BARIX DISCOVERY TOOL

Introduction

The main purpose of the Binary Discovery tool is to find Barix devices on a local LAN. It is intended to find Barix devices in the following circumstances.

- The Barix device has an IP address valid for the LAN on which it is connected.
- The Barix device has an IP address which is not part of the local LAN address range.
- The Barix device has no means of obtaining an IP address from an external service. I.e No DHCP or Bootp server available (Self IP configuration AutoIP, IpZator may or may not be active).
- The Barix device has no IP address.

It is only intended for a local LAN environment not for a WAN or Intranet.
To be precise, it is required that the devices are reachable with an Ethernet broadcast.

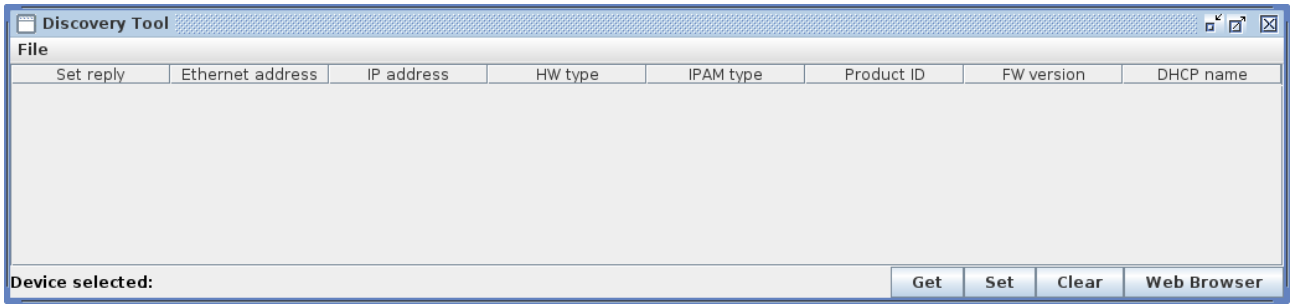
Note: The Discovery protocol was introduced during 2009, hence devices running older firmwares are not guaranteed to be 'discovered'.

Running the tool

The tool is implemented in Java, requiring Java Standard Edition 5 or later. As the application has a GUI, the X-Windows system is required when running on Linux/FreeBSD and other *NIX systems.

The application is distributed as a simple JAR archive. To run the Discovery tool under most OS's, simply run the Discover.jar file. An alternative way of starting the tool would be 'java -jar Discover.jar' from a command line interface.

Once started, a screen similar to the one below will be shown (there may be variations due to the operating system platform you are using the tool on).

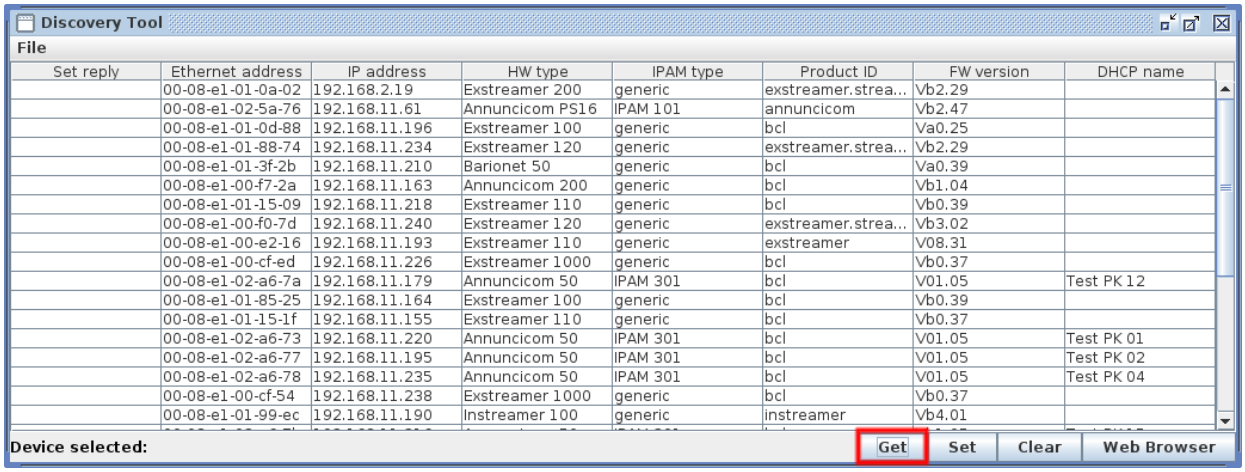


Using the tool

On first startup, the system has not found any devices, you need to tell it to look for them.

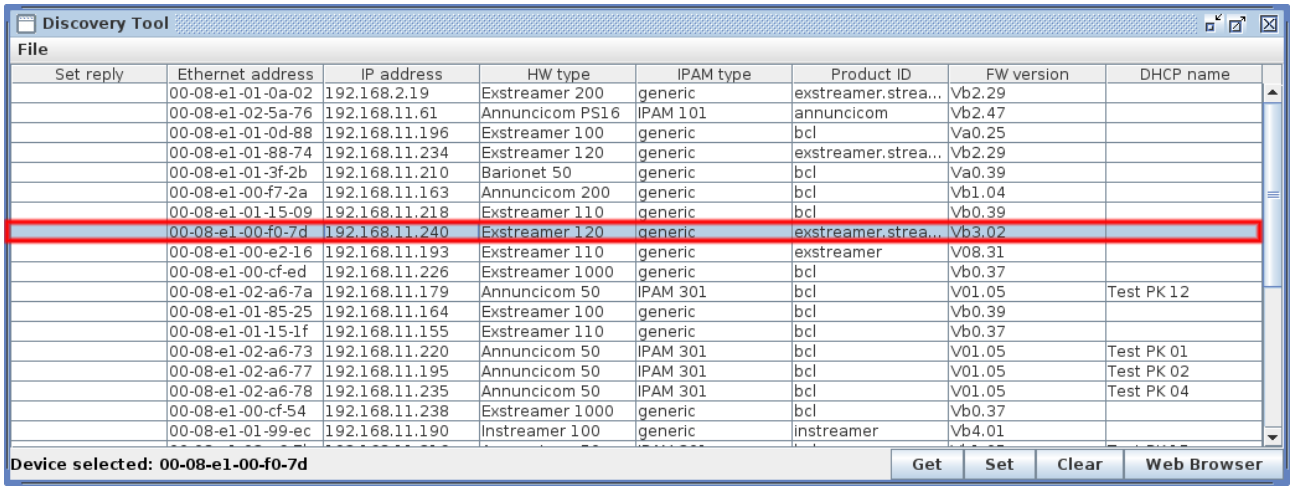
In the bottom right of the screen there are four buttons:

1. The **GET** button: by clicking on this, the application will send a request on the local network. Barix devices with a Discovery-enabled firmware listen for GET requests and respond to them with information about themselves:



Set reply	Ethernet address	IP address	HW type	IPAM type	Product ID	FW version	DHCP name
	00-08-e1-01-0a-02	192.168.2.19	Exstreamer 200	generic	exstreamer.strea...	Vb2.29	
	00-08-e1-02-5a-76	192.168.11.61	Annuncicom PS16	IPAM 101	annuncicom	Vb2.47	
	00-08-e1-01-0d-88	192.168.11.196	Exstreamer 100	generic	bcl	Va0.25	
	00-08-e1-01-88-74	192.168.11.234	Exstreamer 120	generic	exstreamer.strea...	Vb2.29	
	00-08-e1-01-3f-2b	192.168.11.210	Barionet 50	generic	bcl	Va0.39	
	00-08-e1-00-f7-2a	192.168.11.163	Annuncicom 200	generic	bcl	Vb1.04	
	00-08-e1-01-15-09	192.168.11.218	Exstreamer 110	generic	bcl	Vb0.39	
	00-08-e1-00-f0-7d	192.168.11.240	Exstreamer 120	generic	exstreamer.strea...	Vb3.02	
	00-08-e1-00-e2-16	192.168.11.193	Exstreamer 110	generic	exstreamer	V08.31	
	00-08-e1-00-cf-ed	192.168.11.226	Exstreamer 1000	generic	bcl	Vb0.37	
	00-08-e1-02-a6-7a	192.168.11.179	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 12
	00-08-e1-01-85-25	192.168.11.164	Exstreamer 100	generic	bcl	Vb0.39	
	00-08-e1-01-15-1f	192.168.11.155	Exstreamer 110	generic	bcl	Vb0.37	
	00-08-e1-02-a6-73	192.168.11.220	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 01
	00-08-e1-02-a6-77	192.168.11.195	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 02
	00-08-e1-02-a6-78	192.168.11.235	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 04
	00-08-e1-00-cf-54	192.168.11.238	Exstreamer 1000	generic	bcl	Vb0.37	
	00-08-e1-01-99-ec	192.168.11.190	Instreamer 100	generic	instreamer	Vb4.01	

2. The **SET** button: This allows the user to set the IP address of a Discovered device. This is done by:
    - Selecting the device, by clicking on it: the device details will be highlighted in blue and the MAC address will be shown bottom left:



Set reply	Ethernet address	IP address	HW type	IPAM type	Product ID	FW version	DHCP name
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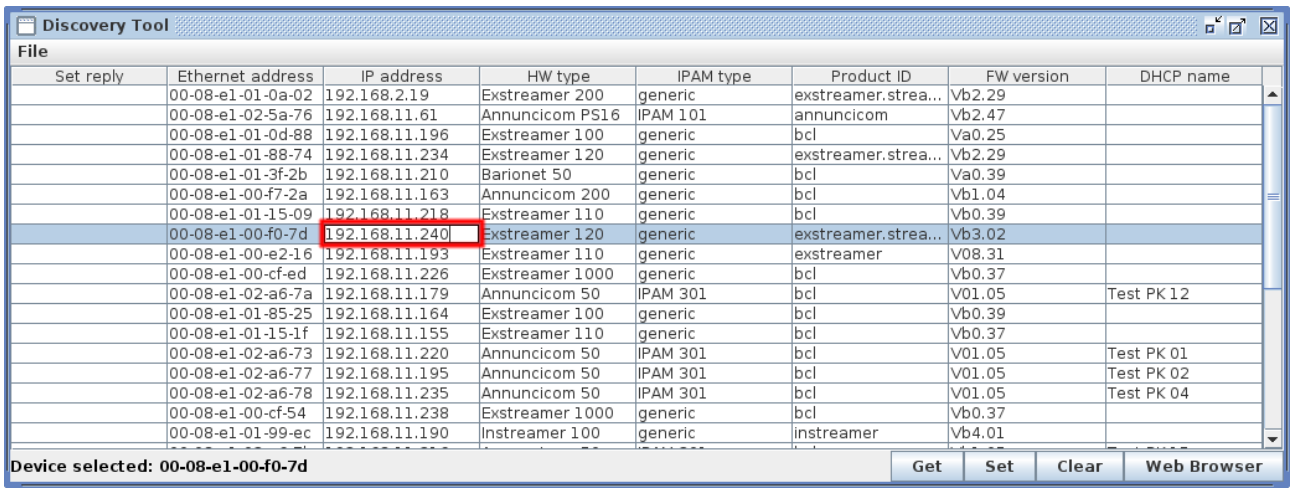
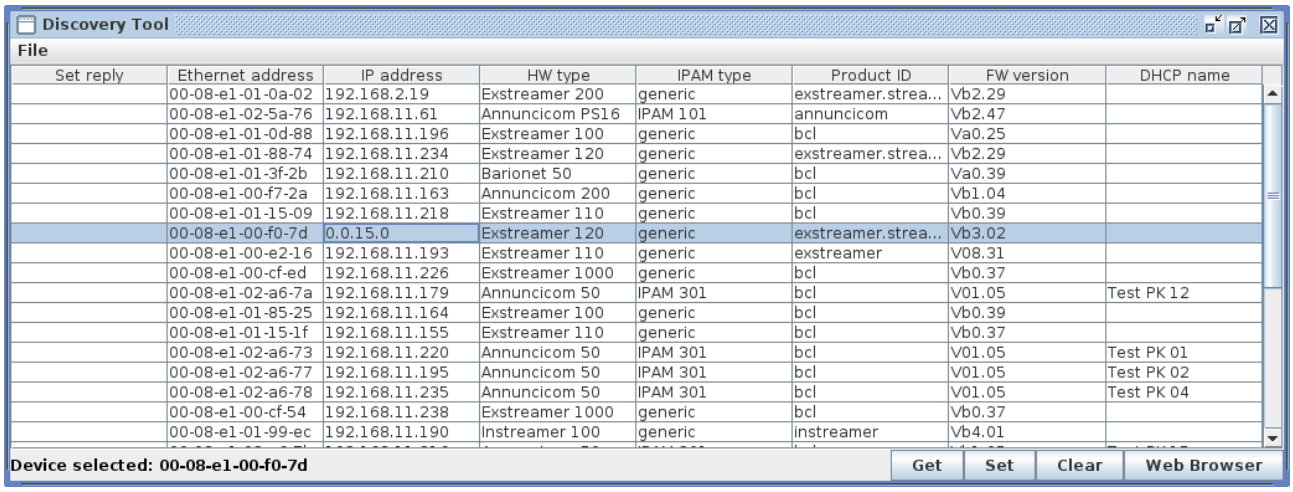
	00-08-e1-01-88-74	192.168.11.234	Exstreamer 120	generic	exstreamer.strea...	Vb2.29	
	00-08-e1-01-3f-2b	192.168.11.210	Barionet 50	generic	bcl	Va0.39	
	00-08-e1-00-f7-2a	192.168.11.163	Annuncicom 200	generic	bcl	Vb1.04	
	00-08-e1-01-15-09	192.168.11.218	Exstreamer 110	generic	bcl	Vb0.39	
	00-08-e1-00-f0-7d	192.168.11.240	Exstreamer 120	generic	exstreamer.strea...	Vb3.02	
	00-08-e1-00-e2-16	192.168.11.193	Exstreamer 110	generic	exstreamer	V08.31	
	00-08-e1-00-cf-ed	192.168.11.226	Exstreamer 1000	generic	bcl	Vb0.37	
	00-08-e1-02-a6-7a	192.168.11.179	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 12
	00-08-e1-01-85-25	192.168.11.164	Exstreamer 100	generic	bcl	Vb0.39	
	00-08-e1-01-15-1f	192.168.11.155	Exstreamer 110	generic	bcl	Vb0.37	
	00-08-e1-02-a6-73	192.168.11.220	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 01
	00-08-e1-02-a6-77	192.168.11.195	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 02
	00-08-e1-02-a6-78	192.168.11.235	Annuncicom 50	IPAM 301	bcl	V01.05	Test PK 04
	00-08-e1-00-cf-54	192.168.11.238	Exstreamer 1000	generic	bcl	Vb0.37	
	00-08-e1-01-99-ec	192.168.11.190	Instreamer 100	generic	instreamer	Vb4.01	

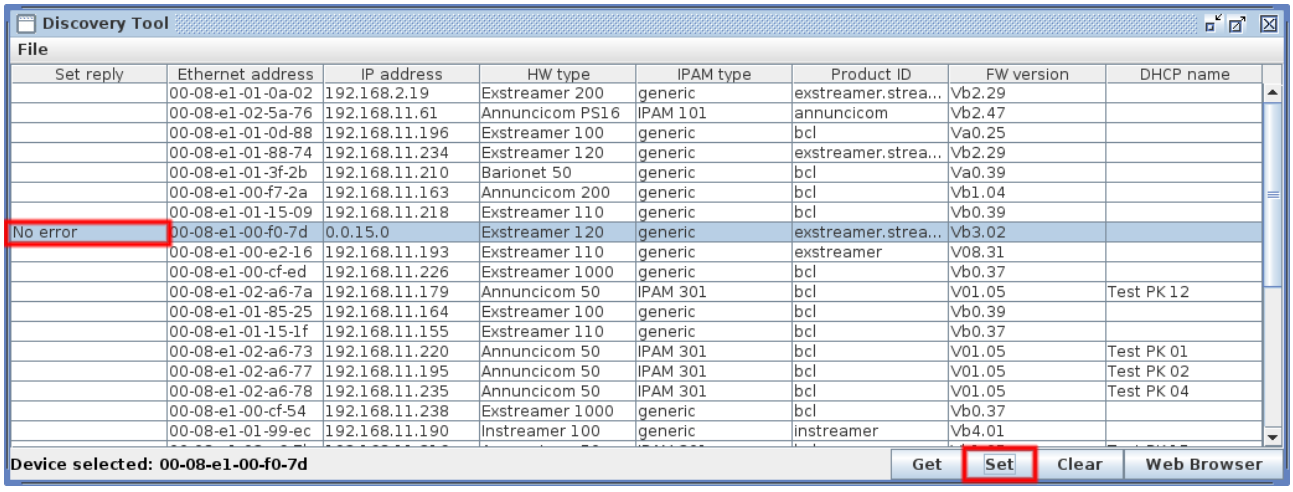
    - Double clicking in the IP address field for the selected device:



- a new IP address can now be input, <ENTER> must be pressed to commit the data to the application



- Now the data must be passed to the device: press **SET**. When the device has taken the data it will post a 'no error' response as shown:



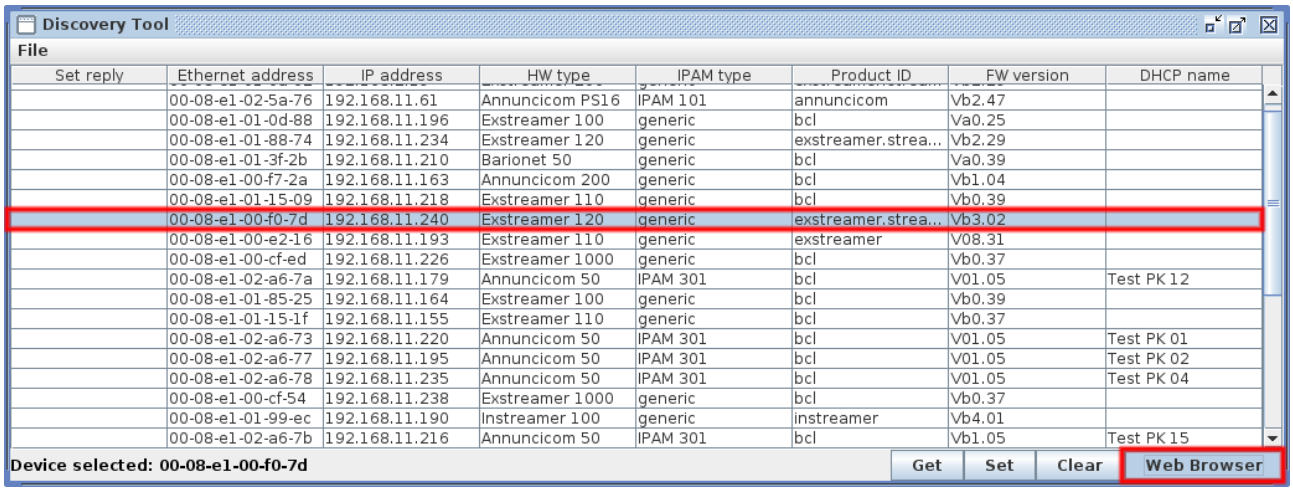
- the device will restart, having applied the new data. This can be confirmed by using GET once more; Barix recommend using the Clear command between

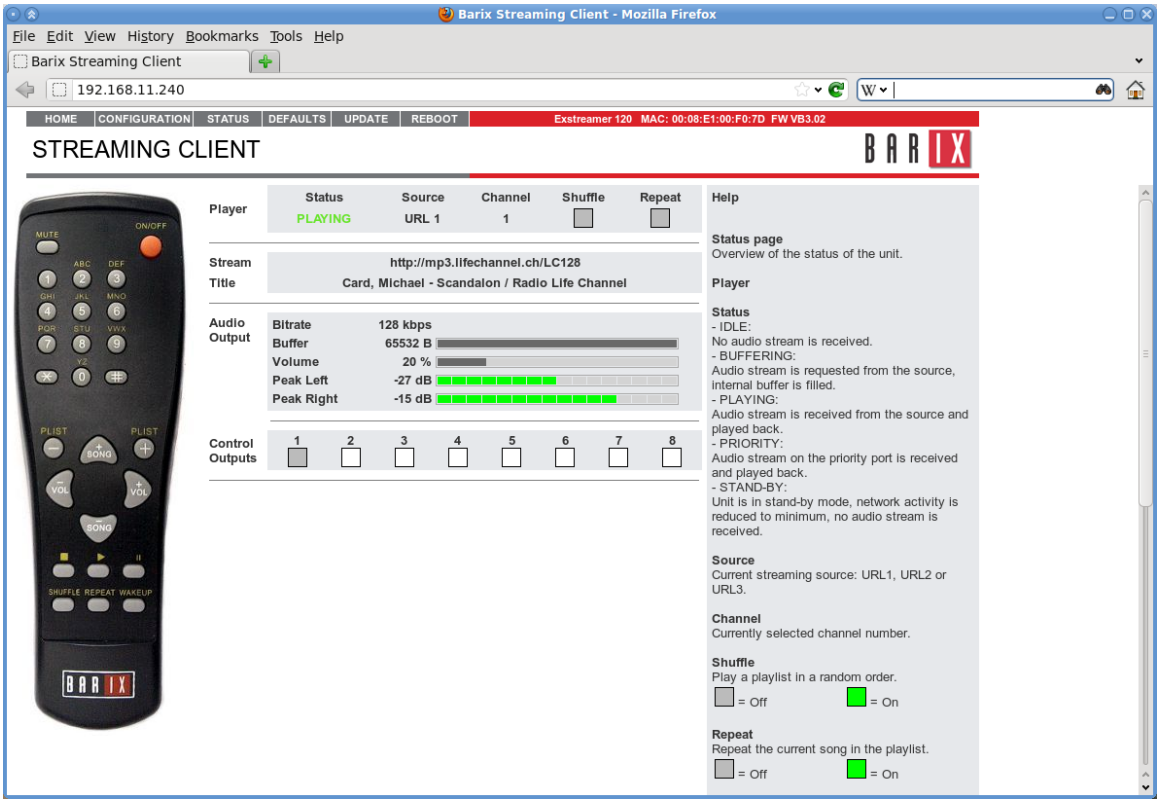
GET commands, as outlined below.

Note: The IP address returned by the GET command can be a DHCP address, if the SET command is used without supplying a new IP address, the effect will be to set the DHCP generated (non-fixed) IP address as the static IP for that device.

3. The **CLEAR** button: the tool's display is not dynamically updated, therefore we recommend that between each GET command, the CLEAR command is used to remove the previous results: this clears the display to the startup position, ensuring that the next GET only shows devices that have responded.

4. The **WEB BROWSER** button: This allows the user to open the web browser for a selected Discovered device.





Using the tool to set an Annuncicom 155 into the Bootloader

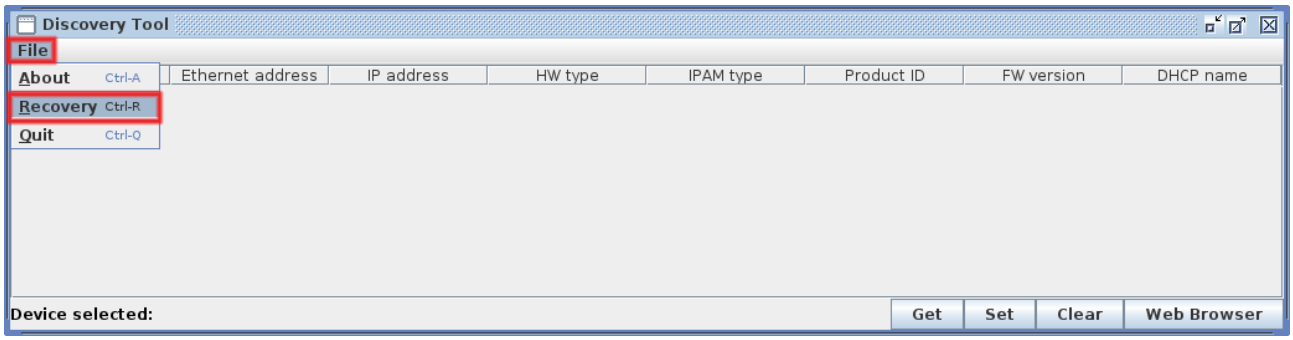
Most Barix devices have a reset button and the standard practice of holding in the button while powering on the device will bring the unit into the "Bootloader". Once in the Bootloader repair action can be undertaken by re-loading existing or loading new software. However, the Annuncicom 155 does not have a reset button. To solve this problem the Recovery feature of the Discovery Tool can be used. The use of this feature depends on the device having compatible Bootloader SW loaded, included from version V99.19. As of Bootloader version V99.22 (January 2011) this feature is only supported in the Annuncicom 155.

You will require the following:

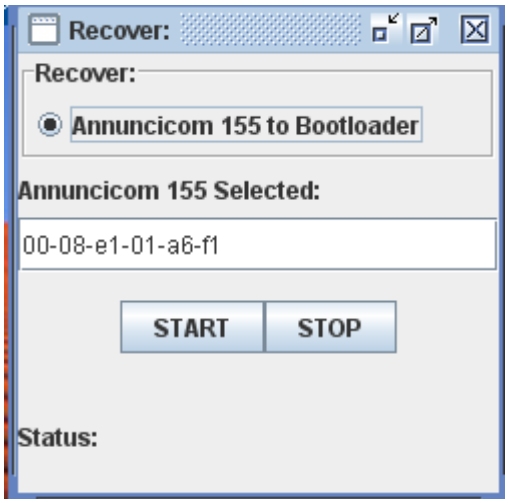
i. Physical access to the device to perform a power up;
ii. A local Ethernet connection to the device;
iii. A note of the device's Ethernet address;
iv. The target Barix device has Bootloader version V99.19 or later.

1. Open the Recover window, you have two options:

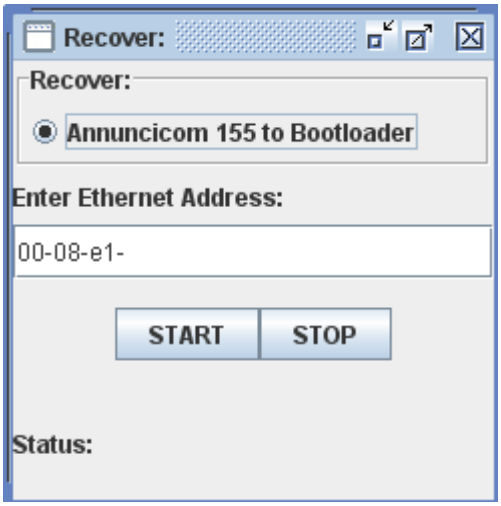
- Menu bar -> File -> Recover.
- Press Ctrl+R.



2. Choosing a device, you have two options:

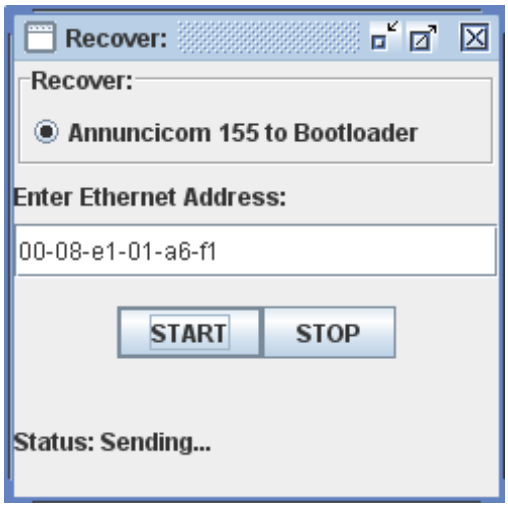


- After using the GET button select an Annuncicom 155 device from the list then open the Recover window:

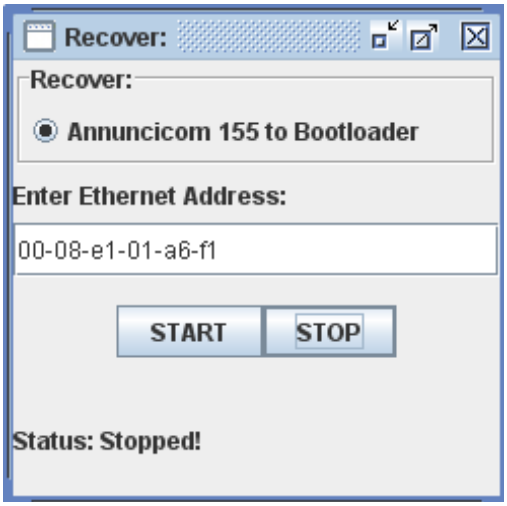


- Insert an ethernet address directly after opening the Recover window. This would be the normal case for a device that no longer responds to the GET command.

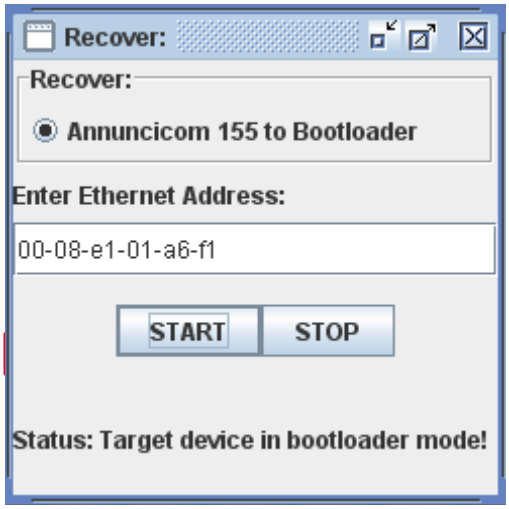
3. You may edit the Ethernet address if it is incorrect or you wish to Recover another device.



4. Press “START” and the application will start sending an “enter Bootloader” command to your device every 20 milliseconds until it receives an answer, you press the STOP button or 5 minutes have expired.
- The Status field will show the device sending.



NOTE: If you want to stop sending the commands, press the “STOP” button. The Status field will show a confirmation .



5. Now, power the device off and then on to enter bootloader mode.
   - A success message will be displayed in the Status field, when the device enters the Bootloader.

NOTE: If you want to update the firmware on your device:

- Clear the device list by press ing the “CLEAR” button.
- Get the device list by pressing the “GET” button.
- Your device should now appear on the list.
  The Product ID should show “bootloader”.
- Select your device and press “WEB BROWSER”.
- You should now see the Bootloader page from which you can upload new software.

Displayed Data

Set reply: The response from the device to a SET command, 'no error' means successful.

Ethernet address: The MAC address of the device, as printed on the barcode label on the underside of the unit.

IP Address: Currently set address of the unit. Typing this into a standard browser will bring up the device UI. Double clicking here allows a new IP to be assigned, as explained above.

HW Type: The type of Barix device that is responding.

IPAM Type: The IP Audio Module type of Barix device that is responding.

Product ID: The firmware type that is installed on the device. Note: ABCL means any program running on the ABCL platform; to find the specific application, it would be necessary to log on to the device UI and check.

FW Version: The version of the installed firmware. The latest releases are available from www.barix.com/download – firmwares evolve as new features and patches are implemented; Barix recommends keeping the version up to date in your devices.

DHCP name: if assigned, the device DHCP name is shown here.

Discovery enabled firmware:

Firmware	Version	Date
Annuncicom	3.01	29/09/08
Instreamer	B3.06	02/09/08
Exstreamer	B8.25	25/08/09
Streaming Client	B2.09	05/08/09
Barionet100	2.26	03/03/09
Barionet 50	1.03	20/10/09
abcl	B0.21	21/04/09
BCL packages	ABCL platform >= B0.21	21/04/09

Known Issues

The initial version of the Discovery module within the device firmwares had a bug: A device configured to a different logical subnet (IP address, Netmask and Gateway) *may* not be discovered, despite being physically connected to the same switch/router (subnet).

Any firmware release after 20.11.09 will have the fix for this issue.