

APT Mobile SureStreamer Quick Start

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1. Getting Started

With the Mobile SureStreamer you get the components listed below.

- ① The preconfigured Mobile SureStreamer in a bag which includes:
 - 1 Mobile SureStreamer unit
 - 2 preconfigured modems
 - 1 WiFi dongle
 - 2 network cables connecting the SureStreamer unit to the modems
 - 1 network cable connecting the SureStreamer unit to the WiFi dongle
 - 1 network cable + 1 RJ45 adapter ready to connect the SureStreamer unit to your media streamer
 - 1 breakout power cable ready to connect the SureStreamer unit and the modems to the battery pack
- ② A battery pack with charger
- ② A document folder which includes a 25% discount on the purchase price of the LUCI **activation code** - exclusively for WorldCast Systems/APT customers (please read the voucher for use instructions)



Figure 1: Preconfigured Mobile SureStreamer in the carry bag with its battery pack

-  With the Premium Contract for APT Mobile SureStreamer, you can receive one hour of support by phone. Do not hesitate to contact our support department to help you setting your Mobile SureStreamer.

2. Preparing the accessories

2.1 Setting up the Modems

The modems are **preconfigured** and will automatically connect* to your provider's network when the SIM cards are inserted, and the battery is connected.

The modems are located in the bag.

Unzip the all-around zipper on the rear of the bag to access the modems.

Fold the modems out of the mold so that you do not have to remove the cables. If the Eth cable is unplugged, put it back in the yellow LAN connector.



Figure 2: Shows the molded foam with the modems on the rear of the carry bag, one modem is pulled out

⚠ If your modem does not automatically connect to the providers network, please refer to the instructions in appendix A.

Open the SIM card slots and insert the SIM card as shown in the pictures.

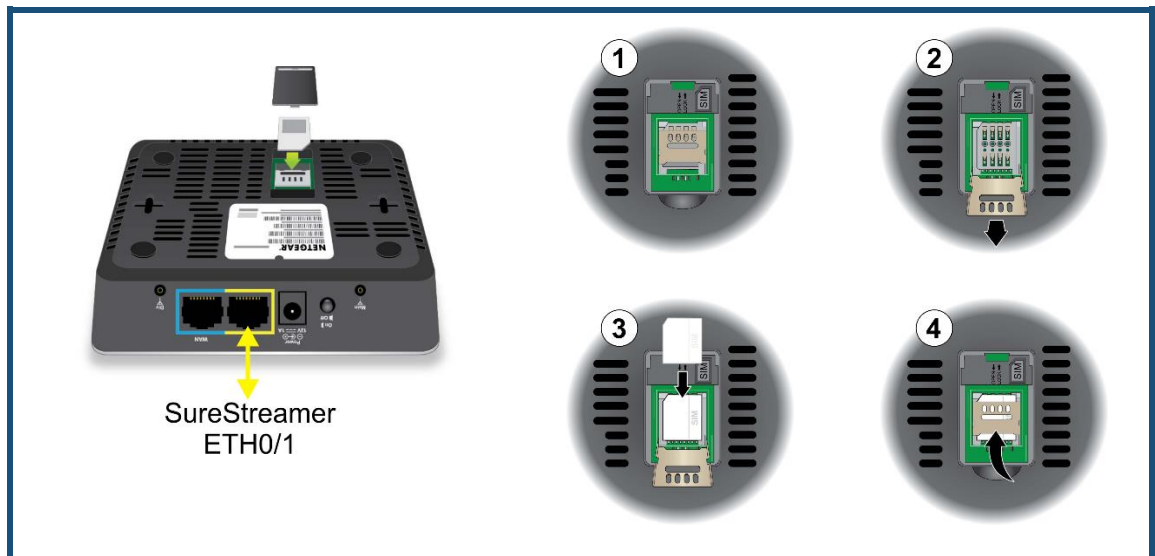


Figure 3: Overview of the Micro SIM card installation

After you have inserted the SIM cards, close the flaps and put the modems back into their slots.

⚠ In the modem settings, keep the SIM card security (PIN) deactivated (default)!

i When the modems are operational, the LED indicators are green.

2.2 The Battery

- ⚠ Before connecting the battery, check the battery's charge state by pressing the power button. Four LEDs indicate the state (100%, 75%, 50%, 25%).
- ⚠ Important: The battery can deliver different output voltages. Make sure the voltage selector LED displays **12VDC**!

Changing the supply Voltage

Press and hold the power button for more than one second until the voltage indicator LEDs flash. Another short touch of the power button changes the voltage. When 12VDC is reached, stop switching and release the button. After approx. three seconds, the voltage selection is displayed statically.

Connecting the Battery

When the battery is sufficiently charged, and the voltage selection LED shows **12VDC**, connect the Mobile SureStreamer to the battery. Inside the battery bag is the connection cable that you connect to the output socket of the battery (blue arrow on image).

The two sockets for the round plug have the same size. One is to connect the charger and the other is the power output. Due to the arrangement of the cables, a mix-up is unlikely. Should there be an accidental mix-up, there will be no damage. The two round sockets are electrically protected against damage.

The two USB ports can be used for charging a phone or other accessories.



Figure 4 Battery pack in the bag and zoom on the connectors

3. Setting the link with the Studio Endpoint

SureStream requires complementary processing at both ends. To achieve this, you either use any codec linked to a SureStreamer at the studio or an APT codec with the SureStream option. This example below shows the use of a smartphone with the LUCI Live APP and a compatible APT codec in the studio.



Figure 5 Shows an APT Codec with SureStream software at the studio end point

3.1 Connecting to the Mobile SureStreamer Management Interface

The Mobile SureStreamer's WiFi router allows you can connect to the management interface and to the internet.

- ➔ On your PC, enable the WiFi and check available wireless networks
- ➔ The SSID of the Mobile SureStreamer network is: MSSr_S4xxxxx e.g. MSSr_S400049 [serial-number]
- ➔ The network pass phrase is individual for each SureStreamer and is the same as the SSID, e.g., SSID: MSSr_S400049, pass phrase: MSSr_S400049

The WIFI router assigns an IP address to your PC in the range of:
192.168.100.100 to 192.168.100.105

i If you have several Mobile SureStreamer, turn them on one at a time to identify them properly the first time.

3.2 Test the Modem Connection

If the modems are successfully connected to the networks, you have Internet access via the WIFI network. Internet access is provided via the modem at ETH0.

Another reliable indication for a functioning modem connection is the IP address at ETH0 and ETH1. Both interfaces should have public IP addresses (refer to figure 6).

3.3 Open the Management GUI

Once connected to the WiFi network, open a web browser to connect the management interface.

- ➔ Open your browser and enter the address: **https://192.168.103.113**.
- ➔ **Log in: User: Admin; password: admin** (case sensitive)
- ➔ The status page of the Management GUI opens.
- ➔ Confirm the warning regarding the default credentials.
- ➔ Click on “Connection Configuration”



Figure 6 Shows the status page of the mobile SureStreamer

Clicking on the Connection Configuration link on the status page leads to the page where you can manage and generate profiles.

3.4 Create a new connection profile using a Template

The Mobile SureStreamer is delivered with the "Default" profile and profile templates. The "Default" profile is an empty profile. We recommend that you leave this profile empty.

The streams configuration page presents the currently loaded profile. On the left side, you can see the configured profiles and below the available templates (100-numbers).

"Current Profile" on top of the list shows the currently active profile.

A profile consists of multiple streams.

1. The LAN stream (to the local codec – stream #0)
2. A total of 4 WAN streams to and from the modems (stream #1-#4)
3. A monitor stream that makes the performance of the entire WAN route visible (stream #5)

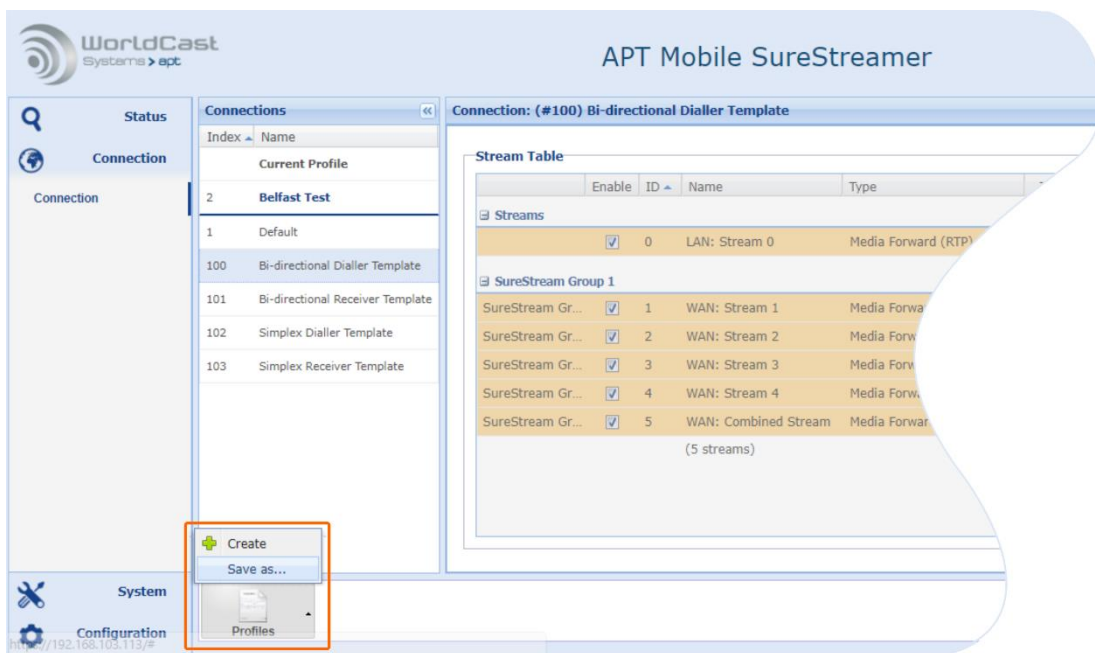


Figure 7 Shows the connection page where profiles are managed

Chose a Connection Template

Select the "Bi-directional Dialer" template (#100) suitable for the Mobile SureStreamer in the field and click on Profiles/Save as... to create a copy of it. We will call it "My Profile".

3.5 Modify the Streams Table

Once created and saved, select the profile in the list to modify the streams table.

The diagram shows the various streams which will need to be modified, one LAN stream between the codec and the Mobile SureStreamer and four WAN streams routed to the modems for redundancy.

For a clear understanding of the stream configuration, it is helpful to see the whole application.

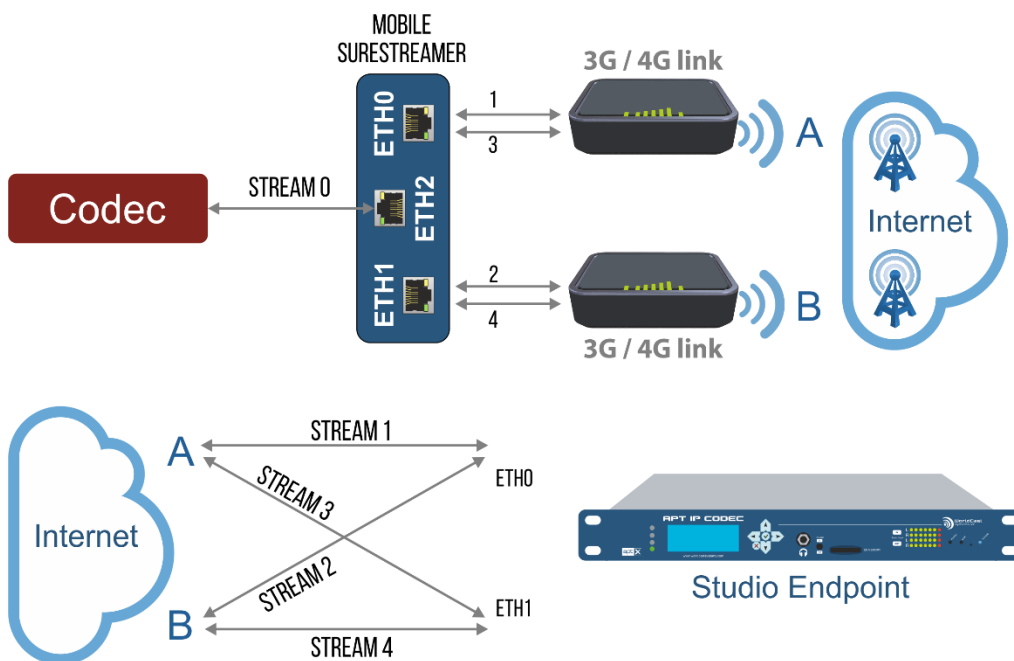


Figure 8 Shows the configuration of stream #0 to stream #4

The figure shows how the streams are routed in the network. Both modems send duplicated streams over both mobile networks reaching both ETH interfaces at the studio endpoint.

Modify the LAN Stream

Configure your Codec's IP address into the range of **192.168.102.xxx**

The SureStreamer LAN port (ETH2) has the address: **192.168.102.112**

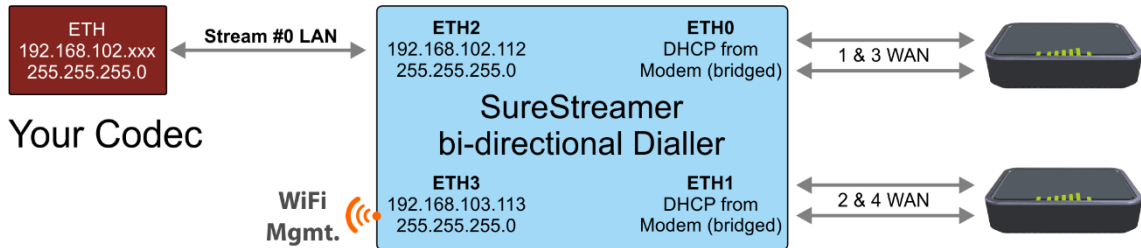


Figure 9 Shows the principle of the stream configurations

Open the “**My Profile**” and start editing the LAN stream to/from the codec or media streamer (stream #0). Double-clicking on the stream opens the Stream Configuration window as shown on the next page.

Make sure your Codec is in the previously mentioned IP address range and the destination IP port 5004 is selected. If you need to change the IP port on the SureStreamer due to your Codec constraints, follow the procedure below.

Connection: (#2) Belfast Test											
Enable	ID	Name	Type	Tx	Rx	Tx Ch.	Rx Ch.	IP Address	Port	Interface	Alar...
<input checked="" type="checkbox"/>	0	LAN: Stream 0	Media Forward (RTP)			2	1	sender	5004	ETH2	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	WAN: Stream 1	Media Forward (RTP)			1	2	belfastsupport-eth1.ddns.net	5108	ETH1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	2	WAN: Stream 2	Media Forward (RTP)			1	2	belfastsupport-eth0.ddns.net	5110	ETH1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	WAN: Stream 3	Media Forward (RTP)			1	2	belfastsupport-eth1.ddns.net	5112	ETH0	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	4	WAN: Stream 4	Media Forward (RTP)			1	2	belfastsupport-eth1.ddns.net	5100	ETH0	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	5	WAN: Combined	Media Forward (RTP)			1	2	null			

Figure 10 Highlights the LAN stream between the codec and the SureStreamer on the streams table

Modify the LAN Stream (continued)

In the **LAN** stream, no or very few parameters need to be changed.

Follow the recommendations.

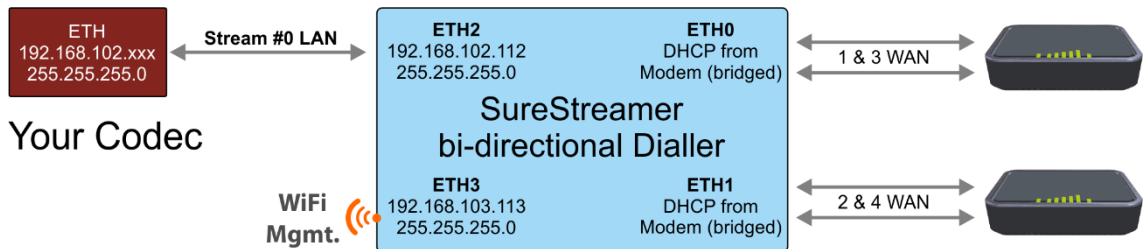
The screenshot shows the 'Stream ID0' configuration window with various settings. Annotations with arrows point to specific fields and controls, providing recommendations for configuration.

Field/Control	Value	Annotation
Stream Name:	LAN: Stream d	Rename if appropriate
Type:	Media Forward (RTP)	Keep this Stream Type
Transmit:	<input checked="" type="checkbox"/>	Simplex/Duplex settings
Receive:	<input checked="" type="checkbox"/>	
Network Interface:	ETH2 : ETH2	Keep this interface
Tx Fwd Channel:	2	Keep this Channel
Rx Fwd Channel:	1	Keep this Channel
Casting Mode:	Unicast	Keep the Casting Mode
IP Address:	sender	Keep the keyword „Sender“
Port:	5004	Change the IP port if required
TTL:	64	n.a.
QoS:	0	n.a.
SureStream Diversity Generator:	Off	Keep it „Off“
UPnP Enable:	<input type="checkbox"/>	n.a.
External UPnP Port:	5004	n.a.
Alarm Suppressed:	<input type="checkbox"/>	Disables any alarm from this stream. Set it to On or Off
Show Advanced Options:	<input checked="" type="checkbox"/>	
OK / Cancel buttons		Confirm your settings

Figure 11 Shows the default setting of the LAN stream

Notes: _____

Modify the WAN Streams



WAN Streams #1 to #4

The changes described below must be performed on all four WAN streams. We recommend leaving the destination IP ports. If you change them here, you must also configure them on the studio endpoint.

Stream ID1

Stream Name:	WAN: Stream 1	Rename if appropriate
Type:	Media Forward (RTP)	Keep this Stream Type
Transmit:	<input checked="" type="checkbox"/>	Simplex/Duplex settings
Receive:	<input checked="" type="checkbox"/>	
Network Interface:	ETH0 : ETH0	Keep this interface
Tx Fwd Channel:	1	Keep this Channel
Rx Fwd Channel:	2	Keep this Channel
Casting Mode:	Unicast	Keep the Casting Mode
IP Address:	mssr-studio-etho	Enter destination IP Address or a hostname (as shown here)
Port:	5006	Keep this port if appropriate
TTL:	64	n.a.
QoS:	0	n.a.
SureStream Diversity Generator:	Off	Level III or „Off“
UPnP Enable:	<input type="checkbox"/>	n.a.
External UPnP Port:	5006	n.a.
Alarm Suppressed:	<input type="checkbox"/>	Disables any alarm from this stream; keep it ON.
Show Advanced Options:	<input checked="" type="checkbox"/>	
<input type="button" value="OK"/> <input type="button" value="Cancel"/>		Confirm your settings

Figure 12 Shows the configuration of the WAN streams.

Modify the WAN Streams (continued)

- ➔ Configure the destination IP addresses of the streams (#1-4) so that these streams can reach the public IP address of your APT codec or the SureStreamer at the studio endpoint.
- ➔ Alternatively, you can also use host names if you have activated a dynamic DNS client in the router or the codec.

Parameter	WAN #1	WAN #2	WAN #3	WAN #4
MSSr ETH interface	ETH0	ETH1	ETH0	ETH1
Dest. IP Address*	Public IP ETH0	Public IP ETH0	Public IP ETH1	Public IP ETH1
Dest. IP Port**	5006	5008	5010	5012
Diversity Generator	Off	Level III	Level III	Off

* The Destination IP address is the public IP address of your remote Modem (DSL, Cable, etc.).

** IP Ports can be changed (as shown) but **must** be different on all streams!

The example screenshot of the WAN stream configuration window shows hostnames instead of destination IP addresses.

3.6 Apply the new Profile to the SureStreamer

The screenshot shows the 'Connections' window in the SureStreamer software. On the left, a list of connections is shown, with 'My Profile' selected. The main area displays the 'Stream Table' for 'Connection: (#3) My Profile'. The table has columns: Enable, ID, Name, Type, Tx, Rx, Tx Ch., Rx Ch., IP Address, Port, Interface, and Alarm. There are five streams listed: 'LAN: Stream 0' (Media Forward (RTP)), 'WAN: Stream 1' (Media Forward (RTP)), 'WAN: Stream 2' (Media Forward (RTP)), 'WAN: Stream 3' (Media Forward (RTP)), and 'WAN: Stream 4' (Media Forward (RTP)). The 'WAN: Stream 5' is a 'Combined Stream' with a 'null' IP address. The 'Performance' tab is selected at the bottom, and the 'Apply' button is highlighted.

Click on "Apply" to save and apply the new profile. It then appears under the heading "Current Profile."

3.7 Configuring the Studio SureStreamer



In the Studio SureStreamer, configure a profile with streams that are complementary to the streams in the Mobile SureStreamer. The easiest way to do this is to use the "Bi-directional Receiver" template. For the destination IP addresses on all streams, enter "Sender" to send to the variable IP addresses of the Mobile SureStreamer and your local Codec.

Modify the LAN Stream of your Studio SureStreamer

Configure your Codec's IP address into the range of **192.168.102.xxx**

The SureStreamer LAN port (ETH2) has the address: **192.168.102.112**

Stream ID0

Stream Name:	LAN: Stream d	← Rename if appropriate
Type:	Media Forward (RTP)	← Keep this Stream Type
Transmit:	<input checked="" type="checkbox"/>	← Simplex/Duplex settings
Receive:	<input checked="" type="checkbox"/>	
Network Interface:	ETH2 : ETH2	← Keep this interface
Tx Fwd Channel:	2	← Keep this Channel
Rx Fwd Channel:	1	← Keep this Channel
Casting Mode:	Unicast	← Keep the Casting Mode
IP Address:	sender	← Keep the keyword „Sender“
Port:	5004	← Change the IP port if required
TTL:	64	← n.a.
QoS:	0	← n.a.
SureStream Diversity Generator:	Off	← Keep it „Off“
UPnP Enable:	<input type="checkbox"/>	← n.a.
External UPnP Port:	5004	← n.a.
Alarm Suppressed:	<input type="checkbox"/>	← Disables any alarm from this stream. Set it to On or Off
Show Advanced Options:	<input checked="" type="checkbox"/>	
<input type="button" value="OK"/> <input type="button" value="Cancel"/>		← Confirm your settings

Figure 13 Shows the LAN stream of the studio SureStreamer

WAN Streams #1 to #4

This configuration is the complementary of the WAN streams of the Mobile SureStreamer.

Stream ID1

Stream Name:	WAN: Stream 1	← Rename if appropriate
Type:	Media Forward (RTP)	← Keep this Stream Type
Transmit:	<input checked="" type="checkbox"/>	← Simplex/Duplex settings
Receive:	<input checked="" type="checkbox"/>	
Network Interface:	ETH0 : ETH0	← Keep this interface
Tx Fwd Channel:	1	← Keep this Channel
Rx Fwd Channel:	2	← Keep this Channel
Casting Mode:	Unicast	← Keep the Casting Mode
IP Address:	Sender	← Enter the key word „Sender“
Port:	5006	← Keep this port if appropriate
TTL:	64	← n.a.
QoS:	0	← n.a.
SureStream Diversity Generator:	Off	← Level III or „Off“
UPnP Enable:	<input type="checkbox"/>	← n.a.
External UPnP Port:	5006	← n.a.
Alarm Suppressed:	<input type="checkbox"/>	← Disables any alarm from this stream; keep it ON.
Show Advanced Options:	<input checked="" type="checkbox"/>	
<input type="button" value="OK"/> <input type="button" value="Cancel"/>		← Confirm your settings

Figure 14 Shows the configuration of the receiver's WAN streams

The changes described below must be performed on all 4 WAN streams.

Parameter	WAN #1	WAN #2	WAN #3	WAN #4
MSSr ETH interface	ETH0	ETH1	ETH0	ETH1
Dest. IP Address*	"Sender"	"Sender"	"Sender"	"Sender"
Dest. IP Port**	5006	5008	5010	5012
Diversity Generator	Off	Level III	Level III	Off

* The keyword "Sender" causes the SureStreamer to automatically respond to the source IP address.

** IP Ports can be changed (as shown) but **must** be different on all streams!

i If the Studio Endpoint is an APT codec, follow the description in Annex B.

4. Setting the IP Media Streamer

In the front pocket of the bag there is an RJ45 adapter which allows a connection to the ETH2 of the Mobile SureStreamer.

This is the LAN port as described in detail before. Connect your IP codec device to it.

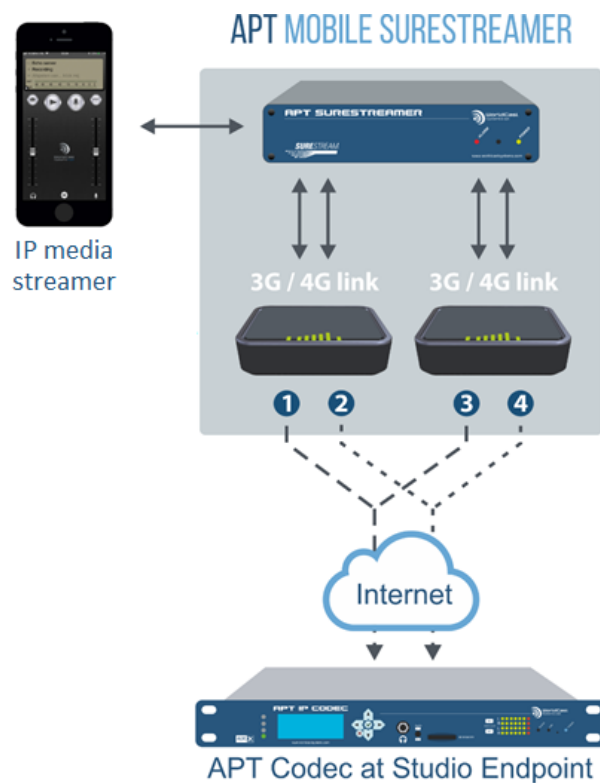
Make sure the IP address of your device is compatible with the Mobile SureStreamer ETH2 IP address (192.168.102.112).

i The media streamer's IP address needs to be in the range **192.168.102.xxx / subnet mask 255.255.255.0**.



Figure 15 Shows the ETH2 connection for the codec.

Once connected, set a stream with the destination IP address: **192.168.102.112**, and with **UDP port number 5004**.



5. Connecting to the studio endpoint

With the previously created profile (My Profile) you can now build a bi-directional stream from your Mobile SureStreamer to your Studio Endpoint.

i Please note that a stream must always be set up by the mobile device. The studio will always reply to the source IP address.

5.1 Check the connection

Performance

Stream Performance Table

ID	Name	Type	Tx	Rx	Tx Ch.	Rx Ch.	IP Address	Port	Interface	Dropped	Duplicate	LOC Errors
Streams												
0	LAN: Stream 0	Media Forward (RTP)			2	1	192.168.102.111	5004	ETH2	0	0	0
SureStream Group 1												
1	WAN: Stream 1	Media Forward (RTP)			1	2	84.92.64.198	5106	ETH0	2	0	0
2	WAN: Stream 2	Media Forward (RTP)			1	2	84.92.64.200	5108	ETH1	0	0	1
3	WAN: Stream 3	Media Forward (RTP)			1	2	84.92.64.198	5110	ETH1	0	0	1
4	WAN: Stream 4	Media Forward (RTP)			1	2	84.92.64.200	5112	ETH0	1	0	0
5	WAN: Combined S...	Media Forward (RTP)			1	2	0.0.0.0	5100	ETH0	0	106583	0

Refresh: 1s

Dropped ...

Duplicate...

LOC Errors

Error free LAN Stream

Error free WAN Monitor

Click on "Performance," the Performance page opens and shows the stream quality at a glance. If you select a stream with the mouse, you see all the details of this stream in the lower part of the page (not shown here).

The important information in this illustration is the error-free LAN stream that results from the error-free WAN Monitor Stream (# 5).

For more information on stream configuration, please refer to the Mobile SureStreamer manual

Appendix A – Modem APN

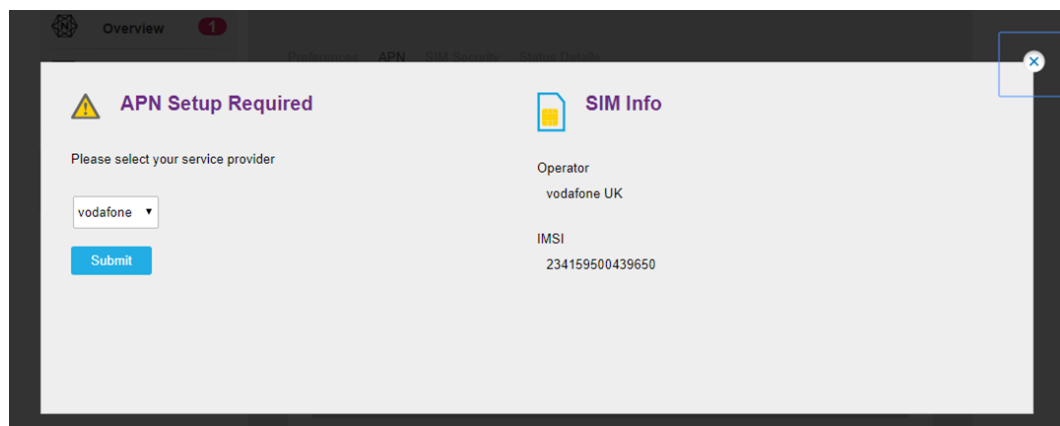
Configuration of Modem APN for an Unrecognized Network

When switching networks, the modem usually reconfigures automatically. This procedure describes how to reconfigure the modem manually if it does not,

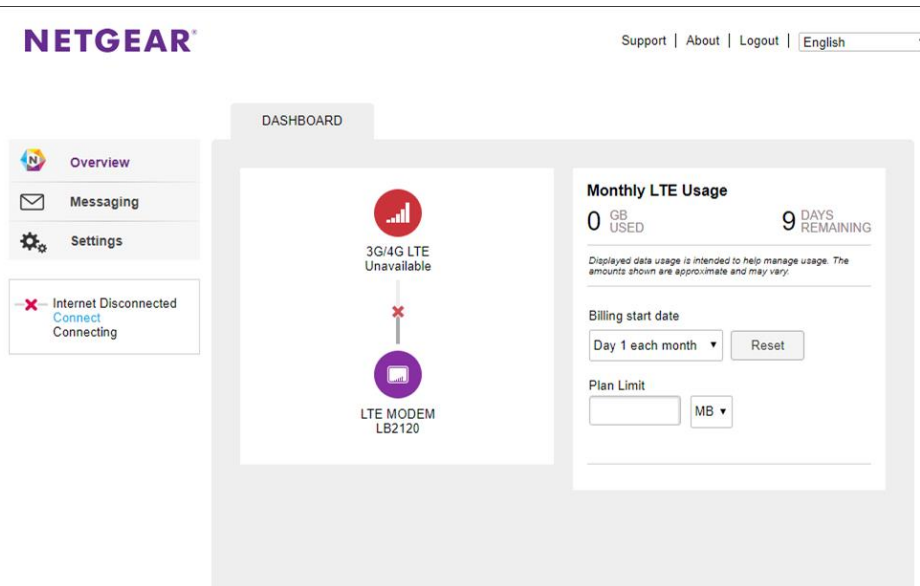
- ➔ If a SIM card is installed into the modem from an unrecognized network, the power LED will display solid amber as shown below. This indicates the modems APN will need to be reconfigured.



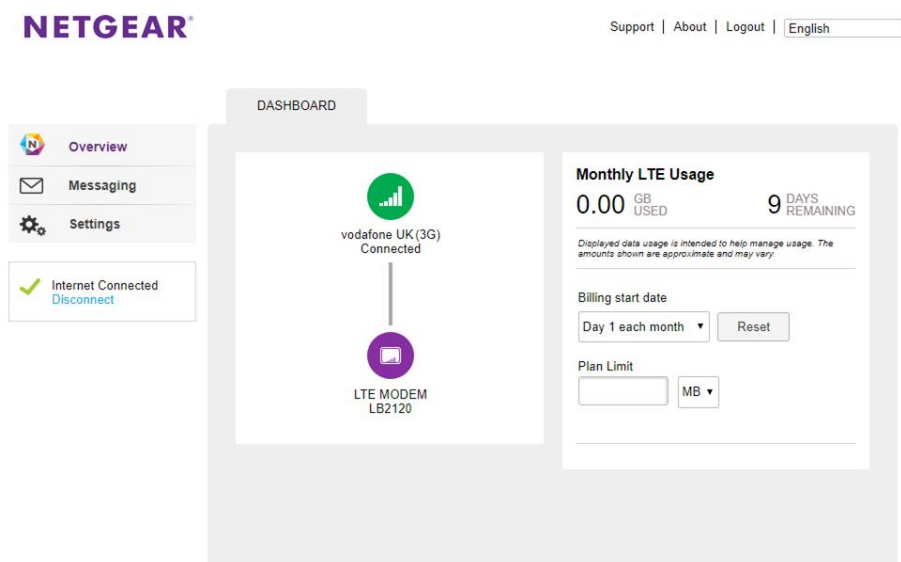
- ➔ Launch a web browser from a device that is connected to the modem's LAN interface
- ➔ Enter Address `http://192.168.5.1`
- ➔ Sign in using password: password
- ➔ If a SIM with an unrecognized APN is installed the following screen will appear



- ➔ Select the correct service provider from the drop-down list and submit the changes. It may be necessary to add a new APN manually using the settings from your provider.



- ➔ It may take a few minutes and sometimes a reboot before the Internet will show as connected. Once successful the below screen will appear



- ➔ When successfully re configured the Modem Power Status LED should again display a solid green.



Appendix B – APT IP Codec

Configure your APT Codec in the Studio

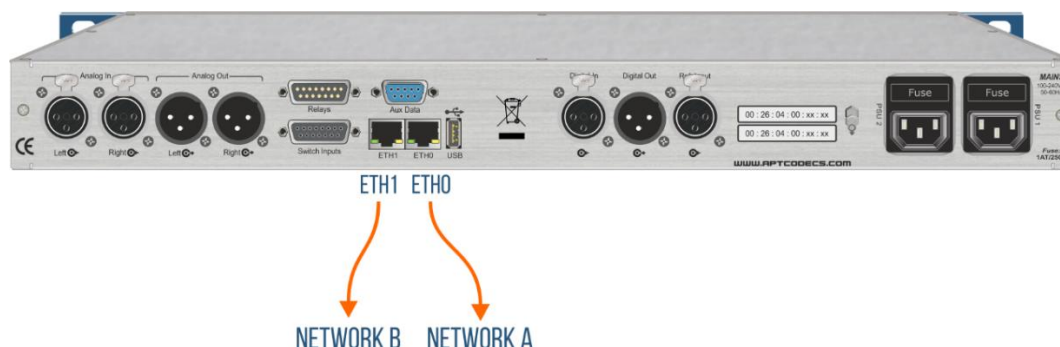
An APT codec with an installed SureStream license can be connected directly to the DSL modem in the studio.

Steps of Configuration

1. Connect the Codec to your Network
2. Open the Codec Web GUI
3. Configure the Network Settings
4. Create a new connection profile
5. Create the Streams of the new Profile
6. Apply the new Profile to the unit

Connect the Codec to your Network

The APT IP Codec has two physical Ethernet ports. The following picture shows the details.



Ethernet Port	Default IP Address	Port	DHCP / Static
ETH0 – Network A	192.168.100.110	https 443	Static
ETH1 – Network B	192.168.101.111	https 443	Static
ETH0 - Management	In DSL A network	https 443	Static

The configuration of the IP addresses depends on the IP address ranges of the two DSL networks. In principle, you can configure the ports via DHCP or better static. A static address facilitates management access.

Connect your PC to **ETH0** and set the IP address of the PC in the subnetwork **192.168.100.xxx**.

 *The APT IP Codec allows you to perform device management over both ports.*

Open the Management GUI

- ➔ Open your browser and enter the address: **https://192.168.100.110**
- ➔ **Log in: User: Admin; password: admin** (case sensitive)
- ➔ The status page of the Management GUI opens.
- ➔ Confirm the warning regarding the default credentials.
- ➔ Click on one of the IP addresses on top of the page (link); the network page opens.

The screenshot displays the APT IP Codec Management GUI. The top header includes the WorldCast Systems > apt logo, the title 'APT IP Codec', and a 'Decoder' section with two IP addresses: 192.168.100.110 and 192.168.101.111. A 'Logout' button and 'CPU Load (12%)' are also visible. The left sidebar contains navigation links: Status, Unit Status, Alarms, GPIO, and Performance. The main content area is divided into several sections: 'Unit Info' (Serial Number: H000872, Unit Name: Decoder, Software Revision: SR3.0.0.020, Hardware Revision: Horizon NG rev2, Identify Unit: Identify Unit), 'Unit Status' (Unit Temperature (°C): 43, Tx IP Active: [checked], Rx IP Active: [checked], Decoder Source: IP, Playback Progress: 0s/0s), 'Audio Codec Status' (Algorithm: Encoder Codec disabled, Decoder Codec disabled), 'Unit Connection' (Connection Status: [checked], Active Profile: (#1) Default, IP Address ETH0: 192.168.100.110, IP Address ETH1: 192.168.101.111), 'Configuration Shortcuts' (Connection configuration..., Audio configuration..., Event Log...), and 'ScriptEasy' (ScriptEasy Status: Stopped). The bottom right corner features the SURESTREAM logo.

Notes:

Configure the Network Setting of the Codec

On this page, you find all the network settings of the codec. Also, note the page tabs for advanced settings.

- ➔ Change the IP addresses for ETH0 and ETH1 so that you can connect the Codec to the two DSL/Cable Modem networks.
- ➔ Also, pay attention to the correct gateway setting as well as valid DNS addresses.
- ➔ When you have adjusted all the settings, click on "Save."

The screenshot displays the 'APT IP Codec' network configuration interface. The left sidebar contains navigation links: Status, Connection, Users, Network, Diagnostics, SMTP, SNMP, ScriptCase, Licenses, and System. The main content area is titled 'Network' and includes tabs for Network, Advanced Network Configuration, Dynamic DNS, Virtual Interfaces, VLAN, and Firewall. The 'Network' tab is active, showing 'Ethernet Configuration Mode' with 'Static' selected for both ETH0 and ETH1. Below this, 'DNS Servers' are listed with Primary DNS as 8.8.8.8 and Secondary DNS as 8.8.4.4. The 'Static Configuration' section for ETH0 shows IP Address 192.168.115.190, Netmask 255.255.255.0, Gateway 192.168.115.5, and Speed / Duplex set to Auto-Negotiation. The 'Current Status' for ETH0 shows IP Address 192.168.115.190, Netmask 255.255.255.0, Gateway 192.168.115.5, MAC Address 00:26:04:00:1D:A7, and Speed / Duplex 100Mbps / Full. The 'Static Configuration' section for ETH1 shows IP Address 192.168.101.111, Netmask 255.255.255.0, Gateway 192.168.101.1, and Speed / Duplex set to Auto-Negotiation. The 'Current Status' for ETH1 shows IP Address 192.168.101.111, Netmask 255.255.255.0, Gateway 192.168.101.1, MAC Address 00:26:04:00:1D:A8, and Speed / Duplex 100Mbps / Full. At the bottom right, the 'Save' button is highlighted with an orange box.

Save

Notes:

Configure Dynamic DNS (Hostnames)

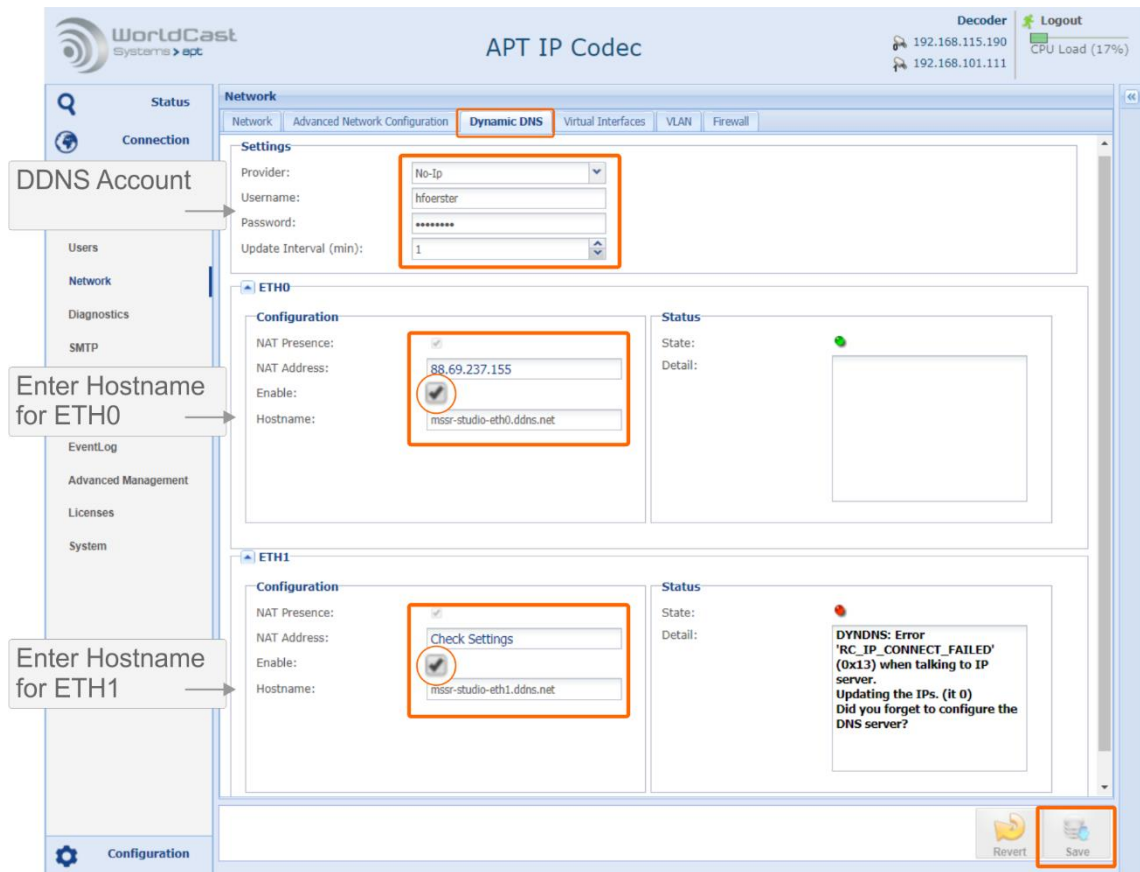
i You do not necessarily need to use the hostnames, but this addressing has significant advantages. This example uses hostnames.

Open the page tab to enter your DDNS account and the previously registered hostname.

This example uses:

- Noip.com as DDNS Provider
- mssr-studio-eth0.ddns.net / as hostname for ETH0
- mssr-studio-eth1.ddns.net / as hostname for ETH1

⚠ Do not forget to enable the hostname of both ports



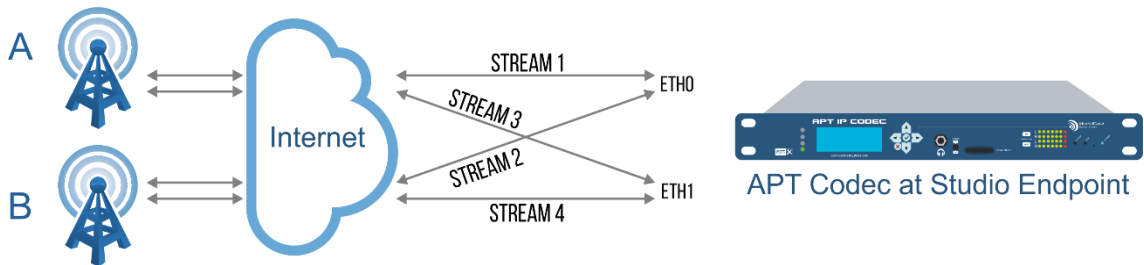
Save

The screenshot shows correctly configuring hostnames, where ETH0 is successfully registered with the DDNS provider, and ETH1 shows an error.

The error condition occurs when either the DNS entries are invalid, or, in this case, there is no connection to the network.

Create a new Connection Profile

As a reminder, unlike other Codecs, an APT Codec with a SureStream license receives all four IP streams directly; therefore, you do not need another SureStreamer in the studio.



➔ On the Unit Status Page, click on “Connections Configuration.”

The screenshot shows the WorldCast Systems APT IP Codec web interface. The 'Unit Status' tab is active, displaying various unit information and status details. The 'Configuration Shortcuts' section is highlighted with a red circle, showing 'Connection configuration...' as the first option.

Unit Info	
Serial Number:	H000872
Unit Name:	Decoder
Software Revision:	SR3.0.0.020
Hardware Revision:	Horizon NG rev2
Identify Unit:	<button>Identify Unit</button>

Unit Status	
Unit Temperature (°C):	43
Tx IP Active:	<input type="checkbox"/>
Rx IP Active:	<input type="checkbox"/>
Decoder Source:	IP
Payout Progress:	0s/0s

Audio Codec Status	
Algorithm	
Encoder	Codec disabled
Decoder	Codec disabled


Unit Connection	
Connection Status:	<input type="checkbox"/>
Active Profile:	(#1) Default
IP Address ETH0:	192.168.100.110
IP Address ETH1:	192.168.101.111

Configuration Shortcuts	
Connection configuration...	
Audio configuration...	
Event Log...	

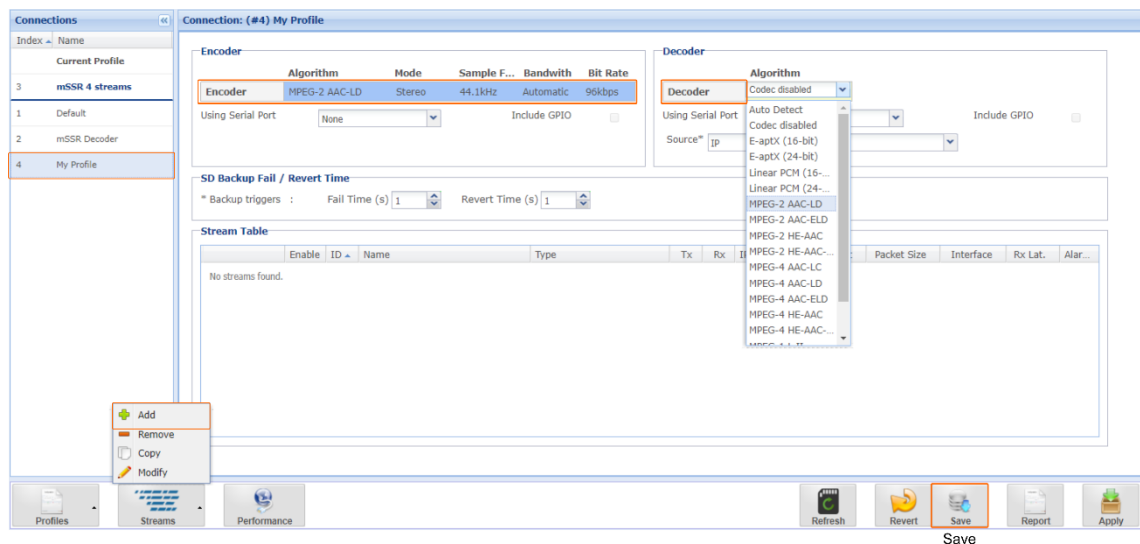
ScriptEasy	
ScriptEasy Status:	Stopped

Create a new Connection Profile (continued)


The profiling procedure is the same as in the SureStreamer. Unlike the SureStreamer, there are no templates. The screenshot shows a new profile (My Profile) that is a copy of the empty "Default Profile."

 A Codec profile consists of multiple streams AND Codec settings.

- ➔ For the encoder **and** decoder, choose an audio format that matches that of the codec in the field. The audio format **must** be the **same** (for bi-directional streams).
- ➔ Create 5 IP streams altogether (#0 to #4). Click on the "Streams" button and then "Add" to create a new stream.



When you have all streams configured, click "Save" to save the settings.

 *Duplicating streams is easier if you use the **Stream Copy** function of the streams tool; after that you only change a few parameters on each stream.*

Notes:

Create the Streams of the new Profile

⚠ The streams you create here are complementary to the streams in the Mobile SureStreamer. That means you must use the same IP ports and ETH interfaces as in the SureStreamer profile configured.

For the IP address, use the keyword "Sender" to send to the variable IP addresses of the SureStreamer.


The screenshot shows the 'Stream ID0' configuration window with various settings and annotations:

- Stream Name:** Stream 0 (Annotation: Rename if appropriate)
- Type:** Audio (RTP) (Annotation: Select "Audio (RTP)")
- Transmit:** ☒ (Annotation: Select Duplex settings)
- Receive:** ☒
- Network Interface:** ETH0 : ETH0 (Annotation: Select the Interface)
- Forwarding Channel:** None (Annotation: n.a.)
- Casting Mode:** Unicast (Annotation: n.a.)
- IP Address:** sender (Annotation: Type in „sender“)
- Port:** 5006 (Annotation: Select the IP Port)
- TTL:** 64 (Annotation: n.a.)
- QoS:** 0 (Annotation: n.a.)
- Packet Size Representation:** Auto (Annotation: Keep "Auto")
- Rx Latency:** 150 (Annotation: Depends on the link quality)
- SureStream Diversity Generator:** Off (Annotation: Level III or „Off“)
- UPnP Enable:** ☒ (Annotation: Enable UPnP if appropriated)
- External UPnP Port:** 5006 (Annotation: Same as in „Port“)
- Alarm Suppressed:** ☐ (Annotation: Disables any alarm from this stream. Set it to On or Off)
- Show Advanced Options:** ☒
- Buttons:** OK, Cancel (Annotation: Confirm your settings)

i The keyword "Sender" is not case sensitive; it can be Sender, sender, SENDER...

Create four Bi-directional Streams

Create the streams as shown in the table.

 These streams are complementary to the streams of the Mobile SureStreamer.

The numbers in parentheses correspond to the complementary WAN streams of the SureStreamer.

Parameter	Stream #0 (1)	Stream #1 (2)	Stream #2 (3)	Stream #3 (4)
Type	Audio (RTP)	Audio (RTP)	Audio (RTP)	Audio (RTP)
ETH interface	ETH0	ETH1	ETH0	ETH1
IP Address	Sender	Sender	Sender	Sender
IP Port	5006	5008	5010	5012
Packet Size	Auto	Auto	Auto	Auto
Rx Latency*	150	150	150	150
UPnP**	On	On	On	On
Ext. Port***	5006	5008	5010	5012
Diversity Gen.	Off	Level III	Level III	Off

*Latency of 150ms is the default value. If this value is too low, increase it (e.g., 300 ms)

**UPnP ON allows the auto-configuration of the Port Forwarding on your Router. You must enable UPnP on the Router.


***The external port is the port that UPnP configures in the Router. You can change it if appropriate.

Create the Combined Stream

The Combined Stream is a virtual stream that makes the performance of the SureStream Group visible. This stream is not needed for the transfer and therefore must get the IP address "null."

The monitor stream should show no errors, but very well a high number of redundant packets.

Parameter	Stream #4
Type	Audio (RTP)
ETH interface	ETH0
IP Address	null
IP Port	5100
Packet Size	Auto
Rx Latency*	150
UPnP	OFF
Ext. Port	n.a.

 You must configure the Combined Stream in the same way as the audio streams (bi-directional, audio).

Apply the new Profile to the Unit

The screenshot shows a fully configured profile (My Profile). This profile connects with 4 streams to the Mobile SureStreamer in the Field.

The screenshot displays the configuration interface for the APT Mobile SureStreamer. The 'Connections' panel on the left shows 'My Profile' selected under 'Current Profile'. The main configuration area for 'Connection: (#3) My Profile' includes:

- Encoder:** Algorithm: MPEG-2 AAC-LD, Mode: Stereo, Sample Rate: 44.1kHz, Bandwidth: Autom..., Bit Rate: 96kbps. Using Serial Port: None, Include GPIO: ☐.
- Decoder:** Algorithm: MPEG-2 AAC-LD, Mode: Stereo, Sample Rate: 44.1kHz, Bandwidth: Autom..., Bit Rate: 96kbps. Using Serial Port: None, Include GPIO: ☐. Source: ip, Play File: .
- SD Backup Fail / Revert Time:** Backup triggers: Fail Time (s): 1, Revert Time (s): 1.
- Stream Table:** A table with columns: Enable, ID, Name, Type, Tx, Rx, IP Address, Port, Packet Size, Interface, Rx Lat., Alar... The table shows 5 streams under 'SureStream Group 1':

Enable	ID	Name	Type	Tx	Rx	IP Address	Port	Packet Size	Interface	Rx Lat.	Alar...
<input checked="" type="checkbox"/>	0	Stream 0	Audio (RTP)	●	●	sender	5006	Auto	ETH0	300	<input type="checkbox"/>
<input checked="" type="checkbox"/>	1	Stream 1	Audio (RTP)	●	●	sender	5008	Auto	ETH1	300	<input type="checkbox"/>
<input checked="" type="checkbox"/>	2	Stream 2	Audio (RTP)	●	●	sender	5010	Auto	ETH0	300	<input type="checkbox"/>
<input checked="" type="checkbox"/>	3	Stream 3	Audio (RTP)	●	●	sender	5012	Auto	ETH1	300	<input type="checkbox"/>
<input checked="" type="checkbox"/>	4	Combined	Audio (RTP)	●	●	null	5100	Auto	ETH0	300	<input type="checkbox"/>

 (5 streams)

The bottom toolbar includes buttons for Profiles, Streams, Performance (highlighted), Refresh, Revert, Save (highlighted), Report, and Apply (highlighted).

You can now save the profile without activating it if you click on "Save," or you save and activate it with a click on "Apply." When you activate the profile, it appears under the heading "Current Profile."

Click on "Performance," the Performance page opens and shows the stream quality at a glance. If you select a stream with the mouse, you see all the details of this stream in the lower part of the page (not shown here).

The important information on the performance page is the error-free Combined Stream (# 4).

i You can find further information on configuring the APT IP Codec in the product manual. The manual is available on the documentation CD, or you may download [here](https://www.worldcastsystems.com/en/c5p10/audio-over-ip-codec/apt-ip-codec) (you need a WorldCast Systems account)

<https://www.worldcastsystems.com/en/c5p10/audio-over-ip-codec/apt-ip-codec>

Appendix C – Mobile Devices

1. Setup the Connection Profile on the Mobile SureStreamer

This part of the tutorial applies to all applications described below, regardless of the mobile codec or smartphone used. Special requirements of the different devices are described in the respective section.

For the basic steps to create a new connection profile, please follow steps **3.4 - 3.5** in this document.

1.1 Chose a Connection Template

Select the "Bi-directional Dialer" template (#100) suitable for the Mobile SureStreamer in the field and click on Profiles/Save as... to create a copy of it.

We will call the new Profile "**Belfast Test**".

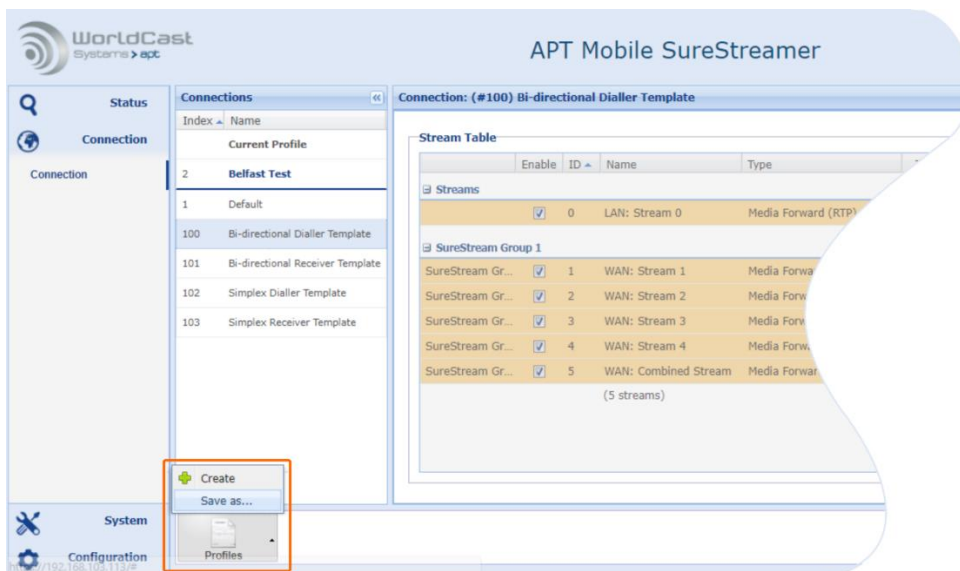


Figure 16 Shows how to select the template and save it as "Belfast Test"

Notes:

1.2 Edit the Template

Open the **“Belfast Test”** profile and start editing the LAN stream to/from the codec or media streamer (stream #0). Double-clicking on the stream opens the Stream Configuration window as shown below.

Enable	ID	Name	Type	Tx	Rx	Tx Ch.	Rx Ch.	IP Address	Port	Interface	Alar...
<input checked="" type="checkbox"/>	0	LAN: Stream 0	Media Forward (RTP)			2	1	sender	5004	ETH2	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	WAN: Stream 1	Media Forward (RTP)			1	2	belcastsupport-eth1.ddns.net	5108	ETH1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	2	WAN: Stream 2	Media Forward (RTP)			1	2	belcastsupport-eth1.ddns.net	5108	ETH1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	WAN: Stream 3	Media Forward (RTP)			1	2	belcastsupport-eth0.ddns.net	5110	ETH1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	4	WAN: Stream 4	Media Forward (RTP)			1	2	belcastsupport-eth1.ddns.net	5112	ETH0	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	5	WAN: Combined	Media Forward (RTP)			1	2	null	5190	ETH0	<input checked="" type="checkbox"/>

(5 streams)

Figure 17 Double clicking on the LAN stream opens the stream configuration window

1.3 Edit the LAN Stream

In the **LAN** stream (to and from your iPhone), no or very few parameters need to be changed. Follow the recommendations.

Stream ID0

Stream Name: LAN: Stream 0 ← Rename if appropriate

Type: Media Forward (RTP) ← Keep this Stream Type

Transmit: ☒ ← Simplex/Duplex settings

Receive: ☒

Network Interface: ETH2 : ETH2 ← Keep this interface

Tx Fwd Channel: 2 ← Keep this Channel

Rx Fwd Channel: 1 ← Keep this Channel

Casting Mode: Unicast ← Keep the Casting Mode

IP Address: sender ← Keep the keyword „Sender“

Port: 5004 ← Change the IP port if required

TTL: 64 ← n.a.

QoS: 0 ← n.a.

SureStream Diversity Generator: Off ← Keep it „Off“

UPnP Enable: ☐ ← n.a.

External UPnP Port: 5004 ← n.a.

Alarm Suppressed: ☐ ← Disables any alarm from this stream. Set it to On or Off

Show Advanced Options: ☒

OK Cancel ← Confirm your settings

Figure 18 Shows the configuration of the LAN stream to and from the iPhone

1.4 Edit the WAN Streams

WAN Streams #1 to #4 to and from the network

The changes described below must be performed on all four WAN streams. Click on the WAN stream #1 to #4 and edit the parameter accordingly.

The screenshot shows the 'Stream ID1' configuration window with the following settings and annotations:

- Stream Name:** WAN: Stream 1 (Annotation: Rename if appropriate)
- Type:** Media Forward (RTP) (Annotation: Keep this Stream Type)
- Transmit:** ☒ (Annotation: Simplex/Duplex settings)
- Receive:** ☒ (Annotation: Simplex/Duplex settings)
- Network Interface:** ETH0 : ETH0 (Annotation: Keep this interface)
- Tx Fwd Channel:** 1 (Annotation: Keep this Channel)
- Rx Fwd Channel:** 2 (Annotation: Keep this Channel)
- Casting Mode:** Unicast (Annotation: Keep the Casting Mode)
- IP Address:** mssr-studio-eth0 (Annotation: Enter destination IP Address or a hostname (as shown here))
- Port:** 5006 (Annotation: Keep this port if appropriate)
- TTL:** 64 (Annotation: n.a.)
- QoS:** 0 (Annotation: n.a.)
- SureStream Diversity Generator:** Off (Annotation: Level III or „Off“)
- UPnP Enable:** ☐ (Annotation: n.a.)
- External UPnP Port:** 5006 (Annotation: n.a.)
- Alarm Suppressed:** ☐ (Annotation: Disables any alarm from this stream; keep it ON.)
- Show Advanced Options:** ☒ (Annotation: Confirm your settings)

Buttons: OK, Cancel

Values for WAN Stream #1 to #4

Parameter	WAN #1	WAN #2	WAN #3	WAN #4
MSSr ETH interface	ETH0	ETH1	ETH0	ETH1
Dest. IP Address (hostnames)	belfastsupport-eth0.ddns.net	belfastsupport-eth0.ddns.net	belfastsupport-eth1.ddns.net	belfastsupport-eth1.ddns.net
Dest. IP Port	5006	5008	5010	5012
Diversity Generator	Off	Level III	Level III	Off

1.5 Apply the new Profile to the SureStreamer

After all streams are edited, load this profile to make it the active profile.

Nothing else happens at this point. Only when the LUCI app on the iPhone sends data via the LAN stream to the SureStreamer, the WAN streams are set up in the network.

The screenshot shows the APT Mobile SureStreamer web interface. On the left, the 'Connections' tab is active, showing a list of profiles. 'My Profile' is selected and highlighted with an orange border. The main area displays the 'Stream Table' for 'Connection: (#3) My Profile'. The table lists streams with columns for Enable, ID, Name, Type, Tx, Rx, Tx Ch., Rx Ch., IP Address, Port, Interface, and Alarm. There are two sections: 'Streams' and 'SureStream Group 1'. The 'Streams' section contains one entry: 'LAN: Stream 0' (ID 0, Media Forward (RTP), Tx 2, Rx 1, IP sender, Port 5004, Interface ETH2). The 'SureStream Group 1' section contains five entries: 'WAN: Stream 1' (ID 1, Media Forward (RTP), Tx 1, Rx 2, IP mssr-studio-eth0, Port 5006, Interface ETH0), 'WAN: Stream 2' (ID 2, Media Forward (RTP), Tx 1, Rx 2, IP mssr-studio-eth0, Port 5008, Interface ETH1), 'WAN: Stream 3' (ID 3, Media Forward (RTP), Tx 1, Rx 2, IP mssr-studio-eth1, Port 5010, Interface ETH0), 'WAN: Stream 4' (ID 4, Media Forward (RTP), Tx 1, Rx 2, IP mssr-studio-eth1, Port 5012, Interface ETH1), and 'WAN: Combined Stream' (ID 5, Media Forward (RTP), Tx 1, Rx 2, IP null, Port 5100, Interface ETH0). At the bottom, there are buttons for 'Performance', 'Save', and 'Apply'. The 'Performance' button is highlighted with an orange border.

Click on "Apply" to save and apply the new profile. It then appears under the heading "Current Profile."

Notes:

2. Connect an iPhone to the Mobile SureStreamer

This application note describes how to use an iPhone with the LUCI Live App as a codec for the Mobile SureStreamer.

This guide aims to create a connection profile that is compatible with the **test link in Belfast**. It also describes the settings of a compatible phonebook entry in the LUCI app.

The figure shows the application. Use a commercially available adapter that allows you to connect your iPhone to the wired Ethernet of the SureStreamer. The figure shows an example, but there are also other adapters that provide a USB port for connecting a digital audio unit to the iPhone (USB microphones etc.).

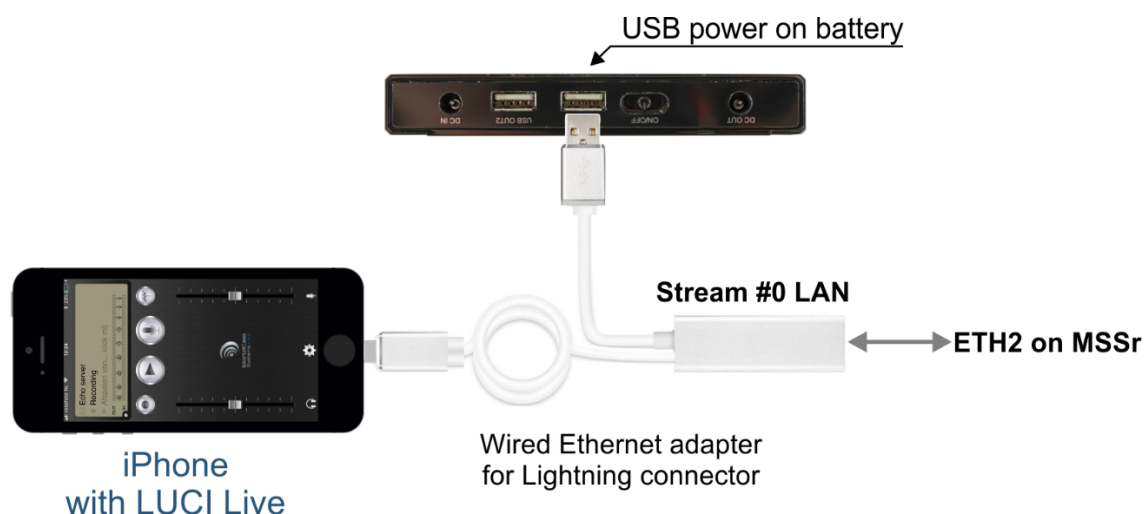


Figure 19 Shows the use of an iPhone as audio device

2.1 The LUCI Live APP

With the Mobile SureStreamer, you receive a voucher that gives you a 25% discount on the LUCI Live APP purchase [for iOS](#) (branded for WorldCast Systems). If you do not have the LUCI Live App yet, please follow the instructions on the voucher to download the App and purchase the activation key.



(iOS Manual)

We assume that you are largely familiar with the operation of this APP. If not, please consult the online help of the manufacturer.

Here is the link to the online manual:

http://blog.luci.eu/?page_id=625

2.2 iPhone wired Network Settings

Connect the lightning connector of the iPhone to the RJ45 adapter and switch on the battery of the Mobile SureStreamer. The iPhone recognizes the adapter and displays a corresponding entry in the iPhone settings (Ethernet).

Make the following settings:

Setting	Value
IP Address	192.168.102.100
Network Mask	255.255.255.0
Gateway/Router	192.168.102.112
DNS Mode	Manual
Primary DNS	8.8.8.8
Secondary DNS	8.8.4.4

2.3 Configure the LAN Stream on the LUCI APP

Open the LUCI app on your iPhone. The last stream used appears; this is called the station. Tap the setup icon as shown to reach the station list.

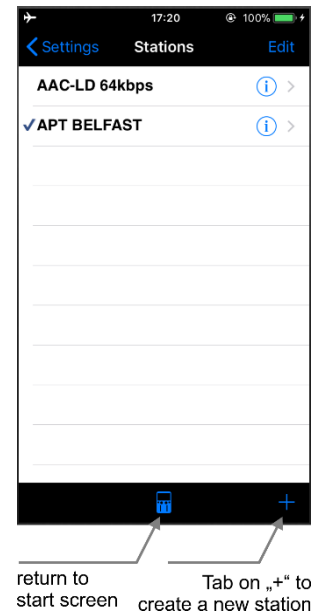


Tab on settings

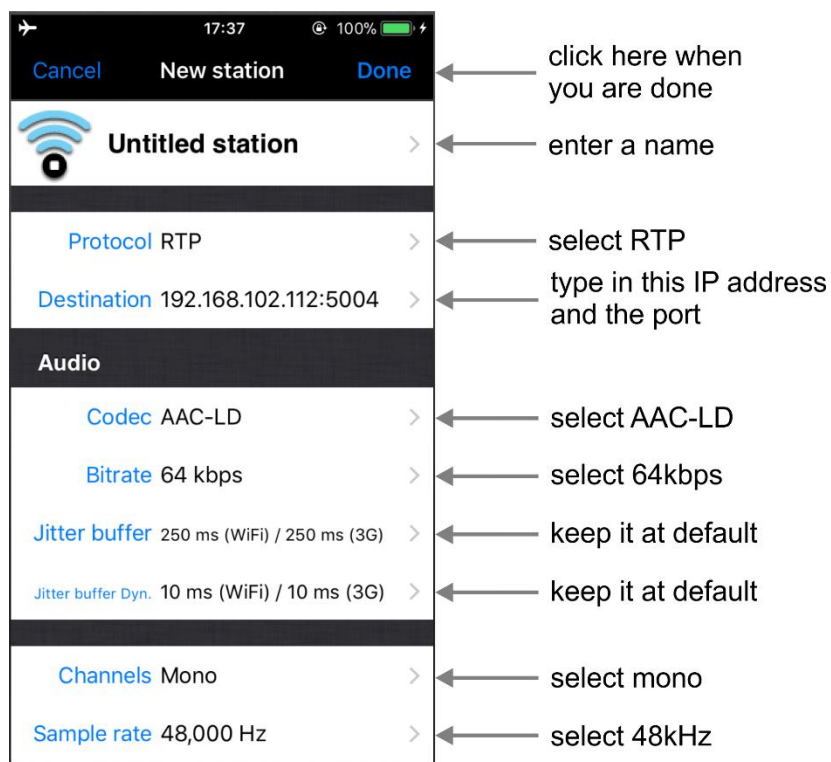
You reach the list of stations. If you have not yet used the app, you will only find the default entry of the manufacturer here.

Tap on the plus symbol at the bottom right. This creates a new list entry.

The home icon will take you back to the home screen when finished.



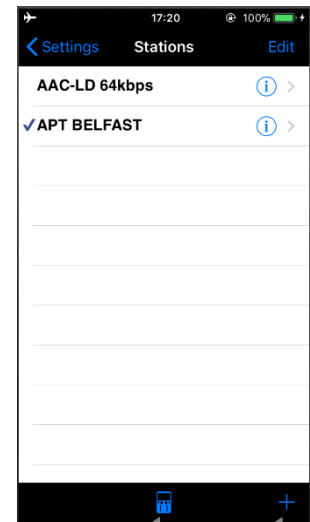
Tap the individual lines. A configuration page with selection options opens for each line.



To be compatible with the test end-point in Belfast, you must enter the stream parameters exactly as you see them here.

Complete the configuration by tapping "Done". The list of stations appears with their new entry. Tap on the new entry, e.g. APT Belfast, so that it is checked.

The "Station" APT Belfast is checked. Tap on the home screen icon to return to the home page.



return to
start screen

Tab on „+“ to
create a new station

Tap the central microphone icon. The connection to the Mobile SureStreamer is established (LAN).

The active LAN stream initializes the four WAN streams and the test signal is received.

The colour of the microphone icon changes to red and you see the signal on the IN level bar.



End of iPhone application

3. Connect an Android Phone to the Mobile SureStreamer

This application note describes how to use an Android Phone with the LUCI Live App as a codec for the Mobile SureStreamer.

! Note: Android basically supports OTG (On the Go) adapters on the USB port. Depending on the manufacturer, this function is not activated on all smartphones or is not supported. You must first make sure that your phone is suitable for this use. Unfortunately, it is not possible to give a reliable recommendation for a manufacturer or for a particular device.

This guide aims to create a connection profile that is compatible with the **test link in Belfast**. It also describes the settings of a compatible phonebook entry in the LUCI app. The figure shows the application. Use a commercially available adapter that allows you to connect your Smartphone to the wired Ethernet of the SureStreamer.



The figure shows the use of a smartphone as audio device

3.1 Smartphone wired Network

Disable the WIFI network of your phone and connect the USB/Ethernet adapter to the USB port of your smartphone and a network cable to the RJ45 port in the front pocket of the Mobile SureStreamer. The adapter is powered exclusively by the smartphone's battery, which reduces the usual operating time (depending on the device).

The network address is given to your phone by the DHCP server of the Mobile SureStreamer in the network: **192.168.102.12x**.

Your smartphone is now connected to the SureStreamer and ready for operation.

3.2 The LUCI Live APP for Android

The LUCI Live Reporter app must be downloaded from the Google Play Store. After it has been installed on your smartphone, it can be used immediately in demo mode. The demo mode interrupts the audio stream for one second every 20 seconds.

To exit the demo mode, an activation code must be installed. This activation code can only be purchased directly from the manufacturer. For this purpose, the manufacturer operates a web shop from which the activation code can be obtained.

Activation Code



(TDA online shop)

<https://technicadelarte.shop/product/luci-live-android/>

The link and the QR code point to the full version of the app in the online shop. However, a lite version can also be purchased there.

Online Manual



(Android Manual)

We assume that you are largely familiar with the operation of this APP. If not, please consult the online help of the manufacturer.

Here is the link to the online manual:

http://blog.luci.eu/?page_id=1342

3.3 Configure the LAN Stream on the LUCI APP

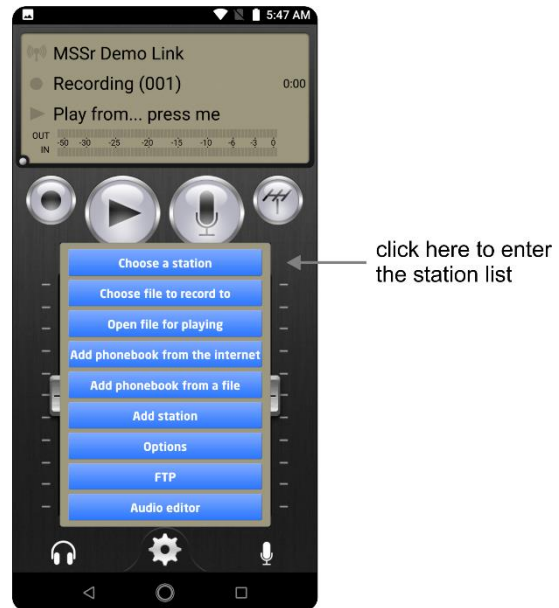
Open the LUCI app on your phone. The last stream used appears; this is called the station. Tap the setup icon as shown to reach the station list.

i *If you have not entered an activation code yet, the registration window will appear. Enter your code here or continue with "Demo".*



Tab on settings

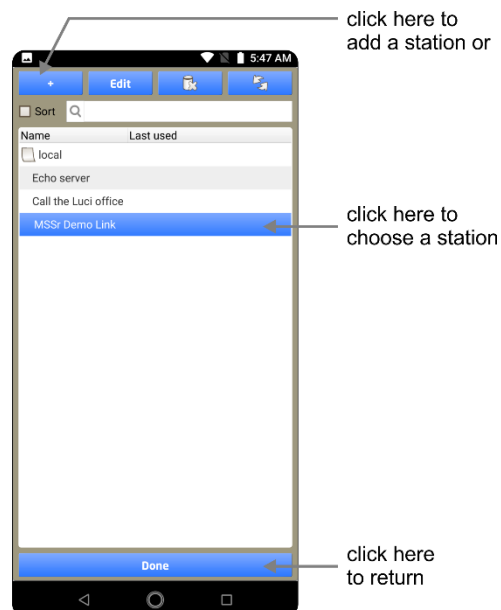
You reach the configuration menu.
Tab on “Choose Station” to choose an existing station or to add a new station.



You reach the list of stations. If you have not yet used the app, you will only find the default entry of the manufacturer here.

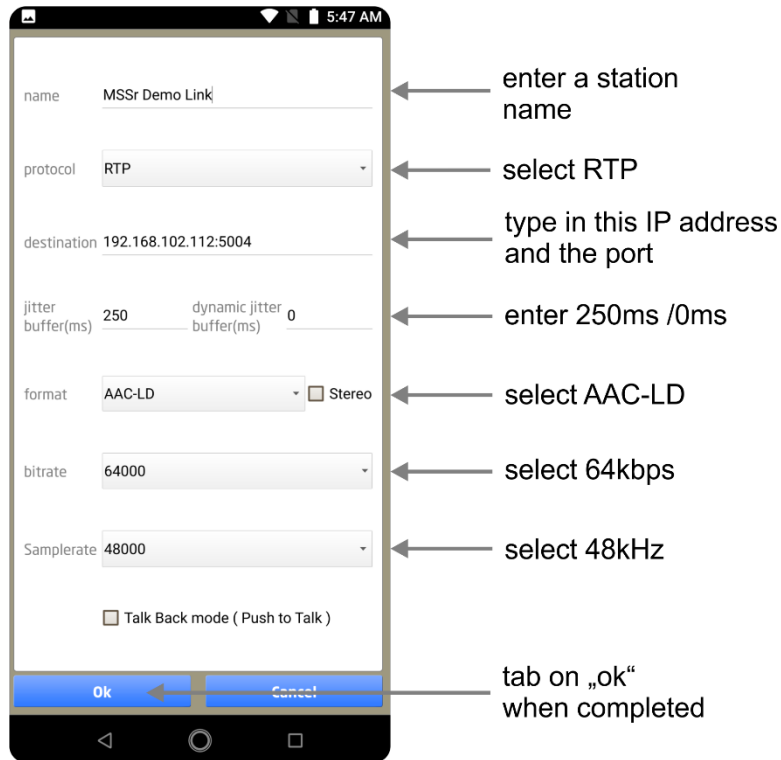
Tap on the plus symbol at the top left. This creates a new list entry.

The “Done” button will take you back to the home screen when finished.



Tap on the individual parameters.

A configuration page with selection options opens for each line.



To be compatible with the test endpoint in Belfast, you must enter the stream parameters exactly as you see them here.

Complete the configuration by tapping "ok". The list of stations appears with the new entry. Tap on the new entry, e.g. MSSr Demo Link, so that it is highlighted and confirm with tabbing on "Done".

Connect to the Belfast Test Link

Tap the microphone icon to enable the microphone. Tap on the small connection button (the antenna icon) to start streaming from the microphone.

The active LAN stream from the smartphone initializes the four WAN streams and the test signal from Belfast is received.

The colour of the microphone and connection icon change to red and you see the signal on the IN level bar.



End of Android application