



.: www.totalrecallvr.com :.

Microphones

Step by Step Guide

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Related Documents:

- [1] Prolancer Pty Ltd, Total Recall VR Overview User Guide, 13.0, March 2016
- [2] Prolancer Pty Ltd, Total Recall VR Manager User Guide, 5.0, March 2016

Table of Contents

1. Preface	4
1.1. <i>Conventions</i>	4
1.1.1. Notes & Warnings	4
1.1.2. Typographic Conventions	4
1.1.3. Procedures	5
1.2. <i>We Need Feedback</i>	5
2. Introduction	6
2.1. <i>About This Guide</i>	6
2.2. <i>About Microphones</i>	6
2.3. <i>What is Total Recall VR</i>	6
3. Solution Example	7
3.1. <i>Radio Design Labs STM-2</i>	7
3.2. <i>Pre-amplifier Recording Interface</i>	7
3.3. <i>Total Recall VR Interface Requirements</i>	8
3.4. <i>Total Recall VR Deployment</i>	9
3.5. <i>Total Recall VR Configuration</i>	9
3.5.1. <i>Analogue Channel Configuration</i>	10

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 \$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. About This Guide

This guide explains, via examples, how to record microphones with Total Recall VR.

Microphones are used in myriad of situations ranging from interview/meeting rooms to court rooms and even public spaces. In many such situations a Total Recall VR is used to record other types of communications. This guide explains how to record the microphones in addition to the other types of communication with a Total Recall VR.

2.2. About Microphones

It is beyond the scope of this guide to explain microphones in detail. However, generally the two umbrella categories are ‘condenser’ and ‘dynamic’ microphones. Good 95% of the microphones that are in use belong to one of the two categories.

Irrespective of the category, it is not possible to connect microphones directly to a Total Recall VR. In all cases a microphone pre-amplifier must be used. However, the pre-amplifier is different for different category of microphones. For example, condenser microphones require a pre-amplifier that can supply ‘phantom power’ to the microphone.



It is important to use the correct type of pre-amplifier for different types of microphones.

2.3. What is Total Recall VR

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.

Total Recall VR is the ideal solution for:

- Recording business telephone conversations;
- Recording agent calls in contact centres;
- Logging emergency response communication;
- Logging business operations communication;
- Logging radio broadcasts;
- Logging public announcements;

- Creating audio records of meetings, legal proceedings, public enquiries and similar events; and
- Creating compliance records to meet duty of care and legal requirements.



For additional information on Total Recall VR see the Total Recall VR overview guide [1].

3. Solution Example

3.1. Radio Design Labs STM-2

This guide uses the STM-2 adjustable gain microphone pre-amplifier from Radio Design Labs (<http://www.rdl.net.com/product.php?page=64>).



There are many similar products on the market and you are not limited to using the STM-2 device. All microphone pre-amplifiers that provide an unbalanced output that delivers -10dBv signal level can be used with Total Recall VR.

We use the STM-2 because it is versatile. It supports both ‘condenser’ and ‘dynamic’ microphones and has an adjustable input gain.

In addition it has two outputs which can be configured as balanced or unbalanced. Two outputs makes it easy to connect the STM-2 to a Total Recall VR for the purpose of recording and other audio processing equipment at the same time.

3.2. Pre-amplifier Recording Interface

The recording interface of this example is basically the unbalanced analogue signal output of the microphone pre-amplifier. For best performance, adjust the level of the output signal to -10dBv.

3.3. Total Recall VR Interface Requirements

The pre-amplifier has an analogue interface for the purpose of recording as explained in the previous section. As a result, we need to use a Total Recall VR recorder with analogue recording channels (1 analogue channels per pre-amplifier output that will be recorded).

Any of the following Total Recall VR models can be used when equipped with analogue recording channels:

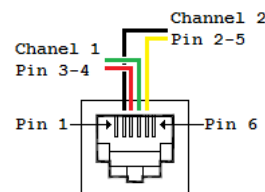
- Total Recall VR LinX Altus (<http://totalrecallvr.com/products/total-recall-vr-linx-altus>)
- Total Recall VR LinX Neos (<http://totalrecallvr.com/products/total-recall-vr-linx-neos>)
- Total Recall VR LinX Omnia (<http://totalrecallvr.com/products/total-recall-vr-linx-omnia>)

Total Recall VR uses a purpose built interface card to capture audio from different types of analogue sources including:

1. Analogue telephone lines.
2. Outputs of a digital-to-analogue converter (DAC).
3. Analogue signal sources with 2-wire output.

Total Recall VR does not interact with the analogue signal on the lines in any way, unless its configuration specifies to inject a recording 'beep' tone.

The interface cards use RJ11C/RJ12/RJ14 (6P6C) connectors. Your system can have up to 36 connectors, 6 in each row:



Note that recording channel numbering start from left on the top row and continues to right and down as shown on the previous image.

Further, each connector has two recording channel, one on pins 3 and 4 and another on pins 2 and 5 as shown on the previous diagram.

3.4. Total Recall VR Deployment

The following diagram shows how Total Recall VR fits in the solution.



In summary:

The microphone is connected to the input of the STM-2 pre-amplifier. One of the outputs of the pre-amplifier is connected to an analogue channel of the Total Recall VR. This leaves the second output of the pre-amplifier free to connect to other audio processing equipment if required. Alternatively, you can connect the second output of the pre-amplifier to a 2nd Total Recall VR in a redundant recording setup.

3.5. Total Recall VR Configuration



This section does not show the full configuration of the Total Recall VR. For example you may have to assign IP address to the Total Recall VR to connect it to the network.

Here we assume the following:

- Our complete solution has 4 microphones. Each microphone is connected to its own pre-amplifier and one of the outputs of each pre-amplifier is connected to separate analogue recording channel of a Total Recall VR.
- The microphones are used to record conversation in 4 different rooms, one per room. Users refer to the rooms as “Room A”, “Room B”, “Room C” and “Room D” and wish to use the same names when searching for recordings.



You can use the Total Recall VR Manager [2] PC application to complete the configuration described in this section.

3.5.1. Analogue Channel Configuration

The following table shows the configuration of each of the 4 analogue recording channels on the Total Recall VR:

Channel	Trigger	VoX Timeout	Beep Level	Detect Digits	Extension
1	VoX 4	5	Off	No	Room A
2	VoX 4	5	Off	No	Room B
3	VoX 4	5	Off	No	Room C
4	VoX 4	5	Off	No	Room D

Note:

1. You may have to experiment with different VoX trigger levels based on the level of the audio from the outputs of the pre-amplifiers. VoX 4 should work fine if the signal level is at around -10dBv.
2. VoX Timeout of 5 seconds is only a suggestion. You can set this value to a different value. Short value will result in a segmented recording of an interview in a room. Long value will result in a single recording of an interview as long as the silence periods during the interview do not exceed the set value.
3. We are using “Room A”, “Room B”, “Room C” and “Room D” as values for extension for each channel. This will enable users to search for recordings using the room names.

[End of Document]