

RM4200D

How to configure a Talkback Matrix

© 2006 DHD Deubner Hoffmann Digital GmbH

Version dieser Ausgabe: 1.0.0

RM4200D - How to configure a Talkback Matrix

© 2006 DHD Deubner Hoffmann Digital GmbH

This manual is copyright of DHD. It might be distributed and copied as long as it is copied completely as a whole and this copyright notice is included.

No part of this document may be copied or distributed without prior written permission of DHD Deubner Hoffmann Digital GmbH.

Windows is a registered trademark of Microsoft Corp., Redmond, Wash., USA. All other trademarks are the property of their respective owners.

Specifications and design are subject to change for the purpose of improvement without notice.

The content of this document is for information only. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.

Die Veröffentlichung der Informationen in diesem Handbuch bedeutet keinerlei Übertragung von Nutzungsrechten, Lizenzen oder anderen Rechten - weder explizit noch implizit - an den beschriebenen Technologien.

Date: 21.11.2006 - Version 1.0.0

Table of Contents

1	Introduction	4
2	Connecting the RM420-027	5
3	Preparing the RM4200D	7
4	Configuring the Talkback Matrix	12
5	Merging the configuration files	16
6	Copying configuration to the hardware	16
	Index	0

1 Introduction

The following example explains, how to configure a Talkback Matrix in a RM4200D installation by using RM420-027 Talkback Panels. In this example, an existing central routing matrix is used to realise the talkback matrix including audio routing and logics. This routing matrix should not be connected to any mixing surface, as it will be configured with hidden fader modules and internal aux busses, which should not be used from any control surface in parallel.

To configure a Talkback Matrix installation, you need to work with:

- Toolbox4 (for the RM4200D system)
- Toolbox45 (to configure the 027 TB Panels)

The following example is based on settings, which are mandatory for the configuration. Please make sure that your installation includes this properties:

- a central matrix device with no physical fader modules connected
- several studios connected to the matrix device via MADI
- a Talkback Panel RM420-027 is located in every studio and wired locally to the studio DSP Frame (MIC input and SPEAKER output).
- In the studio DSP Frame, the TB mic signal is routed to a MADI channel (to be available on the matrix)
- In the studio DSP Frame, a MADI input (carrying the speaker signal from the matrix) is routed to the output to the RM420-027 speaker.
- All talkback panels need to be wired as specified in the manual or specification sheets.

2 Connecting the RM420-027

The RM420-027 Talkback Panel comes with 3 connectors, which can be used to connect the device to

- a network,
- power and
- audio.



Connector CONN1

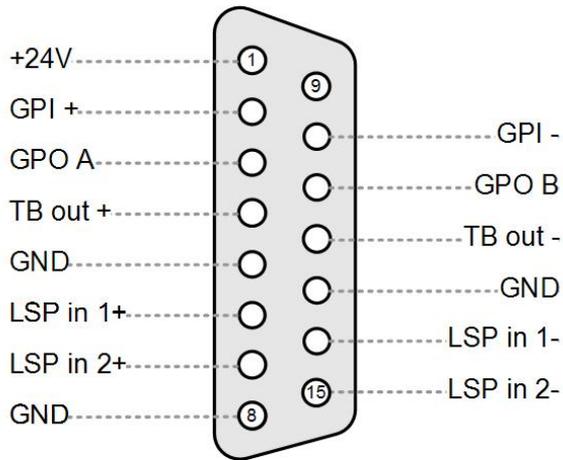
Network Interface, 100Base-TX, IEEE 802.3u on RJ45.

Connector CONN2

RJ45 connection to **RM420-TB-HUB** RJ45 Adapter Panel 1U/19"

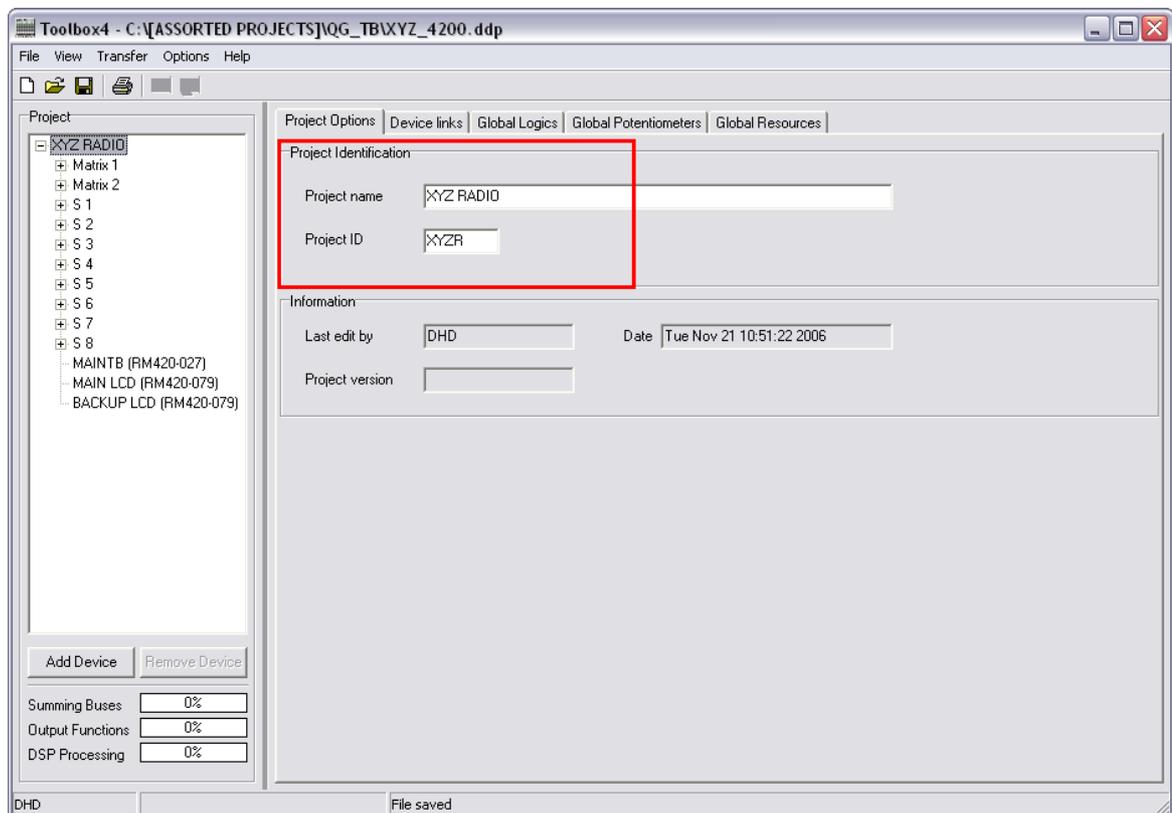
Connector CONN3

If you do not have any TB-HUB available, please connect the device via CONN3. Use this pin-out to wire the module.

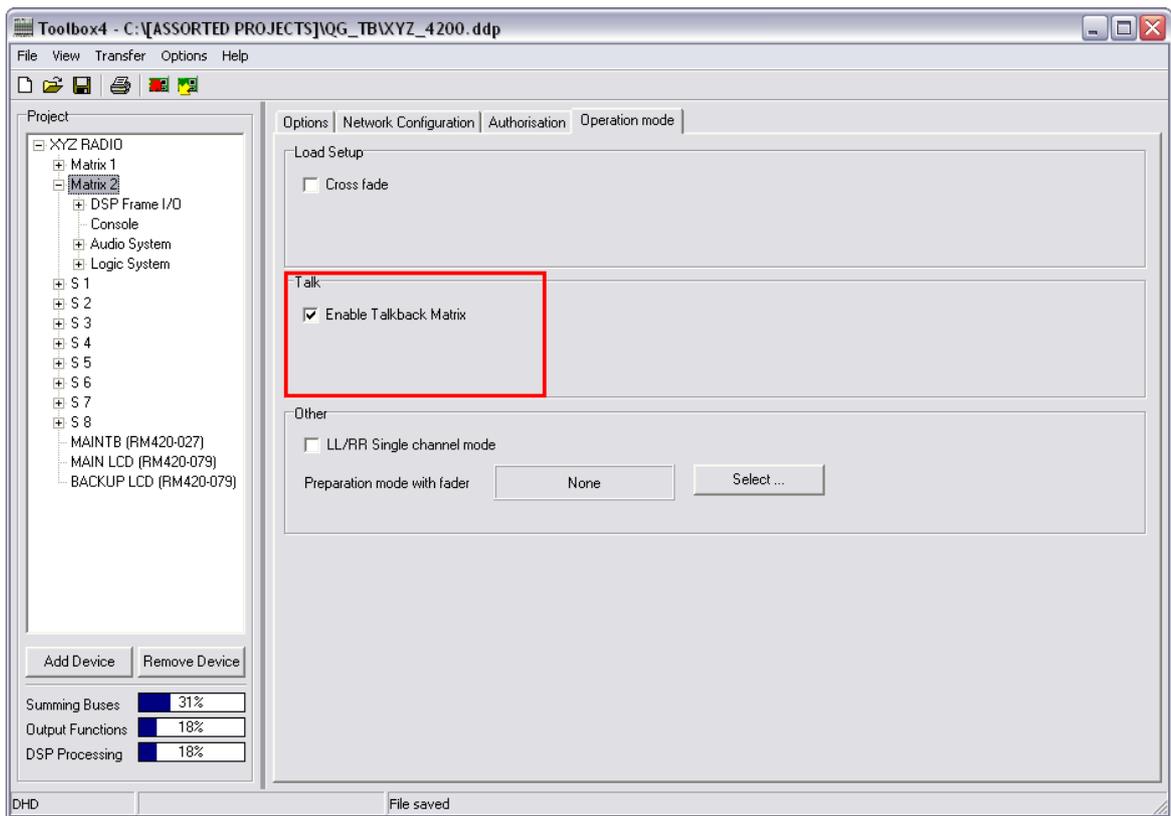


3 Preparing the RM4200D

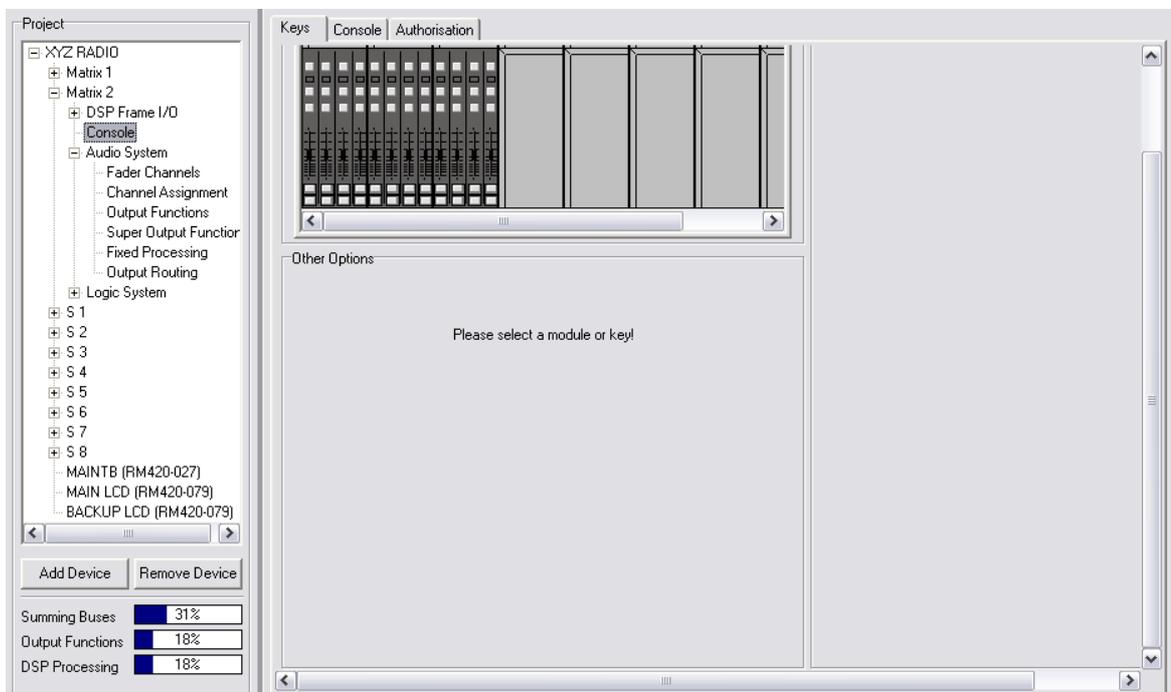
1. Open Toolbox4 at first and load the existing configuration file (DDP).
2. In the project Properties, check the Project Name and the **Project ID**. This ID needs to be the same for all devices, RM4200D and RM420-027 Talkback Panels, if not they can not communicate together.



3. Select the Device, which has enough resources for being used as a Talkback Matrix. Usually, it is an existing matrix device, which is not equipped with any surface module. A device which is used as a Talkback matrix must not have any physical fader module connected.
4. In the selected device, choose the register tab "**Operation mode**". Check the "**Enable Talkback Matrix**" option.



5. Go to the **Console** submenu and insert as much Faders as you need for your talkback sources. For each single talkback source you need to **reserve one fader**.



It makes no difference, which type of module you have inserted. There is also no key configuration needed. Just leave the modules empty after inserting.

6. Go to the **Audio System** menu and select the **Mixing Functions** tab. Here, make sure to decrease the number of Program busses to "0". Secondly, insert as much AUX busses as you need for your talkback destinations. For each single

talkback destination you need to **reserve one aux bus**.

Mixing Functions

Program Buses: 0 Aux Buses: 9 Talk attenuation: -18 dB

Talk 1 Source: TB MATRIX Select Talk 2 Source: None Select

Bus	Talk Condition 1	Talk Condition 2	Source	Output Selector
CENTRAL TB	None	None	Aux 1	
TB S1	GL TALK ALL	None	Aux 2	
TB S2	GL TALK ALL	None	Aux 3	
TB S3	GL TALK ALL	None	Aux 4	
TB S4	GL TALK ALL	None	Aux 5	
TB S5	GL TALK ALL	None	Aux 6	
TB S6	GL TALK ALL	None	Aux 7	
TB S7	GL TALK ALL	None	Aux 8	

Label:

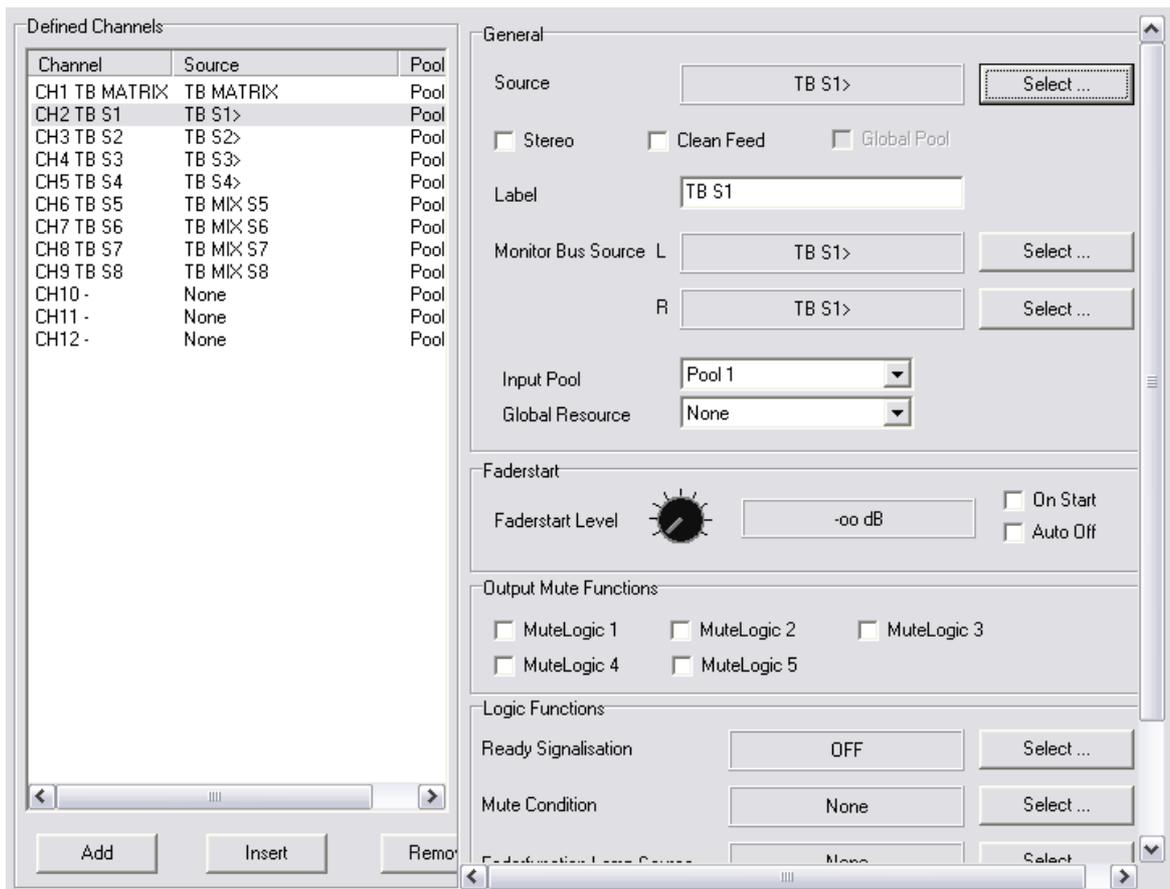
Stereo

Talk 1 Condition: Select Talk 2 Condition: Select

Limiter:

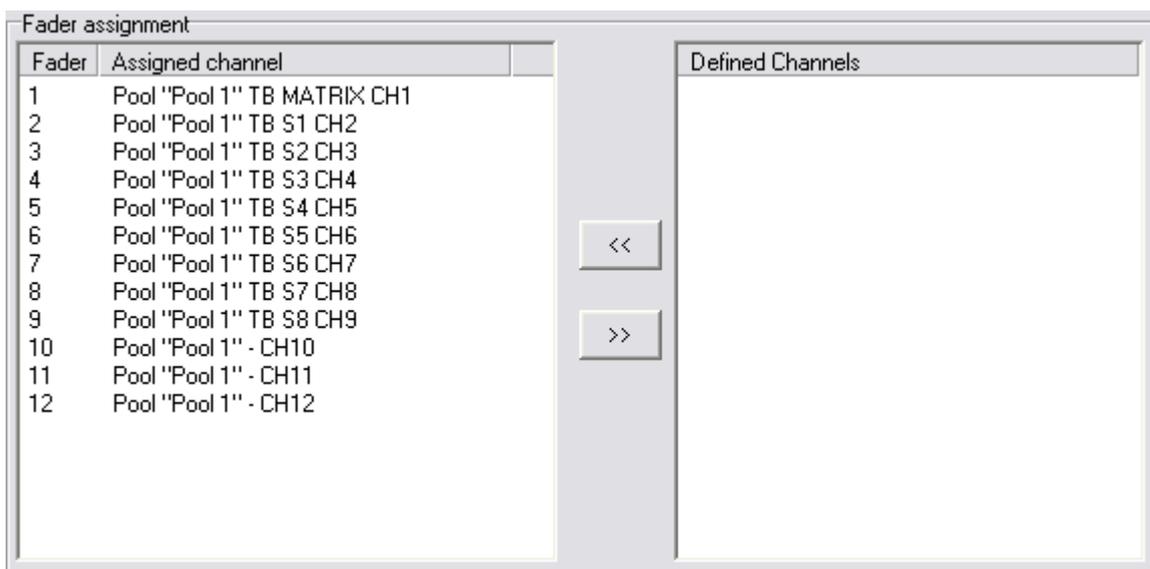
Switch all inserted aux busses to **Mono**. Set the labels as desired. All other settings shown in the example are optional and are not needed to realise a talkback matrix.

- Go to the **Fader Channels** menu and add as much fader channels as you need for your talkback sources. For each single talkback source you need to **reserve one fader channel**.



You need to assign local audio sources to the configured fader channels. These audio sources can also be microphone signals from the connected studios which reach the talkback i.e. by **MADI**. Set the labels as desired.

- Assign the configured fader channels to the inserted faders, which are physically not present. Use the **Channel Assignment** window to do so.



- Go to the output routing menu. Route all configured aux busses to the related outputs to the connected devices.

Output name	Output address	Source	Mute logics	CS
S5 PGM delay L	10.1.01 - 02 L	S5 PGM delay L		
S5 PGM delay R	10.1.01 - 02 R	S5 PGM delay R		
S6 PGM delay L	10.1.03 - 04 L	S6 PGM delay L		
S6 PGM delay R	10.1.03 - 04 R	S6 PGM delay R		
S7 PGM delay L	10.1.05 - 06 L	S7 PGM delay L		
S7 PGM delay R	10.1.05 - 06 R	S7 PGM delay R		
S8 PGM delay L	10.1.07 - 08 L	S8 PGM delay L		
S8 PGM delay R	10.1.07 - 08 R	S8 PGM delay R		
TB >S1	10.1.09	TB S1		
TB >S2	10.1.10	TB S2		
TB >S3	10.1.11	TB S3		
TB >S4	10.1.12	TB S4		
TB > MATRIX	10.1.13	CENTRAL TB		
	10.1.14	None		
L	10.1.15 - 16 L	None		
R	10.1.15 - 16 R	None		
S1 PGM del BAK L	10.1.17 - 18 L	PGM S1 dlybac...		
S1 PGM del BAK R	10.1.17 - 18 R	PGM S1 dlybac...		
S2 PGM del BAK L	10.1.19 - 20 L	PGM S2 dlybac...		
S2 PGM del BAK R	10.1.19 - 20 R	PGM S2 dlybac...		
S3 PGM del BAK L	10.1.21 - 22 L	PGM S3 dlybac...		
S3 PGM del BAK R	10.1.21 - 22 R	PGM S3 dlybac...		
S4 PGM del BAK L	10.1.23 - 24 L	PGM S4 dlybac...		
S4 PGM del BAK R	10.1.23 - 24 R	PGM S4 dlybac...		
S5 PGM del BAK L	10.1.25 - 26 L	S5 PGM delay L		
S5 PGM del BAK R	10.1.25 - 26 R	S5 PGM delay R		
S6 PGM del BAK L	10.1.27 - 28 L	S6 PGM delay L		
S6 PGM del BAK R	10.1.27 - 28 R	S6 PGM delay R		
S7 PGM del BAK L	10.1.29 - 30 L	S7 PGM delay L		
S7 PGM del BAK R	10.1.29 - 30 R	S7 PGM delay R		
S8 PGM del BAK L	10.1.31 - 32 L	S8 PGM delay L		
S8 PGM del BAK R	10.1.31 - 32 R	S8 PGM delay R		
L	10.1.33 - 34 L	None		
R	10.1.33 - 34 R	None		

10. Make sure to save the configuration file now. Use a different name to prevent overwriting the previous configuration. Close the Toolbox4 configuration software afterwards.

4 Configuring the Talkback Matrix

1. Start Toolbox45 now. In the **Project Options** find the "**Linked Toolbox4 Project File**" dialog and click on **Select...** to search the newly created Toolbox4 configuration file (DDP), which you created in the step before.

Linked Toolbox 4 Project File

File:

After inserting the file, you see the devices configured in that file listed in the project device listing.

2. Check now, if the configured Project Name and **Project ID** is similar to what is configured in the DDP file. Make sure there are no differences.

Project Identification

Project Name:

Project ID:

3. Move to the **Global Control** tab to configure the source/destination matrix. Click the **Add** button to create the Talkback matrix with as much sources and destinations as you need.

Talkback Member Matrix | Talkback Options | Line Pools

Source \ Destination	MATRIX	S1	S2	S3	S4	S5	S6	S7	S8
MATRIX	-	-	+	+	+	+	+	+	+
S1	-	-	-	+	+	+	+	+	+
S2	-	-	-	+	+	+	+	+	+
S3	-	-	+	-	+	+	+	+	+
S4	-	-	+	+	-	+	+	+	+
S5	-	-	+	+	+	-	+	+	+
S6	-	-	+	+	+	+	-	+	+
S7	-	-	+	+	+	+	+	-	+
S8	-	-	+	+	+	+	+	+	-

Talkback Member

Standard Label:

LCD Label:

Source Fader Channel Number:

By clicking the crosspoints between sources and destinations, you can allow or not if a source is able to talk to a destination. A plus indicates, if the connection is "allowed", a minus stands for "not allowed". You can set a label for each talkback member.

4. In the **Talkback Options** window, you can define some parameters for the talkback functions on a RM420-027.

Key Colors

Talk: Busy:  Some states use the same color.

Incoming Call:

Incoming Call Indication Timeout: seconds

5. You can now start with inserting a number of RM420-027 Talkback Panels into the configuration. In the left part of the application window, you can press **Add...** to select and insert a RM420-027.

Project

- XYZ RADIO
 - Matrix 1
 - Matrix 2
 - S 1
 - S 2
 - S 3
 - S 4
 - S 5
 - S 6
 - S 7
 - S 8
 - Global Control
 - MAIN LCD
 - BACKUP LCD
 - MAINTB

Processing Resources

Summing Buses:

Output Functions:

DSP Processing:

6. After having inserted a Talkback Panel, you can set **name** and network address for this device. In the **Talkback Member** drop down menu, select the member of the talkback matrix, which should be presented by this device.

Options Keys

Common

Type: Talkback Panel RM420-027

Talkback Member: MATRIX

Panel Name: MAINTB Phantom Power

Network IP Address

Automatic via DHCP

Fixed

IP Address: 0.0.0.0 Subnet Mask: 255.255.255.0

DNS Server: 0.0.0.0

Gateway: 0.0.0.0

Panel Logic

Mute: (not assigned) Select ...

GPO: (not assigned) Select ...

7. Go to the **Keys** tab to configure the panels functions. When no panel key is selected, a list is shown with all allowed talkback connections, which are not yet configured with key functions. The more functions are configured, the less entries are shown in the list.

Unassigned Talkback Connections

S2 -> S3
S2 -> S4
S2 -> S5
S2 -> S6
S2 -> S7
S2 -> S8

8. On the panel, select a key by clicking on it.

The image shows a software configuration window for a talkback matrix. It is divided into two main sections: 'Key Options' and 'Module'.

Key Options:

- Number: 5
- Function: Talkback
- Source: MATRIX
- Destination: S1
- Label: S1
- Toggle Mode:
 - Momentary
 - Toggle
 - Timed Toggle

A callout box labeled 'S1' is positioned over the Destination field. The 'Module' section on the right shows a graphical representation of a control panel with two volume knobs and a grid of buttons. A 'Large View' checkbox is located at the bottom of the Module section.

In the functions menu, select "**Talkback**" as key function. Select the correct **source** (talkback member) and the **destination**, to which the member talks to, when this button is pressed. Finally, choose a **label** for the key. Repeat this for each talkback connection on this panel.

9. Repeat steps 5-8 for each RM420-027 you want to configure.

10. Save the configuration in a separated file (*.DPF) on the harddrive. Close the configuration software Toolbox45.

5 Merging the configuration files

Both configuration files (DDP and DPF) contain data, which is needed by the opposite Toolbox to be up-to-date. As both applications work with internal matching procedures, it is important to know a bit about these procedures.

To have both configurations up-to-date, you need to save one configuration file and quit its config application, before you open and edit the other one.

If you do not close one Toolbox while working with the other, it is not guaranteed, that your configuration projects are up-to-date.

6 Copying configuration to the hardware

After you have finished both, Toolbox4 and Toolbox45 configuration, you need to update the connected devices with the correct configuration data. If all devices are available in the network, select them step by step and transfer the related configuration. Make sure, that you re-transfer the configuration again, whenever you have made some changes in the config.