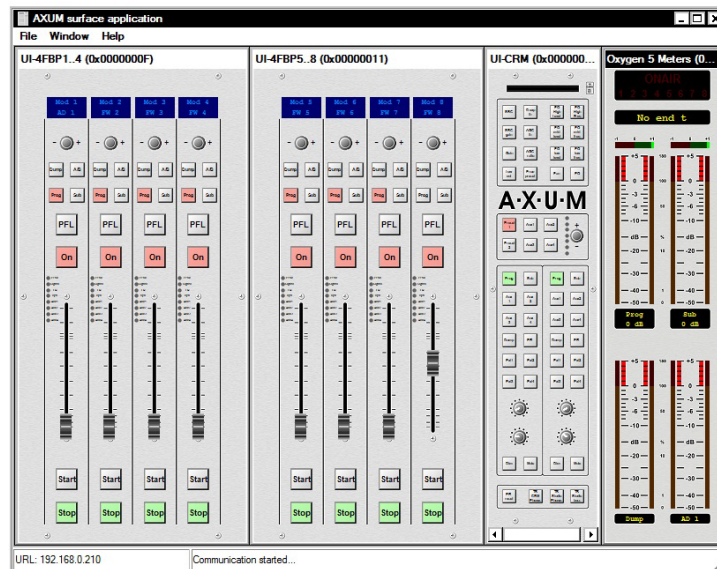


DIGITAL AUDIO MIXING SYSTEM

A·X·U·M



REMOTE CONTROL User Manual

VERSION 1.0



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Dear Customer,

Thank you for purchasing the Users Interface AXUM Remote control software.

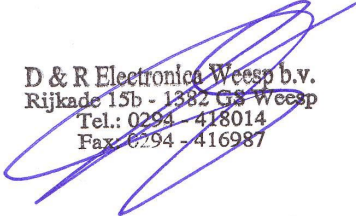
To be able to improve our products we always value suggestions once you have become familiar with your system.

We will certainly learn from your comments and very much appreciate you dropping us a mail at info@d-r.nl

We are confident that you will be using the AXUM REMOTE for many years to come, and wish you lots of success in your business.

And... please take some time to read this manual first to avoid unnecessary questions to yourself and... to us.

With kind regards,



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2 Package Contents

The AXUM REMOTE package comes with the following parts inside:

- AXUM REMOTE software on a USB stick.
- AXUM REMOTE user manual

3 Introduction

This manual will give you an overview of the functionality of the AXUM REMOTE software and all its features. It is advisable to read this manual at least once before installing and using the software.

We know that this is actually the first thing you want to do, but please do not and discipline yourself to read the manual first.

The manual gives all sorts of valuable information before getting started and it saves you from a lot of unanswered questions. After installing this manual can be used as a reference.

4 System overview

The Axum Remote software application is designed as a software remote control for the hardware users interface such as the fader panels and CRM section. The idea is that when no one is in the Studio or as a remote help, there is still the ability to control the AXUM system parts from any place in the world. It is also possible to create an extra mixing console in the studio without having to invest in the control surface hardware. Just add an extra CRM card in the rack and the physical outputs are there. All existing inputs in the Rack can be used by this virtual mixing consoles as well.

You can log on to the system by entering the IP address of the AXUM and get real time control over all the hardware functions that are on the control surfaces and in the CRM section of all consoles in use in the studio. I am sure it will save a lot of travelling and... peace of mind.

For (remote) configuration the web browser is used to access the consoles web server. Of course this happens on an IP-based level of communication, which makes it possible to configure your system over the internet.

IP ADRESSES

The defaults IP-addresses for configuration pages are:

http://192.168.0.200 for the configuration in main menu

http://192.168.0.23x for the controller surface configuration. (for the first surface set x to 4, for a second surface set x to 5, etc).

LOGIN

To prevent other people to access the Axum configuration pages you need to logon.

The default logon is:

Username: service

Password: service

This account may change, which is explained in the AXUM hardware manual.

Network specialists can find more information in the main AXUM hardware manual

Below is an example of a complete system with control over the World Wide Web (Internet)

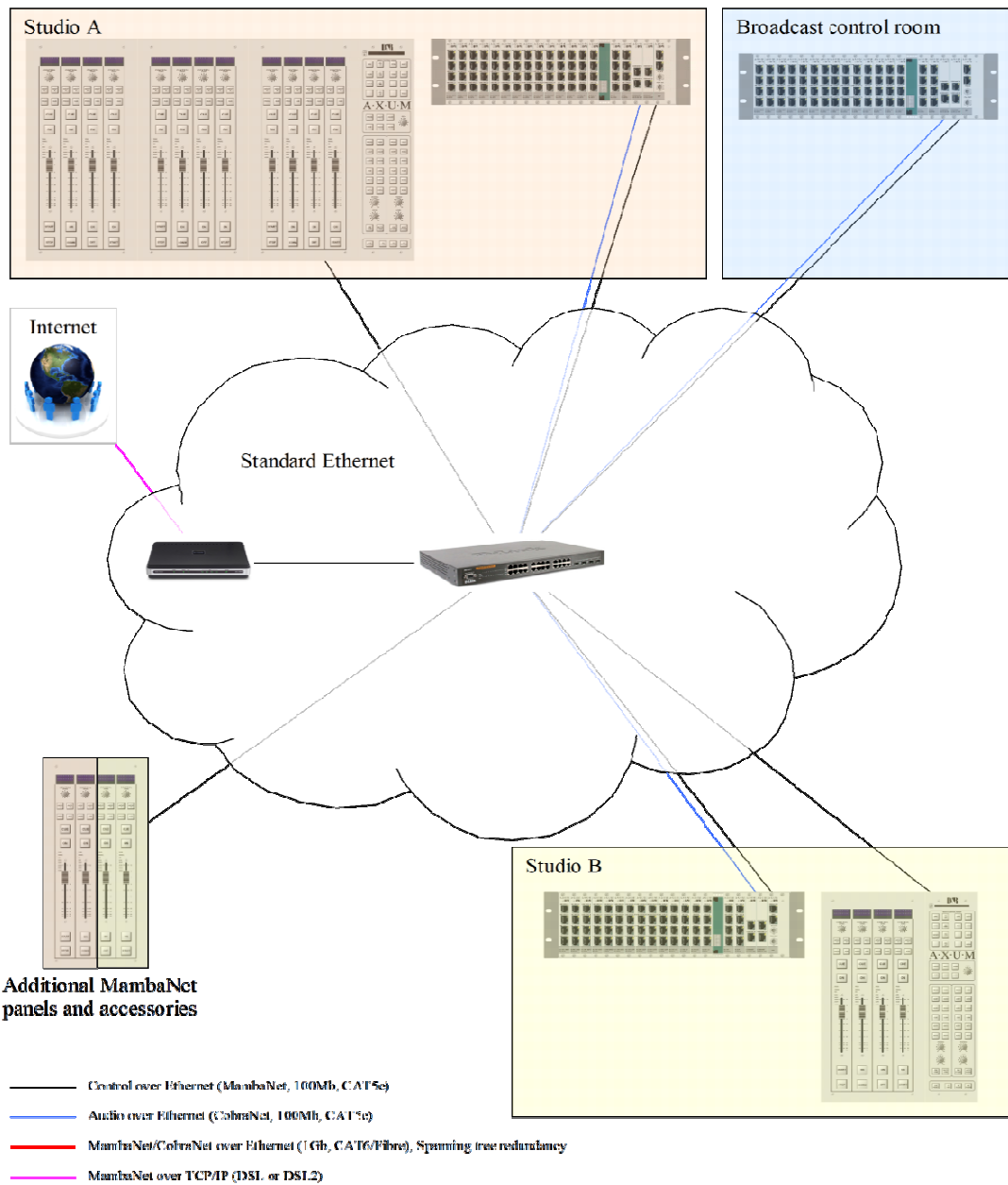
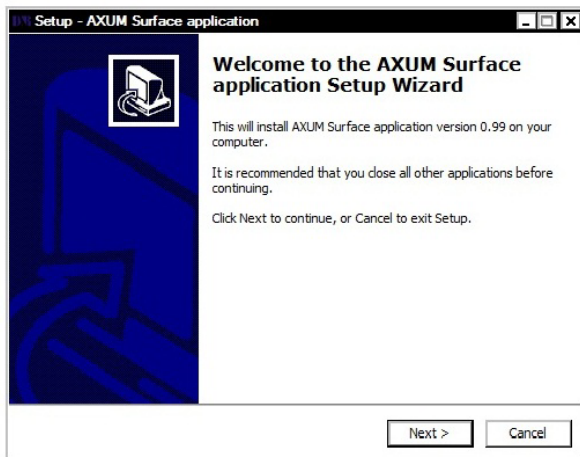
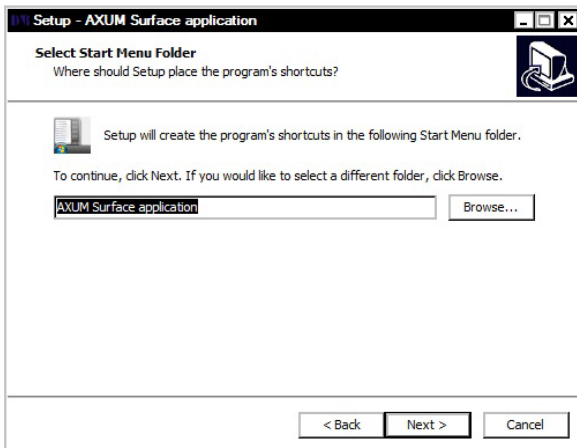


Figure 1: Basic system layout

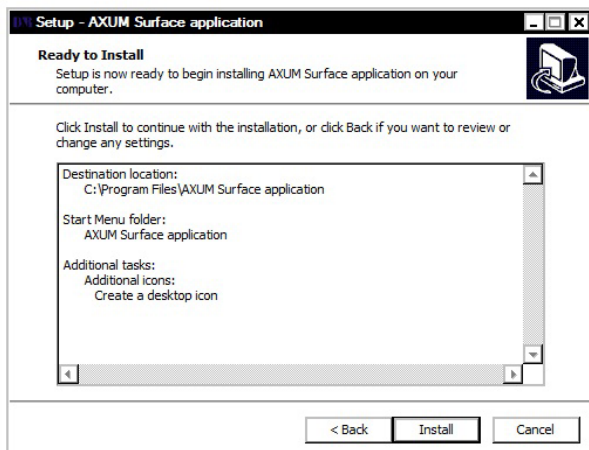
5. Installation



Click on the **Next** button and choose a location on your computer to install the software. Default are the location for the program files on your C drive.



Click on Next, here installing a desktop shortcut can be cancelled.

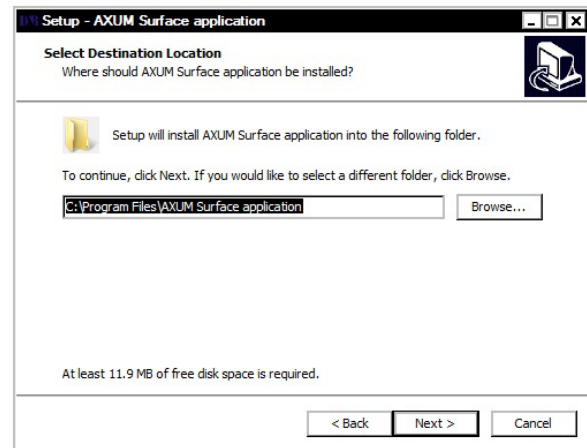


Please insert the USB stick in an USB connector of your PC.

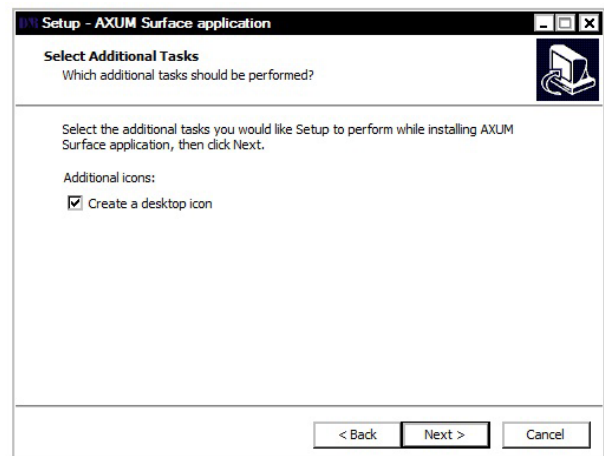
Wait for your PC to recognize the new device or else go to "Computer" in your start up screen and find it yourself.

As soon as you have found it double click on the file "D&R AXUM_surface-application-setup_v0.99" A pop up screen as shown on the left will be seen with the text.

Welcome to the AXUM Surface application Setup Wizard.

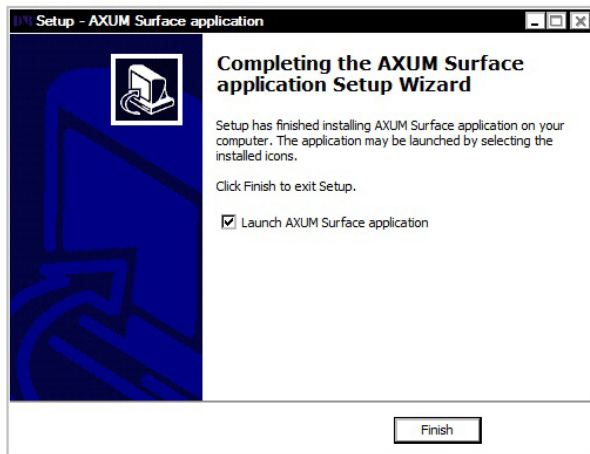


Click on next
A desktop shortcut will be created.



Click on Next and see if these locations are correct or else click the Back button

If everything is OK click the Install button.



The program will be installed and can be launched by clicking **Finish** button.



Now you see an empty screen with on the top three drop down menus labeled **File-Window-Help**. Go to **File** and click in the drop down menu **“Connect to AXUM”**

A pop up screen invites you to enter the URL of the AXUM Engine.

There is a choice out of UDP (User Datagram Protocol) (default) or TCP (transmission Control Protocol) Choose at least one of the TCP/IP or UDP/IP.

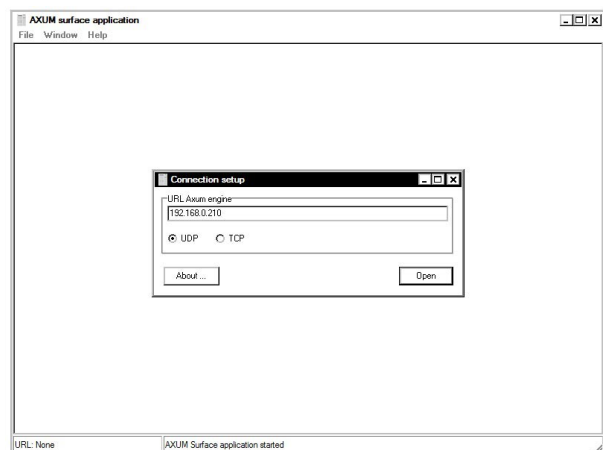
Note: MambaNet servers should be enabled in TP/Clock configuration of the AXUM under control.

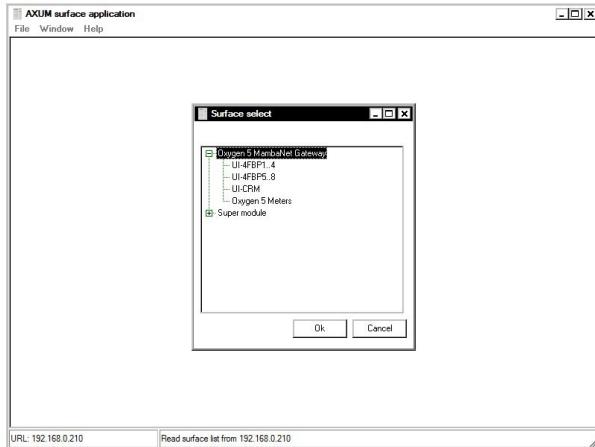
For your info (Wikipedia)

The Transmission Control Protocol (TCP) is one of the core protocols of the Internet Protocol Suite. TCP is one of the two original components of the suite, complementing the Internet Protocol (IP), and therefore the entire suite is commonly referred to as *TCP/IP*. TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer. TCP is the protocol that major Internet applications such as the World Wide Web, email, remote administration and file transfer rely on.

Other applications, which do not require reliable data stream service, may use the User Datagram Protocol (UDP), which provides a datagram service that emphasizes reduced latency over reliability.

Now fill in the IP address of the AXUM, for instance 192.168.0.200 (default)





If done right you will see a popup menu with 2 files.

One is the AXUM Control Surfaces and one is the Super Module (actually one complete channel)

If you want all control surfaces click on the folded folder and click OK

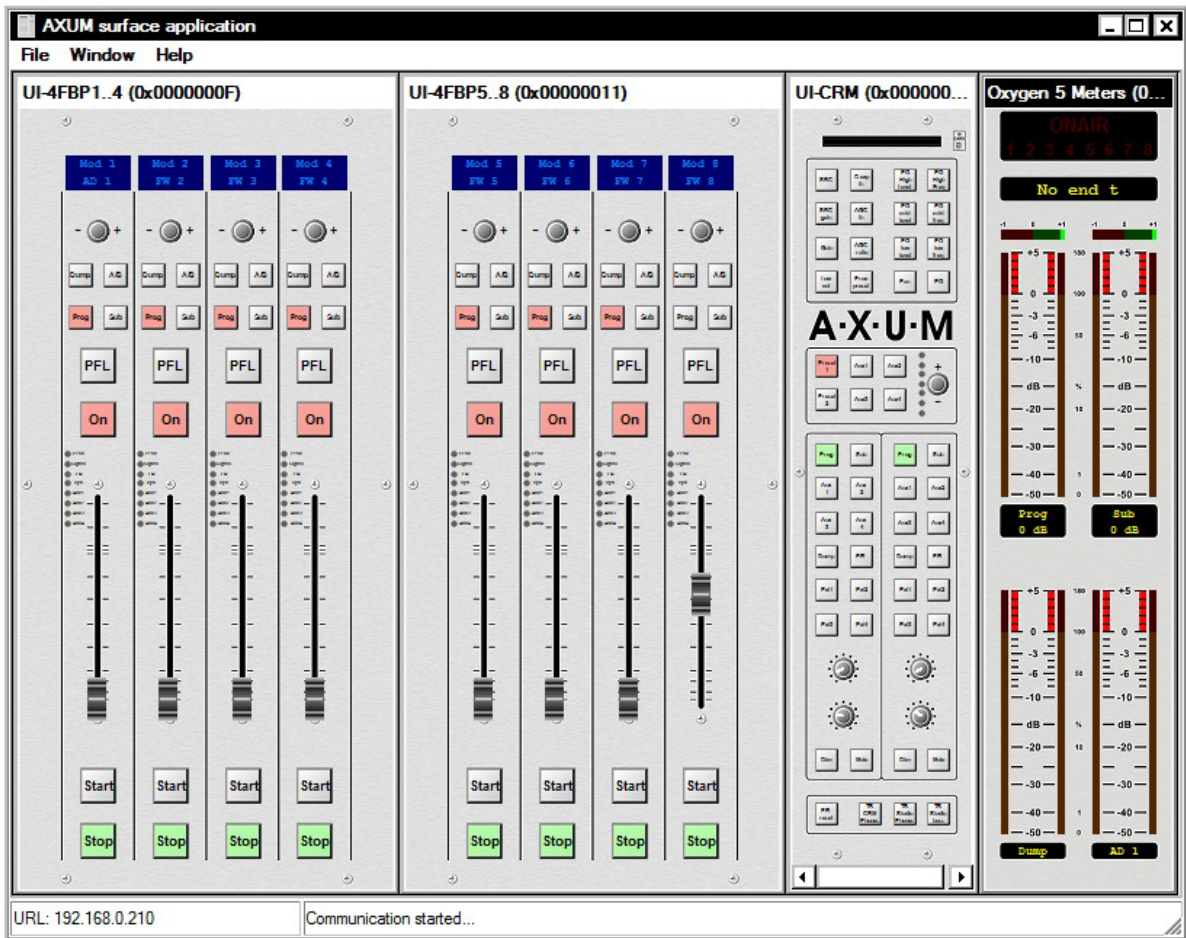
If you only want one of the control surface, open up the folder and select the one you want to control.

Choose one and click OK.

The selected section will be seen in the application.

For now we will open all control surfaces by

opening the first + folder line.



You now will see the Control Surfaces that are in use including the CRM section and the Main meters from the TFT screen in the studio.

If you want to see it full screen, click on the full screen button in the upper right corner.

You will see that the screen gets larger but the lay-out size does not change, so that is not what you wanted.

We have a solution, go to the drop down menu labeled Windows, open it and click on the **Re-order** button, now the Control Screen will fill your PC screen.

You can also activate the **“Always on Top”** so that this control surface will always be the top layer of all the windows that are open on the screen. If you open **“Go to website”** under the File menu this will then be opened underneath the Remote Control Screen.

HOW TO USE THE APPLICATION

Now any switch can be activated in real time by clicking on the switch, the colour will indicate that the function has been activated.

Faders can be repositioned by simply bringing the mouse to the faderknob, click the left mouse button and move the fader to its new position. The fader in the Studio will move accordingly, so local visual control is always there. But if someone fades down again it will be seen on the screen of the PC.

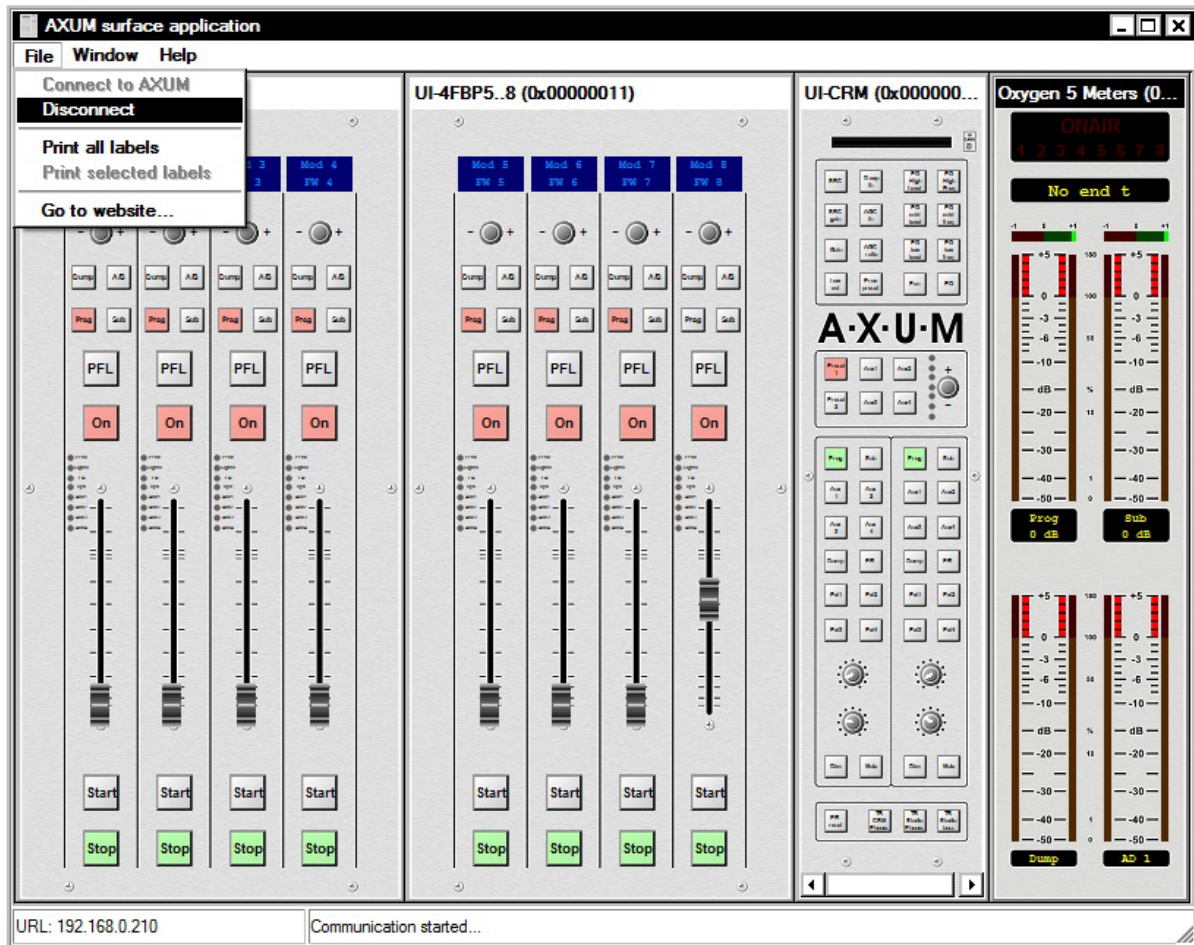
In order to control the Encoder on top of the module, click once or repeatedly on the + or – signs right and left of the Encoder knob.

Also all the functions in the CRM section work exactly as the real thing in the studio.

The only difference is the control of the 4 level pots in the CRM section, click on the knob and move it with left mouse button held down to its desired position.

Likely there is no need to control the CRM speakers or phones in the studio that often.

When clicking on or near the Chipcard connector location, a popup menu will appear that asks for your username and password if you want to go further inside the system.



More functions

In the File menu on the top left of the screen there are more options to choose from.

Such as **Disconnect** which is self explaining.

Print All labels: Here you can indeed print the labels of this module to possibly change them inside the hardware switches if needed.

Print UI-CRM, These are all the labels used in the CRM section.

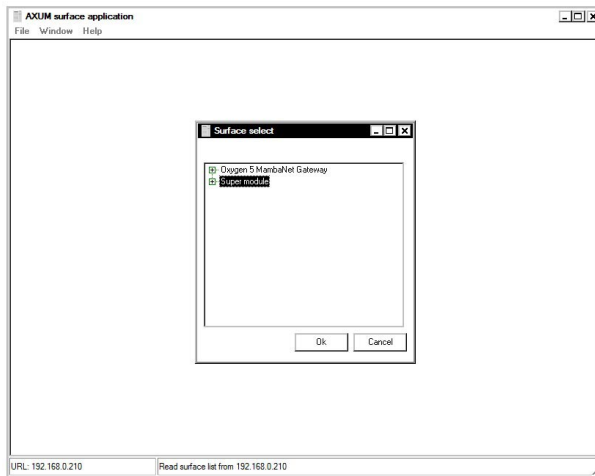
The last one is **Go to website.**

If you do this you have access to all programming and all settings.

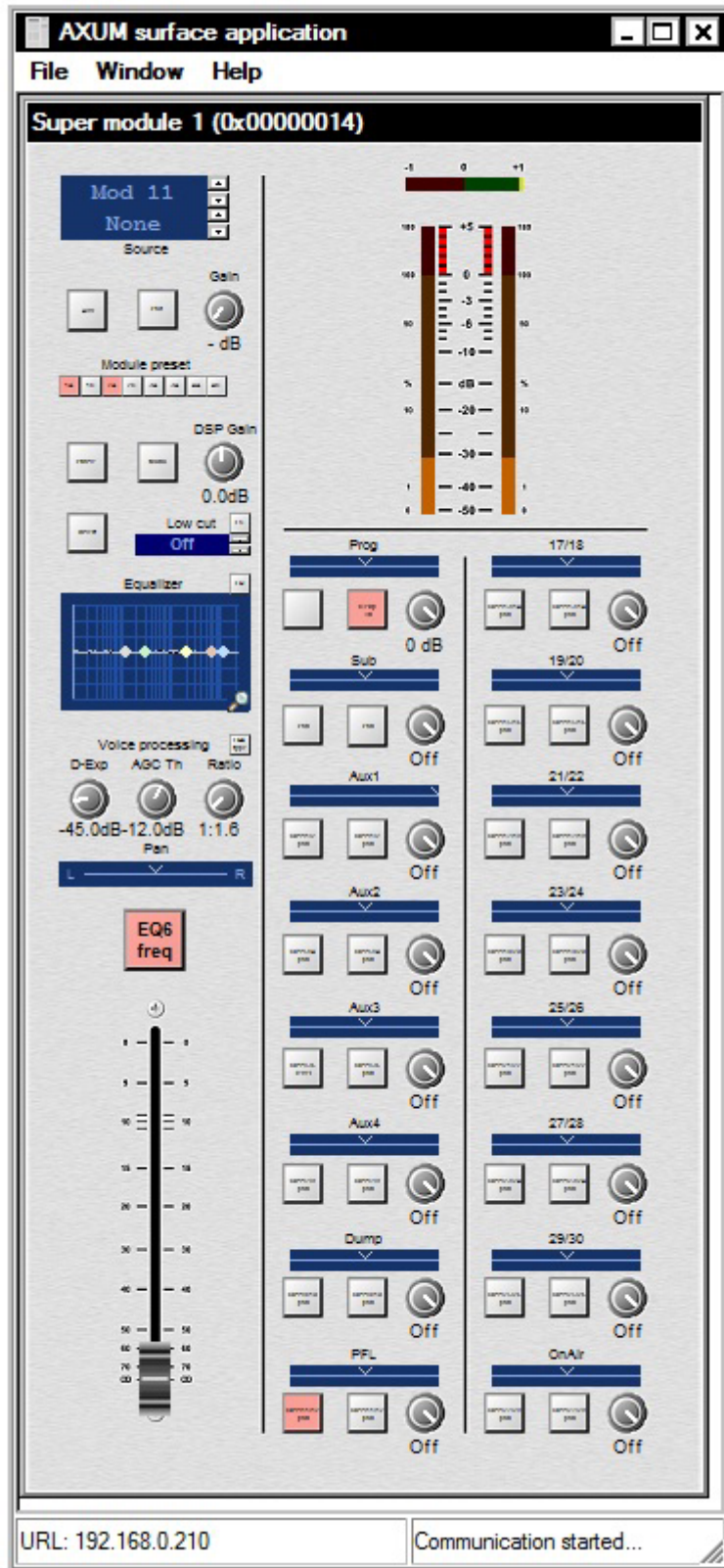
Be very careful not to do something destructive while ON-AIR.

If you want to control a module in detail you have to close the application for the control surfaces by activating **disconnect**. Or you open the Remote application twice.

Now you can connect again by choosing the Super Module in the following menu.



By Clicking on the left menu the highlighted item the Super Module will be loaded, as can be seen as an example below on the next page.



In this overview you actually see all functions of one processing channel.

The top of the module shows the LCD with 4 switches on the right side with the following functions.

1. Module selection up
2. Module selection down
3. Source select up
4. Source select down

Then there is Phantom, Pad and Gain.

Below that there is a row of switches where you can load presets.

Left of the DSP gain you can control Phase on/off and MONO on/off.

Below that you can control Insert on/off,

Then the Low Cut switch and the cutoff frequency can be set between 40Hz and 180Hz.

The EQ can be switched on or off and all frequency responses can be set graphically. A magnifier in the lower right hand corner will pop up a larger graphical display with instant control over all equalizer functions.

Then there is the Voice processing section where all three parameters can be adjusted.

The Pan Pot can be adjusted from left to right.

The switch above the fader is to switch between a 4 band and 6 band EQ. (PFL is of no use when remote controlling a desk).

Here the fader can be controlled.

The right hand section contains the Channel meters and Phase meter

Below the meters you see all 32 busses that can be assigned.

Every buss has a pan and Level control and 2 switches of which the function is programmed in the AXUM already. These functions can then be switched on or off remotely.

6. MAMBANET in DETAIL

All control communication takes place with MambaNet and gives the surface flexibility and power to the AXUM digital audio system. To understand the AXUM digital audio system it would help to know some principles of MambaNet.

MambaNet definitions:

- *Objects*
A fader, switch will have to trigger an action in the AXUM digital audio system. In MambaNet, we call these faders and switches 'objects'.
- *Nodes*
In the hardware the faders and switches are grouped on modular blocks (think of a single PCB), such blocks are represented as 'nodes' in MambaNet.
- *Engine*
In the Axum digital system the engine is in fact your mixing console. The functions available in the 'engine' can connect to one or more objects found in your network.

In practice, this means you can connect any surface element like switches and faders to any function of your mixing console(s). From now on, you can design your own functionality at the control surface.

Information for manufacturers and developers is located at <http://www.mambanet.org>, it is possible to make your own communication with the mixing system; we have a MambaNet library available for Windows (DLL) and Linux (lib).

For professional developers it is possible to buy a Manufacture ID from D&R so you are able to make your own equipment compatible with the MambaNet protocol.

Secondly, local radio stations can use manufacturer ID 0xFFFF for some custom implementations. (All manufacturer IDs are unique except the 0xFFFF, which is free for 'in-house' implementation)

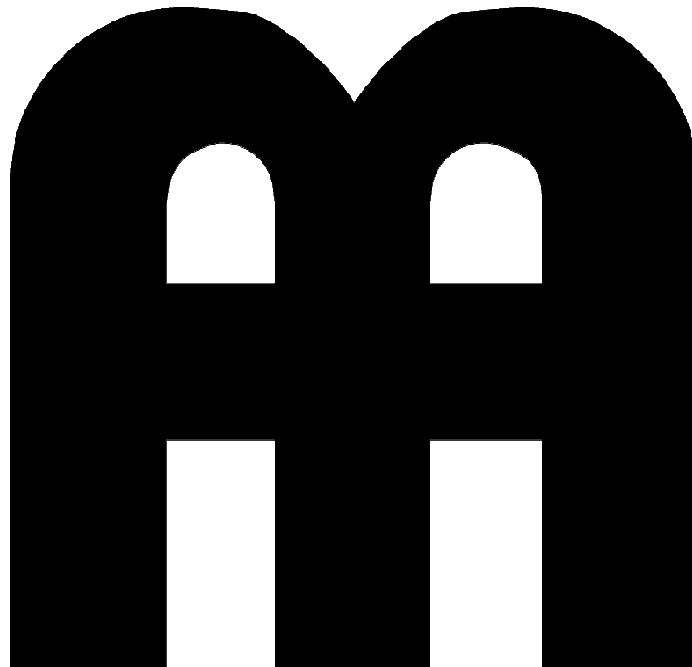


Figure 2: MambaNet logo

6.1 Features and highlights

The AXUM REMOTE software is highly flexible a list of features and highlights is below.

- Remote configuration via HTTP and TCP/IP
- Remote control via MambaNet over UDP/IP and TCP/IP
- Standardized cabling with RJ45 (shielded for audio connections)
- Advanced security system based
- User database for identification

6.11 MambaNet node overview

This pages shows all nodes found in the local Ethernet network. Also nodes that are not online can be seen as 'grayed out' nodes.

The screenshot shows a web interface titled "MambaNet configuration" with a breadcrumb "Axum » Service » MambaNet configuration". Below the title is a table listing various nodes in the network. Each row contains a unique address, a unique ID, a node name, an engine ID, a parent node, a user level, and counts for default, config, and objects. Some nodes are marked as "Console 1" or "None".

Address	Unique ID	Node name	Engine	Parent	User level	Default	Config	Objects
00000001	0001:0018:0003	D&R Tester	00000000	-	None	0	0	6
00000002	0001:0019:0011	Axum MambaNet Gateway	00000000	0001:0019:0011	None	0	0	7
00000003	0001:0006:0002	Rack-DD 1.4	00000000	0001:000C:0014	None	0	96	252
00000004	0001:03E8:002B	UI-4FBP1.4	00000000	0001:03E9:0001	None	4	88	120
00000005	0001:03E8:002C	UI-4FBP5.8	00000000	0001:03E9:0001	None	4	84	120
00000006	0001:0008:0010	UI-CRMP	00000000	0001:0019:0011	Console 1	0	64	65
00000007	0001:03E8:002D	UI-4FBP9.12	00000000	0001:03E9:0001	None	4	84	120
00000008	0001:03EA:0010	UI-CRMP	00000000	0001:03E9:0001	None	0	64	65
00000009	0001:0003:0013	Rack-DA 1.4	00000000	0001:000C:0014	None	4	88	212
0000000A	0001:03EB:0011	Axum Meters	00000000	0001:03E9:0001	None	0	0	9
0000000B	0001:000C:0014	Rack-Backplane	00000000	0001:000C:0014	None	0	0	1833
0000000C	0001:0007:0019	UI-4FBP	00000000	0001:0019:0011	None	4	88	120
0000000D	0001:03E8:0019	UI-4FBP	00000000	0001:03E9:0001	None	4	88	120
0000000E	0001:0014:0022	Rack-DSP	00000000	0001:000C:0014	None	0	0	1
0000000F	0001:001A:0011	Axum Meters	00000000	0001:0019:0011	Console 1	5	65	70
00000010	0001:0018:0045	D&R Tester	00000000	-	None	0	0	6
00000011	0001:001E:0001	Rack-FW	00000000	0001:000C:0014	None	32	160	356
00000012	0001:0002:0030	Rack-MICAD 1.4	00000000	0001:000C:0014	None	8	36	100
00000013	0001:001D:0006	Rack-Hybrid	00000000	0001:000C:0014	None	4	76	149
00000014	0001:03E9:0001	Surface software	00000000	0001:03E9:0001	None	0	0	1
00000015	0001:001D:0001	Rack-Hybrid	00000000	0001:000C:0014	None	4	76	149
00000016	0001:0007:002C	UI-4FBP5.8	00000000	0001:0019:0011	Console 1	4	84	120
00000017	0001:03EC:0001	Super module 1	00000000	0001:03E9:0001	None	0	208	211
00000018	0001:0007:002B	UI-4FBP1.4	00000000	0001:0019:0011	Console 1	4	88	120
00000019	0001:0007:002D	UI-4FBP9.12	00000000	0001:0019:0011	Console 1	4	84	120
0000001A	0001:0001:002C	Rack-AD 1.4	00000000	0001:000C:0014	None	0	16	108
0000001B	0001:03E8:0001	UI-4FBP	00000000	0001:03E9:0001	None	4	88	120
0000001C	0001:03E8:0008	UI-4FBP	00000000	0001:03E9:0001	None	4	88	120
0000001D	0001:0017:002C	Rack-DA 1.4	00000000	0001:000C:0014	None	0	96	252
00000022	0001:0002:003C	Rack-MICAD 1.4	00000000	0001:000C:0014	None	8	36	100
00000023	0001:0016:0027	Rack-PWR	00000000	0001:000C:0014	None	0	0	6

Figure 3: MambaNet node overview

- **Address**
This is the MambaNet address used in this setup.
This address is used for all communication and configuration.
- **UniqueID**
This shows the 'ManufacturerID:ProductID:UniqueID' in hexadecimal format.
When a node is offline you will see the 'UniqueID' is a link.
This can be used to transfer the configuration of the offline node to another online node of the same type.
- **Node name**
Here you can change a node name to a logical correct name, this makes identification in the system easier.
- **Engine**
If you use multiple engines into a single Ethernet you can give here which engine is used by the node.
Address '00000000' means the node communicates with all engines in parallel; which is most easy for systems with only one engine.
- **Parent**
Easy node can store its parent node so we can determine the physical-location of nodes.
- **User level**
Here you can define which console user level the node will use.
- **Default, Config and Objects**
This column shows the numbers of objects and how many have a default value or configuration
- **Delete/Refresh**
Grayed out nodes may be deleted by pressing the delete image.
WARNING: When a node is deleted the configuration is also removed!

Only nodes do not have a delete image, but a refresh image.
This can be used to force a refresh of the node name and parent.

7 Disclaimer

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