



. : www.totalrecallvr.com : .

Total Recall VR LinX Virtualis

Quick Start Guide

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Related Documents:

- [1] Prolancer Pty Ltd, Total Recall VR web site. Available from:
<http://www.totalrecallvr.com/>.
- [2] Prolancer Pty Ltd, Prolancer web site. Available from:
<http://www.prolancer.com.au/>.
- [3] Prolancer Pty Ltd, Total Recall VR Deployment User Guide, 28.0, May 2022
- [4] Prolancer Pty Ltd, Total Recall VR Desktop User Guide, 19.0, May 2022

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1. Preface

1.1. Conventions

Our guides use several conventions to highlight certain words and phrases and draw attention to specific pieces of information.

1.1.1. Notes & Warnings

We use the following visual styles to draw attention to information that might otherwise be overlooked:



Notes are tips, shortcuts or alternative approaches to the task at hand. Ignoring a note should have no negative consequences, but you might miss out on a trick that makes your life easier.



Important boxes detail things that are easily missed: configuration changes that only apply to the current session, or services that need restarting before an update will apply. Ignoring the information will not cause data loss, but may cause irritation and frustration.



Warnings should not be ignored. Ignoring warnings will most likely cause data loss.

1.1.2. Typographic Conventions

We use typographic conventions to call attention to specific words and phrases. These conventions, and the circumstances they apply to, are as follows.

Example	Meaning
Select <u>Guide</u> to display ...	Locate the link named "Guide" on the screen, position the cursor over the link and then depress the appropriate mouse button to follow the link.
Select Add to create a new ...	Locate the button or menu item named "Add" on the screen, position the cursor over the button or menu item and then depress the appropriate mouse button to initiate an action.

Enter <i>Commission</i> ...	Locate the field named "Commission" on the screen, position the cursor over the field and then depress the appropriate mouse button to select the field. Once the cursor appears in the field, enter a value.
Choose <i>Country</i> ...	Locate the field named "Country" on the screen, position the cursor over the field and then depress the appropriate mouse button to display the available options. Then position the cursor over the desired option and depress the appropriate mouse button to select it.
Tick <i>Active User</i> ...	Locate the check box named "Active User" on the screen, position the cursor over the check box and depress the appropriate mouse button to place a visual tick in the box.
Un-tick <i>Active User</i> ...	Locate the check box named "Active User" on the screen, position the cursor over the check box and depress the appropriate mouse button to remove the visual tick in the box.
Enter 3* ...	Enter "3*" using the keys on the numeric keypad.
Enter \$30.95 ...	Enter "\$30.95" using the keys on your keyboard.

1.1.3. Procedures

We use numbered sequence of steps to define procedures for performing certain tasks. For example:

Procedure Title

1. This is the first step of the procedure.
2. This is the second step of the procedure.
 - a. This is the first sub-step of step 2.
 - b. This is the second sub-step of step 2.
3. This is step three.

1.2. We Need Feedback

If you find a typographical error in this guide, or if you have thought of a way to make this guide better, we would love to hear from you.

Please submit your feedback using the feedback form on our web site:
<http://www.prolancer.com.au/contact/feedback>.

If you have a suggestion for improving the guide, then try to be as specific as possible when describing your suggestion. Otherwise, if you have found an error, please include the section number and some of the surrounding text so we can find it easily.

2. Introduction

2.1. Thank You

Congratulations on your purchase of a Total Recall VR professional audio logging and call recording system. Thank you.

Total Recall VR is a professional audio logging and call recording system which is self-contained, fully featured and cost-effective. Enterprises and governments worldwide use it to create electronic records of many forms of audio communication including telephone, 2-way radio, broadcast radio, public address, room microphones and much more.

2.2. About This Guide

This guide contains information intended to get you recording with your new Total Recall VR as quickly as possible.

However, to enjoy the maximum benefit from your purchase we recommend that you carefully read the following additional documents:

- Total Recall VR Deployment User Guide
- Total Recall VR Desktop User Guide

2.3. What is Total Recall VR Virtualis

Total Recall VR Virtualis is a virtual machine image that can be run as a virtual guest on top of a virtualisation product such as [Oracle's VirtulBox](#) and [VMware Workstation](#).

The image contains a full installation of the Total Recall VR operating system and the Total Recall VR application that have been customised to run in a virtual environment.

Virtualis is capable of active recording on IP channels only, including but not limited to:

- SIP sessions (calls) via UDP/TCP ports.
- SIPrec sessions via UDP/TCP ports.
- Cisco BiB sessions via UDP/TCP ports.
- Unicast and multicast RTP streams via SPAN ports.
- Unicast and multicast RTP streams via UDP ports.
- RTSP sessions via UDP/TCP ports.
- ATC recording via ED-137B/C Part 4.
- RoIP (analogue, MPT-IP and DMR networks) recording via Tait VRP.
- RoIP (DMR networks) recording via Hytera HDAP.
- RoIP (analogue, DMR, P25, NXDN ... networks) recording via Omnitronics RTP.
- RoIP (analogue, DMR, P25, NXDN ... networks) recording via Zetron SIP logging interface.

3. Start Here

3.1. VM Requirements



We cannot guarantee the performance of the Virtualis instances as it largely depends on the hardware of the host that is used to run the virtualisation products and the hardware that is allocated to the Virtualis virtual host.

The following VM requirements apply to Virtualis:

- The equivalent of an Intel Atom D525 CPU and 4GB of RAM to record up to 30 sessions simultaneously.
- The equivalent of an Intel i5-3550 CPU and 8GB of RAM to record up to 60 sessions simultaneously.
- The equivalent of an Intel Xeon E5-2620 CPU and 16GB of RAM to record up to 120 sessions simultaneously.
- A minimum of 80GB disk space. However, 1TB disk space is needed for the maximum storage capacity (900,000 recordings and 60,000 audio hours).
- Two network interfaces.
- At least one USB 2.0 or 3.0 port.
- Access to a BluRay disc drive is optional and needed only if you wish to archive recordings to a disc.
- Serial and parallel ports must not be present.

3.2. Installation



If a ruling is required on the legality of recording in your country, please seek legal advice.

This product must not be used for illegal or unauthorised recording purposes.

Total Recall VR Virtualis OVA (open virtual appliance) packages are available for download from our web site. We do not ship installation media for Total Recall VR Virtualis.



Please visit <http://www.totalrecallvr.com/products/total-recall-vr-virtualis> to download an OVA package for Total Recall VR Virtualis.

Once you download the OVA package, please follow the instructions for your virtualisation environment to import the Virtualis VM.

When importing the VM we recommend that you configure the import to reinitialise the MAC addresses of all network interfaces.



Make sure that the virtual network interface that will be used as the LAN 1 interface by the Virtualis VM has a lower value MAC address than the virtual network interface that will be used as the LAN 2 interface by Virtualis VM.

When the import is complete and before you run the VM for the first time we recommend to:

1. Adjust the RAM (minimum 4GiB, preferred 8GiB or 16GiB for 60+ simultaneous recording sessions).
2. Adjust the number of CPUs (minimum 2, preferred 4 or 8 for 60+ simultaneous recording sessions).
3. Assign the physical NIC adapters to the 1st and 2nd network interface.

3.3. First Run

When you run a Virtualis VM for the first time:

1. The VM will start and go through its boot procedure.
2. At the end of the boot, the VM will re-configure the LAN interfaces and immediately shut down. This is deliberate.

Normal operation will commence from the 2nd boot of the VM.

3.4. Total Recall VR PC Application

One of the Total Recall VR PC applications, such as the Total Recall VR Desktop [4], is the only method of access to your Total Recall VR Virtualis.

You can install Total Recall VR Desktop on a PC by following the instructions in the Total Recall VR Desktop User Guide [4]. Then, to gain access to your Total Recall VR Virtualis for the first time:

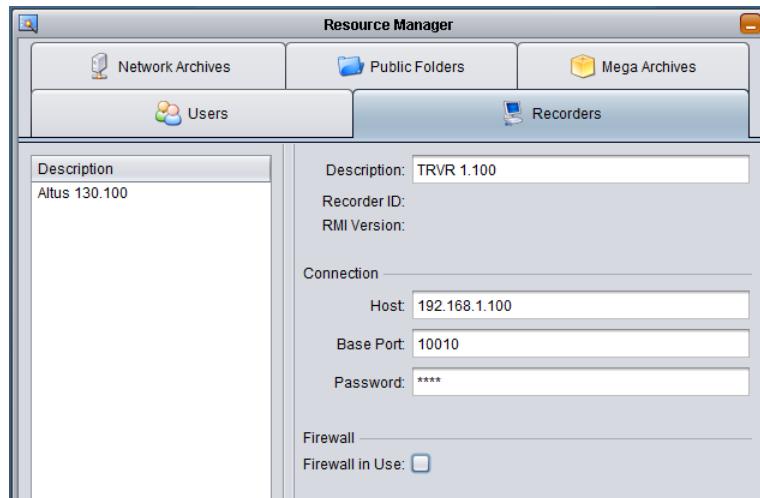
Connecting with Total Recall VR Desktop for the first time

1. Create a network that comprises of the PC that will run the Total Recall VR Desktop and Virtualis VM.
2. Configure the LAN port on the PC with the following IP address: 192.168.1.99 and the following netmask: 255.255.255.0.
3. Test the connectivity between the PC and the Virtualis VM by running the following command on a DOS prompt:

```
ping 192.168.1.100
```

You should see “ping” response from the Virtualis VM.

4. Start the Total Recall VR Desktop and use the Resource Manager to create a new Recorder as shown on the following dialog:



The **Password** is 0000.

5. After you create the Recorder record, you will be able to manage its configuration using the Recorder Control Panel.

3.5. Feature and Channel Key

Your Virtualis VM will not create any recordings until you apply a valid Feature and Channel Key.



You must purchase a valid Feature and Channel Key for your Virtualis VM and apply the keys to its configuration in order to activate recording.

4. Configuration

4.1. Default Configuration

Every Total Recall VR leaves the factory with a default configuration which enables it to start recording as soon as it is powered up.

In summary the default configuration is:

- The password for the Linux root user is “changeme”.



Do not change OS configuration files directly. If you do so, it is very likely that your Total Recall VR will stop operating as expected and will void your warranty.

Instead, use the PC applications (Desktop and Manager) to configure your Total Recall VR.

- The ID of the Total Recall VR is set to 1. If you have multiple Total Recall VRs we recommend that you assign a different ID to every Total Recall VR.
- The time zone is set to Australian Eastern Standard Time. The time and date are set to the current time and date in Sydney, Australia. We recommend that you change the time zone before starting to record.
- The default passwords for the administrator and the standard user are set to ‘0000’. We recommend that you change both to improve the security of Total Recall VR.
- The LAN 1 interface has an IP address of 192.168.1.100/24.
- The LAN 2 interface has an IP address of 192.168.2.100/24.
- The Remote Interface accepts connections from client applications on IP address 192.168.1.100 and TCP port 10010.
- All recordings will be kept when recorded irrespective of their duration.
- Recordings will not be deleted based on their age, but will be deleted when the occupancy of the disks reaches 95% or more, or the number of recordings reaches 900,000 or more.
- Automatic archiving of recordings is not enabled.

The following list is a summary of the default factory configuration.

General Settings

Language	English
Time & Date	
Use NTP	No
NTP Address 1	0.0.0.0
NTP Address 2	0.0.0.0
Date	Current date in Sydney, Australia
Time	Current time in Sydney, Australia
Time Zone Area	Australia
Time Zone City	Sydney
User Session	
Enable Timeout	Yes
Idle Timeout	2 minutes
Recent Calls	
Update Period	10 seconds
Records to Show	50
User Password	0000
Administrator Password	0000

Call Settings

Min. Call Length	Ignore
Max. Call Length	60 minutes
Max. Call Lifetime	Ignore
Recording Period	Not set (always recording)

Network Settings

Name Server (DNS)	Not set
Host Name	Not set
LAN 1	
IP Address	192.168.1.100
Netmask	255.255.255.0
Default Gateway	Not set
VLAN ID	Not set

LAN 2

IP Address	192.168.2.100
Netmask	255.255.255.0
Default Gateway	Not set
VLAN ID	Not set

Extension Settings

Enable Monitoring	Yes
Recording Mode	Record by Default
Enable Phone Keys	No
Start Recording Phone Key	*11
Stop Recording Phone Key	*22

License Settings

The parameters in this group are pre-configured with valid licenses.

Analog Settings

The analogue configuration does not apply to your system.

ISDN Settings

The ISDN configuration does not apply to your system.

VoIP Settings

Packet Collector	Disabled
VoIP Calls	Disabled
RTP Endpoints	Disabled
RTP Streams	None specified

Tait VRP

Enable	No
IP Address	192.168.2.100
UDP Port	9999
VOX Timeout	15 seconds
Address Type	MPT 1327
Fleets	None specified

SIP Media Server

Enable	No
SIP IP Address	192.168.2.100

SIP UDP Port	5060
RTP IP Address	192.168.2.100
RTP Base Port	7000
Trace Signalling	No
Firewall	Disabled
RTSP Media Server	
Enable	No
RTSP IP Address	192.168.2.100
RTSP TCP Port	554
RTP IP Address	192.168.2.100
RTP Base Port	13090
Trace Signalling	No
Firewall	Disabled

Archive Settings

Reminder	No
Auto Archive Every	No
Archive Device	Disc

Maintenance

System Information	
Recorder ID	1

Remote Manager

Use Dial-up	No
IP Address	192.168.1.100
Base Port	10010
Hostname	Not set
Maximum Sessions	5
Session Duration	2 hours

4.2. Pre-Recording Configuration

Your Total Recall VR will operate with its default configuration.



However, we strongly recommend that at minimum you change the following configuration in order to customise Total Recall VR to your business environment BEFORE you start recording.

General Settings

Time & Date

Date	Set it to your current date
Time	Set it to your current time
Time Zone Area	Set it to your time zone area
Time Zone City	Set it to your city
User Password	Change the password to improve security
Administrator Password	Change the password to improve security

Network Settings

Name Server (DNS)	Set it to the IP address of your DNS
-------------------	--------------------------------------

LAN 1

IP Address	Set it to an IP address for your network
Netmask	Set it to the netmask for your network
Default Gateway	Set it to the IP address of your gateway
VLAN ID	Set it to the VLAN ID for your network

VoIP Settings

RTP Streams	If required, specify RTP streams
RTP Stream Pairs	If required, specify RTP stream pairs
Tait VRP	If required, enable it and specify correct settings
SIP Media Server	If required enable it and specify correct settings
RTSP Media Server	If required enable it and specify correct settings

Maintenance

System Information	
Recorder ID	Set it to a unique ID if you have multiple recorders



We recommend that you restart Total Recall VR after completing the pre-recording configuration.

5. Basic Operation

To access Total Recall VR use the Total Recall VR Desktop application, or one of the other PC applications. The Total Recall VR Desktop User Guide [4] explains the Total Recall VR Desktop application in great detail. This section contains a summary.

Total Recall VR Desktop comprises of the following applications:



Resource Manager

Resource Manager is an application that provides for configuration of application resources such as users, Total Recall VR systems, location of network drives which contain Total Recall VR network archives, Public Folder archives and Mega archives.

This application appears on the desktop only, if and only if, the current user has administrative privileges for the application.



Criteria Builder

Criteria Builder is an application that provides for the creation, editing and sharing of comprehensive natural language search queries.

The queries that are created by this application can be shared by multiple recording explorer applications and the event player and monitor applications. In addition, the queries can be used as recording filter on the users' profile.

This application is always present on the desktop.



Audio Player

Audio Player is a powerful audio player application that provides for play of, and conversion between, all Total Recall VR audio file and encoding formats.

In addition to playing and media conversion, this application provides for sharing of recordings via e-mail and integrity check of recordings that are stored in the TRC file format.

This application appears on the desktop only if the current user has authority to play (listen to) recordings.



Event Player

Event Player is a powerful audio player application designed to play the mix of the audio from multiple recordings ordered in time. This enable users to recreate events that comprise of one or more recordings and listen to the audio of the events as it happened in time.

In addition to playing, this application provides for exporting events to popular audio file formats, sharing of events via e-mail and integrity check of event segments.



Disc Archive Explorer

Disc Archive Explorer is a recording explorer that provides for viewing, searching, exporting and managing of recordings that are stored in Total Recall VR disc archives.

This application appears on the desktop only if the current user has authority to search Total Recall VR archives and only when the application detects a disc with a Total Recall VR archive in one of the disc drives that are attached to the machine that runs the application.



USB Archive Explorer

USB Archive Explorer is a recording explorer that provides for viewing, searching, exporting and managing of recordings that are stored in Total Recall VR USB archives.

This application appears on the desktop only if the current user has authority to search Total Recall VR archives and only when the application detects a USB device with a Total Recall VR archive on one of the USB ports of the machine that runs the application.



Public Folder Explorer

Public Folder Explorer is a recording explorer that provides for viewing, searching, exporting and managing of recordings that are stored in Public Folders.

This application appears on the desktop only if the current user has authority to search Public Folders and only when the application has access to Public Folders.



Network Archive Explorer

Network Archive Explorer is a recording explorer that provides for viewing, searching, exporting and managing of recordings that are stored in Total Recall VR network archives.

This application appears on the desktop only if the current user has authority to search Total Recall VR archives and only when the application has access to network drives that contains one or more Total Recall VR network archives.



Mega Archive Explorer

Mega Archive Explorer is a recording explorer that provides for viewing, searching, exporting and managing of recordings that are stored in Total Recall VR mega archives.

This application appears on the desktop only if the current user has authority to search Total Recall VR archives and only when the application has access to the database and disk space used by the mega archive.



Recorder Explorer

Recorder Explorer is a recording explorer that provides for viewing, searching, exporting and managing of recordings that are stored on Total

Recall VR systems.

This application appears on the desktop only if the current user has authority to search Total Recall VR systems and only when the application can access Total Recall VR systems over the network.



Recorder Monitor

Recorder Monitor is a powerful application designed for real-time monitoring (listening) and observing of recordings in progress on multiple Total Recall VR systems simultaneously. It provides for real time display of recording meta data and waveforms as well as listening to multiple recordings in progress.

This application appears on the desktop only if the current user has authority to monitor recording in progress on Total Recall VR systems and only when the application can access Total Recall VR systems over the network.



Recorder Control Panel

Recorder Control Panel is an application that provides for remote configuration management of the configuration of Total Recall VR systems. In addition, the application has provisions for performing a comprehensive set of maintenance activities on Total Recall VR systems.

This application appears on the desktop only if the current user has authority to manage recorders.



Recorder Status Panel

Recorder Status Panel is an application that shows the status of Total Recall VR systems as well as the status of recording channels on Total Recall VR systems in near real-time.

This application appears on the desktop only if the current user has authority to manage recorders.

5.1. Recording

You do not need to interact with Total Recall VR in any way to log audio and record calls. Total Recall VR automatically records as instructed by its configuration.

5.2. Monitoring

Recordings that are in progress, and while in progress, are shown by the Recorder Monitor.

Recorder Monitor is a powerful application designed for real-time monitoring (listening) and observing of recordings in progress on multiple Total Recall VR systems simultaneously.

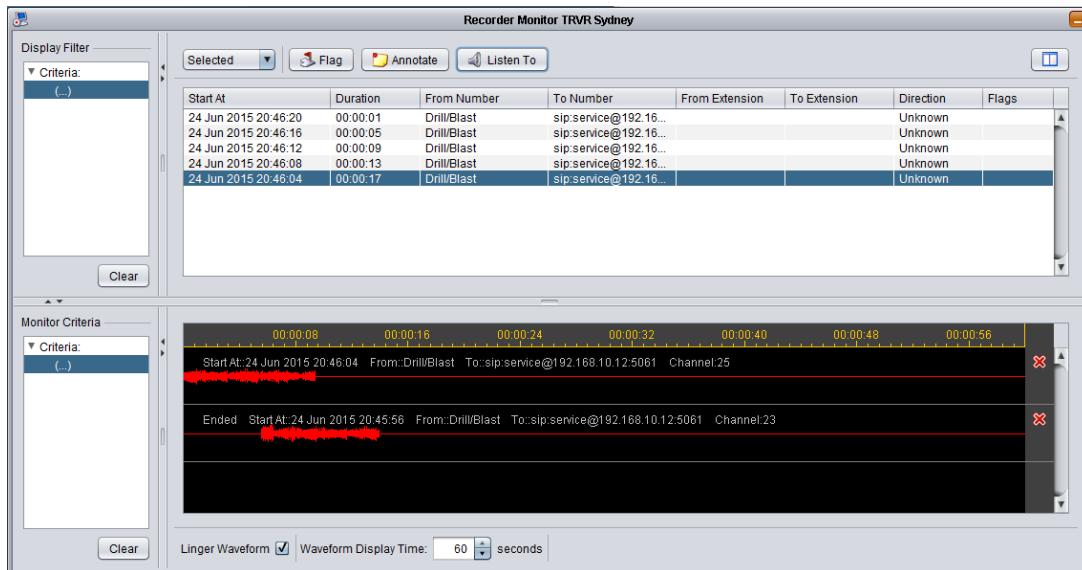


Figure 1: Recorder Monitor Application

Use Recorder Monitor to:

- View the metadata of recordings in progress in real time (as they happen).
- Listen to multiple recordings in progress simultaneously and in real-time on ad-hoc basis.
- Listen to multiple recordings that match a user defined criteria in progress simultaneously and in real-time automatically.
- Use the waveform lingering feature to visually observe who is talking when in a pre-defined time window (for example during the last 2 minutes).
- Add notes to recordings in progress.
- Tag and lock (to prevent deletion) recordings in progress.

5.3. Searching

Recording Explorers provide for viewing, searching, exporting and managing of recordings that are stored in one of the Total Recall VR archives as well as recordings that reside on Total Recall VR systems.

Total Recall VR PC applications have a number of Recording Explorer applications: Disc Archive Explorer, USB Archive Explorer, Recorder Explorer etc. However, while they are different applications, all look, feel and behave the same way to make your user experience simpler and consistent.

Archive Explorer E:\								
Start At	Duration	From Number	To Number	From Extension	To Extension	Direction	Flags	
25 Oct 2013 14:17:39	00:00:19		123456789*0			Outgoing	*L	
25 Oct 2013 14:17:39	00:00:19		123456789*0			Outgoing	*L	
25 Oct 2013 14:17:39	00:00:19		123456789*0			Outgoing	LA	
25 Oct 2013 14:17:39	00:00:19		123456789*0			Outgoing	*LA	
25 Oct 2013 14:17:39	00:00:19		123456789*0			Outgoing	*L	
25 Oct 2013 14:17:39	00:00:19		123456789*0			Outgoing	*A	
08 Jan 2013 09:17:56	00:03:35	2000	2000			Unknown	*L	
08 Jan 2013 08:00:09	00:00:30	2000	21	2000		Outgoing		
08 Jan 2013 07:57:56	00:00:04	2000	11	2000		Outgoing	A	
08 Jan 2013 07:57:34	00:00:18	2000	21	2000		Outgoing		
08 Jan 2013 07:52:41	00:00:09	21				Incoming	*L	
08 Jan 2013 07:51:59	00:00:08					Unknown		
08 Jan 2013 07:51:58	00:00:00	21				Incoming		
08 Jan 2013 07:51:28	00:00:06					Unknown		
08 Jan 2013 07:50:56	00:00:07					Unknown		
08 Jan 2013 07:49:02	00:00:06					Unknown		
18 Oct 2012 12:40:19	00:00:30	sip:ext12@in.prolancer.c...	sip:90@in.prolancer.com....			Unknown	A	
16 Oct 2012 11:36:00	00:00:41	sip:ext13@in.prolancer.c...	sip:90@in.prolancer.com....			Unknown	A	
16 Oct 2012 11:33:53	00:00:23	sip:ext13@in.prolancer.c...	sip:90@in.prolancer.com....			Unknown	A	
28 Aug 2012 13:07:46	00:00:21					Unknown	A	
28 Aug 2012 13:07:46	00:00:21					Unknown	A	
28 Aug 2012 12:29:16	00:00:09					Outgoing		
28 Aug 2012 12:29:16	00:00:09					Outgoing		

Figure 2: USB Archive Explorer Application - Example Recording Explorer

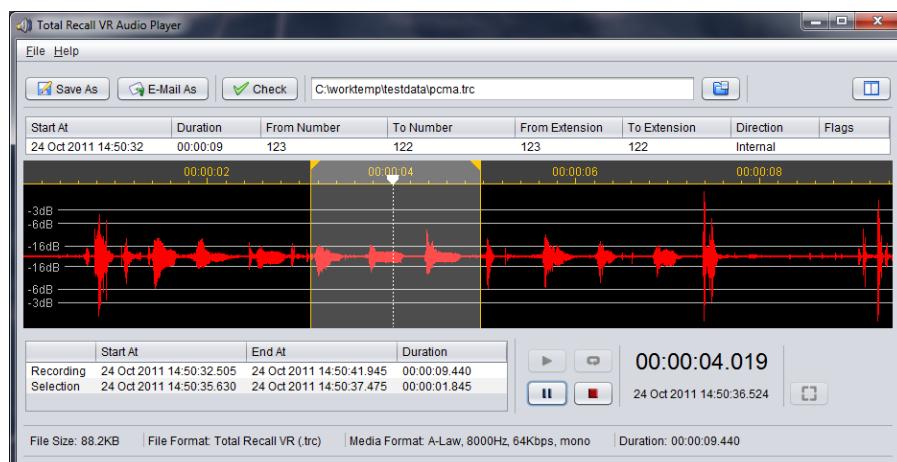
Use Recording Explorers to search for recordings.

Once you locate recordings of interest, you can export batches of recordings to any of the supported file and media formats. In addition, you can e-mail batches of recordings in any of the supported file and media format. Finally, and if the archive media allows it, you can delete recordings if they are no longer useful to you.

Recording Explorers allow you to edit the metadata of recordings (notes, flags ...) and export the metadata of batches of recordings in the CSV format suitable for use in popular reporting tools such as Microsoft Excel as well.

5.4. Playing

Audio Player is a powerful audio player application that provides for play of, and conversion between, all Total Recall VR audio file and encoding formats.

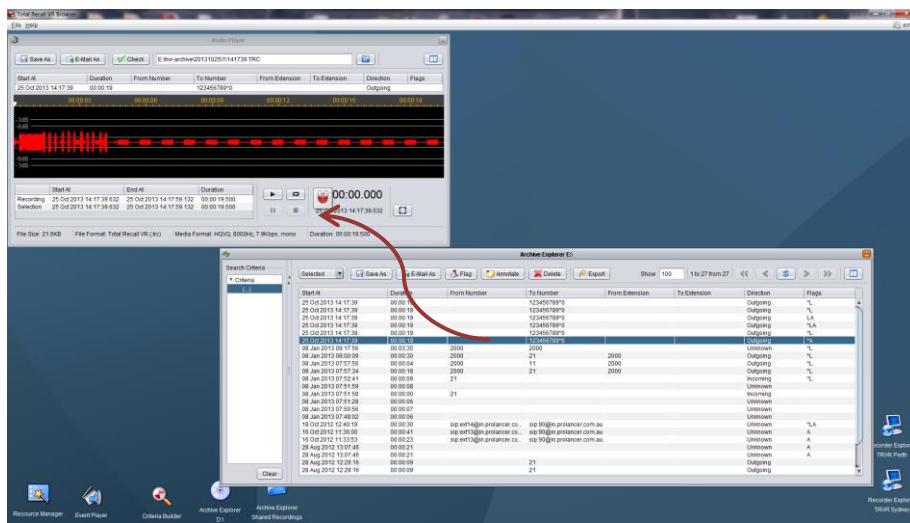
**Figure 3: Audio Player Application**

Use Audio Player to listen to recordings.

In addition, you can use Audio Player to export individual recordings to standard audio file formats (wav, mp3, aifc, au and spx) that are compatible with popular audio player applications such as Windows Media Player. You can save exported recordings to a file or send them via e-mail to other members of your team.

Finally, you can use Audio Player to check the integrity of recordings stored in the latest generation TRC file format.

The simplest way to use Audio Player is to simply select a recording in a recording explorer window, drag it to Audio Player and simply drop it.



Once Audio Player loads the file and displays the waveform, you can use it to listen to the audio and export it in a number of different formats.

6. Preventative Maintenance

Total Recall VR requires minimal preventive maintenance to ensure maximum performance.

6.1. Disks

The disks are the hardest working component in all Total Recall VR recorders. Information is constantly written to and read from the disks.

The average life expectancy of any type of disk is 4 years. However, as with any electronic and mechanical technology, the disks in your recorder may last much longer or much less.

We recommend that you replace the disks in your system every 4 years of so. You can purchase suitable disks from us or your local Total Recall VR supplier.

6.2. Disk and Database Space

All Total Recall VR recorders manage disk and database space automatically. An integrated auto cleaning function ensures that there is enough free disk and database space to continue recording endlessly.



A working archiving strategy must be implemented to avoid losing recordings as a result of auto-cleaning.

In general, the auto-cleaning function automatically deletes recordings when the number of recordings reaches more than 900,000, or the disk occupancy reaches 95% whichever occurs first. It removes oldest first recordings until the number of recordings reduces to 700,000 or less and the disk occupancy is below 88%.

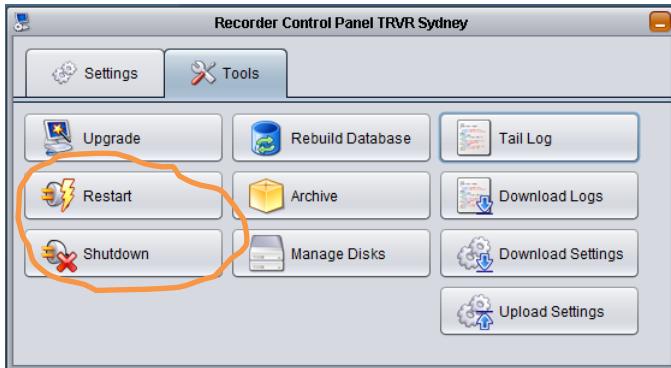
6.3. Orderly Shutdown

All Total Recall VR recorders must be powered down in an orderly fashion to prevent damage to its electronic components and in particular its disks and prevent partial or total information loss.



DO NOT remove power or simply turn off any of the Total Recall VR products while recording. This will result in disk damage and most likely in partial or total information loss. In addition, it may cause damage to other electronic components.

To shut down, or restart, a Total Recall VR recorder in an orderly fashion use the **Shutdown**, or the **Restart**, option from the Recorder Control Panel.



The system will stop all recording, then stop all applications and then stop its operating system thus avoiding any system damage or damage to recording files.

7. Troubleshooting

7.1. Limited Product Warranty

For full details of the limited product warranty for this product please visit our web site: <http://www.totalrecallvr.com/warranty>.

7.2. Support Information

If after using this manual, and other Total Recall VR manuals, you still have questions about the operation of Total Recall VR, or you are experiencing problems with your Total Recall VR, then:

1. Please visit the Resources section on our web site <http://www.totalrecallvr.com>
2. Contact technical support via e-mail: itsupport@prolancer.com.au

7.3. Forums

Our online forums, <http://www.totalrecallvr.com/forum>, contain answers to common problems that you may experience when installing and using Total Recall VR.

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