Table of Contents

XBMC Media Center with Jetway JNC98-525 and Atirc IR-receiver	3
Hardware and Software in detail	3
Hardware	3
Software	3
Install standard Hardware and XBMC	4
xbmc10	4
xbmc11	4
Installation of the IR-receiver	5
Pin assignment	5
Configuration of the IR-receiver	6
Get signals (Xubuntu xbmc11):	6
Configure lirc to load the right module	7
Configuring XBMC	11
Links	12

XBMC Media Center with Jetway JNC98-525 and Atirc IR-receiver

I want to describe how I put together my home media PC. I will describe the software configuration in connection with the IR-receiver.

As software basis I've used XBMC. For remote control I've chosen the IR-recieve from atric. As hardware base I selected an board build by jetway (JNC98-525). It has HDMI and an NVIDIA ION2 Chipset.

Hardware and Software in detail

Hardware

Board

I bought this Board: NC98-510-LF

For the IR-Receiver we need a serial port on the board. This one has an serial port typ-9 (later this will be important).

CPU	Atom D525 1.80GHz
RAM	2x DDR2 up to 4GB
Video	NVIDIA ION2 GPU
Video Ports	HDMI, VGA, DVI
Serial	1 * COM header internal

IR-Receiver

The IR-receiver Rev. 5 by the german manufacturer Atric.

This IR-receiver is available for various types of serial ports. You have to know which type your is. You have to buy 10 1-pin cables (reason later described according to problems with the IR-receiver).

IR-Control

I bought One-All-URC-7960 here

Software

XBMC with minimal Ubuntu. Installed from live System on an CF-Card.

Download: here

Install standard Hardware and XBMC

This shouldn't be a problem

But some annotation:

xbmc10

- My Monitor seems to hate mono mp3 so I convert these. Otherwise XBMC say that the audio device doesn't work.
 - Create ".asoundrc" in your home this should fix the problem if you had it.

.asoundrc

```
pcm.dmixer {
type dmix
   ipc_key 1024
   ipc key add uid false
   ipc_perm 0660
   slave {
      pcm "hw:1,3"
      rate 48000
      channels 2
      period time 0
      period size 1024
      buffer time 0
      buffer size 4096
pcm.!default {
   type plug
   slave.pcm "dmixer"
```

- The best to use HDMI audio output for me was to set:
 - Standard audio output to → standard
 - Digital output for pass-through → HDA NVidia hdmi

xbmc11

• Now I doen't get sound via HDMI. One friend find the solution.

/etc/asound.conf

```
pcm.!default {
```

```
type hw
card 1
device 3
}
```

.asoundrc

```
pcm.!default {
    type plug
    slave {
       pcm "hw:1,3"
    }
}
```

• Sound Settings in xbmc seems to be irrelevant.

Installation of the IR-receiver

Atric provide a very comprehensive manual (German/English)
This Informations should help to connect the IR-Receiver to your board.

I have hit a board which make trouble. Power for the IR-board and train the power-on-signal was no problem (described in the manual).

But after I installed the IR-Receiver as described the media PC wasn't able to boot. Both LEDs turned on but nothing happen. This only when serial connected.

After some testing an some help from a colleague who has more experience with serial ports as I have we find the problem. responsible for the trouble was the first pin. This pin (DCD) is responsible for (Data) Carrier Detect (Wikipedia) and normally not essential for serial communication.

You can use the one-pin-cables which you can bought at the website of the IR-receiver. So the DCD-pin can be disconnected.

The IR-receiver will use this pin for transport the IR-signal. You have to change this by put the jumper to DSR as transport pin (lirc can be configured to use DSR pin to receive IR-signal).

Pin assignment

- The Pin assignment can be found in the manual of the IR-receiver and you mainboard (here).
- In the manual of the IR-receiver on page 13 and 15 you can find the pin assignment of the serial connector.
- In the manual of my mainboard the pin assignment of the serial port is located on page 15.



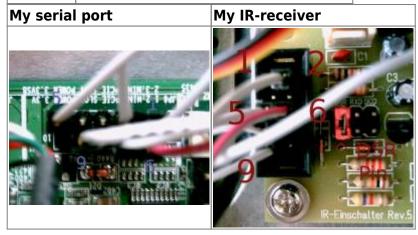
Pleas be careful the order of counting the pins is different !!!! Wrong connected pins can be destructive !!!!



I don't take responsibility if you damage your Board! Please first read the manual's

I connect:

IR-Board	Mainboard (counting type of Jetway)
Pin 1	not connected
Pin 2	Pin 2
Pin 5	Pin 5
Pin 6	Pin 6
Pin 7	Pin 7
Pin 9	Pin 9



Configuration of the IR-receiver

Get signals (Xubuntu xbmc11):

Lirc is installed when you use the live installation of XBMC. Now I had to configure it but the kernel-module used by lirc expect the IR-signal on the DCD-pin which was disconnected. So I had to change this. After some reaearch I find a solution. Inside the c-code of the kernel-module there is the data-pin set to DSR when a special hardware model is selected. You can give the type to modprobe when you load the module.

Previously you have to free the serial port.

Now test:

/etc/init.d/lirc stop
modprobe -r lirc_mceusb
setserial /dev/ttyS0 uart none
modprobe -v lirc_serial type=1
mode2 -d /dev/lirc1

Signals of your IR-Control should be appear as codes.

Configure lirc to load the right module

In /etc/lirc/hardware.conf you can configure which modules should be loaded when lircd starts here my version

/etc/lirc/hardware.conf

```
# /etc/lirc/hardware.conf
#Chosen Remote Control
REMOTE="Atric rev.5 IR Receiver"
REMOTE MODULES="lirc serial"
REMOTE DRIVER=""
REMOTE DEVICE="/dev/lirc1"
REMOTE LIRCD CONF="urc/urc-7960.conf"
REMOTE LIRCD ARGS=""
Chosen IR Transmitter
TRANSMITTER="None"
TRANSMITTER MODULES=""
TRANSMITTER DRIVER=""
TRANSMITTER DEVICE=""
TRANSMITTER LIRCD CONF=""
TRANSMITTER LIRCD ARGS=""
#Enable lircd
START LIRCD="true"
#Don't start lircmd even if there seems to be a good config file
#START LIRCMD="false"
#Try to load appropriate kernel modules
LOAD MODULES="true"
# Default configuration files for your hardware if any
LIRCMD CONF=""
#Forcing noninteractive reconfiguration
#If lirc is to be reconfigured by an external application
#that doesn't have a debconf frontend available, the noninteractive
#frontend can be invoked and set to parse REMOTE and TRANSMITTER
#It will then populate all other variables without any user input
#If you would like to configure lirc via standard methods, be sure
#to leave this set to "false"
FORCE NONINTERACTIVE RECONFIGURATION="false"
START LIRCMD=""
REMOTE SOCKET=""
TRANSMITTER SOCKET=""
```

Create /etc/modprobe.d/lirc.conf with the following content

lirc.conf

```
install lirc_serial /bin/setserial /dev/ttyS0 uart none; /sbin/modprobe
--ignore-install lirc_serial type=1
```

Reboot, and if I doesn't forget to mention anything it should work and the right modules should be loaded. Repeat the test with "mode2".

Now lirc had to learn to interpret the signals of your ir-control The tool irrecord will help you. You only have to read and do what the program say. Or, if you had the same ir-control, you could use my config if you want.

```
/etc/init.d/lirc stop
irrecord --device=/dev/lirc0 urc-7960
```

After that you have a config file. Thats my (orginal by M. Hippert → used as template):

urc-7960.conf

```
# Please make this file available to others
# by sending it to <lirc@bartelmus.de>
# this config file was automatically generated
# using lirc-0.8.6(default) on Sun Feb 13 11:48:28 2011
# contributed by AN orginal by M. Hippert
http://forum.team-mediaportal.com/fernbedienung-tastatur-ir-465/configf
iles-fuer-girder-lirc-mit-oneforall-urc-7960-a-85801/
# Lirc Receiver: Atric
# model no. of remote control: ONE for ALL URC 7960 SmartControl
# devices being controlled by this remote: Code for stb: Technisat:
1195
# press and hold the magic-Key for 3 sec -> blue ring will light up 2x
# select "stb"
# enter code "1195" -> blue ring will light up 2x
# The keys PREVIEW, NEXT and "pop up X" failed
# The keys with same code
# Red & Rewind; Green & Stop; Yellow & Pause & Play; Blue & FastForward
& 16:9; -/-- & list; back & Key-between-ChannelUp-and-ChannelDown
# Chance Code this keys:
# * Press and hold the magic key for 3 sec. --> The Blue ring will
light up 2x
# * Press 9 9 4. --> The Blue ring will light up 2x
```

```
* * Press and release the magic key.
# * Enter the 5-digit magic-code
 * dann die zu lernende Taste drücken
#
  * Repeat all for the next key
#
#
  *** Magic-Code ***
# Die Tasten richtig fest druecken, ansonsten kann es vorkommen, dass
Tasten
  nicht angelernt werden obwohl der blaue Ring als Quittung blinkt
#
# Next
              00240
# Preview
              00627
# pop up X
              00723
# Rewind 00560
# Stop
             00243
# Pause 00720
# Play
            00339
# FastForward 00563
# 16:9
              00274
# list
              00264
# back & Key-between-ChannelUp-and-ChannelDown ----> not changed
# brand:
                               urc-7960
# model no. of remote control:
# devices being controlled by this remote:
#
begin remote
  name
       MyRemote
  bits
                 13
  flags RC5 CONST LENGTH
                 30
  eps
                100
  aeps
                927
  one
                      838
                      838
  zero
                927
  plead
                934
  gap
               113492
  toggle_bit_mask 0x800
      begin codes
          BTN BACK
                                   0x1232
          KEY STOP
                                   0x1236
          KEY NEXT
                                   0x122E
          KEY REWIND
                                   0x122C
          KEY PLAY
                                   0x1235
          KEY FASTFORWARD
                                   0x1234
          KEY LIST
                                   0x022F
          KEY PAUSE
                                   0x1229
```

KEY RECORD	0×1237	
KEY VOLUMEUP	0×1210	
KEY VOLUMEDOWN	0×1211	
KEY MUTE	0×120D	
KEY CHANNELUP	0×1220	
KEY_CHANNELDOWN	0×1221	
KEY_BACK	0x1222	
KEY_0K	0×0217	
BTN_RIGHT	0x0216	
KEY_UP	0×0210	
KEY_DOWN	0x0211	
BTN_LEFT	0x0215	
KEY_YELLOW	0x022D	
KEY_RED	0x022B	
KEY_GREEN	0x022C	
KEY_BLUE	0x022E	
KEY_INFO	0x020F	
KEY MENU	0x0212	
KEY_TV2	0x122F	
BTN_1	0×1201	
BTN_2	0×1202	
BTN_3	0x1203	
BTN_4	0×1204	
BTN_5	0x1205	
BTN_6	0x1206	
BTN_7	0×1207	
BTN_8	0×1208	
BTN_9	0×1209	
BTN_0	0×1200	
end codes		
end remote		

After including this into the /etc/lirc/lircd.conf and starting lirc you sould see the translated commands with irw

/etc/lirc/lircd.conf

```
##urc-7960
include "/etc/lirc/urc-7960.conf"
```

```
/etc/init.d/lirc start
```

```
irw
```

Configuring XBMC

Create an "Lircmap.xml" in your xbmc-data home.

```
touch ~/.xbmc/userdata/Lircmap.xml
```

The Documentation can be found here. After reboot XBMC should use the new file.

Here is my:

Lircmap.xml

```
clircmap>
    <remote device="urc-7960">
        <start>KEY SCREEN</start>
        <skipminus>KEY BACK</skipminus>
        <stop>KEY STOP</stop>
        <skipplus>KEY NEXT</skipplus>
        <reverse>KEY REWIND</reverse>
        <play>KEY PLAY</play>
        <forward>KEY FASTFORWARD</forward>
        <start>KEY LIST</start>
        <pause>KEY_PAUSE
        <record>KEY RECORD</record>
        <volumeplus>KEY VOLUMEUP</volumeplus>
        <mute>KEY MUTE</mute>
        <volumeminus>KEY VOLUMEDOWN</volumeminus>
        <left>BTN LEFT</left>
        <right>BTN_RIGHT</right>
        <up>KEY UP</up>
        <down>KEY DOWN</down>
        <select>KEY OK</select>
        <pageplus>KEY_CHANNELUP</pageplus>
        <back>BTN BACK</back>
        <pageminus>KEY_CHANNELDOWN</pageminus>
        <red>KEY RED</red> <!-- HOME -->
        <myvideo>KEY GREEN</myvideo>
        <mymusic>KEY YELLOW</mymusic>
        <mypictures>KEY_BLUE</mypictures>
        <info>KEY INFO</info>
        <title>KEY MENU</title> <!-- CONTEX MENU -->
        <display>KEY TV2</display> <!-- FULL SCREEN -->
        <mytv>KEY MODE</mytv>
        <menu>KEY ESC</menu>
        <back>BTN BACK</back>
        <one>KEY 1</one>
        <two>KEY 2</two>
        <three>KEY3</three>
        <four>KEY 4</four>
        <five>KEY 5</five>
```

```
<six>KEY_6</six>
<seven>KEY_7</seven>
<eight>KEY_8</eight>
<nine>KEY_9</nine>
<power>BTN_EXTRA</power>
<zero>KEY_0</zero>
</remote>
```

Perhaps you have to adapt the keymap for remote so that it fit to you wishes. The original is located in "/usr/share/xbmc/system/keymaps/". You can copy it to ~/.xbmc/userdata/keymaps/ and edit it.

Have fun with the new remote-control.

Links

- http://wiki.xbmc.org/index.php?title=Keymap.xml
- http://xbmc.org/
- http://www.atric.de/IR-Einschalter/inc/mainboard db.php

And special thanks to seiichiro for his help.

From:

https://www.eanderalx.org/ - EanderAlx.org

Permanent link:

https://www.eanderalx.org/linux/xbmc_jetway_jnc98-525-lf_atric_ir

Last update: 23.03.2013 20:30

