%time%,%channel%,%filename%,%folder%,%duration%,%dial/data%,%md5%
```

Extra fields may be used to store further information such as : UserName, ComputerName, etc, providing a value instead of a keyword.

- To use your own fields please remember to place % around each other word you wish to insert. eg: %MyComputer%

Channel Properties

To set the properties for any channel, click Options → Channels, select the device then click the <Properties> button.

Device Properties

Channel Name

This is the name of the channel or line that will be displayed on the main window and as part of the file name when you Find and Play the recordings.

Record Device Options

Record Device

Select the sound input device to be used to record this channel in the pull down list.

You can use a single shared stereo device to record 2 mono channels by selecting the same device for both channels but selecting Left for one channel and Right for the other. You might need a Y cable from your local electronics store to connect 2 mono sockets to a stereo plug.

Record Input

The default record input channel is "Windows Record Mixer". A better option is to select the required input channel which VRS will use directly. Usually this is "Line-In" or "Microphone", depending on the socket used. If you select a channel you can adjust the input Record Volume.

Telephony Device for Caller-ID

This option only applies if you are using VRS to record phone calls, your phone network supports caller ID and you have caller-id modem(s) or telephony boards in the computer. If all of the above apply VRS can log the number (and name) of callers using the modem to decode the incoming caller ID information. Tick this option and select the telephony device (CID supporting) in the pull down list.

Record File Folder

By default, all recordings are recorded in the internal VRS Recordings folder on the primary drive (C:\Documents and Settings\All Users\Application Data\NCH Swift Sound\VRS\Recordings).

You can override this by specifying a folder for any channel. This can be a single folder for all channels or separate folders for each channel.

Note: Do not be tempted to set VRS to record directly over a LAN or network - this would mean recording fails if the network fails (and the recording can use too much network bandwidth). If you want a copy of recordings over the network use mirroring instead (with audio compression) (see the Transmit tab of Options). That option means the files are compressed first and is fail-safe if the network is down for a short time.

WARNING: If you have the Auto-delete recordings option enabled, take care to select an empty folder - otherwise VRS will auto-delete all old files in the folder!

Stop/Start Properties

Record Start/Stop Control

Voice Activated Recording

If you select this option for a channel, VRS uses the input signal level to start and stop recording. When the signal level is above the threshold (default -18dB), recording starts. When it drops below the threshold level for more than the detect time (default: 12 seconds) recording stops. This detect time is not used as a delay in starting the voice activated line.

If you find that the recording does not start, you may need to increase the device record volume. If it does not stop, reduce the record volume. To adjust the record volume open the Windows Record mixer or adjust the input channel volume.

Hardware Control

If you select this option for a line, VRS recording is controlled by hardware connected to either a game controller port or a serial (COM) port. If you are recording telephone lines, this could be the Telephone Interface Device trigger.

If you are using a game port control device, a 4 button "Game Controller" device must be enabled from the Windows control panel. For more information, please see **Hardware Connection**.

Continuous Recording

If you select this option for a line, the line will be recorded continuously. A new file is created for every hour so that you can easily locate a particular recording.

This option is usually used only where you want to record 24 hours a day. For example, radio station program logging.

The file length is set from the Recordings tab of Options - "Maximum record file length".

Manual Recording

When this mode is selected, record can be started or stopped by clicking on the button corresponding to the channel on the VRS main window. You can also use start or stop by right-clicking on the NCH icon on the task bar tray and selecting the relevant channel.

This option must be selected if you want to let other programs control VRS using the Software Development API (see www.nch.com.au/vrs/sdk.html).

Telephony Device Control

With a professional telephony device such as a CallURL or CAHTA telephony board (see www.nch.com.au/vrs/acc/index.html for info), VRS can use that device to detect if a phone line is off-hook or not (in addition to obtaining caller ID information). This does not work on voice modems. To use this option you must have the "Telephony Device for Caller-ID" ticked and selected (see above).

Date-Time

You can set VRS to record only at certain times of day, week days and between commence and expiration dates. To do this, check the Date-Time option and click on <Schedule Recordings>. For more information see ***Date-Time Scheduling***.

Recording Tones and Prompts

Play Device

If 'Recording Tone' or 'Recording Prompt' have been selected, then a sound output device will need to be selected to play the audio for this channel. Simply select the device from the pull down list.

The default play output channel is normally your sound device.

Play recording tone every [secs]

In some environments you are required to play a tone while recording. To do this, tick this box and enter the number of seconds between tones.

Play 'recording started' prompt when recording starts

This option is usually only applicable when using VRS to record telephone calls with a professional telephony board. If you tick this option and select the correct play device (corresponding to the record device above) whenever recording is started a prompt will be played out the device.

You have three choices regarding the prompt options:

- you can choose to have no prompt played,
- you can use the default prompt (to hear it press <Play Prompt>),
- or you can use your own pre-recorded prompt; just locate the recorded mp3 file and press <Play Prompt> to check that it is in the correct format.

Date-Time Scheduling

To setup Date-Time Scheduling, click on the <Schedule Recordings> button next to the *Date-Time* option on the Start/Stop Properties tab of Channel Properties.

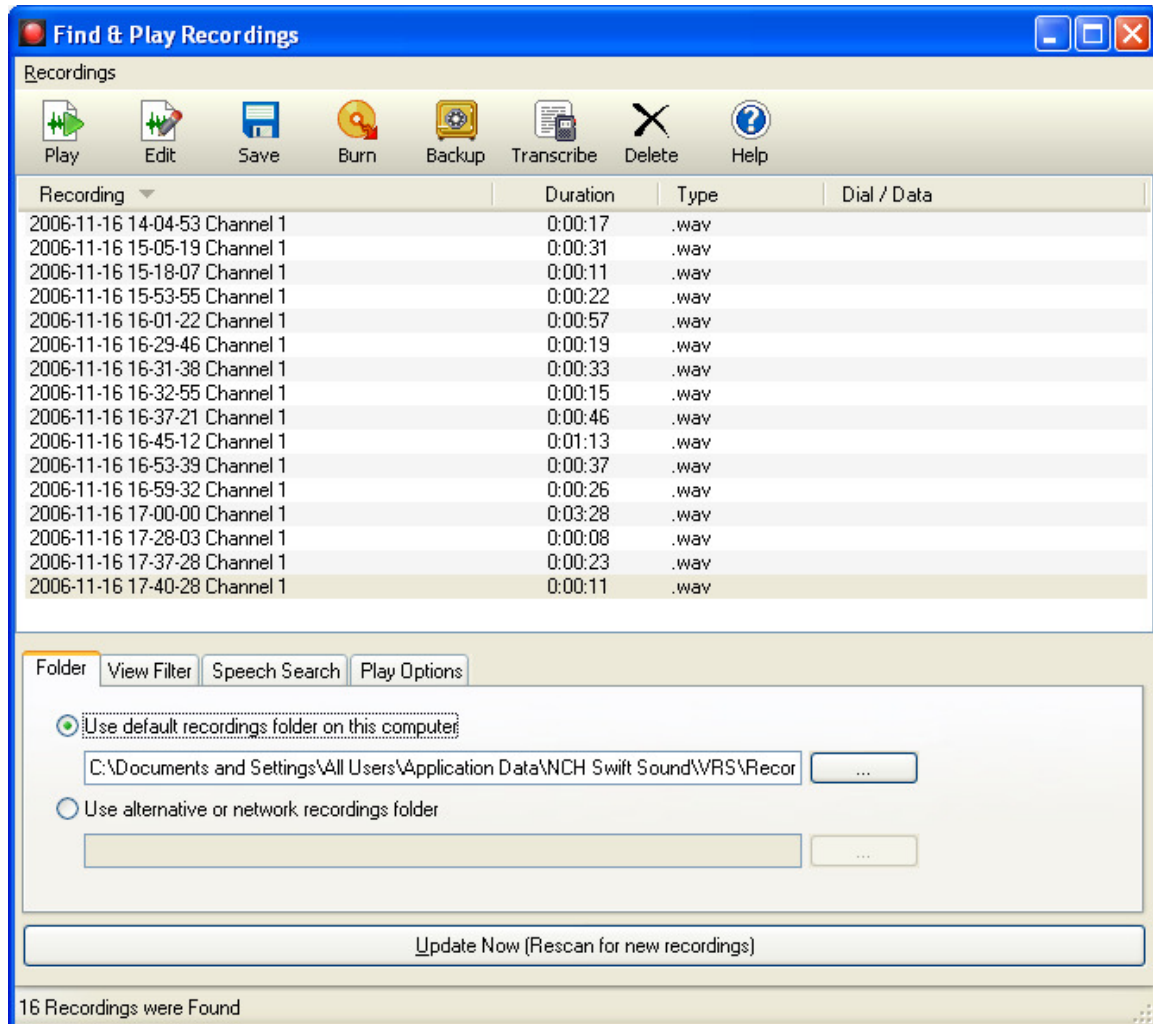
When using Continuous Date-Time mode for a line, VRS records the line during any of one of a list of Date-Time periods. The Date-Time periods can include a commence date, an expiration date, time of day, and days of week and are managed using the Date-Time list.

Dates are in the format dd/mm/yy or mm/dd/yy depending on you computer regional settings. Times are in the format hh:mm:ss.

Find and Play Recordings

Open the Find and Play Recordings dialog box using the menu File → Find and Play, or by clicking the <Find & Play> button.

All recordings will be listed by date, time and line (the order can be changed by changing the file name format using the Recordings tab of Options). The duration and dialed number (DTMF) will also be displayed.



Playing a Recording

To play a recording select it and press <Play> or F9. When the Play Control Box opens you can move back and forward within the recording using the left and right arrow keys. To move to the beginning press Home. To move to the end press End. Press PgUp/PgDn for the previous or next tracks respectively and Enter to end.

Edit Audio

This will open the selected recording in Wavepad, a full featured professional sound editor for Windows. When editing audio files you can cut, copy and paste parts of recordings and, if required, add effects like echo, amplification and noise reduction.

WavePad works as a wav editor or mp3 editor but it also supports a number of other file formats including vox, gsm, real audio, au, aif, flac, ogg and more. The program is designed to be a very easy and intuitive to use for audio editing. Within minutes you will be able to open or record a file and edit it. But if you take time to explore the other features you will find many powerful tools for editing audio designed with the professional sound engineer in mind.

Wavepad comes in two versions a free basic version and a masters edition. Downloading this software will provide you with a free trial version.

Save As

To save a recording as a wav, mp3 or gsm file in a different location on your hard drive or to a network folder, select the recording and click "Save As". On the Save Recording As window enter the file name and location to save it in, then click the <Save> button.

Send to Email Now

The selected file will be attached to a default email and sent to the address you specify.

Burn to CD-ROM

The selected files will be imported into Express Burn. Express Burn is also the fastest CD/DVD writing program in the world, using proprietary optimizing systems. It will also create an index file which it will begin burning immediately to a Data CD.

Compress and Backup

File sizes getting to large or do you wish to ensure you have a backup of your audio? Compress and Backup will provide you the choice of burning straight to a CD after compression or to a Backup Folder. It can compress in 3 different formats. The choice of compression depends on the particular audio settings that determined the quality of the sound file that was recorded. Please test that the compression type is sufficient in size and quality of audio for a sample file. Compressing and backing up does not effect your original audio recording.

Convert Sound File

Converts the audio file(s) to a different format using Switch. Switch audio file converter is very easy to use. With the selected files added into Switch, select the format you want to use, and then click the convert button. Switch supports converting to wav (PCM, ADPCM+, aLaw+, uLaw+, and others), mp3, au, aif/aiff, gsm, vox, raw, ogg, flac, .rss, .amr+ and more.

Transcribe

Allow simple and easy dictation of files using Express Scribe. This computer transcriber application features variable speed wave playback, foot pedal operation, file management and more. This program is free, and may be downloaded from www.nch.com.au/scribe/index.html.

Deleting a Recording

To delete recordings, select them and click on the <Delete> button. You can select more than one recording by holding down the Shift key while selecting.

Folder Tab

By default, Find and Play lists only recordings in the local record folder. You can change the default folder for holding your audio files or you can change the alternative folder to suit your needs.

If you want to play files over your local area network, install this program on the other computer and point it to the folder that the Find and Play Window is referencing.

View Filter Tab

The View Filter Tab allows searching and filtering on what is displayed in the list view. You can search or filter what is shown by the text in each column, by the duration of the audio or by the date of the recording.

If you are using DTMF or caller ID logging (or other data), you can search for the recordings that contain that data (eg. to or from a particular phone number). Tick the "Show only recordings containing data" box, enter the data you are searching for and then click "Update Now".

Speech Search Tab

On the 'Speech Search' tab you can choose to search for keywords in the recordings. You must select an installed Speech Recognition engine (eg. Dragon Naturally Speaking, IBM Via Voice).

Currently we only support engines that are compliant with SAPI 4.0 (not the later and current version 5). Microsoft supplies a free 'Speech Command and Control' engine (filename actcnc.exe) and this can be located using an internet search engine. Please note any speech engine used must support Context Free Grammars. You can also optionally select a trained speaker for the engine.

If multiple times are found on your speech search, clicking on the file will provide a list of the "key found at" times. Speech searching places a bookmark to hold the place in the audio when multiple times are found so you can jump to the keyword

Play Options Tab

Set the Sound Play Device you use to play your audio file, also set the Variable Speed Slow and Variable Speed Fast that you can use to vary the speed of playback.

Call Audit Logs & Cost Estimates

This topic is only applicable when VRS is being used to record telephone calls.

VRS can display and log information about each outgoing call including extension, dialed number and call duration and can estimate the call cost according to a specified table. This information is displayed immediately (in the status window) and is logged in a csv format file which can be loaded by a database program (eg. Excel) for further analysis.

NOTE: In order for the necessary information about calls to be obtained for the logs, VRS must be used with a professional telephony board. For more information about these devices please refer to www.nch.com.au/hardware/telephony.html on our website.

From the Recordings tab of Options, tick the option "Detect & Log DTMF tones". Click on the "Log & Audit" button. When the "Call Logging & Audit Cost Estimator" box opens, tick "Use outbound call logging and cost estimating".

Display only call log & audit (suppress other system messages)

This option is used to clean up the status display. When this box is ticked normal status messages (eg. "Recording Started...") will not be displayed. You should only tick this box if you will be actively using VRS to display and note call costs. Otherwise, leave it unticked.

Number Pricing List

In order to estimate the cost of each call, VRS uses a table of starting dialed numbers with corresponding cents-per-minute rates. You need to enter this table by clicking the "Add" button then entering the starting digits and applicable rate.

VRS scans the list in the order that you enter them. Enter more specific values first (with more digits) then follow with less specific values later.

If there is no corresponding entry VRS uses the "All other calls..." rate.

Operation

Once you have setup the Number Pricing List, at the end of each call VRS will display the channel number, duration and cost estimate.

The information is also listed on the Call Audit Logs. To view or print the Call Audit Logs select File → View or Print Logs → ... select log → View.

These Call Audit Logs are stored in comma delimited (csv) format which can be imported directly into a database or spreadsheet program (eg. Excel). You can open these files in the C:\Program Files\NCH Swift Sound\VRS\Logs folder. The fields are:

Date(YYYY-MM-DD)
CallStartTime(HH:MM:SS)
LocalExtensionChannel
Dialed Number
Duration(Secs)
CostEstimate(\$.cc)

Warning about the Limits of Cost Estimates

- The cost estimates will always only be estimates. There is no way you will be able to enter a table as complex as those used by your telephone company. VRS also does not allow for different rates at different times of day.
- Cost estimates are based on the full call duration irrespective of whether the call is answered or not.
- If you are using voice activated mode it is possible that one call immediately followed by another without a sufficient hang-up time will be counted as one call. If this is a serious problem, consider using a hardware connection.

Using Recording Logs and Data

Using the menu "File → View, Print or Open Data Logs" you open a folder containing the VRS logs.

VRS logs a system log for each day. This shows every major event VRS performs. It is very useful to see what happened at a particular time (particularly if something went wrong). For example, if files were not transmitted properly you should see error messages on these system logs.

VRS also logs recording data as a csv file. These files can be viewed with Notepad or imported into a database (eg. Excel) or other software for further analysis and searching. The data logged is in comma separated form of "date,time,channelname,filename,duration,data".

The "data" field will include:

1. any "Prompt for Recording Data on start" entered data if you have enabled this option on Options → Recordings,
2. any data sent to VRS from other software using the VRS SDK,
3. any DTMF dial digits, and
4. caller ID, if supported.

Virtual Audio Sources (VoIP)

VRS normally runs with the audio connected to hardware in the computer on which it is running. However VRS can also link to other computers on the network or internet to receive audio using TCP/IP.

To do this you need software that will run as a source (eg. Express Talk VoIP Softphone - www.nch.com.au/talk/index.html). You also need to make sure the firewall allows TCP/IP connections on the Virtual Audio Sources port (usually 4080).

You need to add each 'source' using the Channels tab of Options. When you click <Add> you will be prompted for these properties:

Source Name

This is the channel name. It appears on the VRS Main Window and in the file names themselves.

Source Access Code

The access code is used to identify (and authenticate) sources. It should be something random - long enough to be a password. No two lines must have the same access code.

Note: The same access code must be entered in the source software.

Number of Channels for this Source

Virtual Audio Sources can have multiple connections at the same time. Set the number of channel connections for the source here and VRS will configure that number of channels for the source.

NOTE: Remember that VRS licensing is based on the number of channels that are required to be recorded by the software. If you set too many channels for a source you could exceed the total number of recording channels permitted under your VRS license class.

Record File Folder

By default, all recordings are recorded in the internal VRS Recordings folder on the primary drive (C:\Documents and Settings\All Users\Application Data\NCH Swift Sound\VRS\Recordings).

You can override this by specifying a folder for any channel. This can be a single folder for all channels or separate folders for each channel.

NOTE: Do not be tempted to set VRS to record directly over a LAN or network - this would mean recording fails if the network fails (and the recording can use too much network bandwidth). If you want a copy of recordings over the network, use mirroring instead (with audio compression) - see the Transmit tab of Options. That option means the files are compressed first and is fail-safe if the network is down for a short time.

WARNING: If you have the auto-delete recordings option enabled, take care to select an empty folder (otherwise VRS will auto-delete all old files in the folder!).

DTMF Dial Digits Detection

When running as a call recorder, VRS can log the digits dialed by the local caller. Enable this using the option on the Recording tab of Options.

The default DTMF Detection Settings should work as-they-are for almost all cases. If however you are getting digits missed or not detected you can click on the "DTMF Advanced Settings..." button to change them.

Stop detecting digits after...

If a call is made outbound you normally only want to log the phone number which usually happens in the first 10 seconds of the call. You do not want to log later digits (on say an IVR system). So VRS is set to stop recording the digits after 15 seconds.

Detect sensitivity level

DTMF tone detection is a balance between detecting all the digits and miss-detecting false digits. It depends on the quality and volume of the phone line. If you find you are getting digits missed or have false digits you can adjust the setting here.

NOTE: If you find yourself increasing sensitivity it might just mean your input level is too soft.

Hardware Connection

Audio Connection

Audio for VRS can be from the following sound devices:

- The standard computer sound in (1 channel only). Just plug the audio source in.
- The standard computer sound in split to 2 mono channels. Buy a simple Y cable from your local electronics to wire 2 mono sockets to a stereo plug. Then using Channel Properties assign one channel to "left mono" and the other to "right mono".
- Multiple sound cards in one PC. Depending on slots and resources you can install up to 3 sound cards in one PC. Each stereo input can be split (ie. a total of 6 inputs). This requires a bit more technical work than a multichannel card (next).
- Multiple-channel sound cards. There are many multichannel sound cards on the market today see www.nch.com.au/vrs/acc/index.html to find links. VRS can be setup to use these channels. You can probably also install multiple devices to get more channels (check with the manufacturer first).
- USB sound devices. USB devices usually can be used with a hub to connect many devices to one PC. Most modern USB sound devices let you do this (but check with the manufacturer before purchasing). Stereo devices can be split (see above).
- Professional Telephony Boards [for Call Recording]. Professional telephony boards including CallURL and CAHTA can be used directly. They can usually be purchased in 2/4/8 line versions and many can be installed in one PC. They also have the advantage of allowing caller ID and hardware control. See www.nch.com.au/hardware/telephony.html for more information.

The noticeable exception is VRS does not record through voice modems. For that you need the TRX manual call recorder (see www.nch.com.au/trx/index.html).

Telephone Call Recording

For recording telephony calls you should either:

- Telephone Interface Connectors (call recording adapters) for each line. In USA or Canada, Radio Shack (Tandy) supply a FCC approved unit for \$US22 (cat no. 43-228A or 43-1236). But there are many better quality units available. You can also order these types of connectors online using the links from www.nch.com.au/hardware/callrec.html.
- A Professional Telephony Board (multiline). Both CallURL and CAHTA make these in 2/4/8 and more line versions. See www.nch.com.au/hardware/telephony.html. The boards cost more but include multichannel sound, caller ID, hardware control and telephone connection in one turn-key unit.

Hardware Record Control

If you are using VRS with specialist record devices (eg. professional Call Record Interface units), your supplier may be able to provide a pre-made cable to connect between the device and the (Game Controller - Joystick) port of the computer running VRS.

If you have connected the cable, and the VRS Settings Box reports that no device is connected, you may need to enable a 4 button Game Device using the Windows Control Panel (under Game Controllers).

Devices can also be connected to a COM port.

For each channel, you must select the correct port and connection that will be used to control that line.

Technical Information

The following information is intended only for those who wish to create or link their own equipment. It requires a good understanding of electronics, computer hardware and game controller ports.

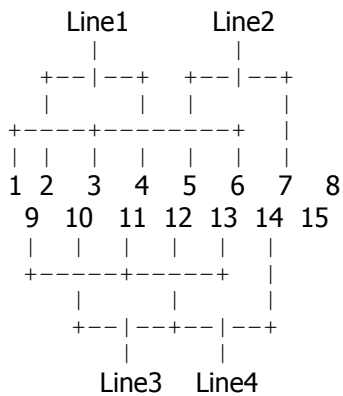
In order to trigger VRS in hardware mode, the hardware must connect the button switch for the line. For line 1 this is button 1 of port 1. Line 2 is button 2 of port 1. Line 5 is button 1 of port 2 and so on. Your equipment must "press" (connect to ground) these buttons to start recording, and disconnect when recording is to stop.

Important: The cable will also need to notify Windows that it is correctly connected. This can only be done by connecting the x and y axis of all ports to the +5V pin (see the diagram below).

Before you will be able to use the port, you must have a 4 button Game Device enabled from the Control Panel (under Game Controllers). A useful test is to connect a normal joystick and see if it triggers recordings on hardware lines.

The connection diagram follows:

Game Controller Port Wiring:



COM Port Wiring:

- 1 - CTS
- 2 - DSR
- 3 - RING
- 4 - RLSD

Password Options

VRS lets you restrict access to some functions and to require a password.

Use 'File → Password Options' to setup which VRS functions require a password. If you have entered a password before you will need to enter the password before you can change password settings.

Take care not to forget your password. The only way a password can be reset is by uninstalling and reinstalling the software.

Password Options

Options

If ticked you need the password to open the Options dialog box. Use this option to prevent users from changing settings.

Find and Play

If ticked the user will need to enter the password before being able to open the Find and Play window to access prior recordings.

View Change

This lets you restrict a user's ability to change the view of the main window. With this option enabled, without a password a user will not be able change how many lines are displayed by selecting any of the compact, full or standard view options.

Delete Recordings

There may be a reason the administrator may wish to grant access to the Find and Play Window but restrict the ability to delete any recordings. This now has a password check upon both toolbar and menu items in this window.

Exit or Stop

If you Exit VRS recording stops. So tick this option to make 'Exit' password protected.

Trouble-Shooting Problems

Recording does not start

Recording does not stop

Recording is broken into smaller files

If you do not see the black VU meters moving on the main screen of VRS you might need to manually select your sound record device. Go Options → General tab → Record Channel → Properties and select the record device (sound card) to use for the channel from the pull down list.

If you see the VU meters moving on the main screen of VRS but it still does not start recording you may need to check your Record Start/Stop control mode for the channel. The Record Start/Stop Control mode is set using the "Channels Properties Box" which you open using Options → General tab → Record Channels → Properties.

If you are using Voice Activated Recording and recording never starts or chops off the ends, reduce the "Voice Active Detect Level". If it is very (-24dB or lower) then you may have a record volume problem (read below).

Record volume is very low

If the record volume is very low (which can also cause Voice Activated Recording mode to fail):

- Check you have setup the record volume to maximum. Go Options → General tab → Record Channels → Properties → Open Windows Record Mixer and adjust the volume of the correct input channel **.
- If you are using a 'microphone level' source, make sure you are plugged into the mic-in (not line-in) socket on the sound card. If there is only one audio-in socket on the sound card, see if the Windows Record Mixer has an Advanced option with +15dB or +20dB gain. If your sound card only has a line input (and no microphone input) and you want to use a microphone signal you may have to connect a microphone preamplifier.

** If Open Windows Record Mixer fails, it means your sound card drivers do not support the windows mixer interface. This is rare with popular cards today but can happen with specialist sound cards that provide their own mixer. The solution is that you need to manually open the mixer software provided with the sound card.

You hear a hum or buzz on recordings

If you have a loud hum or buzz on recordings, VRS includes signal processing to reduce some of this. Check the Line Hum Reduction box and enter the hum frequency. Usually hums are caused by power supplies which are 60Hz (North America) or 50Hz (rest of the world). You must set the hum frequency exactly for the hum reduction to work. Line hum reduction signal processing should only be used as the last option since it affects overall audio quality.

It is much preferable to solve the hardware problem causing the hum or buzz. Hums are usually caused by cheap audio interface devices that have a low impedance microphone output (or do not have sufficient balancing isolation) being used with cheap sound cards that have poor high impedance microphone inputs. The ideal solutions is to (a) replace the telephone interface, (b) include an impedance matching or balancing audio transformer or (c) install a professional microphone pre-amplifier between the interface and the line-in of the sound card. Speak to a audio-technician in your local electronics store.

Customers have reported success with the Radio Shack Ground-Loop Isolator (270-054) which can remove hums.

A large disparity in volumes

If there is a large disparity between different parts of the recordings, tick the "use automatic level (gain) control" item from the Recordings tab of Options.

Sending recordings by email fails

If you have email problems when using Internal Simple SMTP:

Have you entered your ISP SMTP mailhost server correctly on the Transmit tab of Options?

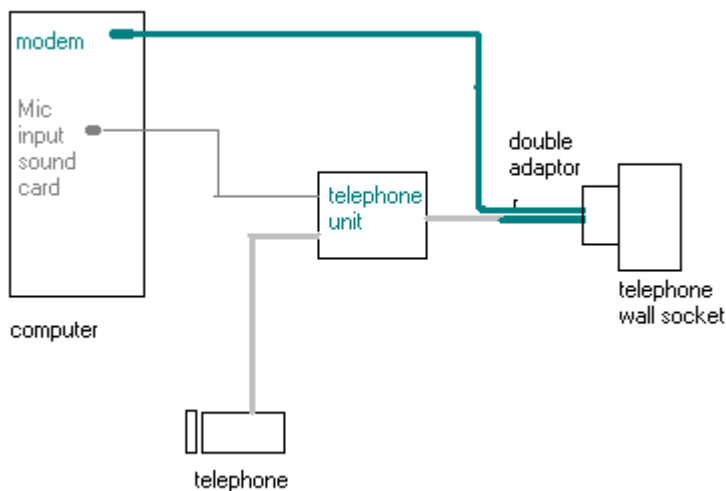
To turn the startup splash screen off

You cannot turn the splash screen off alone but if you turn off "Display Tray Icon" the neither the splash screen nor the tray icon will display.

You need an approved "Telephone Interface Unit"

In USA or Canada, Radio Shack (Tandy) supply a FCC approved unit for \$US19.95 (cat no. 43-228A or 43-1236). For interfaces for other countries and for the latest information about the hardware and accessories for VRS consult www.nch.com.au/vrs/acc/index.html.

The telephone unit/adaptor described above must be connected correctly.



This is just one of several different ways of connecting the system. The modem connection is for an internal modem and is optional. It is not necessary to have a modem or an Internet connection to run VRS.

For more information on setting up the telephone unit for VRS, please see **Hardware Connection**.

Checking the telephone unit.

If the computer in the above diagram is replaced by a cassette recorder (or some similar device) then the telephone conversations should be able to be recorded in a simple way. If there is no sound coming through or if there is a hum accompanying the sound then there is a fault in the unit or the way in which it is connected.

Audio files are too large

VRS is capable of compression audio files. You can select the audio compression format using Options → Recordings → Select audio compression codec. For more information on compression codecs, please visit www.nch.com.au/acm/index.html.

Unrecognised File Format

If your computer will not recognise the file format when saving or retrieving you might need to install a CODEC. The codecs are installed with Windows. If you chose not to install the "Audio ACM Drivers" when you installed Windows, you can install them now by running the Windows Install CD.

VRS Fails when using Windows Terminal or Remote Desktop

Make sure that the Run as mode (on the General tab of Options) is set so that the VRS does NOT run on the remote users account. If running as a service select "No Users".

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

Purchase and Register the Software

VRS requires purchase and registration of a license for each installation of the software. You can view current pricing information at www.nch.com.au/vrsregister. Take care to select your license class carefully, as many have restrictions on the number of lines used or choice of record modes.

After you purchase a software licence from us, 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 entering the licence serial number and your details at www.nch.com.au/activate on our website. Alternatively, you can select *File* → *Register Software* from the VRS menu bar and enter the license serial number into the 'Step 2: Activate Serial Number' section.

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

Select *File* → *Register Software* from the VRS menu bar, and enter your registration details, exactly as provided, into the 'Step 3: Enter the license details' section of the registration window:

Register Software VRS Recording System

Step 1: Purchase Online

To use this software you must purchase a licence for each installation of the software. If you haven't got one, please click on the below link to purchase it.

[Purchase Licence](#)

Step 2: Activate Serial Number

After purchase, you need to activate your serial number which is sent to you by email.

Serial Number:

Step 3: Enter the license details

Enter the registration details EXACTLY as they appear on activation and sent by email.

Name (or Business Name):

Location:

VRS Recording System ID - -

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 license registration and activation code that you are using may not work with a more recent version of VRS. In this case you must purchase an upgrade at www.nch.com.au/upgrade.
3. If your license registration and activation code has worked previously with the version of the software that you are using, the Key from the code may simply require updating. Contact NCH Technical Support using the email form at www.nch.com.au/support/regcontact.html on the website, and include the full details (Name - Location - ID - Key) of your code.

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VRS Recording System

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www.nch.com.au/vrs/index.html

Notes

Notes