



.: www.totalrecallvr.com :.

Omnitronics DRG200i

Step by Step Guide

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Related Documents:

- [1] Omnitronics Pty Ltd, IPR400 4-Channel VoIP Interface Product Manual, 3.01, March 2015
- [2] Omnitronics Pty Ltd, DRG200i Dual Channel Digital Radio Gateway Product Manual, 3.01, March 2015
- [3] Prolancer Pty Ltd, Total Recall VR Overview User Guide, 19.0, September 2017
- [4] Prolancer Pty Ltd, Total Recall VR Deployment User Guide, 19.0, September 2017
- [5] Prolancer Pty Ltd, Total Recall VR Manager User Guide, 10.0, September 2017

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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 \$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 part of radio networks which use the IPR400 and DRG200i products from the Omnitronics Radio over IP series of products.

The examples are also applicable to deployments which use the IPR100, IPR100+ and DRG200 products.

2.2. What is Omnitronics IPR400

The IPR400 is a full featured, flexible four port Radio-over-IP (RoIP) gateway. It is designed to provide RoIP extensions for analogue radio equipment and facilitate interoperability between disparate radio systems such as UHF, VHF, HF and Trunk systems.

The IPR product supports up to four IP channels that can be mapped to multiple radio channels. This provides the means to link together groups of radios and IP channels in myriad combinations, making the device ideal for connecting repeater sites and accessing those sites from dispatch consoles.



For in-depth information on IPR400 see the IPR400 product manual [1].

2.3. What is Omnitronics DRG200i

The DRG200i is a sophisticated dual channel digital radio Radio-over-IP (RoIP) gateway. It is designed to provide the interface between one or more Omnitronics consoles and two digital radios.

The DRG200i can interface with different digital radio systems (including DMR, IDAS, Tetra ...) and translates all to a common protocol so that different types of digital radio devices can connect to the same network.



For in-depth information on DRG200i see the DRG200i product manual [2].

2.4. 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 [3].

3. Solution Example – Conference RTP Recording



The examples described in this section require a Total Recall VR system with application release 11.3.0 or better.

3.1. Background

Please note the following:

3.1.1. Linking Radio and VoIP Channels

The IPR400 is capable of linking connected radios with or without VoIP functionality. This is explained in detail in section “Linking Radio and VoIP Channels” in the IPR product manual [1].



If you link radios without VoIP groups, then Total Recall VR will not be able to record the communication between the radios as the IPR400 will not transmit audio over the IP network.

3.1.2. Communicating via Conferencing

The IPR400 and DRG200i are capable of using a multicast-like distribution of RTP packets by configuring a conference. This is explained in detail in section “Communicating via Conferencing” in the IPR product manual [1] and section “VoIP Conference Mode” in the DRG200i product manual [2].

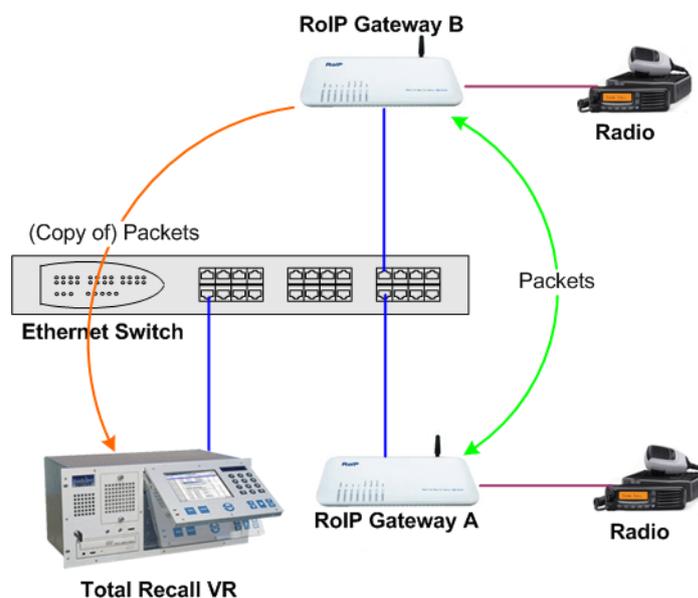
Total Recall VR is capable of participating in a conference with IPR and DRG devices described in the examples that appear in this section.

3.1.3. Active RTP Recording

The examples presented in this section use “active RTP recording”. The Total Recall VR deployment guide [4] has in-depth explanation of active RTP recording and we strongly recommend that you familiarise yourself with the concept in order to understand the details of the examples. Briefly:

In active mode Total Recall VR accepts RTP packets on user configurable UDP ports, also known as UDP services. RoIP equipment can send RTP packets to the UDP services for the purpose of recording.

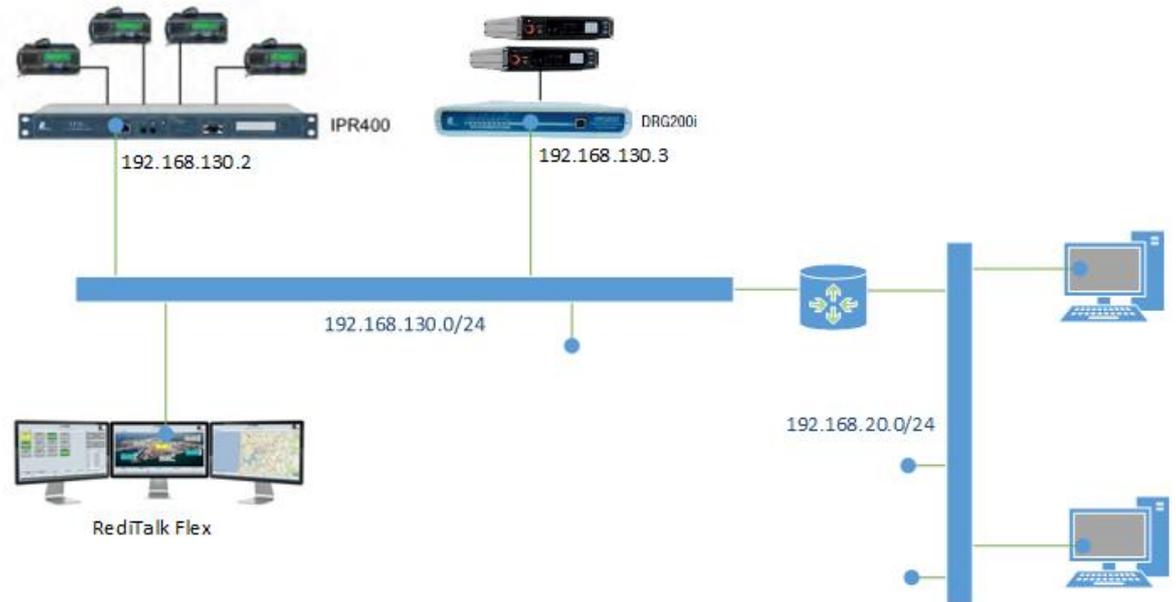
This interface receives RTP packets only. It does not send packets to the network.



3.2. Example Dispatch System

This section shows how to record radio communication in a radio system that uses direct RTP and/or SIP connections between different devices that are part of the system. However, the IPR400 and DRG200i are configured to send copy of the RTP traffic to a Total Recall VR.

The following diagram show the example system:



We assume that the IPR400, DRG200i and the RediTalk console have been configured properly and are working as expected. This configuration is beyond the scope of this document.

In addition we assume that the IPR400, DRG200i and the console are on a separate network (as it is a good practice to separate VoIP/RoIP traffic from the enterprise data traffic).

The following is an extract of the additional IPR400 and DRG200i configuration that is relevant to configuration of Total Recall VR:

IPR400 configuration:

Configuration Page	Setting	Value
Network	Static IP Address	192.168.130.2
	Netmask	255.255.255.0
Linking	Radio 1/ VoIP 1	Checked
	Radio 2/ VoIP 2	Checked
	Radio 3/ VoIP 3	Checked
	Radio 4/ VoIP 4	Checked
VoIP/RTP Channel 1	Enable Conferencing	Checked
	Conference Mode	Bridge Server

	Enable IP Address	192.168.130.200
	Transmit Port	25004
VoIP/RTP Channel 2	Enable Conferencing	Checked
	Bridge Server	Conference Mode
	Enable IP Address	192.168.130.200
	Transmit Port	25006
VoIP/RTP Channel 3	Enable Conferencing	Checked
	Bridge Server	Conference Mode
	Enable IP Address	192.168.130.200
	Transmit Port	25008
VoIP/RTP Channel 4	Enable Conferencing	Checked
	Bridge Server	Conference Mode
	Enable IP Address	192.168.130.200
	Transmit Port	25010

DRG200i Channel A configuration:

Configuration Page	Setting	Value
Network	Static IP Address	192.168.130.3
	Netmask	255.255.255.0
VoIP Configuration	Enable Conferencing	Checked
	Bridge Server	Conference Mode
	Enable IP Address	192.168.130.200
	Transmit Port	35004

DRG200i Channel B configuration:

Configuration Page	Setting	Value
Network	Static IP Address	192.168.130.4
	Netmask	255.255.255.0
VoIP Configuration	Enable Conferencing	Checked
	Bridge Server	Conference Mode
	Enable IP Address	192.168.130.200
	Transmit Port	45004

The configuration of the console remains unchanged.

3.3. Total Recall VR Interface Requirements

The example system uses an IP network to transmit audio. As a result, we need a Total Recall VR with IP recording channels (6 channels to be exact, however the minimum is 10 recording IP channels).

Any of the following Total Recall VR models can be used when equipped with IP 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 Virtualis (<http://www.totalrecallvr.com/products/total-recall-vr-linx-virtualis>)
- Total Recall VR Essence (<http://totalrecallvr.com/products/total-recall-vr-linx-essence>)

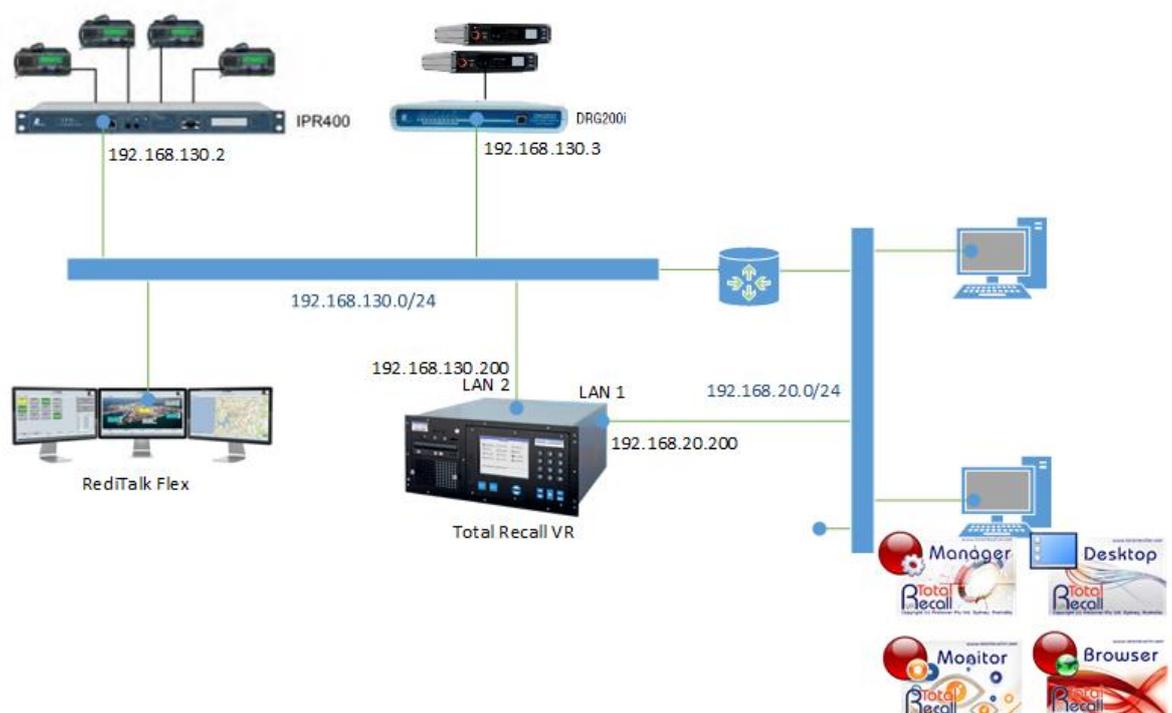
Total Recall VR can record both in active and passive mode on its IP recording channels. In this case we will use the active mode.

In active mode Total Recall VR accepts RTP packets on user configurable UDP ports, also known as UDP services. RoIP equipment can send RTP packets to the UDP services for the purpose of recording.

This interface receives RTP packets only. It does not send packets to the network.

3.4. Total Recall VR Deployment

The following figure shows how we will connect Total Recall VR to the rest of the system.



As we are recording in active mode, it is necessary to assign a valid static IP address to the LAN 2 interface of the Total Recall VR so that the Total Recall VR can receive RoIP traffic from the rest of the equipment on the network.

We also show the deployment of Total Recall VR PC applications on one of the PCs, however the configuration of the applications is beyond the scope of this document.

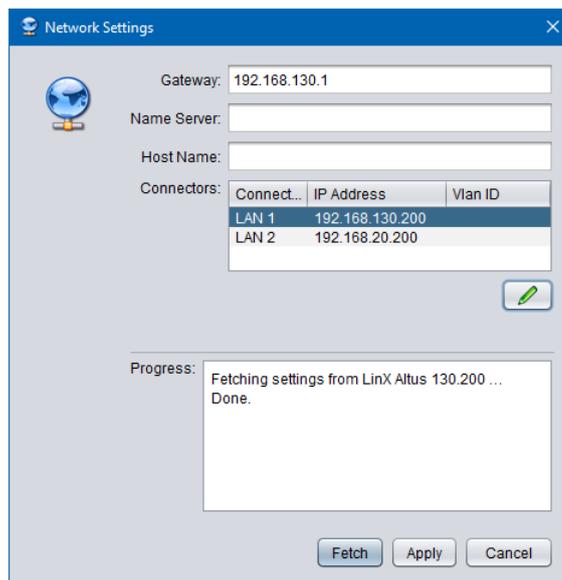
3.5. Total Recall VR Configuration



You can use the Total Recall VR Manager [5] PC application to complete the configuration described in this section.

3.5.1. Network Settings

The following screen capture shows the network configuration on the Total Recall VR:



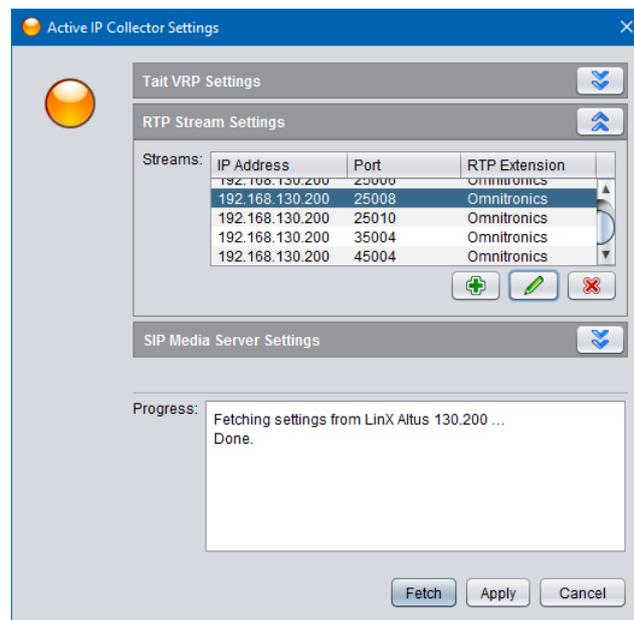
In summary:

1. We assigned a free IP address (assuming 192.168.20.200 is free) to the LAN 1 interface so we can connect the Total Recall VR to the enterprise data network.
2. We assigned a free IP address (assuming 192.168.130.200 is free) to the LAN 2 interface so we can connect the Total Recall VR to the RoIP network.

You may have to configure a valid gateway as well. In this case we assume that the default gateway is 192.168.130.1, however this gateway is more likely to be on the enterprise network.

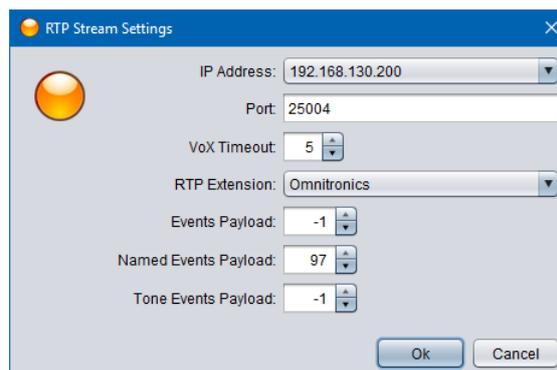
3.5.2. RTP Streams

It is necessary to configure the RTP Streams (which are part of the Active IP Collector configuration) on the Total Recall VR as shown on the following screen capture:



Basically, there is one RTP Stream for each VoIP/RTP Channel on the IPR400, or total of 4 RTP Streams for the IPR400, and 2 additional RTP Streams for the DRG200i.

Each RTP Stream has additional configuration which is shown on the following screen capture:



Note:

1. You should adjust VoX Timeout based on the time between overs. Here we use 5 seconds, however a value of 2 seconds may be more appropriate if there are only short pauses between overs.
2. The RTP Extension must be set to Omnitronics on the RTP Streams that are used to receive RTP packets from the DRG200i. It can be set to None or Omnitronics on the RTP Streams that are used to receive RTP packets from the IPR400, however we recommend that you set it to Omnitronics for consistency.
3. Named Event Payload must be set to 97.

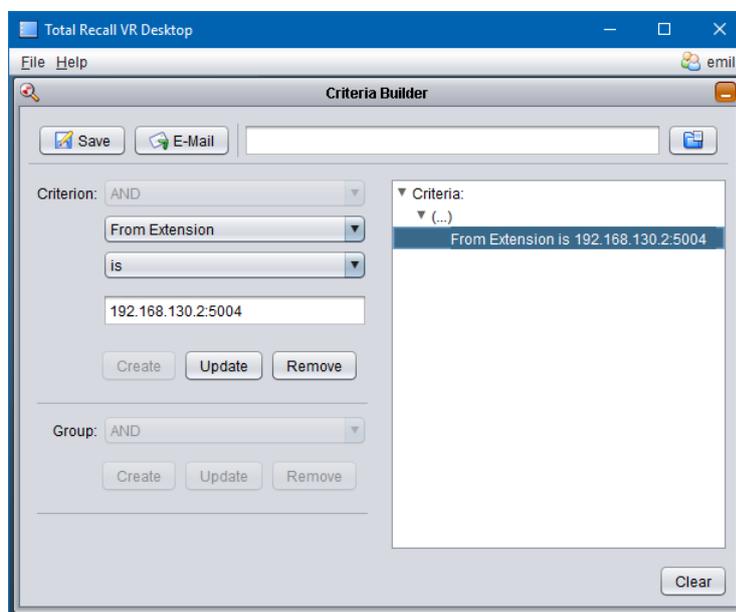
3.5.3. Signalling Mapping

You can use the Signalling Map Settings to create user friendly names for each of the radio channels. If so, users can use the user friendly names to search for recordings.

RTP streams from the IPR400

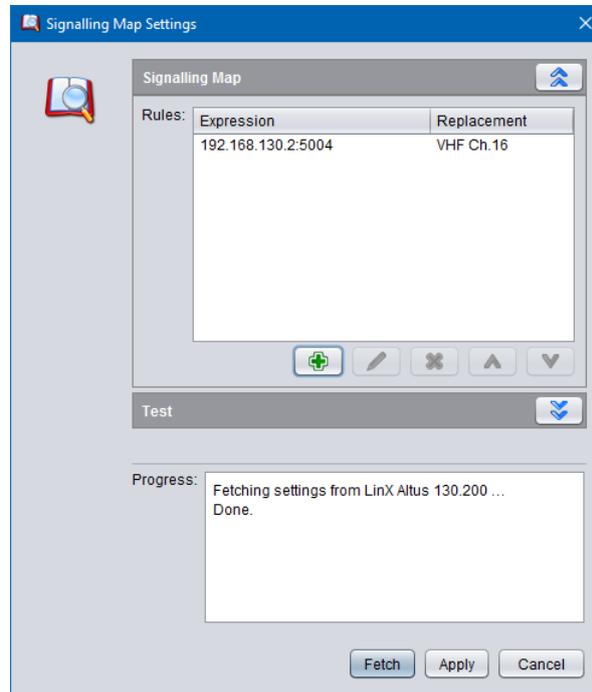
Without Signalling Map Settings, Total Recall VR creates the “To” and “From” identifiers for recordings in the format <IP address>:<port #>. For example, if an RTP packet has source IP address 192.168.130.2 and UDP port 5004 and destination IP address 192.168.130.200 and UDP port 25004, then Total Recall VR will use 192.168.130.2:5004 as a “From” identifier and 192.168.130:25004 as a “To” identifier.

Then, when users wish to search for a recording related to the radio that is connected to the 1st channel on the IPR400 with IP address 192.168.130.2, they need to use values such as 192.168.130.2:5004 in the search criteria. This is not very user friendly. Here as what a search criteria would look like:

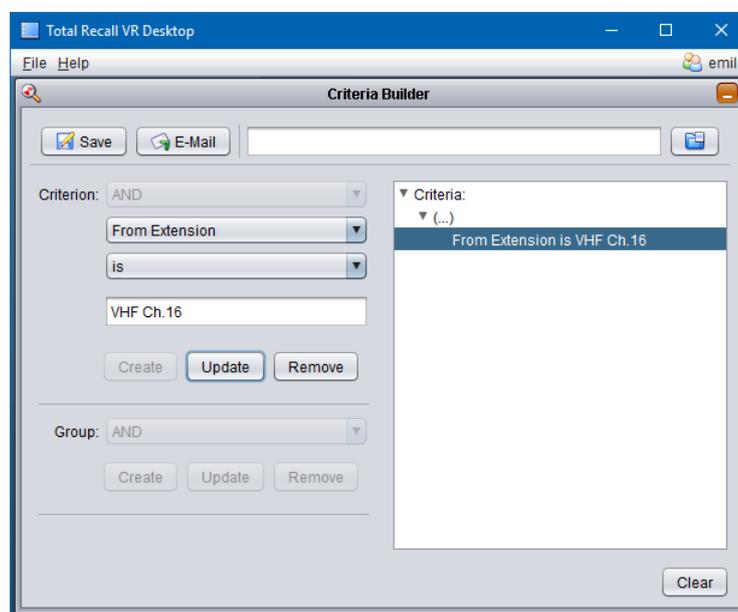


Likely, we can change that and let users use values like “VHF Ch.16” instead. To do this we need to add mapping entries to the Signalling Map Settings.

The following screen capture is an example that shows how to map the IDs for the radio connected to the 1st channel on the IPR400 with IP address 192.168.130.2 to more user friendly value:



With this configurations users can use “VHF Ch.16” as values for search parameters when searching for recording. For example:



I think we can all agree that it is easier for users to remember “VHF Ch.16” rather than “192.168.130.2:5004”.

RTP streams from the DRG200i

Total Recall VR extracts the radio identifiers from the RTP packets (when the Omnitronics extension is enabled on the DRG200i) and uses the radio identifiers as “To” and “From” identifiers for recordings.

As a result, users can search using radio identifiers.

[End of Document]