

# OctopusCast for Digital Devices Octopus NET



## User Manual

## Table of content

<b>1</b>	<b>General Information.....</b>	<b>4</b>
1.1	About the program .....	4
1.2	System requirements.....	4
1.3	Automatic updates .....	4
<b>2</b>	<b>Structure and functions of the program interface - Single Cast.....</b>	<b>5</b>
2.1	(Program) Setup .....	5
2.2	Select VLC program path.....	6
2.3	Load transponder lists .....	6
2.4	Open a channel from the list.....	7
2.5	Channel filters .....	7
2.6	Sorting channels within the transponder list .....	8
2.7	CI settings .....	8
2.8	Creating a M3U list .....	10
2.9	Creating a XSPF list (VLC playlist) .....	10
2.10	Creating lists for MediaPortal .....	11
2.11	Creating lists for DMS server and browser TV .....	11
2.11.1	Creating a DMS package for single lists.....	12
2.11.2	Creating a DMS Package for multiple lists.....	12
2.11.3	Octopus NET DMS packer.....	15
2.11.4	Structure of the package .....	16
2.11.5	Manually load the package into Octopus NET .....	17
2.12	Enable EPG data.....	18
2.13	Saving/loading of single cast lists .....	19
<b>3</b>	<b>Tuner /CI selection (Testmode) .....</b>	<b>19</b>
<b>4</b>	<b>Configuring a statistical IP address .....</b>	<b>20</b>
<b>5</b>	<b>Multicast operation.....</b>	<b>21</b>

5.1	Creation of a multicast list .....	23
5.2	Settings for multicast lists.....	25
5.3	CI settings for multicast .....	26
5.4	Multicast advanced mode.....	26
5.5	Creation of multicast list for Octopus Net .....	27
5.6	Loading the configuration of multicast into the Octopus Net manually .....	28
5.7	Creation of special lists for multicast .....	28
5.8	Saving and loading of multicast lists .....	29
<b>6</b>	<b>Notes .....</b>	<b>30</b>

# 1 General Information

## 1.1 About the program

The Octopus Cast tool assists in setting up Digital Devices with the Octopus NET network tuner for the following functions:

- The integration with Media Portal
- M3U lists for various players which can read RTSP streams from M3U lists
- The creation of lists for internal DMS (digital media server) of the Octopus Net and browser TV functionality
- The creation of multicast lists
- Setup static IP address
- CI configuration

Easy creation of channel lists for the VLC player with simple mouse clicks, test RTSP links and generation of multicast lists which can be loaded into Octopus Net.

## 1.2 System requirements

Required hardware:

- Windows® PC with version of Microsoft® Windows® XP / 7 / 8 - 32/64 Bit
- Microsoft® .net framework 4
- Digital Devices Octopus Net network server

» **Tip:** *The .NET framework of Windows 7 with Service Pack 1 is required. It can be downloaded directly from the following Microsoft address:*

<http://www.microsoft.com/de-de/download/details.aspx?id=17718>

## 1.3 Automatic updates

Each time the application is started it automatically checks for the latest SW version (updates). If an update is available, the user will automatically be notified and can decide whether to install the update or not. The update process is simple and almost fully automatic.

## 2 Structure and functions of the program interface - Single Cast

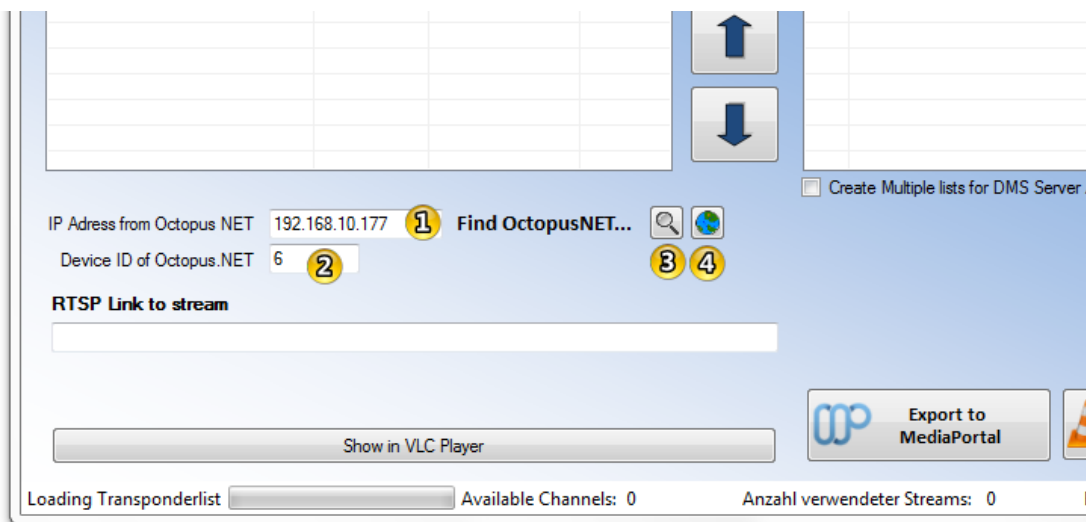
### 2.1 (Program) Setup

To ensure that all program functions can be used properly, a few entries need to be made first:

- configure the IP address of the Octopus NET
- configure the device ID of the Octopus NET (only required for multicast)
- program path to the boot file of VLC - Video LAN Client (for preview feature)

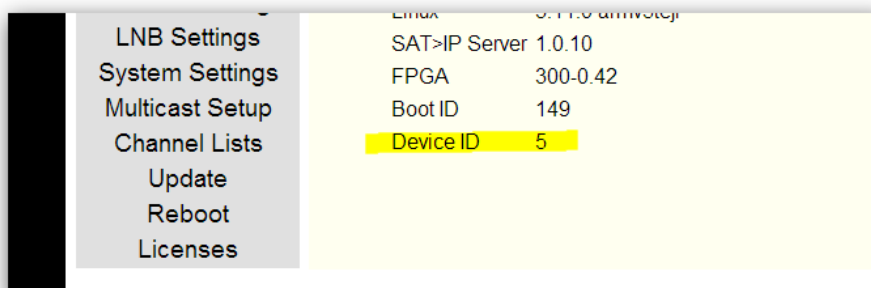
» **Hint: The VideoLAN® program (VLC) can be found on the website of the publisher free of charge. The latest version of the program can be download at the following address:**

<http://www.videolan.org/>



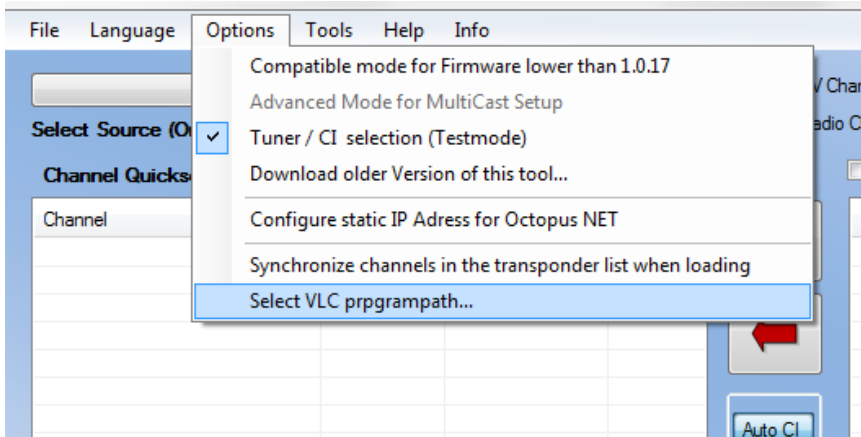
Enter the IP address of the Octopus NET in field **1**. Enter the Device ID of the Octopus NET in field **2** or search for Octopus NET by button **3** and open the Web Interface by Button **4**

» **Tip: The device ID of the Octopus NET can be found in its web interface.**



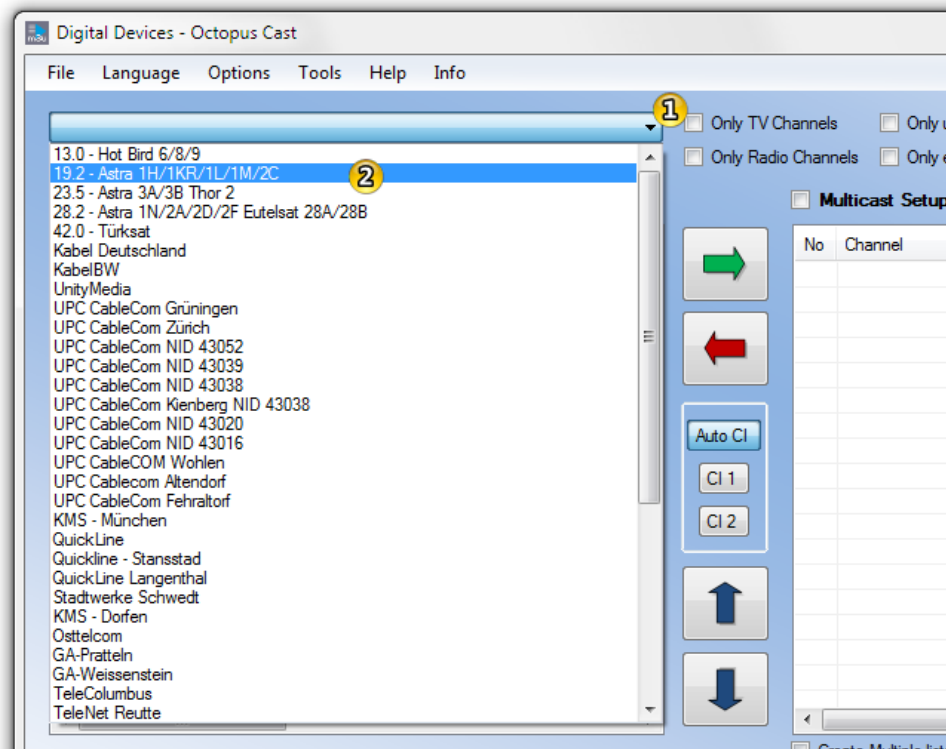
## 2.2 Select VLC program path

To preview channels or services in VLC need to select the path to the VLC (vlc.exe) start file. This can be selected via the menu **“Options -> Select VLC program path”**



## 2.3 Load transponder lists

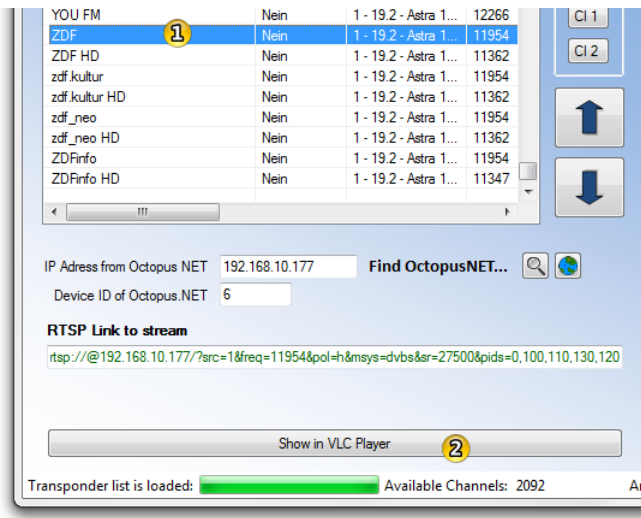
A transponder list of your provider needs to be loaded first:



Click on the drop-down box 1 and select your provider. The most common providers are already included on this list. If your provider is not on the list, a list can be opened from a file via the file menu.

## 2.4 Open a channel from the list

Once the list of transponders has been loaded, a channel can be selected to be displayed using the VLC player.



Select a channel from the list **1** then click the button **2** to show it in the VLC player.

## 2.5 Channel filters

Choose which programs are to be displayed in the transponder list by using the channel filter. The following filters are available

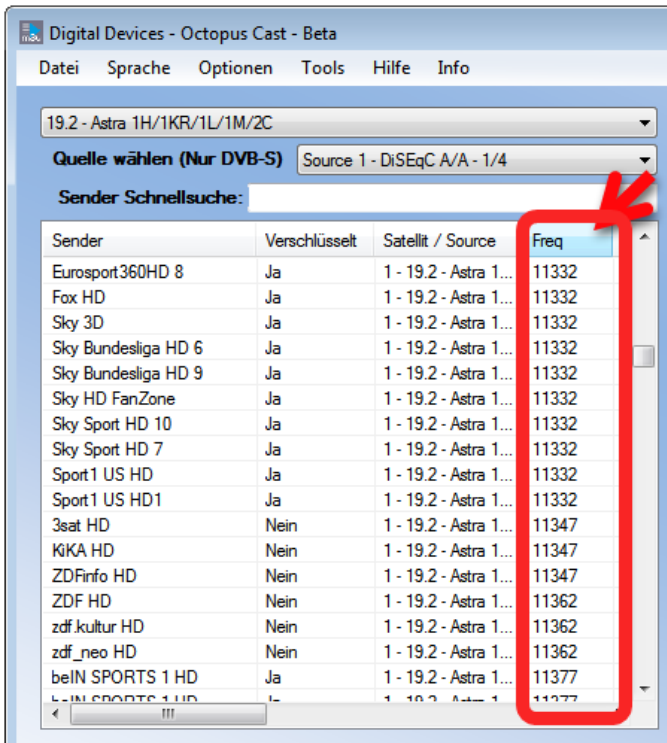


1. Only TV stations
2. Only radio stations
3. Only unencrypted
4. Only encrypted

Filters 1 and 2 can be combined with filters 3 and 4.

## 2.6 Sorting channels within the transponder list

All channels within the loaded transponder list can be sorted by all columns. To sort, click on the header of the column with the desired attribute, e.g., name, frequencies, SID, etc.



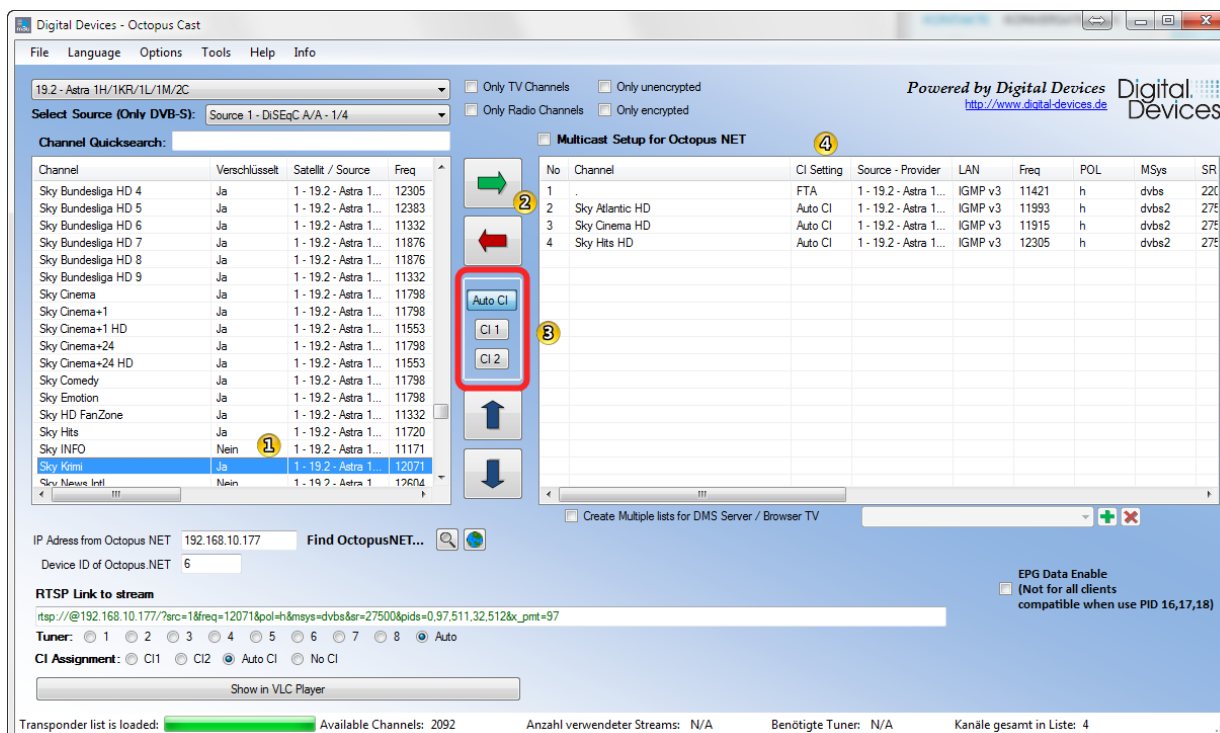
## 2.7 CI settings

The Octopus NET is equipped with a Common Interface (CI) slot, which also allows the use of Octopus NET for PayTV. The CI in your Octopus NET can be used with any program (client), which supports RTSP (Real Time Streaming Protocol) links using M3U lists. The RTSP links determine whether or not a channel is to be decrypted using an existing CI. Programs that can handle M3U lists are for example the VLC® player (which can be found on PC or MAC) and the Good Player® (available on mobile devices such as smartphones and tablets).

Of course it is also possible to use the web interface of Octopus NET with browser TV.

Standard SAT>IP clients which are currently available include the DVBCViewer Pro / GE and Digital Devices TV (DD-TV) suitable for the use of the Octopus NET and CIs.





The loaded list of transponders **1** gives an overview about the available channels and whether they are encrypted or not. Add the channels that you would like to have in your M3U, XSPF list (advanced XSPF file format for VLC), and browser TV (DMS) to the list on the right **2**. To assign the channels **3** the following options are available: **Auto CI, CI 1, and CI 2**

Auto CI (standard): automatically selects the next available CI to decrypt. In a RTSP request the parameter **x\_pmt=<pmt>** is given.

- CI 1 / CI 2: If there are multiple CIs in the Octopus NET, and different encryption methods (e.g. SKY and ORF) can be specified the CI using the respective encryption method (max two, e.g. Octopus NET Rack). If, for example, the SKY card is in CI slot 1 and the ORF card is in CI slot 2, choose SKY channels CI 1 and ORF channel CI 2 as a takeover option. In the RTSP request the parameter **x\_pmt = pass <pmt>** is given with the addition of Parameter **&x\_ci=1** or **&x\_ci=2**.

The selection of CIs in the right list can be altered by right clicking on the selected channels.

To preview the channel in VLC select a channel in the left list and set the assign option (**Auto CI, CI 1 or CI 2**). The link displayed under "RTSP link to the stream" will automatically be extended with the necessary parameters.

#### Request information on RTSP links with CI parameter

Example of RTSP links with the use of "Auto CI"

```
rtsp://@192.168.1.2/?src=1&freq=12070&pol=h&msys=dvbs
&sr=27500&pids=0,97,511,32,512&x_pmt=97
```

Example of RTSP links with the use of selected "CI 1"

```
rtsp://@192.168.1.2/?src=1&freq=12070&pol=h&msys=dvbs
&sr=27500&pids=0,97,511,32,512&x_pmt=97&x_ci=1
```

Currently there is no menu item available for the CI menu in the configuration interface. Updates will follow in the near future.

## 2.8 Creating a M3U list

Octopus Cast can be used to assist in creating a M3U list which can be used by programs that can open RTSP links from M3U lists.

Select a channel from the loaded list of transponders <sup>1</sup> and move it by double clicking or via the button <sup>2</sup> in the channel list <sup>3</sup>. Click the button <sup>4</sup> to generate and export a M3U playlist of the channels that have been added to the channel list.

» **Note:** If several lists have been created in the "Create Multiple Lists for DMS/TV-IP" function, only the currently loaded list will be saved as a M3U file.

## 2.9 Creating a XSPF list (VLC playlist)

Besides the creation of M3U lists, the VLC player also offers XSPF, which is the players own extended format for the creation of playlists. The XSPF format is based on XML coding and is therefore simple to subsequently edit in a XML editor. Additional information about the XSPF format can be found in the VLC wiki.


To generate a XSPF playlist, click on the button <sup>1</sup> after the channels have been added as described in section 2.7.

» **Note:** If several lists have been created in the "Create Multiple Lists for DMS/Browser TV" function, only the currently loaded list will be saved as a M3U file.

## 2.10 Creating lists for MediaPortal

The Octopus NET can also be used with the Media Center software Media Portal. In Media Portal Octopus NET is setup using DVB-IP, which requires M3U lists in which the channel information is stored.

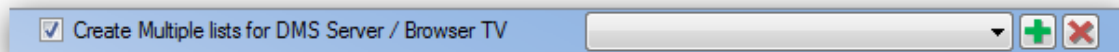


By clicking the button , the generated list can be exported directly to Media Portal, if Media Portal is installed.

» **Note:** If several lists have been created in the "Create multiple lists for DMS/TV-IP" function, only the currently loaded list will be saved as a M3U file.

## 2.11 Creating lists for DMS server and browser TV

The Octopus NET has a DMS (Digital Media Server) for the distribution of channel lists within the home network. An archive of channel lists and source.csv files is required to load the channel lists in the Octopus NET for the DMS or Browser TV. For versions 0.3.6.6 beta and newer, DMS packages can be created directly from the Octopus Cast tool. Beginning with version 0.4.0.0, it is possible to load directly from the program to the Octopus NET.



With the help of the Octopus Cast tool it is possible to create a package for the DMS that includes a single program list or several lists. This can be used for the subdivision of several types of reception or broadcasting groups. For example:

- List 1: **Public broadcaster:**
  - *Das Erste*
  - *ZDF*
  - *3sat*
  - *MDR*
- List 2: **Private SD:**
  - *RTL Television*
  - *SAT.1*
  - *ProSieben*

- List 3: **Radio:**
  - *Antenne Radio*
  - *FFN*
  - *NJoy*


In a single list, the structure would look like this:

- List: **19.2 - Astra 1H/1KR/1L/1M/2C**
  - *Das Erste*
  - *ZDF*
  - *3sat*
  - *MDR*
  - *RTL Television*
  - *SAT.1*
  - *ProSieben*
  - *Antenne Radio*
  - *FFN*

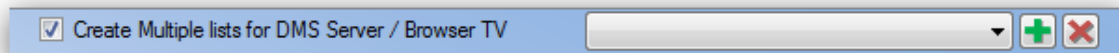
### 2.11.1 Creating a DMS package for single lists

Select the channels from the loaded transponder list and move them into the channel list (see section 2.7).

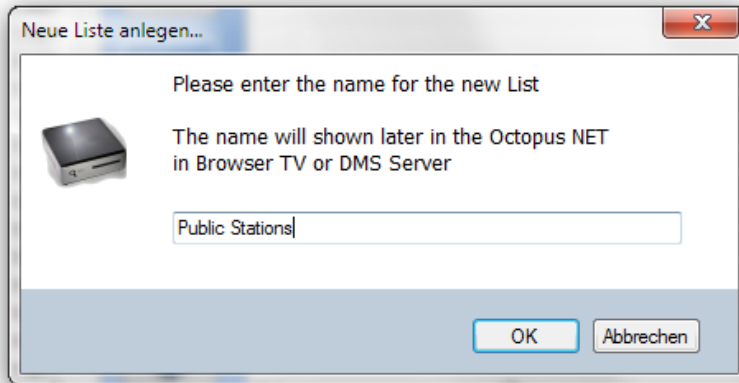


Once all stations have been added to the list, click the button  to create the DMS package.

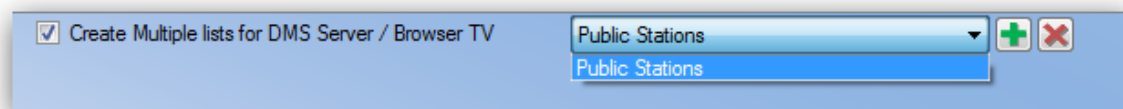
### 2.11.2 Creating a DMS Package for multiple lists



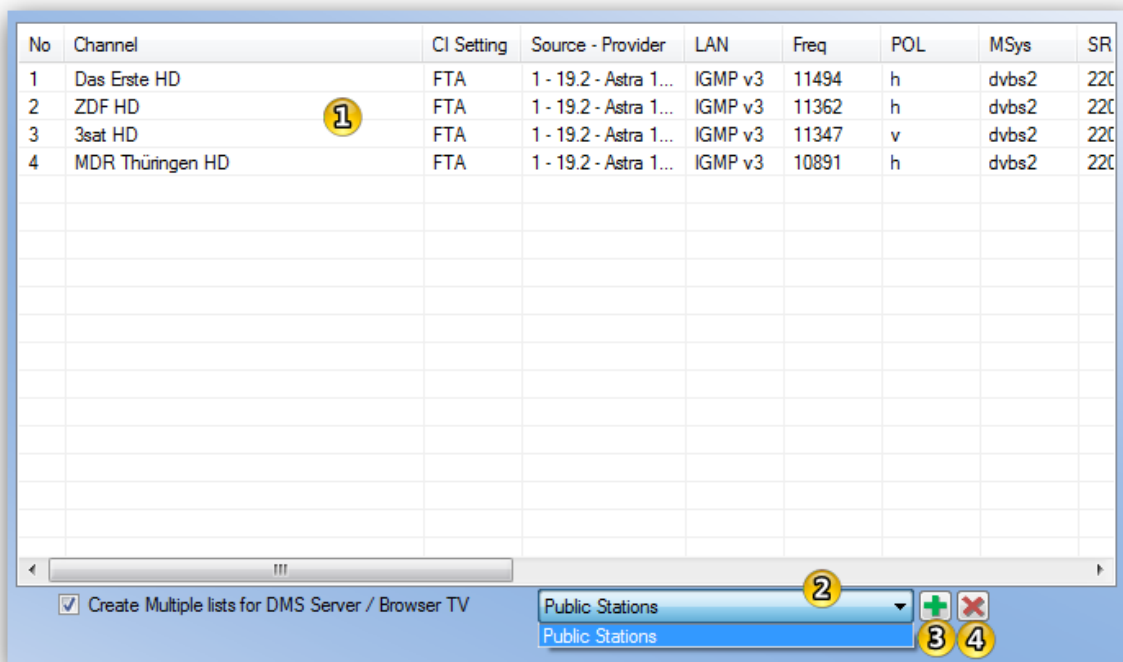
Before adding channels, select the checkbox for "**Create multiple lists for DMS server/browser TV**". If channels was previously added, they will be deleted.



Enter a name for the first list, for example: **"Public broadcaster"**.



The name of the list is added to the drop down menu and can be filled with channels.



Add the channels that are to be included in the list **1**

The list which is currently being edited is shown in the drop down menu **2**

Another list can be added with the button **3** or can be removed with the button **4**

No	Channel	CI Setting	Source - Provider	LAN	Freq	POL	MSys	SR
1	Sky Action HD	Auto CI	1 - 19.2 - Astra 1...	IGMP v3	12383	h	dvbs2	275
2	Sky Atlantic HD	Auto CI	1 - 19.2 - Astra 1...	IGMP v3	11993	h	dvbs2	275
3	Sky Cinema HD	Auto CI	1 - 19.2 - Astra 1...	IGMP v3	11915	h	dvbs2	275

Create Multiple lists for DMS Server / Browser TV

PayTV + -  
 Public Stations 1  
 Radio  
 PayTV

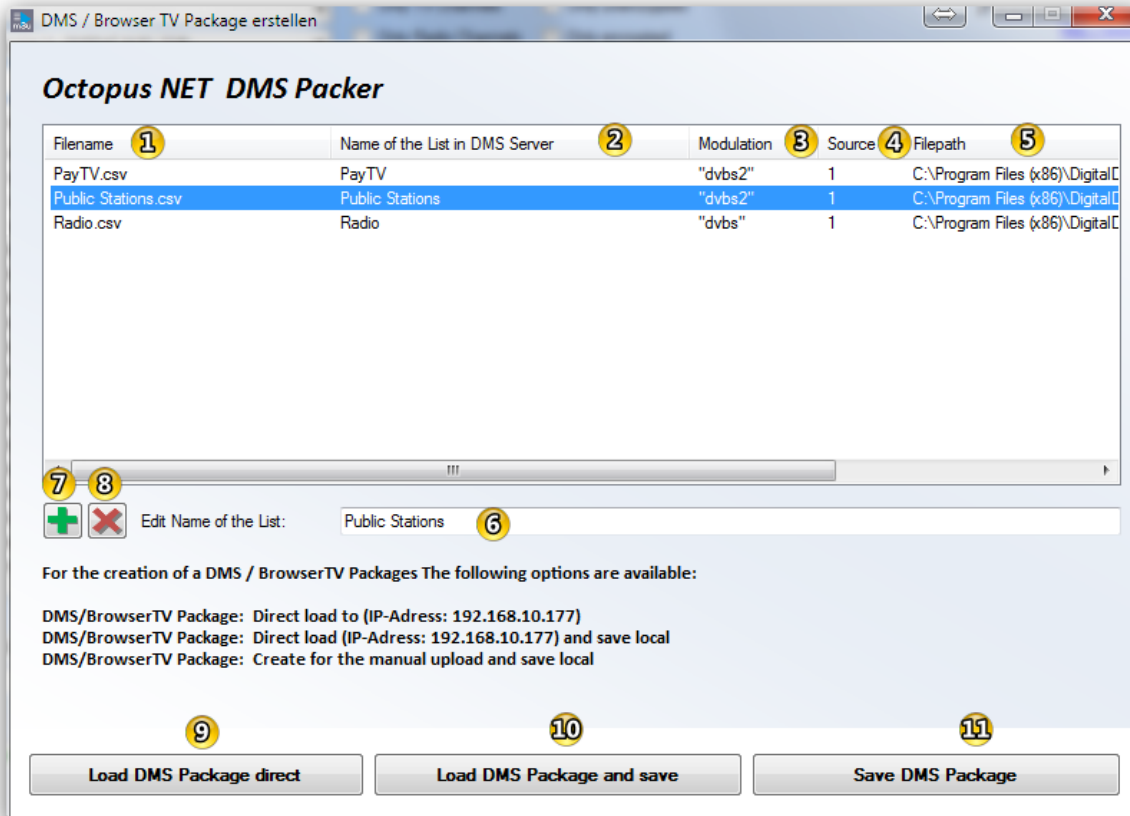
EPG Data Enable  
 (Not for all clients compatible when use PID 16,17,18)

Export to MediaPortal
Export to VLC Playlist
Export to M3U Playlist
Octopus NET Browser TV List 2

Switching between the channel lists is possible via the drop down menu 1.

Once all stations have been added to the list click button 2 to create the DMS package.

### 2.11.3 Octopus NET DMS packer

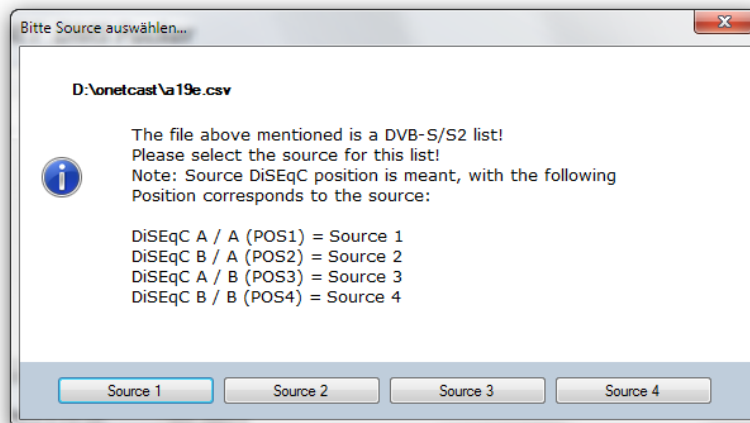


The created lists are shown in the Octopus NET DMS packer (single list or multiple list ).

#### The following functions are possible in DMS Packer:

1. Set the filename of the channel file which can be found in the package later
2. Set the name of the list as it will be shown by the DMS later
3. Type of modulation (DVBS, DVBC, DVBC2, DVBT, DVBT2)
4. Source represents the recognized DiSEqC position.
5. The complete file path where the file to create the package is temporarily stored
6. Allows changes to the name of the list as it will appear in the DMS later
7. Allows the manual addition of channel selection from older versions of the program or exported DMS packages
8. The removal of entries from the list
9. The DMS package is loaded directly into the Octopus NET using the specified IP address
10. The DMS package is loaded directly into the Octopus NET using the specified IP address and is additionally stored on a local disk
11. The DMS package is not loaded to the Octopus NET, but stored to a local disk for the manual upload via the web interface.

**Only DVB-S/S2:** If a previously saved or exported Channel List (7) which corresponds to the type of signal DVB-S/S2 is added, you will be asked to select a source for the list.



#### 2.11.4 Structure of the package

The ZIP package consists of channel lists in combination with the info file "sourcelist.csv". The structure of "sourcelist.csv" file looks like this:

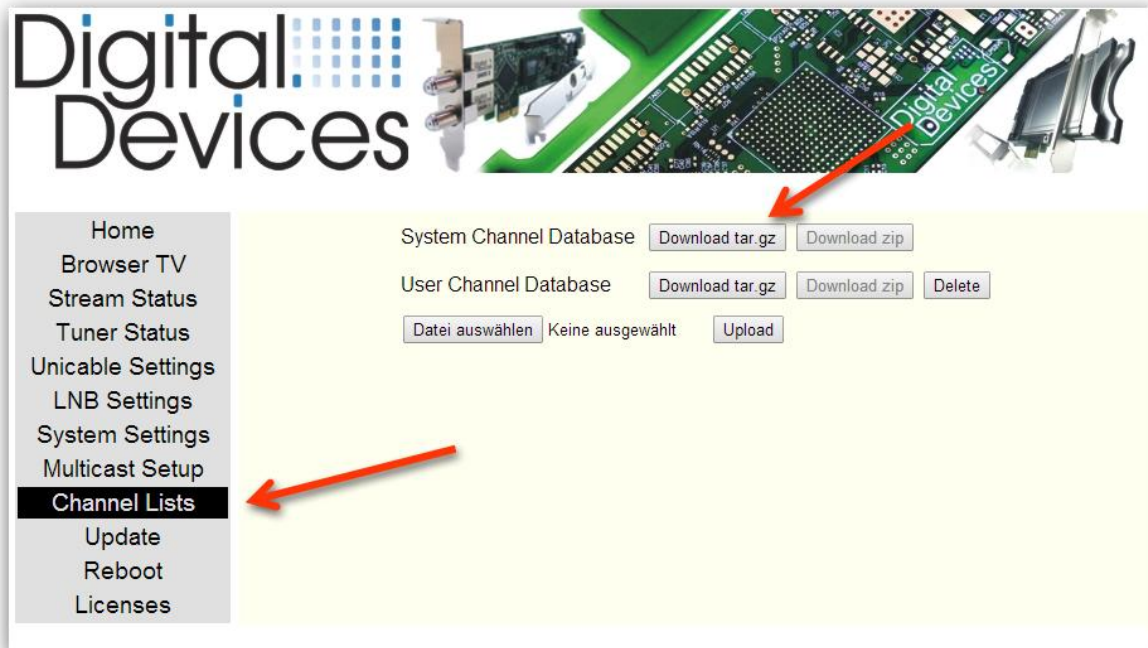
The sourcelist.csv can be created or edited using a text editor and has the following structure:

```
KEY,CSVFILE,NAME,SYSTEM,SRC
"a19e","Channellist","Astra 19.2 Senderliste","dvbs",1
```

KEY	"a19e"	Key for identification (freely selectable, but should include no more than 4 characters)
CSVFILE	"Channellist"	Name of the channel generated file without .csv
NAME	"Astra 19.2 Senderliste"	Name that will appear later on the channel list
SYSTEM	"dvbs"	Reception system: dvbs, dvbc or dvb
SRC	1	Source of the DVB-S source (DiSEqC LNB) DVB-C or DVB-T is entered here as 0



To download a sample file to the Octopus Net go to the Web Interface of the Octopus Net



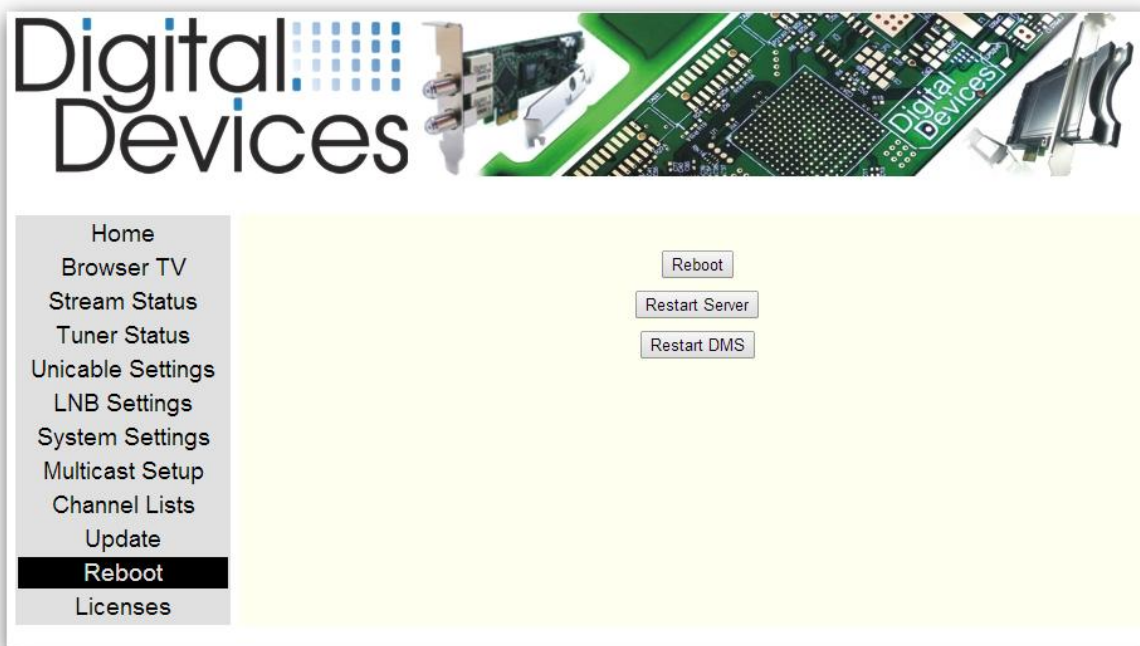
Select "Channel Lists" and then click on "Download.tar.gz" in "System Channel Database". This file can be unzipped with a program such as WinRAR®.

### 2.11.5 Manually load the package into Octopus NET



Navigate in the web interface of the Octopus NET to the menu item "**Channel Lists**".

Through "Select File", the created ZIP file can be selected with the channel file(s) and then loaded into the Octopus NET by clicking "upload".

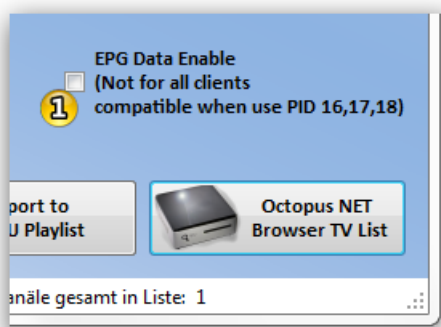



Subsequently the DMS of Octopus NET must be restarted by clicking the "Restart DMS" button. The loaded channel list is available under "Browser TV".

A selection of prefabricated channel lists are also available in the download section of our website at: <http://www.digital-devices.de>

## 2.12 Enable EPG data

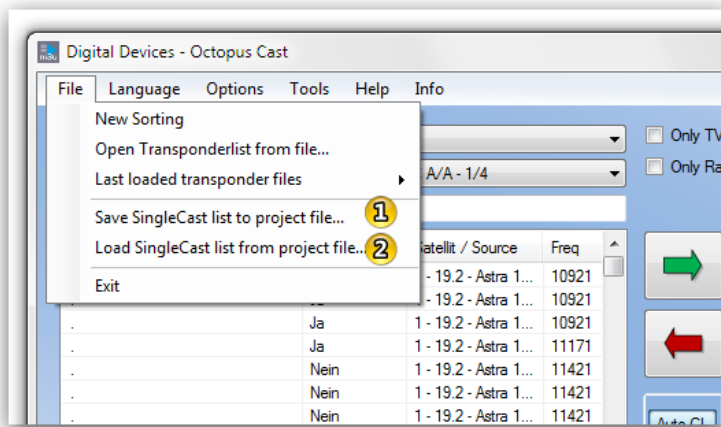
Not every program is capable of processing the EPG (Electronic Program Guide) data that is sent from the provider (EIT) properly, which can lead to problems. For this reason the function can be selected/deselected.



To activate the EPG function set the option "Enable EPG Data" before generating the lists  Then the PIDs 16, 17, and 18 are set with the RTSP link and analyzed by the respective software if possible.

## 2.13 Saving/loading of single cast lists

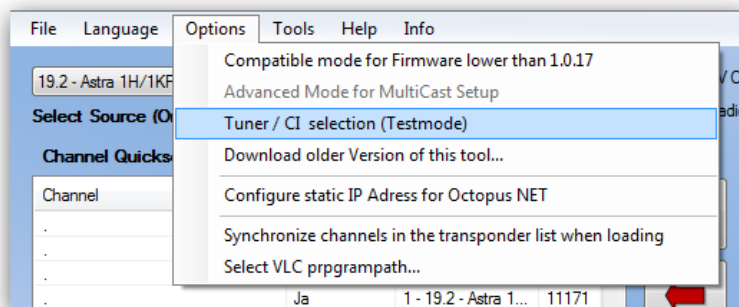
The created lists can also be saved for later editing.



Select "Save Single Cast list to project file ..." <sup>1</sup> from the file menu to save the list. Through the menu item "Load SingleCast list from project file ..." <sup>2</sup> the list can be opened again at any time and edited further.

## 3 Tuner /CI selection (Testmode)

Using "Tuner / CI Selection (test mode)", a tuner of the Octopus NET and CI can be directly controlled. This procedure is only provided for testing purposes.



Activate the function under "Options -> Tuner / CI selection (test mode)"

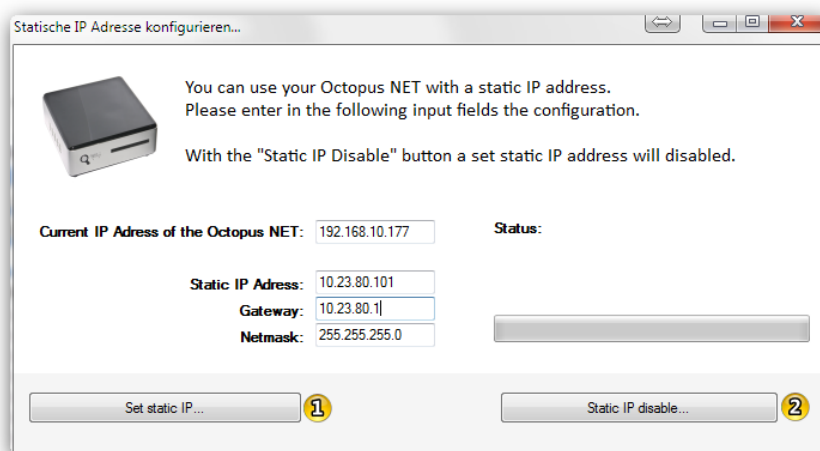


Following this, the Octopus Cast tool can be used for testing a single channel in the VLC player. Using "Show in VLC Player" a specific tuner can be selected for use.



Select a channel from the transponder list and select which tuner should be used (1-8). After clicking on "Show in VLC Player" the stream will start. "Auto" selects the next free tuner on the list (standard). With "Auto CI" the next free CI will be selected.

## 4 Configuring a static IP address

The Octopus NET usually obtains its IP address from a DHCP server located in the network. It is also possible to enter a static IP address in the Octopus NET.



» **Warning: Changes to the network settings of your Octopus NET should only be performed by trained persons who are familiar with the field of network technology. A careless change in network settings could result in the Octopus NET no longer being accessible on the network. Should this be the case, the Octopus NET must be reset (see the manual of Octopus NET).**

The Octopus NET will be configured with the appropriate settings using this button . With button  set IP address will be disabled and the Octopus NET obtains its IP address from a DHCP server in the network.

## 5 Multicast operation

Multicast allows the streaming of a transponder or individual channels of a transponder in a network. The advantage of this is that several TV channels can be streamed through a tuner, and viewed by any number of network participants at a time. Therefore each tuner can be assigned to a different transponder. There are two ways to apply this function.

### The permanent stream:

A TV channel or transponder is permanently streamed into the network. Each client can listen to the stream. However, this means there is a permanent load on the network regardless of whether the TV channel is being used or not.

### The stream with IGMP V3:

Simply speaking, IGMP V3 allows a stream to only be active once it is requested. The first client activates the stream (IGMP join), the next client can easily connect to the stream, and the last client leaving the stream deactivates it (IGMP Leave). Thus, the network will only be loaded with the streams that are required.

In principle, the network components must support IGMP V3. Some switches/WLAN routers can let IGMP V3 through on all ports. Other switches ignore the protocol and do not let it through. If one permanently streams into a wireless network whose components do not support IGMP V3 and so transmit the multicast packets, then a WLAN network is quickly overloaded. For example, an AVM Fritz box 7390 supports IGMP V3 and allows multicast into the LAN network by default but blocks it from WLAN networks. This enables "normal" function to remain possible. Therefore it is important that the Octopus NET itself can easily separate the wireless networks from the other networks. With permanent streaming it is possible to optionally adjust by selecting which 5 ports of the integrated switch the stream is output through.

The Octopus NET is able to support a total of 12 simultaneous streams. It should be noted: Either one is streaming a complete transponder (consumes 1 stream), or it is segmented so that only certain channels of a transponder can be streamed. In this case each TV channel consumes a stream.

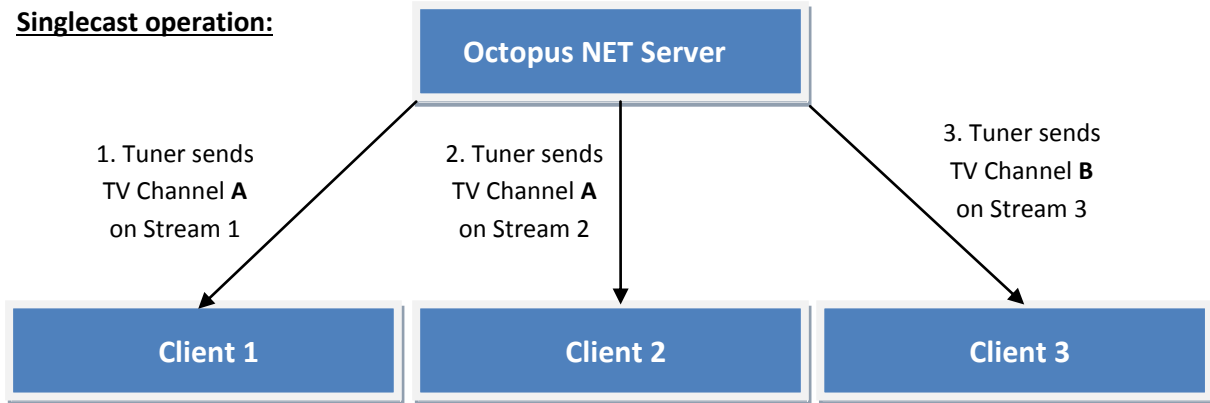
Some receivers cannot manage fully streamed transponders. The software has to demultiplex the transponder and select the PIDs of the desired program so that it is able to show them. In addition, everything is streamed from the transponder, whether filling data or radio channels. With eight transponders this would quickly gather 500 Mbit/s of data which would permanently occupy the network.

There are two other features to be briefly outlined. First, it is possible to access the Octopus NET per single cast if not all streams are configured for multicast (e.g. from WLAN). The Octopus NET transforms a multicast TV channel into a singlecast participant. A second feature is to operate Octopus NET in mixed mode (multicast and singlecast). For example, multicast has one or two tuners that are occupied while the other tuners run in singlecast mode.

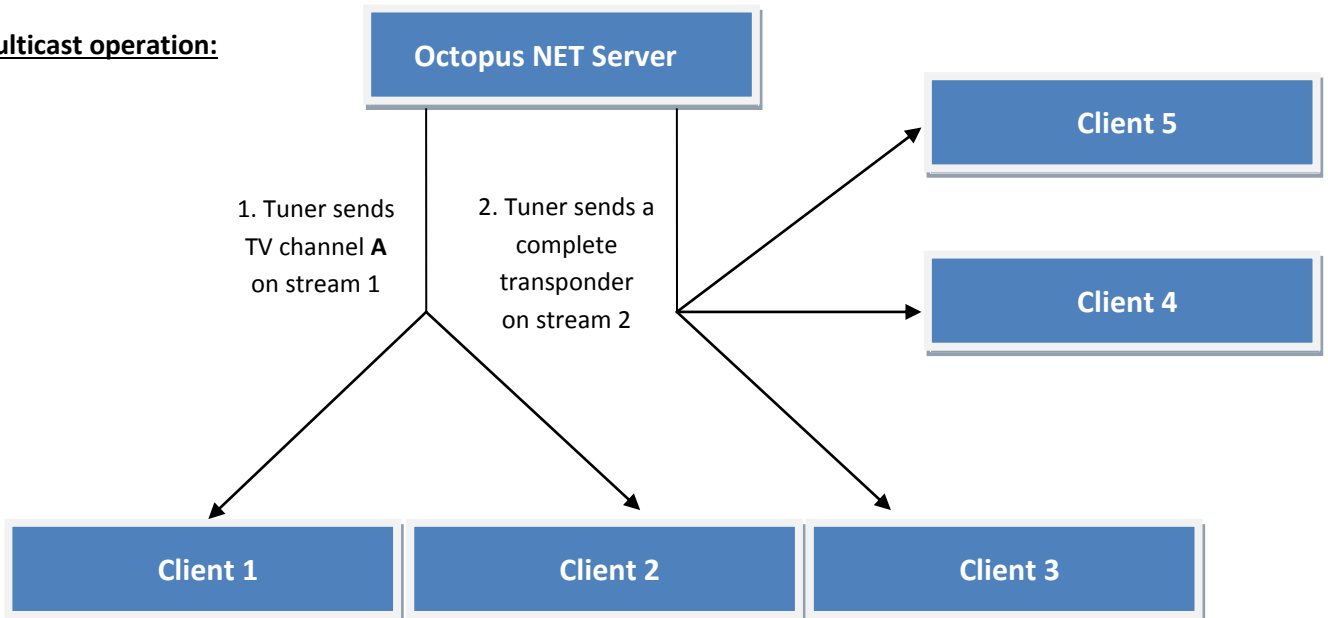
**»Note: Of course it is possible with 8 tuners to make any combination of divisions between the multicast and SingleCast.**

Here is an illustration for the singlecast compared to multicast mode:

**Singlecast operation:**

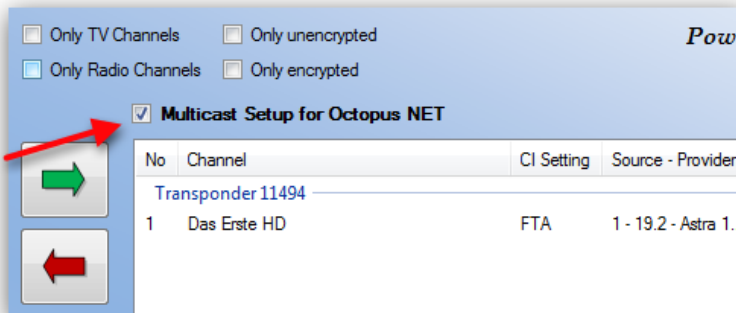


**Multicast operation:**

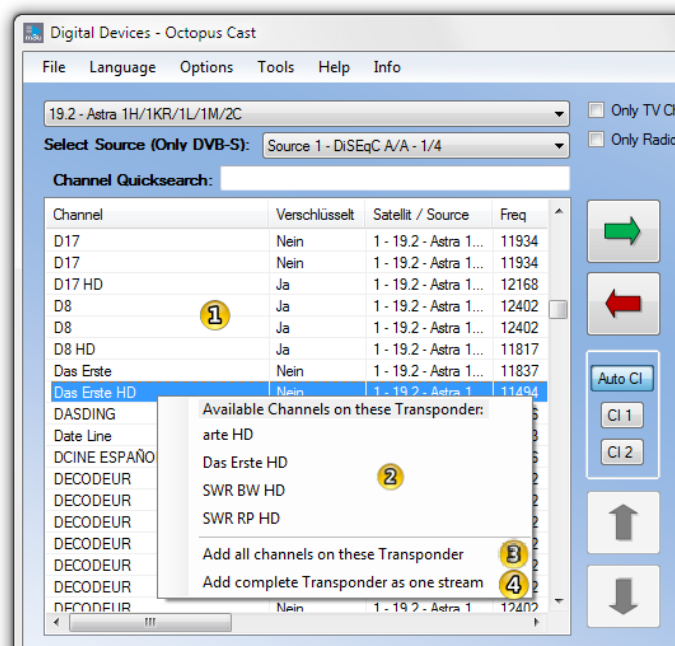



## 5.1 Creation of a multicast list




For the creation of multicast lists (which will later be loaded to the Octopus NET) the Octopus Cast tool must first be set to the multicast mode. In multicast mode special program components are available which are not available in singlecast mode. Basic program options such as filters and tuning are also available in multicast mode.

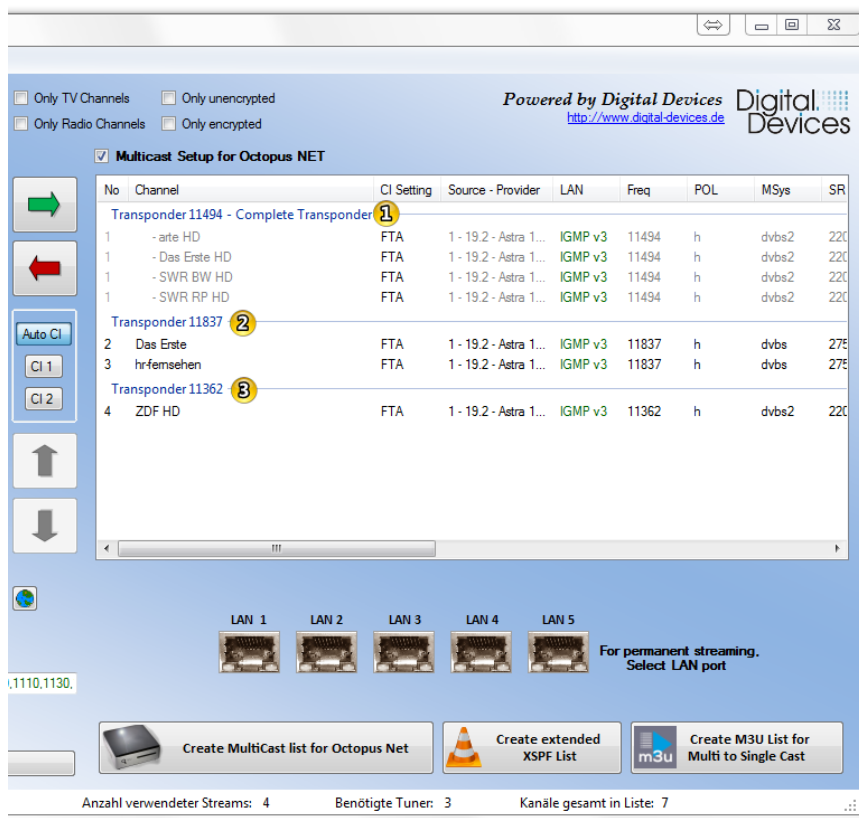


Select the checkbox "Multicast Setup for Octopus NET" to switch to the multicast mode.



Use a double click to add channels to the multicast list (list on the right). Unlike the singlecast mode, there are several takeover options available for multicast mode. So, by right clicking on a station name  you can:

- Display more services of a transponder and to directly apply them 
- Add all channels of a transponder via the "OneClick" option 
- Add a complete transponder with the displayed channels as a stream 



Depending to the selected option, the channels are added to the list on the right. The entry ① shows a complete transponder added to the list by the option "**Add Complete Transponder as Stream**". In this case only one of the 12 usable streams of the Octopus NET is used by several channels. Changes to these channels (for example selecting a LAN port or changes to the multicast parameters in advanced mode) are only permitted for the entire group.

If you have added more channels of the same transponder, one group will displayed with these channels ②, because for each channel within a transponder group only one tuner is required. Each channel occupies one stream and is individually configurable.

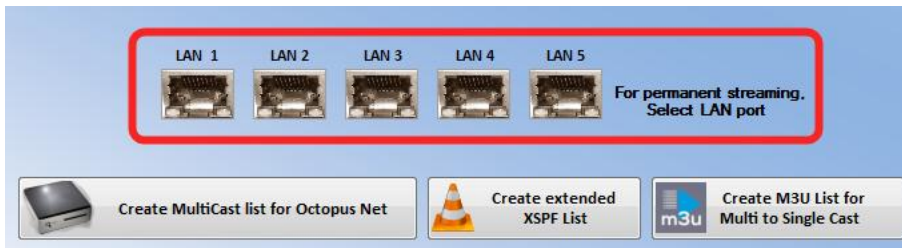
Channels which could not be assigned to an existing transponder, a new group will be added, which occupy an additional tuner. ③

The number of displayed groups represents not only an improved overview, but also serves as an overview of the required tuners. Each group requires a tuner of the Octopus NET.

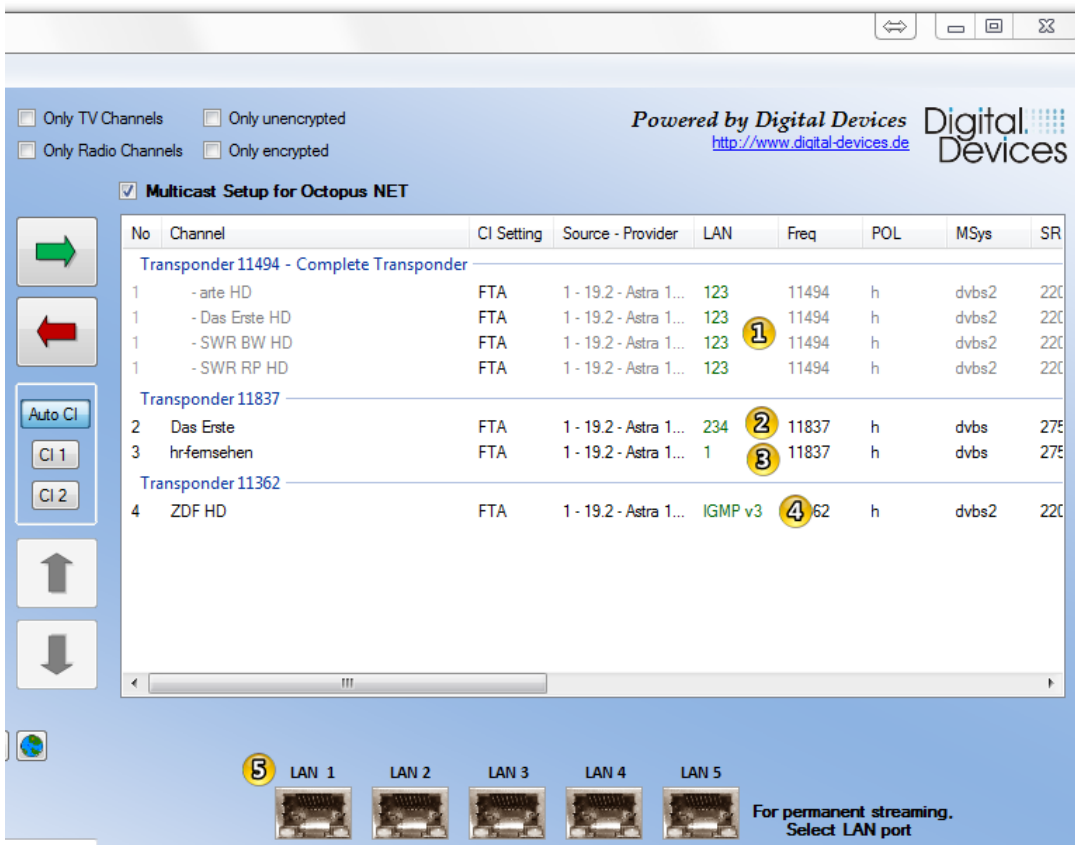


## 5.2 Settings for multicast lists

In the multicast "normal" mode there is a choice to select between using a channel as IGMP V3 (standard) or permanent streaming.



Select a channel from a group and use the LAN port buttons to assign it to a specific - or all - LAN ports.



In the LAN column it is shown which method is being applied. By default the IGMP V3 process is used following the assignment of a channel. After a channel within a group is selected the allocation may be made to the LAN ports of the Octopus NET using the buttons 5. Once a LAN port for a channel has been enabled, the channel or transponder is permanently streamed into the network over the selected LAN Port.

Each stream can be separately programmed. So, stream 2, which streams the channel "Das Erste", only sends to LAN Port 2-3-4 2. The channel "HR-Fernsehen" is sent only to LAN Port 1 3. The

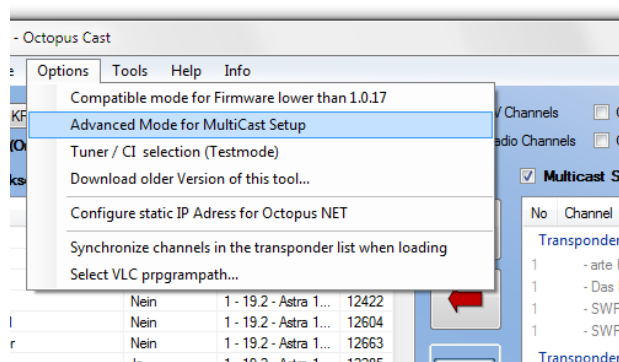
channel "ZDF HD" is sent out using IGMP V3 <sup>4</sup>. As a fully streamed transponder uses only one stream, it can also be programmed as a whole group. <sup>1</sup>

### 5.3 CI settings for multicast

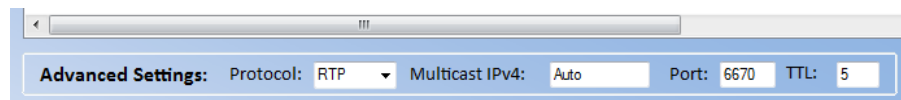
CI special functions can be used in multicast mode. Choosing which CI is to be used, is carried out similar to the procedure for the singlecast. (See section 2.6) In contrast to the singlecast several stations of a transponder can be decoded in multicast if the CAM module supports this. A CI can be used only within one transponder.

### 5.4 Multicast advanced mode

Advanced features can be accessed using multicast advanced mode. The advanced mode should only be used by experienced users.



In the Octopus Cast tool select "**Options -> Advanced Mode for MultiCast Setup**".



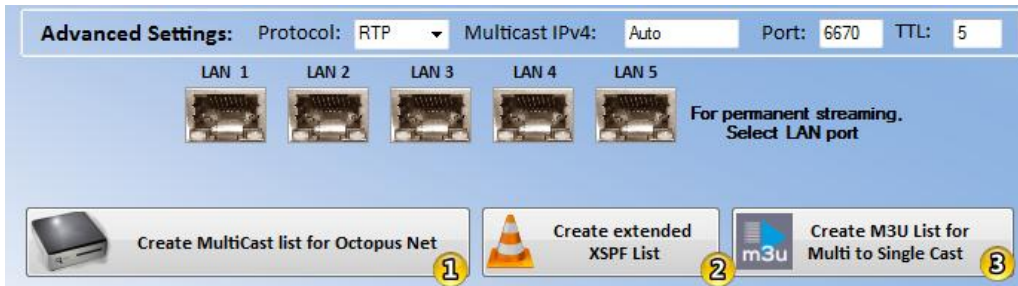
In the list on the right are expanded options for creating multicast lists. Select the stream to be edited in the list and choose from the following options:

- Protocol:** Select the protocol to be used for multicast for the currently selected channels. Choose between RTP or UDP. The default is RTP.
- Multicast IPv4:** Enter the IPv4 multicast address which is to be used for the currently selected stream. Use an address range between 239.5.0.0 - 239.126.255.255. There are no conflicts except possibly with other multicast streams. If the value " Auto " is used the program generates a continuous range of IP addresses. Individual streams can still be provided with a separate IP address which is recognized by the automatic generation and not used again. The auto generation uses the IP range 239.5.2.0 - 239.5.2.255. In this example the value 5 represents the device ID to be configured by Octopus NET.
- Port:** Set the port which should be used for the currently selected stream. The default port is 6670.

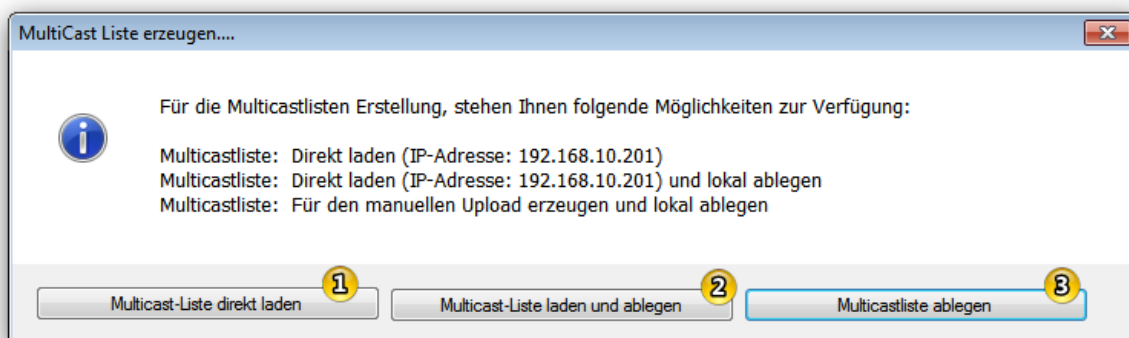
**TTL:** Set the TTL (Time to live) which should be used for the currently selected stream. The default value is 5.

## 5.5 Creation of multicast list for Octopus Net

When the details of the multicast list have been set they can be saved and loaded into the designated Octopus NET.



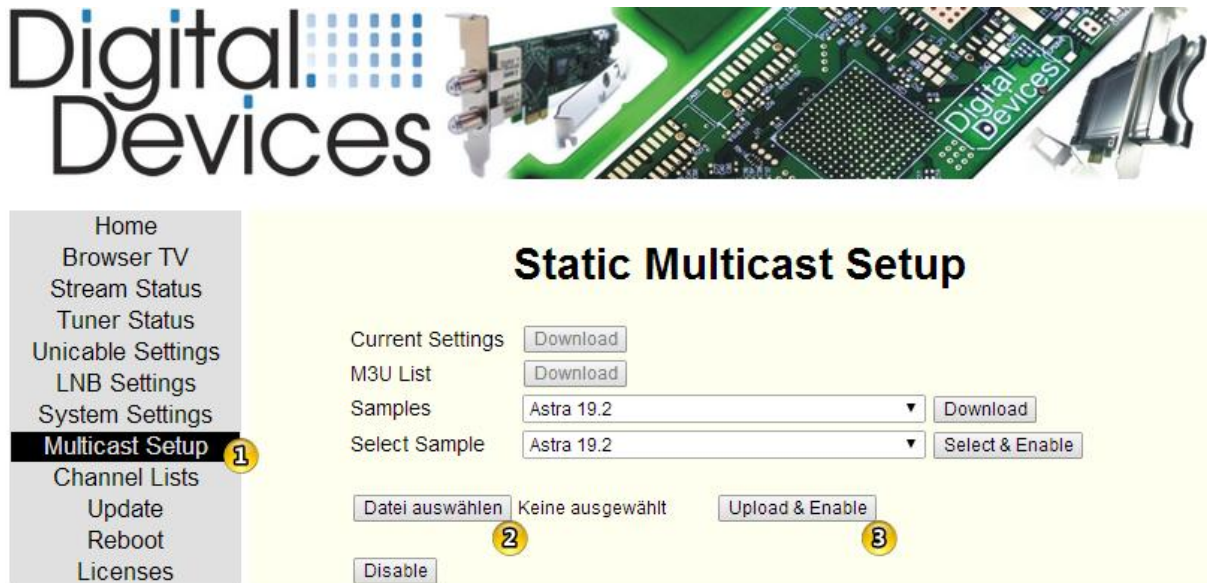
Click on "Create Multicast List for Octopus Net" ①



Select one of the following options:

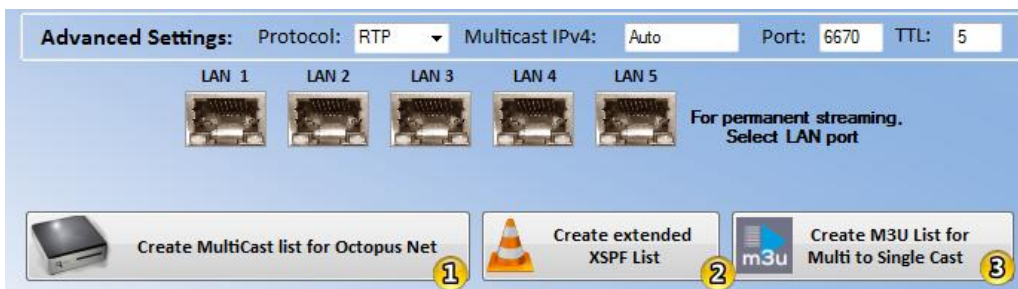
1. The multicast configuration is loaded directly into the Octopus NET with the specified IP address.
2. The multicast configuration is loaded directly into the Octopus NET with the specified IP address and is additionally stored on a local disk.
3. The multicast configuration is not loaded into the Octopus NET, but stored on a local disk for manual upload via the web interface.

## 5.6 Loading the configuration of multicast into the Octopus Net manually



Open the Octopus NET web interface and select "**Multicast Setup**". Click on "**Choose File**" and select the previously saved multicast configuration. Then click on "**Upload & Enable**" to activate the multicast.

## 5.7 Creation of special lists for multicast



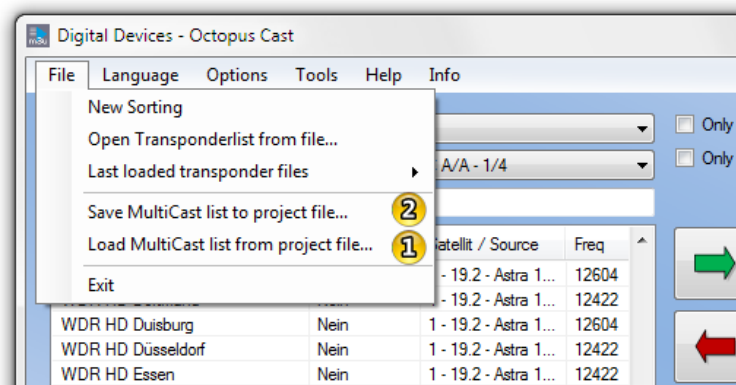
With the button "**Create Advanced XSPF List**" **2** a playlist can be created for an existing multicast list for the VLC player. Channels which are streamed as entire transponders are already segmented and listed in a playlist. Of course channels that are streamed individually are listed here as well.

To enable the use of this function no manual IP addresses can be used in combination with automatically generated ("auto") addresses when changes are made in the "**Advanced Mode**" of multicast. Set the value of all streams to "**auto**" using "**Multicast IPv4**" or assign each stream its own IP address.

Through "Create Multi to Single-Cast M3U List" **3** the existing list can be used to create a M3U playlist which allows users to access the streamed multicast channels via singlecast (RTSP). For each channel opened in singlecast from the multicast another free stream on the Octopus NET is required. This option is not available if all streams are already used by the multicast.

## 5.8 Saving and loading of multicast lists

Created lists can also be saved for later editing.



Select "**Save MultiCast list to project file ...**" ② from the file menu to save the list. The list can be opened again at any time to be edited further through "**Load MultiCast list from project file ...**" ①.

