



.: [www.totalrecallvr.com](http://www.totalrecallvr.com) :.

## Omnitronics DX-Altus

*Step by Step Guide*

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**Related Documents:**

- [1] Omnitronics Pty Ltd, DX-Altus Digital Radio Management Installation Guide, 1.40, September 2014
- [2] Prolancer Pty Ltd, Total Recall VR Overview User Guide, 13.0, March 2016
- [3] Prolancer Pty Ltd, Total Recall VR Manager User Guide, 5.0, March 2016

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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 <b>Add</b> 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 communication with a Total Recall VR recorder between radios, telephones and console operators that are interconnected by an Omnitronics DX-Altus system.

### 2.2. What is Omnitronics DX-Altus

DX-Altus is a comprehensive digital radio communication management system, which provides a flexible platform ideally suited for radio-dispatch operations. It comprises a number of interconnected building blocks that form a complete digital radio communication management system.

DX-Altus allows a central location to control radio channels, patch telephone lines to radio channels, monitor radio channels, record and playback voice activity, group radio channels into convenient work groups, and provides the operator with an intuitive and responsive user interface for controlling and managing the system.



For in-depth information on DX-Altus see the DX-Altus installation guide [1].

### 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.

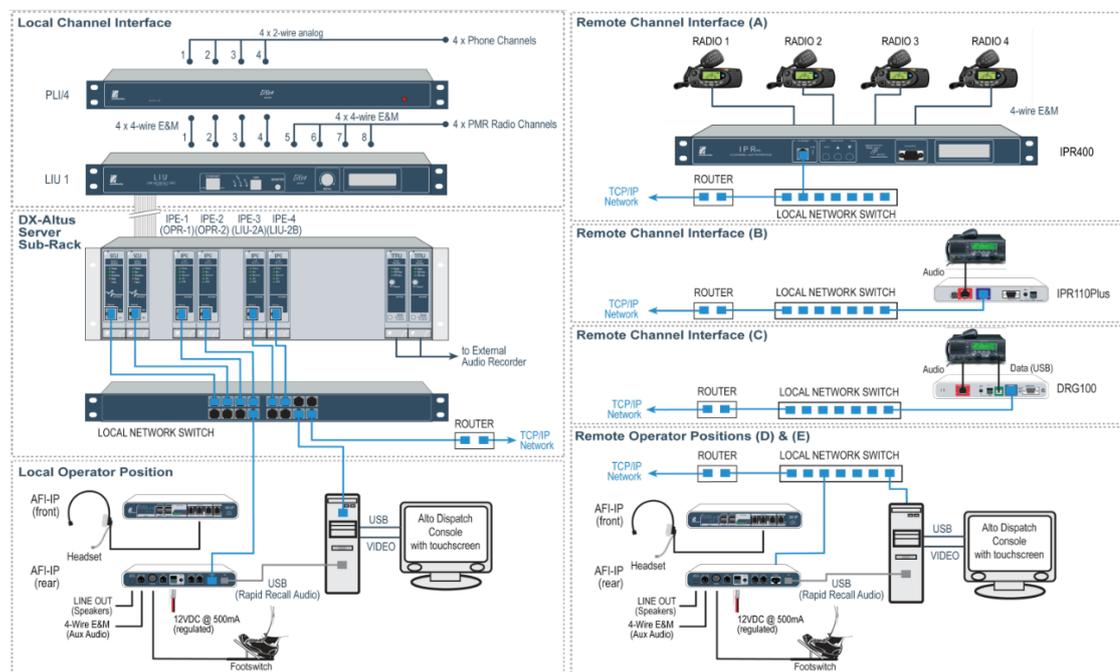


For additional information on Total Recall VR see the Total Recall VR overview guide [2].

### 3. Solution Example

#### 3.1. Example DX-Altus System

This guide uses the example DX-Altus system which is described in Appendix A of the DX-Altus installation guide [1]. The following diagram (reproduction of figure 49 and figure 50 in [1]) show the example system.



Appendix A of the DX-Altus installation guide [1] explains the example system in great detail. Briefly, the example shows a distributed DX-Altus system where:

- A DX-Altus server sub-rack in combination with a LIU, which is used as interface for 4 PMR radios and 4 analogue telephone lines via a PLI, is located at the primary site. The primary site is also the home for a single operator position.
- Remote radio site A which uses an IRP400 to interface 4 radios over an IP network to the rest of the system.
- Remote radio site B which uses a single IRP100+ to interface a single radio over an IP network to the rest of the system.

- Remote radio site C which uses a single DRG100 interface a single radio over an IP network to the rest of the system.
- Two remote operator positions D and E.

### 3.2. DX-Altus System Recorder Interface

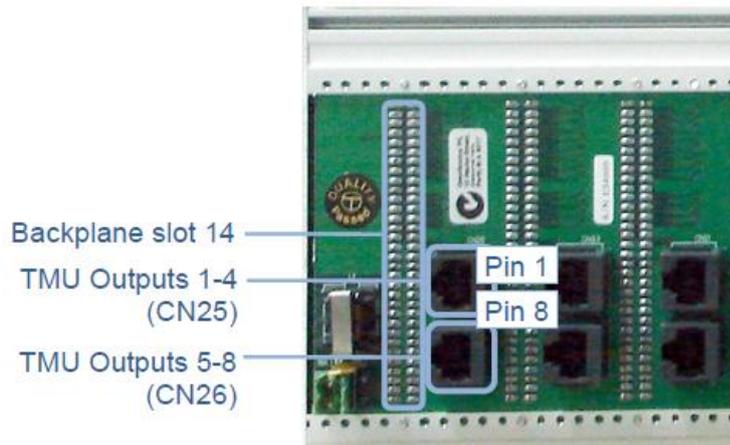
The recorder interface of the example system is located at the primary site in the DX-Altus server sub-rack. It comprises of two TMU devices which provide in this case 16 analogue audio feeds to an external recorder.

Appendix A of the DX-Altus installation guide [1] explains that the first TMU device has been configured to monitor the audio for LIU-1 which is mapped to DX-Altus channels 1 to 8.

Further, the second TMU device has been configured to monitor the audio for LIU-2 which is mapped to DX-Altus channels 9 to 16. Note that LIU-2 is emulated by the two IPE devices, which have been configured to work in LIU mode, and which connect the radios at remote radio site A, B and C to the rest of the system.



Each TMU provides 8 analogue feeds via two RJ45 connectors located on the backplane of the DX-Altus Server sub-rack as shown on the subsequent figure:



The pin assignments for the RJ45 connectors on the backplane are:

Upper Connector			
Pin	Description	Pin	Description
1	Channel 2 output	5	Not used
2	Channel 1 output	6	Channel 1-4 common
3	Channel 4 output	7	Open collector (-) indicates activity on channels 1, 2, 3 and 4
4	Channel 3 output	8	Open collector (+)

Lower Connector			
Pin	Description	Pin	Description
1	Channel 6 output	5	Not used
2	Channel 5 output	6	Channel 5-8 common
3	Channel 8 output	7	Open collector (-) indicates activity on channels 5, 6, 7 and 8
4	Channel 7 output	8	Open collector (+)

### 3.3. Total Recall VR Interface Requirements

The example system provides 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 (16 analogue channels for this example system to be exact).

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

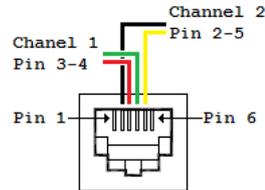
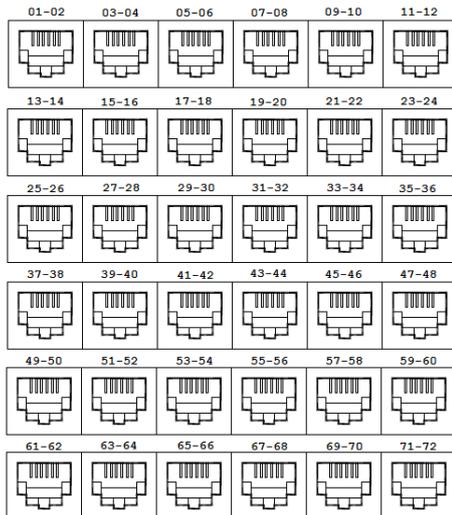
- Total Recall VR LinX Altus (<http://totalrecallvr.com/products/total-recall-vr-linx-altus>)
- Total Recall VR LinX Neos (<http://totalrecallvr.com/products/total-recall-vr-linx-neos>)
- Total Recall VR LinX Omnia (<http://totalrecallvr.com/products/total-recall-vr-linx-omnia>)

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. Analogue Interface Interconnect

It is necessary to connect the analogue feeds provided by the TMUs to the analogue recording channels on the Total Recall VR.

A custom cable that connects each RJ45 connector on the backplane of the DX-Altus Server sub-rack to a pair of RJ11C/RJ12/RJ14 connectors on the recorder. The following diagram shows the wiring of such cable.

TMU RJ45	TRVR Connector 1				TRVR Connector 2			
	2	3	4	5	2	3	4	5
1	•							
2			•					
3					•			
4							•	
5								
6		•		•		•		•
7								
8								

A dot in a cross cell indicates connection between the pins on the opposite connectors. For example the cable needs to have a connection between pin 2 on the RJ45 on the backplane of the DX-Altus Server sub-rack and pin 4 of the 1<sup>st</sup> RJ11C/RJ12/RJ14 connector in a pair on the Total Recall VR.

### 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:

1. The output of the TMU device which was configured to monitor the audio for LIU-1 which is mapped to DX-Altus channels 1 to 8 are connected to Total Recall VR analogue recording channels 1 to 8.
2. The output of the TMU device which was configured to monitor the audio for LIU-2 which is mapped to DX-Altus channels 9 to 16 are connected to Total Recall VR analogue recording channels 9 to 16.



You can use the Total Recall VR Manager [3] 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 16 analogue recording channels on the Total Recall VR:

Channel	Trigger	VoX Timeout	Beep Level	Detect Digits	Extension
1	VoX 4	5	Off	No	DX-Altus Ch. 1
2	VoX 4	5	Off	No	DX-Altus Ch. 2
3	VoX 4	5	Off	No	DX-Altus Ch. 3
4	VoX 4	5	Off	No	DX-Altus Ch. 4
5	VoX 4	5	Off	No	DX-Altus Ch. 5
6	VoX 4	5	Off	No	DX-Altus Ch. 6
7	VoX 4	5	Off	No	DX-Altus Ch. 7
8	VoX 4	5	Off	No	DX-Altus Ch. 8
9	VoX 4	5	Off	No	DX-Altus Ch. 9
10	VoX 4	5	Off	No	DX-Altus Ch. 10
11	VoX 4	5	Off	No	DX-Altus Ch. 11
12	VoX 4	5	Off	No	DX-Altus Ch. 12

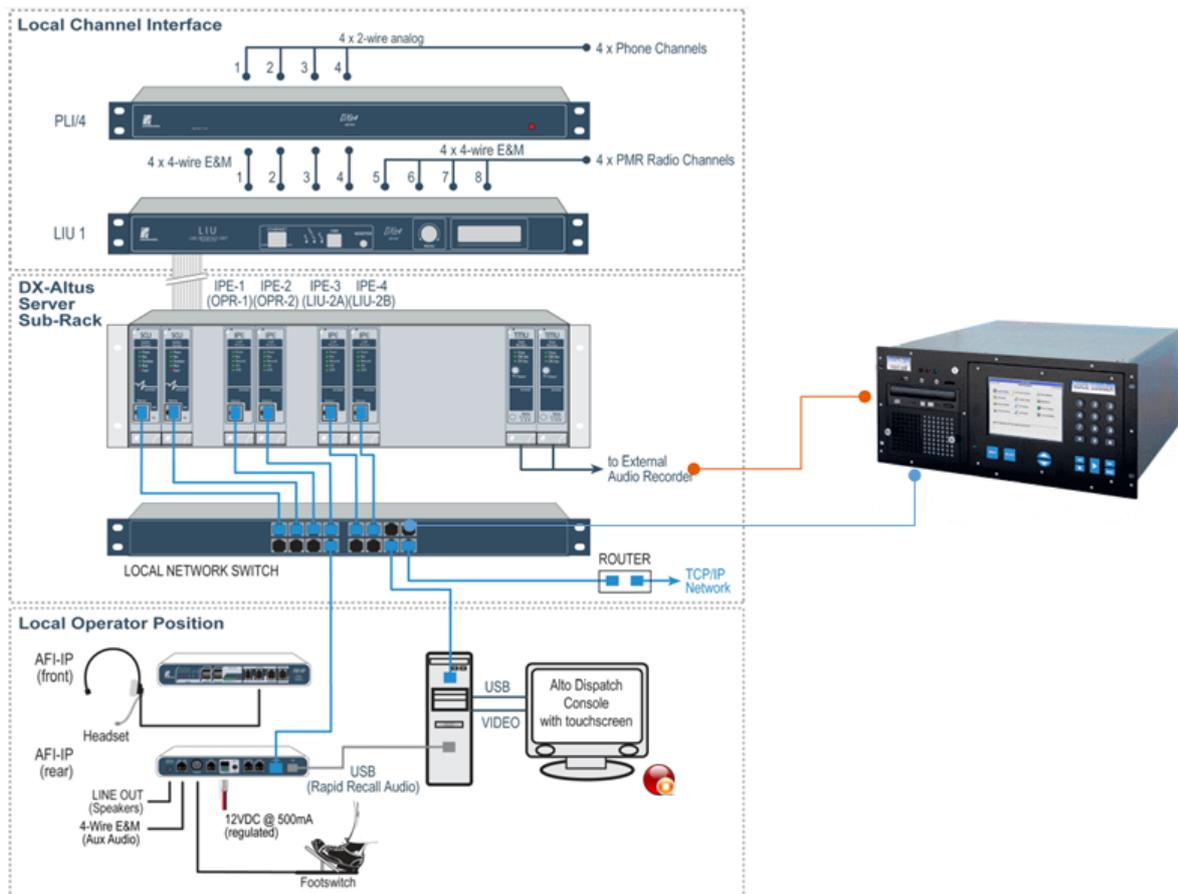
13	VoX 4	5	Off	No	DX-Altus Ch. 13
14	VoX 4	5	Off	No	DX-Altus Ch. 14
15	VoX 4	5	Off	No	DX-Altus Ch. 15
16	VoX 4	5	Off	No	DX-Altus Ch. 16

Note:

1. You may have to experiment with different VoX trigger levels based on the level of the audio on the TMU feeds.
2. VoX Timeout of 5 seconds is only a suggestion. You can set this value to a different value.
3. The extension value for each channel can be anything and you can assign a more meaningful value. Note that this is the text that you can use as a query parameter when searching for recordings.

### 3.6. Total Recall VR Deployment

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



The analogue recording interface is connected to the outputs of the TMUs.

In addition, the LAN 1 interface is connected to the Ethernet switch which connects the Total Recall VR to the network. This enables the use of Total Recall VR PC applications (such as the Total Recall VR Monitor) which provide access to recordings on the recorder. For example a Total Recall VR Monitor can be installed on the PC that is running the Alto Dispatch Console application.

[End of Document]