

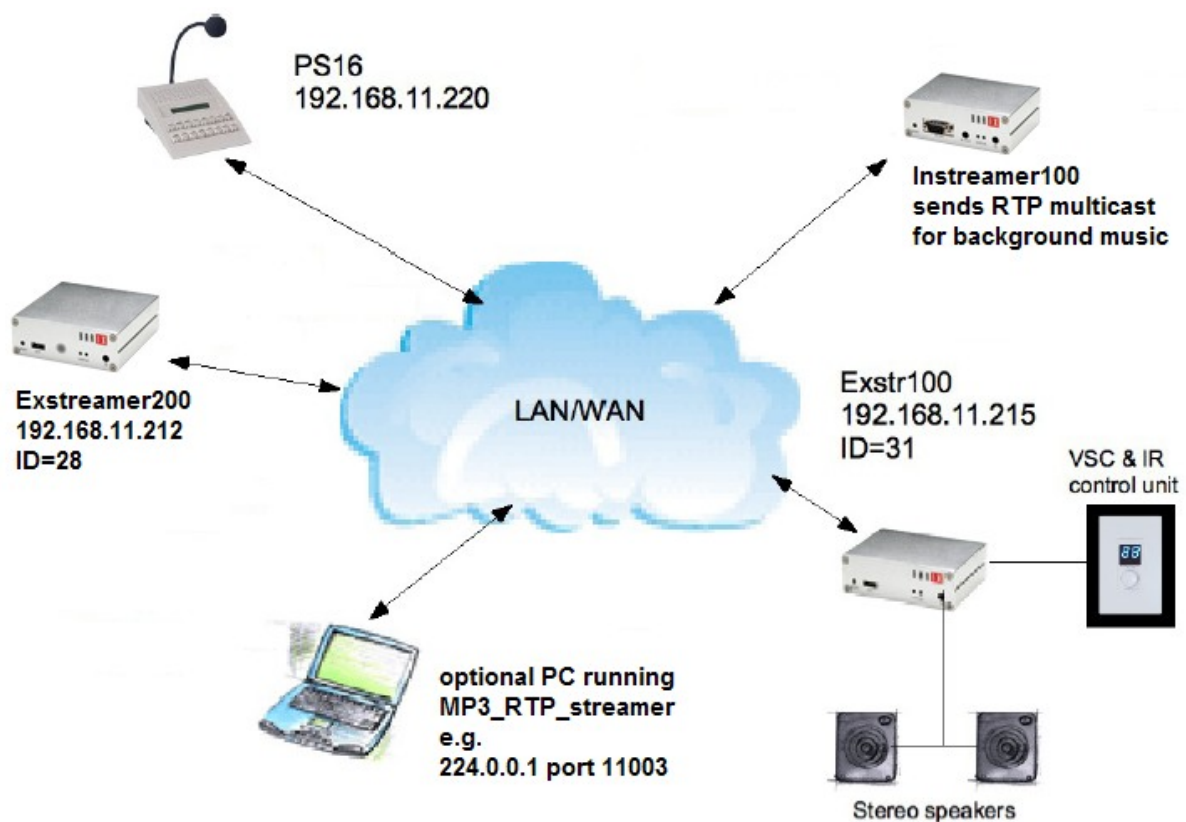


## Table of Contents

Table of Contents.....	1
1 About iPaging software/system.....	2
2 iPaging Web configuration.....	3
2.1 iMaster Setup.....	4
2.2 iClient Setup.....	5
2.3 iMaster Buttons.....	6
2.4 iMaster Group Setup.....	7
2.5 Paging.....	8
3 Instreamer Configuration.....	9
3.1 Audio Section.....	9
3.2 Streaming Section.....	9
4 Discovery Tool.....	10
5 Additional Barix Documentation.....	11

## 1 About iPaging software/system

This system is paging / background music system. It allows to select one or more target(s) from PS16 for paging. If the BARIX Exstreamers are not receiving a paging then they will play a selected channel of background music. A paging will automatically turn off temporary the background music while paging.



The complete system has been set-up respecting this order:

1. iMaster setup (PS 16 Station)
2. iClients setup (Exstreamer's 100/200 devices)
3. single group with only "Station ID" 1 has been added and tested.
4. Instreamer 100 (must use the default Barix firmware), and has been installed for BGM music channel 1.
5. Groups setup.

## 2 iPaging Web configuration

The firmware package provided for Customer Project is called iPaging\_zone. The package name have the following format:

abcl\_iPaging\_zone\_vXXX\_YYYYMMDD.zip

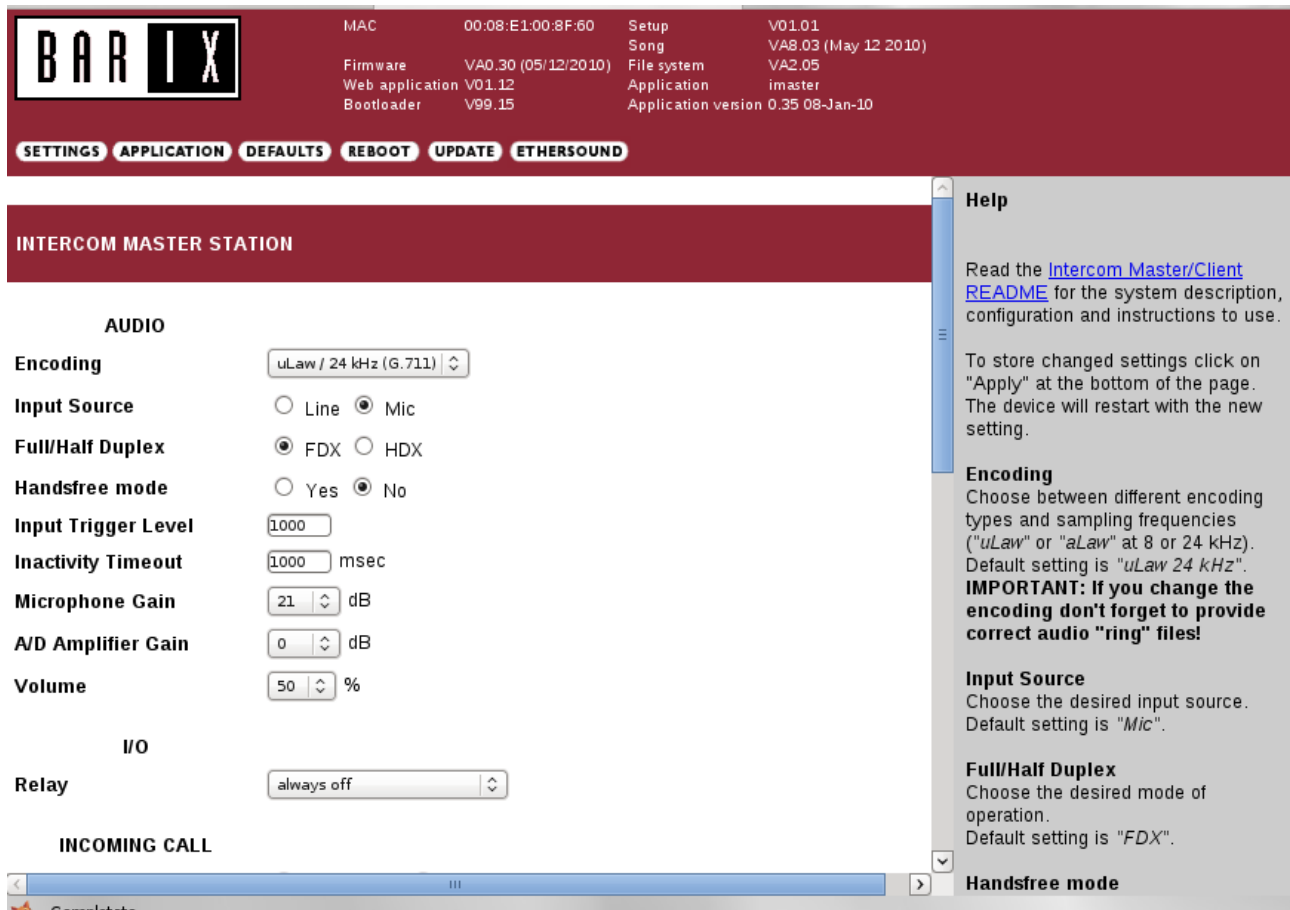
NOTE: this package is specifically customized for Customer, so this is not the standard firmware package available as iPaging in the Barix site. Please contact Barix support to have a copy of the firmware package when needed.

Once installed correctly, the configuration can be done over the web setup. Open your web browser and type the IP address of the Barix device in the browser's URL line, then the following page will appear:

The screenshot shows the Barix web configuration interface. At the top, there is a header with the Barix logo and system information: MAC (00:08:E1:00:D8:08), Setup (V01.01), Song (VA8.04 (May 20 2010)), Firmware (VA0.30 (05/20/2010)), File system (VA2.05), Web application (V01.12), Application (iclient), and Bootloader (V99.13). Below the header is a navigation menu with buttons for SETTINGS, APPLICATION, DEFAULTS, REBOOT, UPDATE, and ETHERSOUND. The main content area is divided into two sections: APPLICATION and NETWORK SETTINGS. The APPLICATION section has a dropdown menu for 'Application' set to 'Intercom Client (iclient)'. The NETWORK SETTINGS section includes options for 'Use SonicIP' (Yes/No), 'IP Address' (192.168.0.27), 'Netmask' (0.0.0.0), 'Gateway IP Address' (0.0.0.0), 'Primary DNS' (0.0.0.0), 'Alternative DNS' (0.0.0.0), 'Syslog Address' (0.0.0.0), 'DHCP Host Name' (empty), 'Web Server Port' (80), and 'Default Ethernet Port' (ETH1). On the right side, there is a 'Help' sidebar with a 'Help' section and a 'APPLICATION' section. The 'Help' section states: 'This help gives you a quick insight into the configuration parameters. For a detailed help please refer to the manual.' The 'APPLICATION' section states: 'Select the desired BCL application you want to run.' The 'NETWORK SETTINGS' section includes 'Use SonicIP' (If set to 'yes', the device will announce its IP address over the audio output. Default: 'yes'), 'IP Address' (Enter the 4 values of the desired device IP address e.g.: '0.0.0.0' for automatic discovery (DHCP/Bootp, IPzator, AutoIP) '192.168.0.12' for an internal LAN Default: '0.0.0.0'), and 'Netmask' (Enter the 4 values of the desired Static IP e.g.: '0.0.0.0' for a default Netmask depending on the used IP Address. '255.255.255.0' for a C class network Default: '255.255.255.0').

Here set the IP address, Subnet mask, and gateways for the device if you are not using DHCP. Select also the desired application for this device and click on "Apply" thereafter. The device will now restart with new setup.

## 2.1 iMaster Setup



MAC 00:08:E1:00:8F:60 Setup V01.01  
Song VA8.03 (May 12 2010)  
Firmware VA0.30 (05/12/2010) File system VA2.05  
Web application V01.12 Application imaster  
Bootloader V99.15 Application version 0.35 08-Jan-10

SETTINGS APPLICATION DEFAULTS REBOOT UPDATE ETHERSOUND

### INTERCOM MASTER STATION

#### AUDIO

**Encoding** uLaw / 24 kHz (G.711)

**Input Source**  Line  Mic

**Full/Half Duplex**  FDX  HDX

**Handsfree mode**  Yes  No

**Input Trigger Level** 1000

**Inactivity Timeout** 1000 msec

**Microphone Gain** 21 dB

**A/D Amplifier Gain** 0 dB

**Volume** 50 %

#### I/O

**Relay** always off

#### INCOMING CALL

Complete

**Help**

Read the [Intercom Master/Client README](#) for the system description, configuration and instructions to use.

To store changed settings click on "Apply" at the bottom of the page. The device will restart with the new setting.

**Encoding**  
Choose between different encoding types and sampling frequencies ("uLaw" or "aLaw" at 8 or 24 kHz). Default setting is "uLaw 24 kHz".  
**IMPORTANT: If you change the encoding don't forget to provide correct audio "ring" files!**

**Input Source**  
Choose the desired input source. Default setting is "Mic".

**Full/Half Duplex**  
Choose the desired mode of operation. Default setting is "FDX".

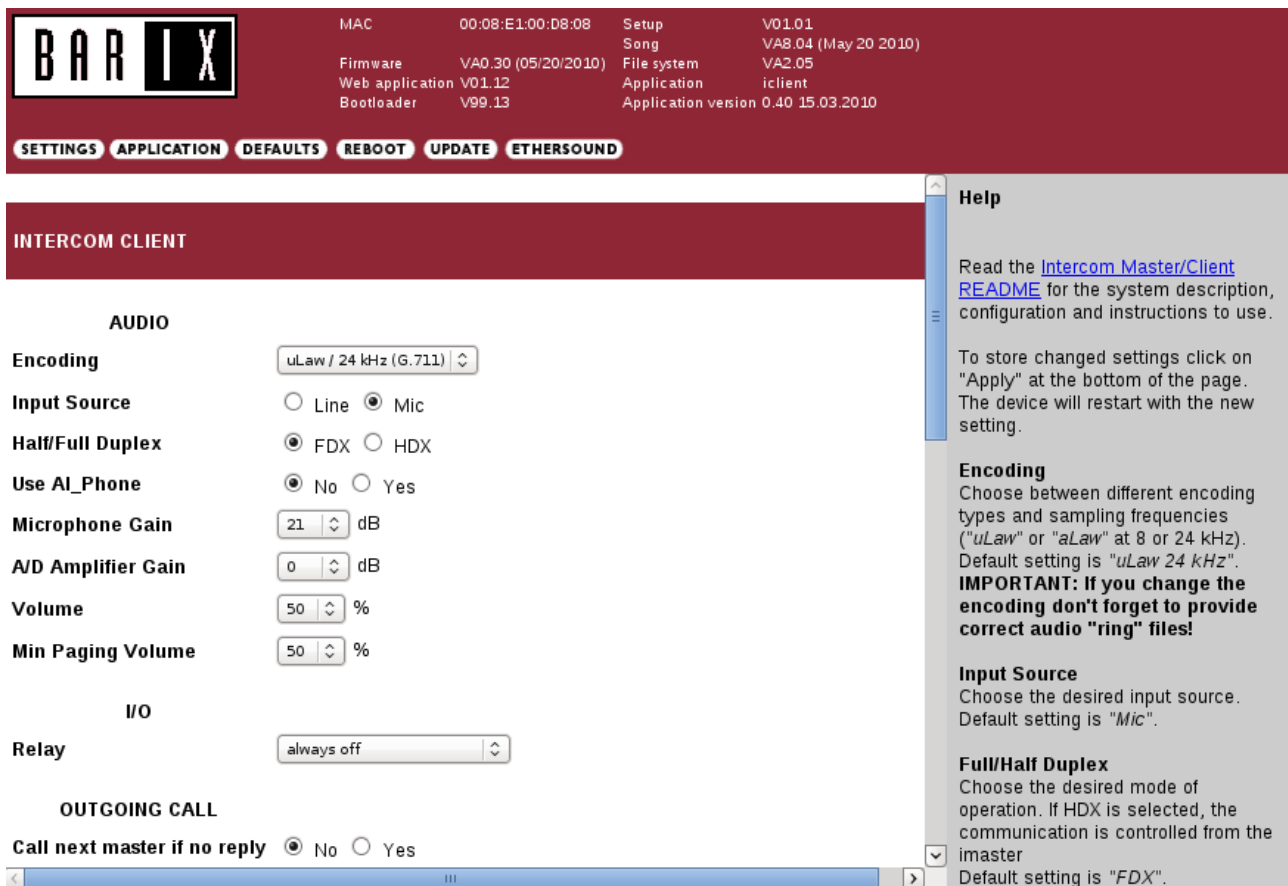
**Handsfree mode**

As general settings, the "Settings" button allow to access the device general settings page, that also appear as default home page. Important settings here are:

- APPLICATION: iClient (default) or iMaster, iMaster must be selected on the PS16 master station only, all other devices in the system work with iClient.
- IP address, to be set as fixed IP or DHCP (0.0.0.0)
- Multicast Address: to be set as 224.0.0.1
- BARP IP Address: to be set as 224.0.0.1
- SonicIP, it is the audible IP announced, to be set as enabled or disabled.
- DHCP Host Name, allow to set a device name, ans would be useful to scan devices with the Barix Discovery Java tool.
- Password, optionally, a password can be set to allow the WEB device acces.

## 2.2 iClient Setup

Specific iClient application values are visible clicking on the “APPLICATION” button. Following WEB page will appear:



**BARIX**      MAC: 00:08:E1:00:D8:08      Setup: V01.01  
 Firmware: VA0.30 (05/20/2010)      Song: VA8.04 (May 20 2010)  
 Web application: V01.12      File system: VA2.05  
 Bootloader: V99.13      Application: iclient  
 Application version: 0.40 15.03.2010

**SETTINGS   APPLICATION   DEFAULTS   REBOOT   UPDATE   ETHERSOUND**

**INTERCOM CLIENT**

**AUDIO**

Encoding: uLaw / 24 kHz (G.711) ▾

Input Source:  Line  Mic

Half/Full Duplex:  FDX  HDX

Use AI\_Phone:  No  Yes

Microphone Gain: 21 ▾ dB

A/D Amplifier Gain: 0 ▾ dB

Volume: 50 ▾ %

Min Paging Volume: 50 ▾ %

**I/O**

Relay: always off ▾

**OUTGOING CALL**

Call next master if no reply:  No  Yes

**Help**

Read the [Intercom Master/Client README](#) for the system description, configuration and instructions to use.

To store changed settings click on "Apply" at the bottom of the page. The device will restart with the new setting.

**Encoding**  
 Choose between different encoding types and sampling frequencies ("uLaw" or "aLaw" at 8 or 24 kHz). Default setting is "uLaw 24 kHz".  
**IMPORTANT: If you change the encoding don't forget to provide correct audio "ring" files!**

**Input Source**  
 Choose the desired input source. Default setting is "Mic".

**Full/Half Duplex**  
 Choose the desired mode of operation. If HDX is selected, the communication is controlled from the imaster. Default setting is "FDX".

Important fields to be set are reported below

SETTINGS section:

- APPLICATION: iClient (default) or iMaster, iClient must be selected..
- IP and subnet mask
- DHCP hostname, help to found back the device scanning the network (see Discovery tool), suggested to put the ID before the name.
- Password (if desired)

APPLICATION section:

- Volume : to be set as 75% (default has been set to 75%)
- Min Paging Volume : to be set at 75% (default has been set to 75%)
- Station ID, this is the basic number (1 to 128) that allow the device to be called and grouped. Master is set as 0. 1 to 128 are possible choices. Must be unique.
- BARP IP Address: to be set as 224.0.0.1
- BGM broadcast address, listening IP for background music, to be to multicast address as 224.0.0.X. (default has been set to 224.0.0.1). NOTE: The Instreamer IP must be configured at the same value.
- BGM broadcast Port, to be 11001 or whatever, can be left 11001 as default.
- Available Channels, must be set >=1, (set to 1 for a single Instreamer in the system), adding an Instreamer, it must to transmit to 11001+1 (channel 2) and this field must be set to 2.
- BGM Start Channel, must be set to 1 for channel 1 (set it always to 1 for a single Instreamer).

2.3 iMaster Buttons

iMaster application is installed in the PS16 master station. Buttons in the PS 16 are mapped as below:

9 Grp 8	10 Grp 9	11 Grp 10	12 Grp 11	13 Grp 12	14 Grp 13	15 Grp 14	16 Select All
1 Paging Selected	2 Grp 1	3 Grp 2	4 Grp 3	5 Grp 4	6 Grp 5	7 Grp 6	8 Grp 7

Buttons 1 activate the paging (push to talk), to all the selected groups.

Buttons 2 to 15 are related respectively to groups 1 to 14, and allow to select one or more desired groups combined together.

Buttons 16 select all the devices.

## 2.4 iMaster Group Setup

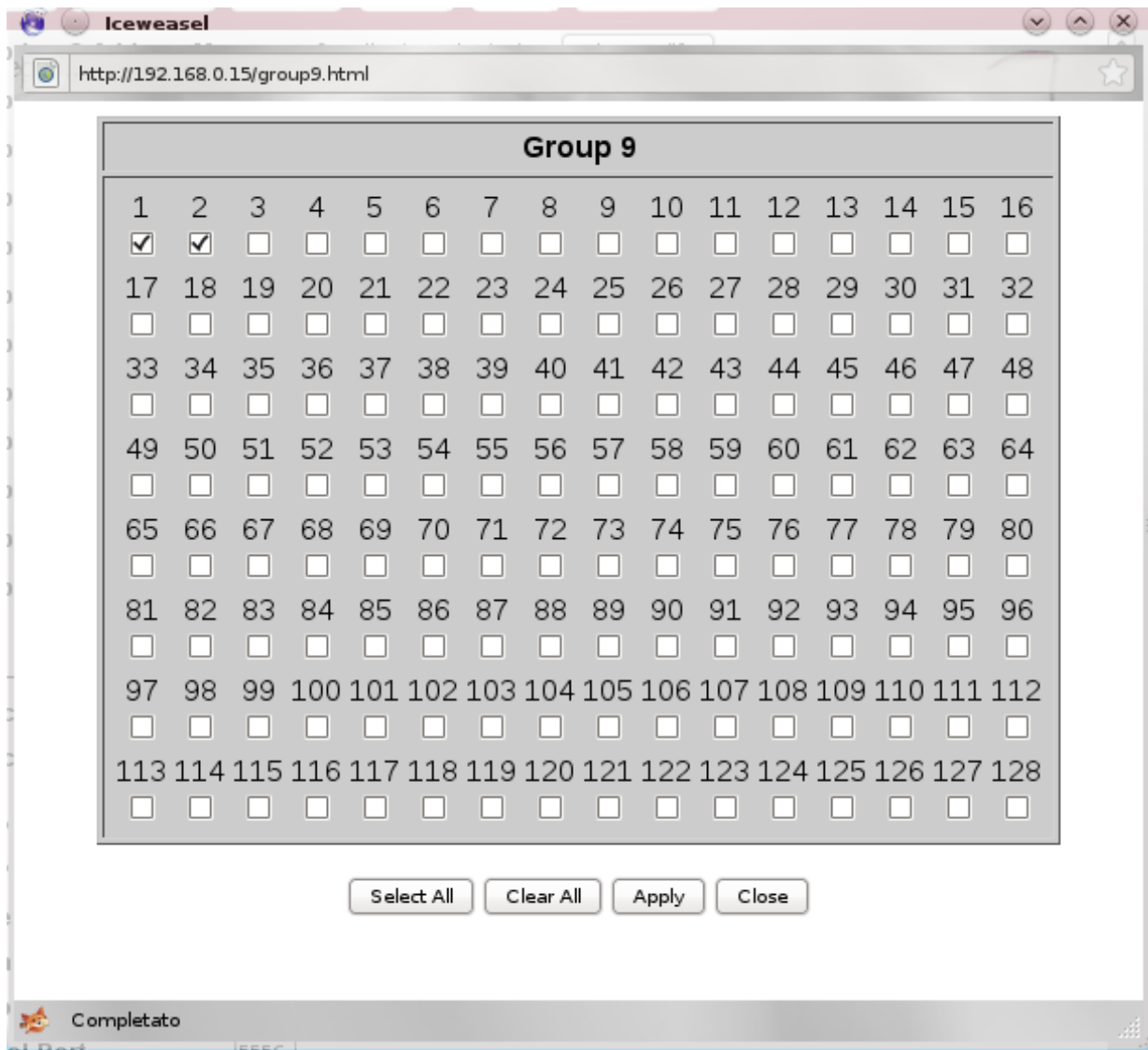
Every group composition can be configured through the corresponding group button, as below:

### GROUP BUTTONS

<b>Group key 1 Address Map:</b>	4 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 2 Address Map:</b>	1 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 3 Address Map:</b>	0 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 4 Address Map:</b>	2 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 5 Address Map:</b>	0 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 6 Address Map:</b>	0 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 7 Address Map:</b>	0 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 8 Address Map:</b>	2 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 9 Address Map:</b>	2 clients selected	<input type="button" value="View/Modify"/>
<b>Group key 10 Address Map:</b>	0 clients selected	<input type="button" value="View/Modify"/>

The “clients selected” information allow to know how many devices are selected inside the group.

Pressing the “View/Modify” group button of interest, a pop-up window will appear, as below:



It is possible to select or deselect one or all the devices of the group. Click “Apply” to confirm, wait the countdown for the device to reboot, and close the pop-up.

## 2.5 Paging

Paging of the audio is done pressing button 1, only selected groups will be interested from the stream.

NOTE: stream is done through a Barix property protocol, based on UDP, called BARP. It allow the usage of some status messages with a bitmask, where selected (interested on the message) devices are announced before the audio is sent.

When the stream start, a status message sent to all (broadcasted or multicasted) inform what device should be interested to receive the stream. Then the stream is sent as broadcast or multicast as a single stream copy.

### 3 Instreamer Configuration

Instreamer must run with the default Barix factory firmware (yellow/white web page, no firmware update is needed).

Important fields to be set are:

#### 3.1 Audio Section

- Audio format: default setting works, but can be changed. MPEG is strongly suggested for low network bandwidth consumption. Otherwise, uncompressed formats can be selected.
- A/D amplifier gain: works as default, but to be set to 12dB for background music, if the source is an earphone jack.  
Anyway, to briefly change somehow the global music volume, this field can be changed.

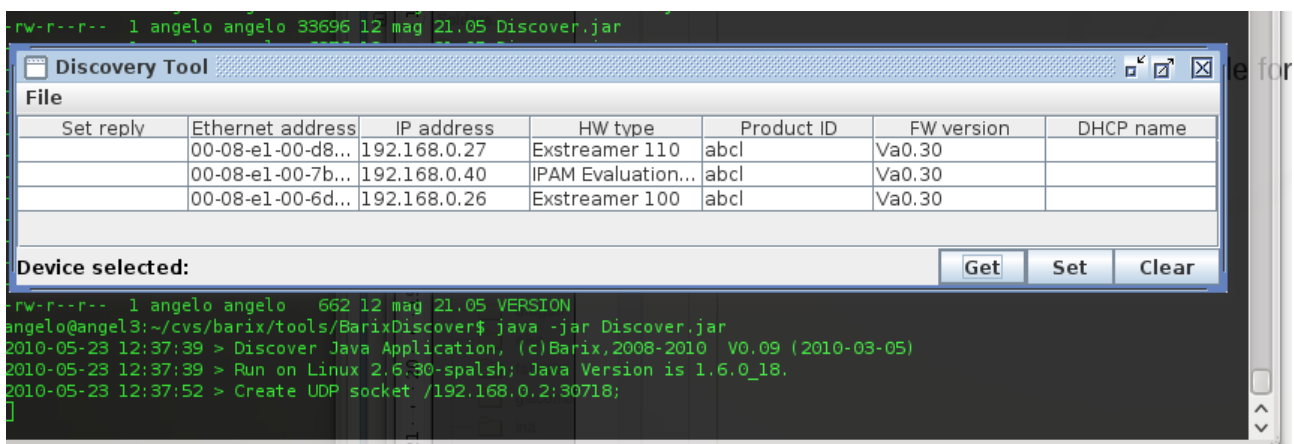
#### 3.2 Streaming Section

- Stream to: position one must be set to : RTP 224.0.0.1 11001

## 4 Discovery Tool

A tool called “BarixDiscover” is available for detecting devices in the network. It requires an installed “Java” machine. The tool can be launched as

```
java -jar Discover.jar
```



Once launched, buttons GET retrieve the list on the Barix devices in the network. After editing an IP entry, SET button allow to change the device IP.

If a DHCP name has been set in the clients “iClient” software, it will be visible in the “DHCP” name column,

## 5 Additional Barix Documentation

At [www.barix.com](http://www.barix.com) , in the download section, related technical documents are available:

- [Product Sheet Paging Station PS16 V1.0 .pdf](#)
- [ABCL Technical Documentation V0.24 \(PDF\)](#)
- [Exstreamer Technical Documentation VB8.31 \(PDF\)](#)
- [Instreamer Technical Documentation VB3.16 \(PDF\)](#)
- [Annuncicom Technical Documentation VB3.07 \(PDF\)](#)

On the Barix wiki also other important technical notes can be found:

- [http://wiki.barix.com/index.php5/Main\\_Page](http://wiki.barix.com/index.php5/Main_Page)