



Teldio Radio to Radio Recording

Installation and Configuration Guide

For any questions regarding this document or any step of the configuration process, please contact Teldio Support at support@teldio.com.

TABLE OF CONTENTS

Introduction	4
Server Requirements	4
Control Station Setup	5
Installing R2R	6
Obtaining A License for R2R	6
Configuring R2R	8
Configuring a Channel to Record	8
Creating a R2R Channel	8
Editing a R2R Channel	11
Configuring R2R Contacts	12
Adding a Radio or Talkgroup Contact	12
Importing Contacts	13
R2R Settings	14
R2R System Settings	15
Using the R2R Recorder	16
Date Selector	16
R2R Search	17
Live Mode	17
Date & Time	17
Channel	18
Talkgroup	18
Radios	18
Length	18
Play	18
Delete	18
Delete All	18
Export	18
Export All	18

Updating a R2R License	19
Updating the License via the Initial License Register Window	19
Updating the License via the R2R Recorder Window	19
Managing the R2R Services	20
R2R Recorder Services	20
RNIS Service	20
Further Information	21

INTRODUCTION

Congratulations on purchasing your Teldio Radio to Radio (R2R) Recording solution. With R2R you will be able to record and review Talkgroup conversations in your Radio Network.

SERVER REQUIREMENTS

If you are providing your own server for the R2R software, please ensure the server meets all the requirements below.

Server Requirements

The following are technical specifications for an R2R Server. Teldio recommends using Dell or HP when selecting a server.

- **Processor**
 - Intel® Core™2 Quad / Intel® Core™2 Duo / Intel® Pentium® or similar
- **Operating System**
 - Windows 10 Professional 64-Bit
 - Windows 10 Enterprise 64-Bit
 - Windows Server 2008/2012/2016/2019
- **Memory**
 - 4GB RAM or higher
- **Primary Storage**
 - Minimum 160GB Hard Drive (larger Hard Drives are required to save a large number of recordings)
 - NOTE: A 320GB Hard Drive would allow for approximately 600 hours of talktime recordings.
- **Connectivity**
 - Integrated: 10/100/1000 Ethernet LAN on system board
 - Standard I/O Ports USB: minimum four (4) externally accessible USB Ports
 - Audio Expansion Slots (PCI-Express)

Sound Card Requirements

The following provides certified sound cards which have been tested by Teldio to work with an R2R Server. Depending on the Server configuration different sound cards are recommended.

- **PCI-Express Slots**
 - One Creative SoundBlaster Audigy FX Sound Card per R2R Voice path

CONTROL STATION SETUP

Depending on your Radio Network configuration, you will either require one control station per Channel or one control station per Talkgroup that is being recorded.

- **Analog, Simplex/Conventional Repeater/IP Site Connect:** One Control Station per Channel
- **Capacity Plus, Linked Capacity Plus, Connect Plus:** One Control Station per Talkgroup.

Please follow the steps below to program your control station(s).

GENERAL SETTINGS:

ID: **Set a unique ID.** IDs between 1 and 254 are recommended.

Alerts: **Disable All Tones – ON**

ACCESSORIES:

Cable Type: **Rear PC & Audio**

NETWORK:

Radio IP: **192.168.100.1** (or a similar unique IP address. Each additional base station must have a different subnet – 192.168.101.1 / 192.168.102.1 and so on.)

USB DNS-SD Interval: **Disabled**

Forward to PC: **ON / Via USB**

CONTACTS:

Create the TalkGroup contacts and RX List as desired.

RADIO CHANNEL:

RX Group List: **Set to the RX list created under Contacts**

RX Only: **ON**

INSTALLING R2R

If you purchased your R2R system with a server, the R2R software will already be installed on the server. If not, contact support@teldio.com and request an R2R installer and we will send you the latest R2R software.

Once received and downloaded, run the R2R-v3.X.X-Installer.exe file to install R2R.

OBTAINING A LICENSE FOR R2R

If you purchased your R2R system with a server your R2R instance will already have a license.

If not, the following window will automatically open once the R2R installation is complete. You will also get the following screen if your license is a temporary license.



R2R License Register – Initial View

Send the System Token to support@teldio.com to obtain your license.

Once you receive the license from Teldio Support, enter it in the 'License Key' field and **press enter**. This will update the Voice Paths and the Expiration Date fields, at which point you can press the 'Continue' button to proceed to the R2R Recorder window.

NOTE: Your initial R2R license will be a temporary license pending payment. This temporary license will usually be in effect for 70 days. While the temporary license is in effect, this window will open each time you open the R2R window. If you do not have a license to activate the system you can simply press the 'continue' button to proceed.

Once payment is received, Teldio Support will email you an Activation License. Please note that R2R will stop functioning when the Temporary License expires.

CONFIGURING R2R

The following sections will walk you through setting up an R2R system. Please make sure to have your programmed control station(s) connected to the **Line In** input of the sound card(s) and a USB port via the cables shipped to you by Teldio.

CONFIGURING A CHANNEL TO RECORD

When using R2R, you require a control station to talk to the Channels or Talkgroups that are being recorded. The control station is then paired up with the Line In input of a sound card.

CREATING A R2R CHANNEL

Depending on your R2R License you may or may not have the Radio Information Tagging feature.

FOLLOW THE STEPS BELOW TO CREATE A R2R CHANNEL WITH RADIO INFO TAGGING

1. Double-click the R2R icon on your desktop to open the R2R Recorder window.
2. Navigate to Configure / Channels. This will open the R2R Channel window.
3. Press the 'New' button to create a new R2R Channel.
4. Once you press 'New', enter information into the following fields to set up your R2R Channel.
 - **Name:** <Enter in a name for the channel>
Ex: "Security" for Recording the Security Channel
 - **Sound Device:** <Select the Line In device of the corresponding sound card>
 - **Storage Location:** <Browse to or enter in the primary storage location for the recordings>
 - **Mirror Location:** <optional: Browse to or enter in a secondary/mirror storage location for the recordings>
 - **Storage Limit:** <Select the storage limit of all recordings which can be recorded for this channel>
 - **Radio ID:** <Set the Radio ID of the control station that will be recording audio>
 - **IP Address:** <Set the IP for the control station that will be recording audio>
 - **Channel Type:** <Conventional or Trunking>
Trunking used specifically for Capacity Plus or Linked Capacity Plus.
 - **Record All Call:** <Select if recording an all call channel>
5. Press the 'Save' button to save your channel

R2R Channels X

Channel 1

New

Edit

Delete

Channel Information

Name:

Sound Device:

Storage Location: ...

Mirror Location: ...

Storage Limit: GB

Radio ID:

IP Address:

Channel Type:

CONVENTIONAL

TRUNKING

Record All Call

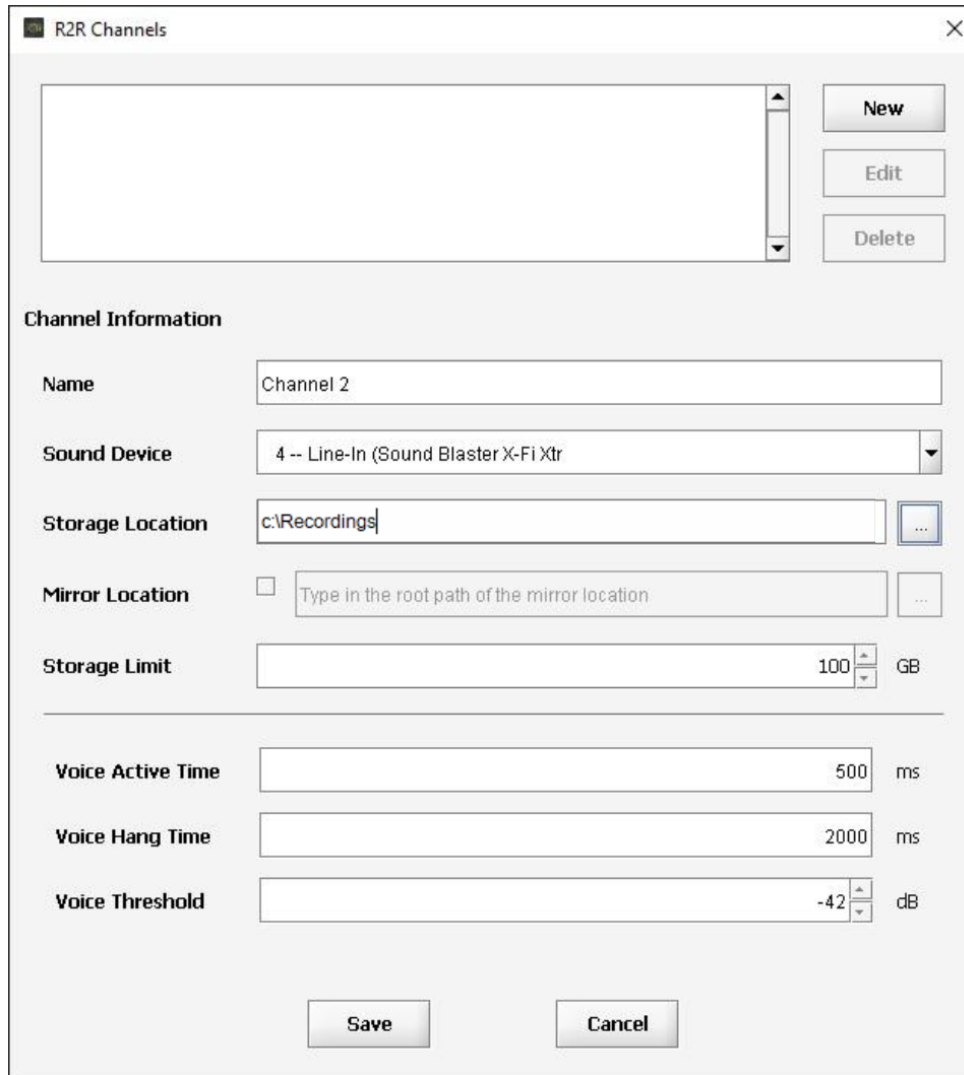
Save

Cancel

R2R Channel Window with Radio Information.

FOLLOW THE STEPS BELOW TO CREATE A R2R CHANNEL WITHOUT RADIO INFO TAGGING

1. Double-click the R2R icon on your desktop to open the R2R Recorder window.
2. Navigate to Configure / Channels. This will open the R2R Channel window.
3. Press the 'New' button to create a new R2R Channel.
4. Once you press 'New', enter information into the following fields to set up your R2R Channel.
 - **Name:** <Enter in a name for the channel>
Ex: "Security" for Recording the Security Channel
 - **Sound Device:** <Select the Line In device of the corresponding sound card>
 - **Storage Location:** <Browse to or enter in the primary storage location for the recordings>
 - **Mirror Location:** <optional: Browse to or enter in a secondary/mirror storage location for the recordings>
 - **Storage Limit:** <Select the storage limit of all recordings which can be recorded for this channel>
 - **Voice Active Time:** <Set the voice active time for a recording>
This is the amount of time a voice transmission must be over the set threshold in order to begin recording
 - **Voice Hang Time:** <Set the voice hang time for a recording>
This is the amount of time that voice transmission can be below the voice threshold for it to stop recording
 - **Voice Threshold:** <Set the voice threshold for the sound card>
The voice threshold level depends on the sensitivity of the sound card. Please refer to the Help/Help Contents on the R2R Recorder window for some examples.
5. Press the 'Save' button to save your channel.



R2R Channels

New
Edit
Delete

Channel Information

Name: Channel 2

Sound Device: 4 -- Line-In (Sound Blaster X-Fi Xtr)

Storage Location: c:\Recordings

Mirror Location: Type in the root path of the mirror location

Storage Limit: 100 GB

Voice Active Time: 500 ms

Voice Hang Time: 2000 ms

Voice Threshold: -42 dB

Save Cancel

R2R Channel Window without Radio Information Tagging Enabled.

EDITING A R2R CHANNEL

Follow the steps below to edit a R2R Channel

1. Double-click the R2R icon on your desktop to open the R2R Recorder window.
2. Navigate to Configure / Channel. This will open the R2R Channel window.
3. Select the Channel you wish to edit and then press the 'Edit' button.
4. Make the modifications as necessary and then press the 'Save' button.

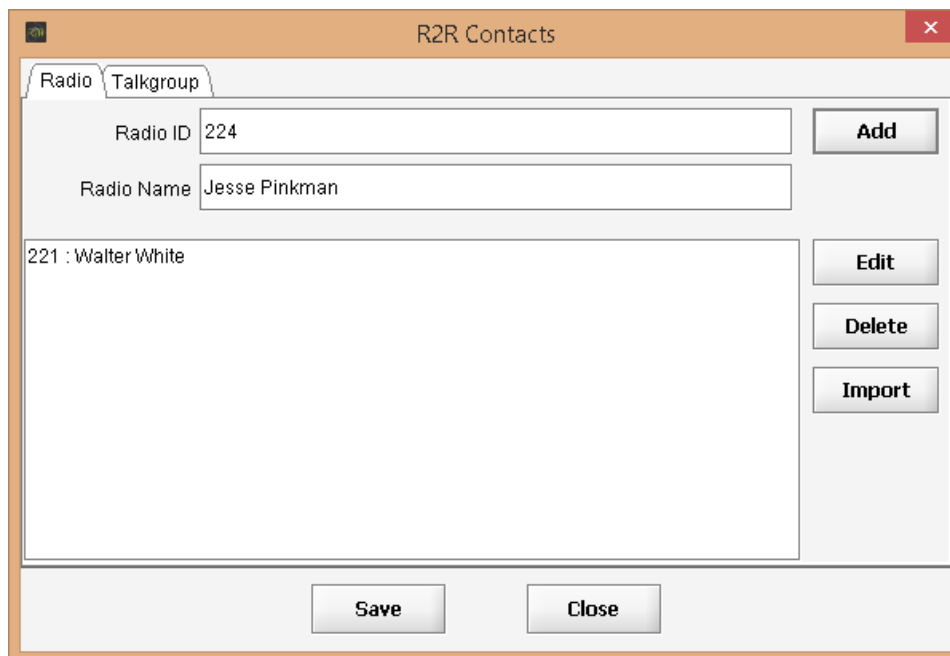
CONFIGURING R2R CONTACTS

If you have **Radio Information Tagging** enabled, you will be able to configure Radio IDs and Talkgroup IDs in R2R. If you skip this step, R2R will record all incoming information with their associated IDs. Completing this step allows you to add an identifying name next to a Radio or Talkgroup ID.

ADDING A RADIO OR TALKGROUP CONTACT

Follow the steps below to add a Radio or Talkgroup contact.

1. Navigate to Configure / Contacts. This will open the R2R Channel window.
2. Select the **Radio** or **Talkgroup** tab.
3. Enter in the Radio or Talkgroup ID
4. Enter in the Radio or Talkgroup Name
5. Press 'Save'.
6. Repeat the above process for each contact. (See next section on importing contacts if you have a large number of contacts to add)
7. Once you have added or imported all the contacts, press the 'Save' button at the bottom of the window to save all your changes. **You must press the Save button per tab to save the changes in each tab.**



R2R Contacts window

IMPORTING CONTACTS

If you have a large number of Talkgroups or Radio IDs to add to R2R, you can set up a .csv file to import in order to save time.

The CSV file should be set up as below with the two following columns as headers.

```
id, name
201, Radio 201
202, James Smith
203, Jane Brown
```

Once set up, follow the steps below to import the contacts.

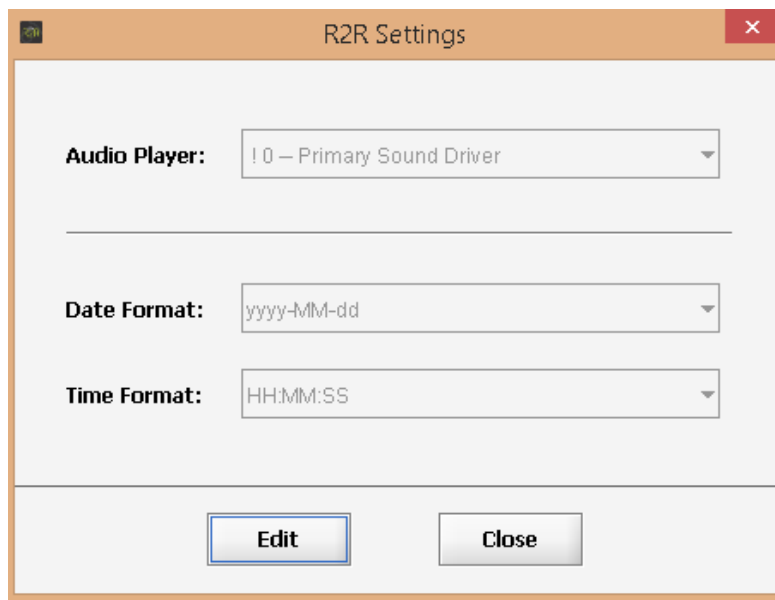
1. Navigate to Configure / Contacts. This will open the R2R Channel window.
2. Select the **Radio** or **Talkgroup** tab.
3. Click on Import and browse to the .csv file.
4. Choose whether you want to **Append** to or **Overwrite** the Contacts.
5. Once you have imported all the contacts, press the 'Save' button at the bottom of the window to save all your changes. **You must press the Save button per tab to save the changes in each tab.**

R2R SETTINGS

You can use the R2R settings tab to configure certain system specific settings.

Follow the steps below to configure the R2R Settings

1. Navigate to Configure/Settings. This will open the R2R Settings window.
2. Press Edit to change these selections.
 - **Audio Player:** Select the speaker output from which you would like to playback the recorded sound files.
 - **Date Format:** Select the format in which you would like the Dates associated with the recordings to be displayed on the R2R window.
 - **Time Format:** Shows the time format that is used on the R2R Recorder window.
3. Press the '**Save**' button.

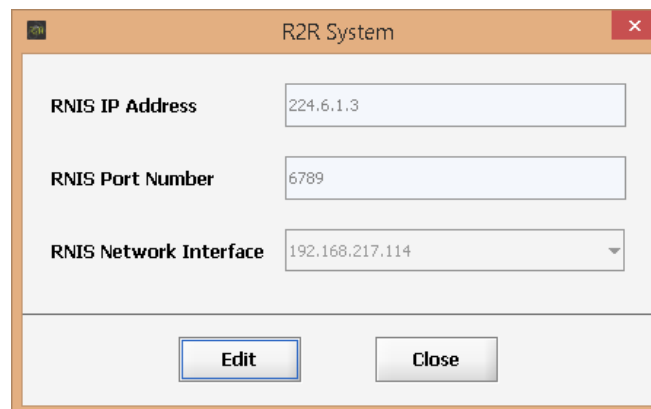


R2R Settings Configuration

R2R SYSTEM SETTINGS

If you have **Radio Information Tagging** enabled, you will be able to configure certain R2R System values with regards to the Radio Network Interface System (RNIS). Please consult someone at Teldio support prior to changing any of these values. Follow the steps below to configure the R2R System Settings.

1. Navigate to Configure/System. This will open the R2R System window.
2. Press Edit to change these selections.
 - **RNIS IP Address:** IP Address of the RNIS system's interface to the radio information. The default value is 224.6.1.3 and should not be changed.
 - **RNIS Port Number:** The port number on which the RNIS data is broadcast. The default value for this is 6789 and should not be changed.
 - **RNIS Network Interface:** The IP address of the Teldio computer where the R2R server will reside. Please make sure this IP address matches that of the computer.
3. Press the **'Save'** button.



The screenshot shows a window titled "R2R System" with a close button in the top right corner. Inside the window, there are three configuration fields:

- RNIS IP Address:** A text input field containing the value "224.6.1.3".
- RNIS Port Number:** A text input field containing the value "6789".
- RNIS Network Interface:** A dropdown menu showing the value "192.168.217.114".

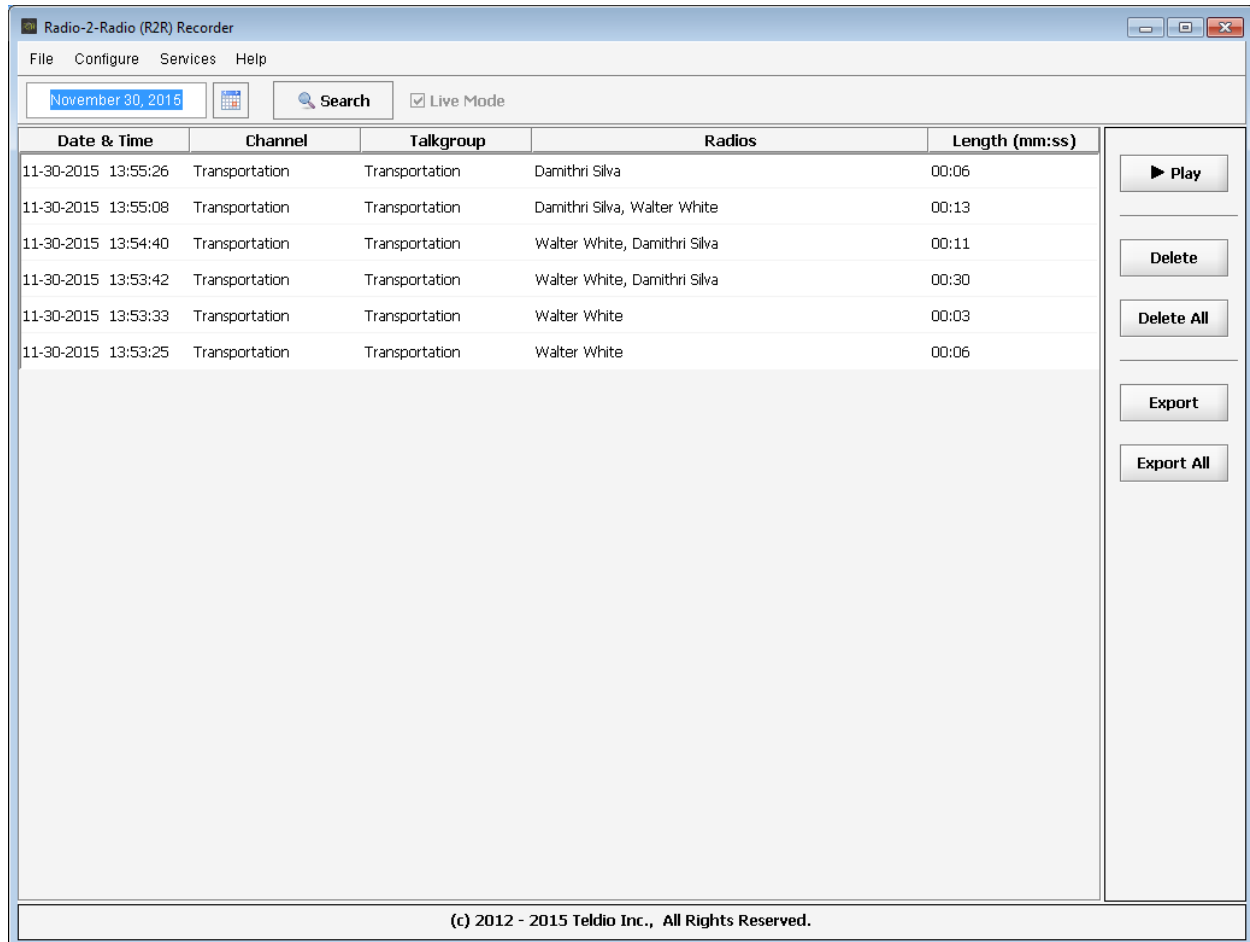
At the bottom of the window, there are two buttons: "Edit" and "Close".

R2R System Settings

USING THE R2R RECORDER

The sections below cover the functionalities and the different aspects of the R2R Recorder Window. Each recording can be sorted by Date & Time, Channel, Talkgroup, the Radios involved (specified by the ID), and the length of the recording.

The R2R window must always be running for the recorded audio information to be searchable. When minimized, the R2R window will run in the background and can be re-accessed through the Task Bar.



R2R Recorder Window

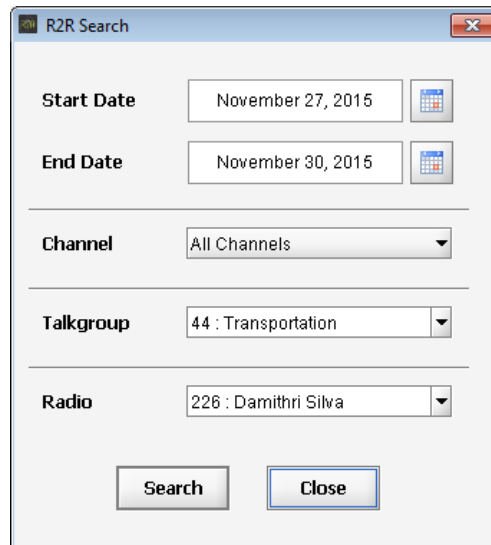
DATE SELECTOR

By default, R2R will show you the recordings for the current date. To access recordings from a previous date, click on the calendar icon and then select a date. This will populate the R2R Recorder window with the selected day's recordings.

*NOTE: Once you do this, R2R will not display new recordings until you re-select the **Live Mode** check box.*

R2R SEARCH

Click the search button to bring up the following Search Dialog. Note that if you do not have Radio Information Tagging enabled, you will only be able to search by channel.



R2R Search Window

To search:

- Select your date or date range from the date dropdowns
- Select a channel or leave as is to search through All Channels.
- Select a Talkgroup or leave as is to search through All Talkgroups. You can also manually enter in a Group ID of a Talkgroup to search by that Talkgroup ID.
- Select a Radio or leave as is to search through All Radio IDs. You can also manually enter in a Radio ID to search by that ID.

Once you do this, R2R will not show any new recordings until you re-select the Live Mode check box.

LIVE MODE

When the Live Mode checkbox is checked, the R2R Window will show you the latest files as they are recorded. Searching or selecting a different date will auto-disable Live Mode. Re-check the Live Mode Check box to re-enable it.

DATE & TIME

This column allows you to track the Date & Time of your recordings. You can adjust the Date format through R2R Settings.

CHANNEL

This column shows the name of the R2R channel from where the recording originated.

TALKGROUP

This column shows you the ID or the configured name of the Talkgroup on which the conversation occurred.

RADIOS

This column shows the radio ID(s) or the configured name of the Radios which were part of the recorded conversation.

LENGTH

This column shows the length of the recorded audio in minutes and seconds.

PLAY

Select a recording and press the Play button to bring up the R2R Audio Player. Once opened, you can use the Audio Recorder's controllers to listen to the recording.

You may also double click on a recording to bring up the audio player automatically.

DELETE

The Delete button allows you to delete a selected recording from the R2R Recording Table.

DELETE ALL

The Delete All button deletes all the recordings currently listed in the R2R Recordings Table.

EXPORT

The Export button allows you to export a single selected file to a location of your choice.

EXPORT ALL

The Export All allows you to export all files from R2R that are currently on the screen.

UPDATING A R2R LICENSE

You can update your R2R License one of two ways:

UPDATING THE LICENSE VIA THE INITIAL LICENSE REGISTER WINDOW

If you are running R2R under a temporary license, you will see the License Register window each time you run R2R. Do the following to update your license from this window.

1. Press the Update button.
2. Enter the License in the License Key field (or right click to paste if copied).
3. Press Enter. This will update the Voice Paths and Expiration Date fields with the corresponding information.
4. Press the Continue button.

UPDATING THE LICENSE VIA THE R2R RECORDER WINDOW

1. One the R2R Recorder Window, navigate to Help/License.
2. Press the Update button.
3. Enter the License in the License Key field (or right click to paste if copied).
4. Press Enter. This will update the Voice Paths and Expiration Date fields with the corresponding information.
5. Press the Update or Close button.

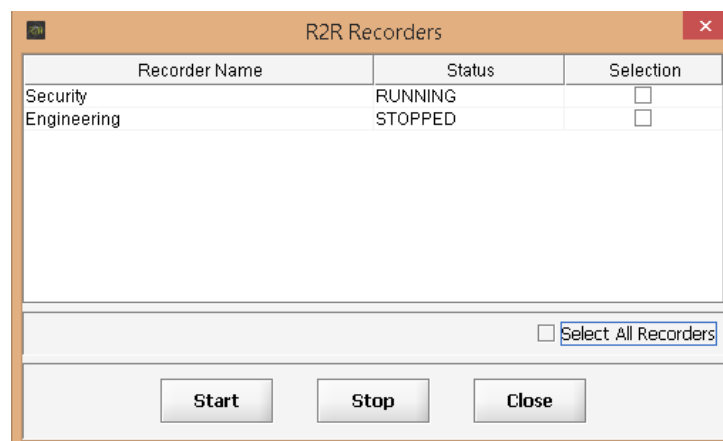
MANAGING THE R2R SERVICES

Once you configure your R2R Channel(s), the R2R application will automatically start recording the Talkgroup conversations. The application runs as a service and some actions may require a restart for the services.

R2R RECORDER SERVICES

Follow the steps below to manage your R2R Recorder Services. You may need to restart the Recorders if you make any changes to the R2R Channels.

1. Navigate to Services / Recorders. This will open the R2R Recorders window. The window will list all R2R channels configured in the system.
2. To change the status of one or more recorders:
 - Select the corresponding checkbox in the 'Selection' field.
 - Press Start or Stop to manage the R2R Recorder Service(s). Note that stopping a Recorder service will stop all recordings on that channel until the service is restarted.



R2R Recorders

RNIS SERVICE

Follow the steps below to manage your RNIS Services. You need to restart the RNIS service if you lose connection to the Control stations.

1. Navigate to Services / RNIS. This will open a pop up asking if you want to Stop/Start the RNIS service. Click the Stop or Start button to perform the corresponding action. If you stopped the service, navigate back to the Services/RNIS window to 'Start' the service.

FURTHER INFORMATION

For more information, please visit <https://support.teldio.com/r2r> . You can also contact Teldio Support at support@teldio.com