Making
MOD-MP3-X + DUINOMITE MINI
work together

Quick guide

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CHAPTER 1

OVERVIEW

1. Purpose of the guide

The purpose of this guide is to explain how to establish connection between two Olimex products – **MOD-MP3-X** and **DUINOMITE Mini** over the UEXT. Furthermore, it's aim is to make it possible to send commands to the MP3-X using the BASIC language of the DUINOMITE.

Despite that the example here features *"**MOD-MP3-X**"* and *"**DUINOMITE Mini**"* different variations of the above mentioned boards might be used for the project (For instance ***MOD-MP3-X-BAT***, ***DUINMITE MEGA***, etc.)

1.1 Requirements

-MOD-MP3-X
-DUINOMITE Mini
-UEXT mirrored cable (with only +3.3V, GND, RX, TX)
-Micro SD Card, maximum supported 2GB
-Headphones or Speakers
-Source of +5V external supply
-Mini USB – USB-A cable
-Terminal program

CHAPTER 2

PREPARATIONS

2. Preparing the devices

In this chapter we will explain how to configure the required devices for the project.

2.1 MOD-MP3-X configuration

The jumpers of MOD-MP3-X should be configured in the following order:

Jumper	Required position
MP3_RST/TXD	TXD
DREQ/RXD	RXD
DREQ_E	Open
BOOT_E	Open
STM_RST	Open
ULS_RST	Open
SA_E	Open
UEXT/BAT	UEXT*

*I used to power the MOD-MP3-X from the UEXT if you choose to power it from external source/battery set it to BAT. Also if you do power it from external source you don't need the +3.3V and GND signals in the UEXT cable.

2.2 DUINOMITE Mini configuration

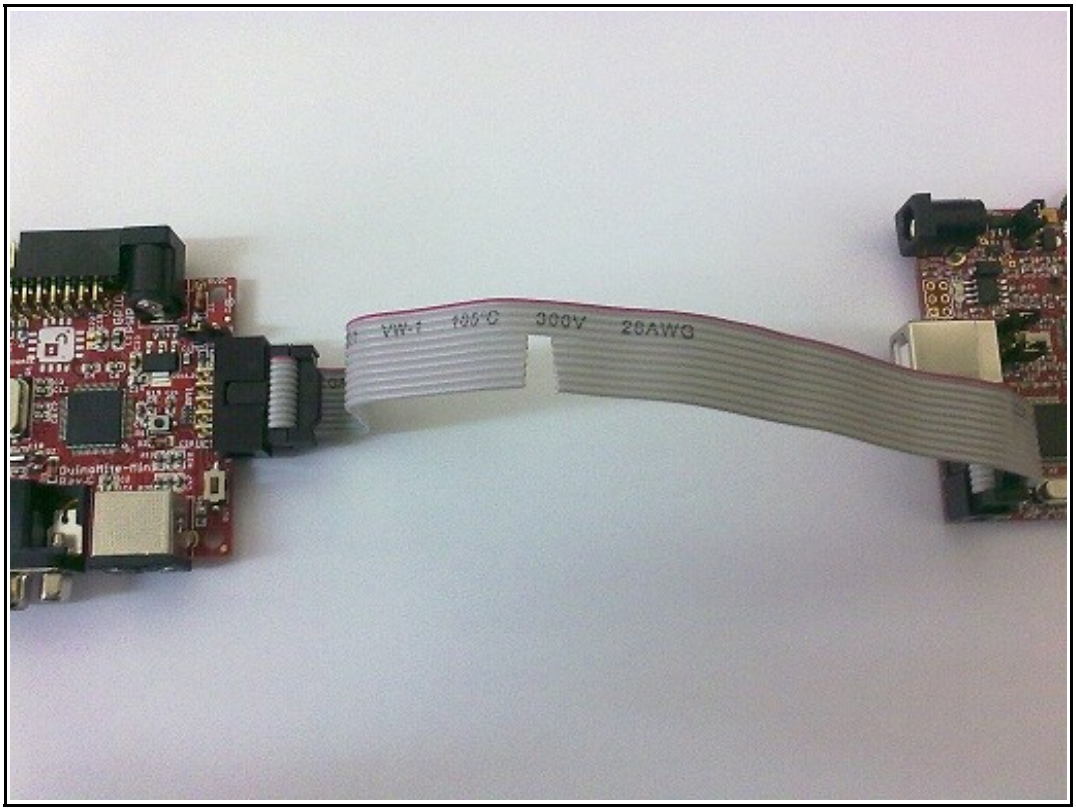
It is required to set the jumper EXT/USB in EXT position because we will use 5V external. The project might not work if you power the board from the USB.

2.3 Cable preparation

First note that the cable is mirrored.

The cable should have only the following signals:

- If you power the MOD-MP3-X from UEXT like me you should make the UEXT cable with 4 signals - +3.3V, GND, RX, TX (picture below)



- If you power the MOD-MP3-X from external source/battery you should make the UEXT cable with only 2 signals - RX, TX (the 3.3V and

This is very important since the DUINOMITE boards are pretty complex and there are signals on the UEXT which can be both inputs and outputs and they might hold the processor in different states if there is something on the pin.

2.4 SD Card preparation

In the SD Card's main memory you should place some songs in .MP3 format. It is recommended the card to be formated in simple format, preferably FAT.

CHAPTER 3

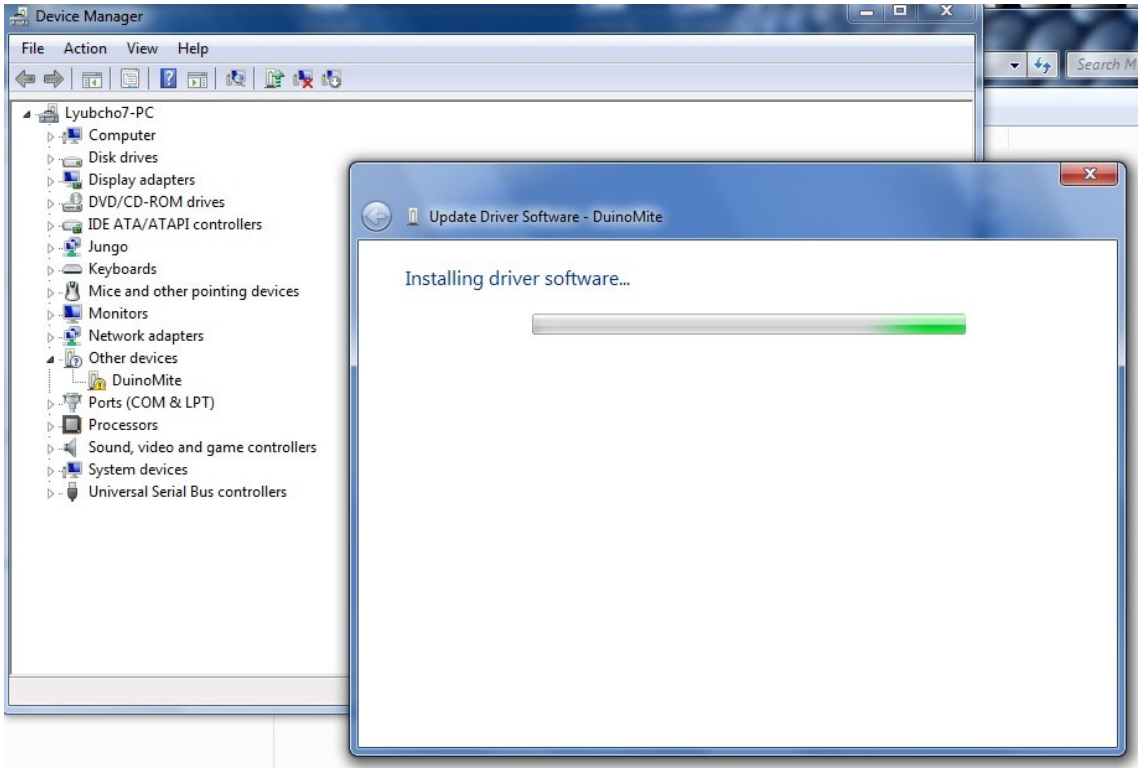
SETTING UP EVERYTHING TOGETHER

3. Drivers and setup

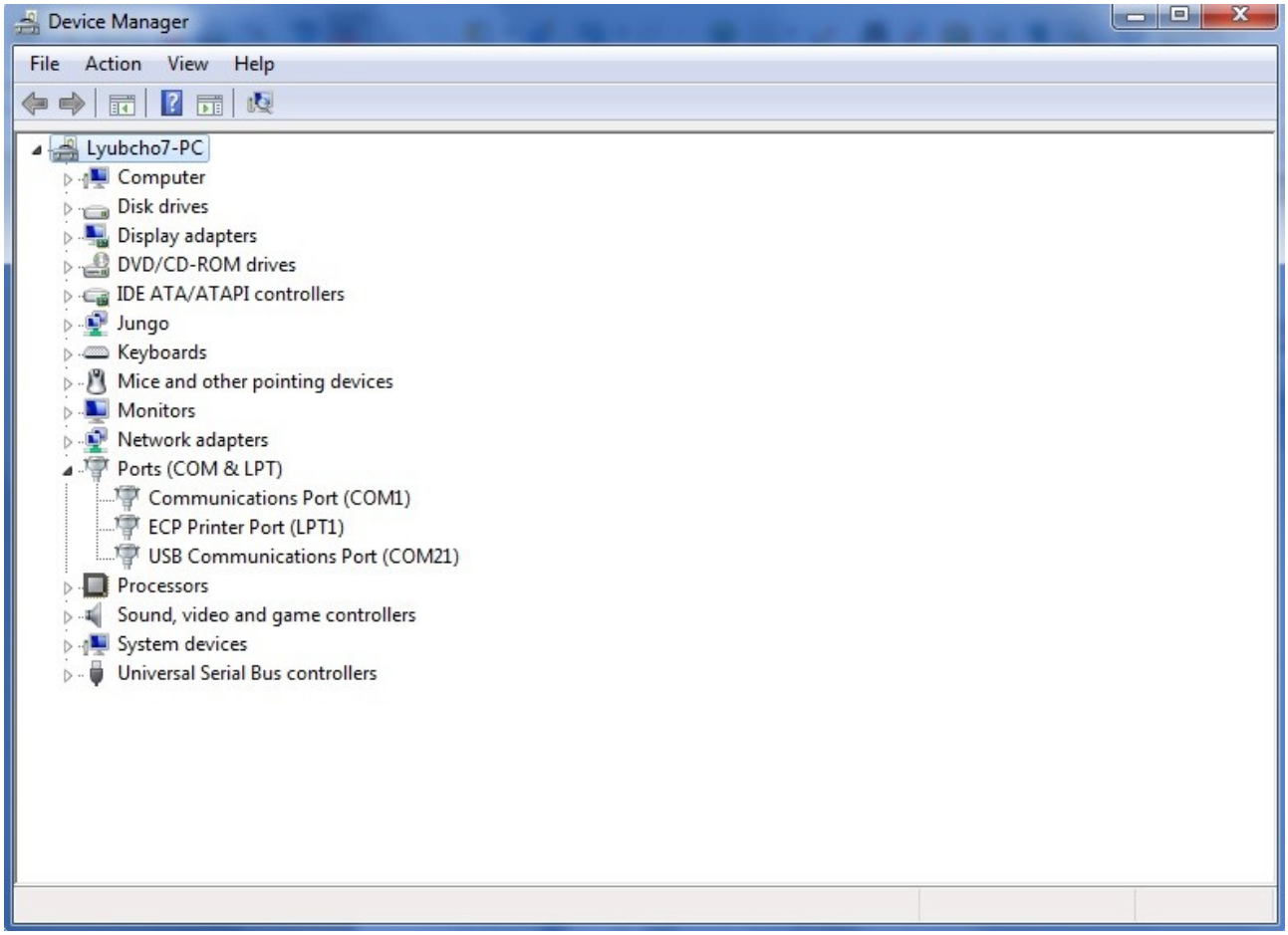
If we have just received the DUINOMITE board you need to install the drivers from our web-site. The link for them is called *"Duinomite drivers for virutal com port console"*, here is the direct link:

http://olimex.com/dev/DUINO/DUINOMITE/Olimex's Drivers for virtual COM port of Duinomite.zip

How to install them? First plug the device then open device manager, right click over DuinoMite device with exclamation mark, click update software and search manually for drivers. Choose the folder where you unzipped the drivers. The following screens should follow:



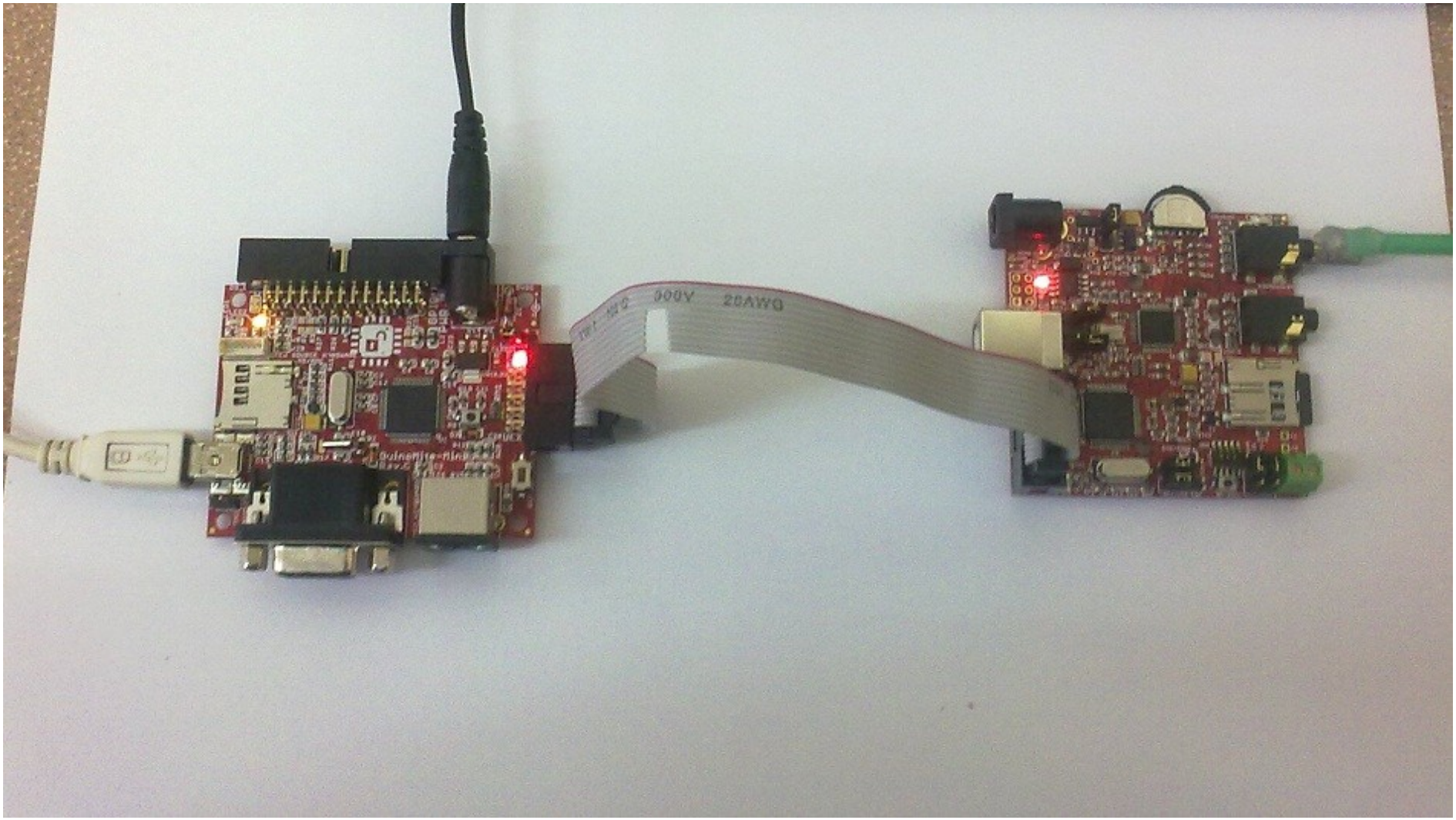
And then new COM port should appear we have to remember which number it is. Mine is COM21:



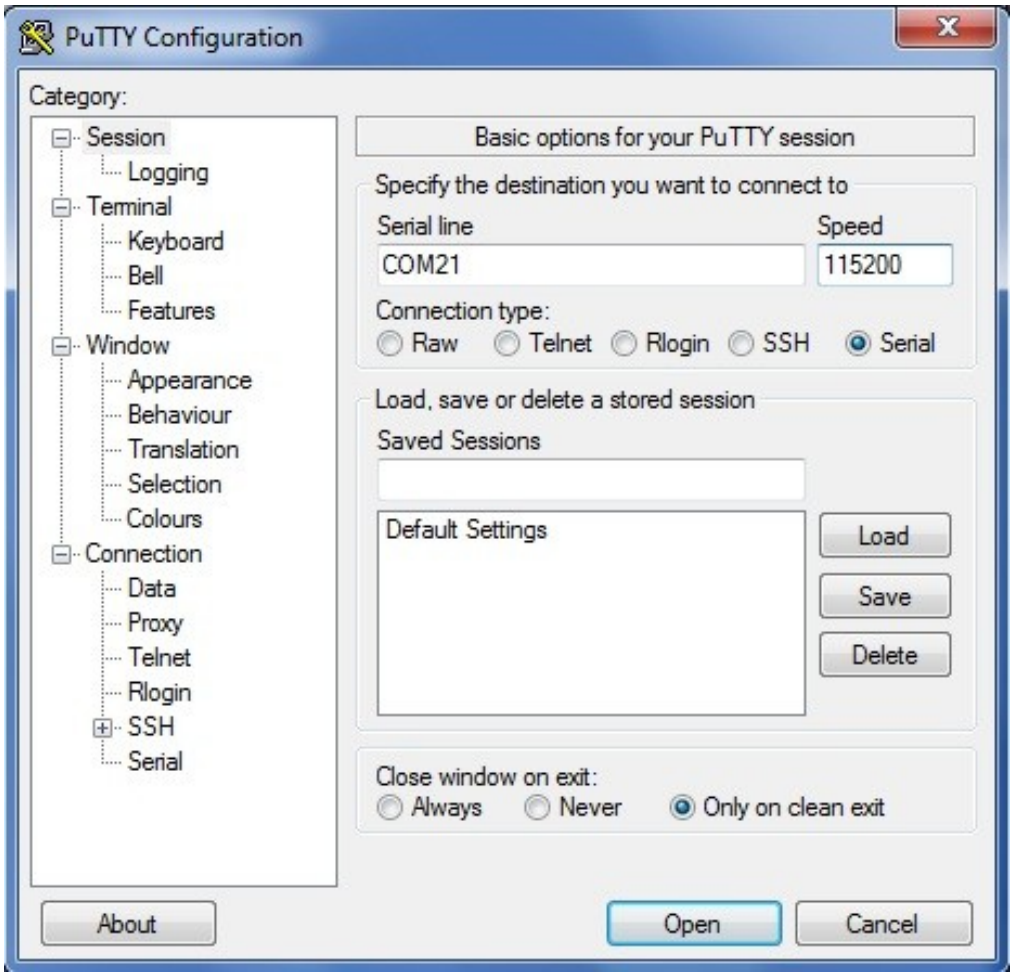
After that we plug the custom made UEXT cable between the already configured in chapter 2 DUINOMITE and the MOD-MP3-X, we also put the loaded with nice music microSD card and connect the headphones.

Finally we put the 5V power in the PWR connector of DUINOMITE Mini.

On the next page there is a picture of everything set up.



We then start our favorite terminal program on the COM port we have our DUINOMITE on with baud rate of 115200 KB/s. In my case I used PuTTY on COM21 with 115200 KB/s baud rate:



After we connect we can start using the BASIC! We will start with 2 basic commands which you can write in the console:

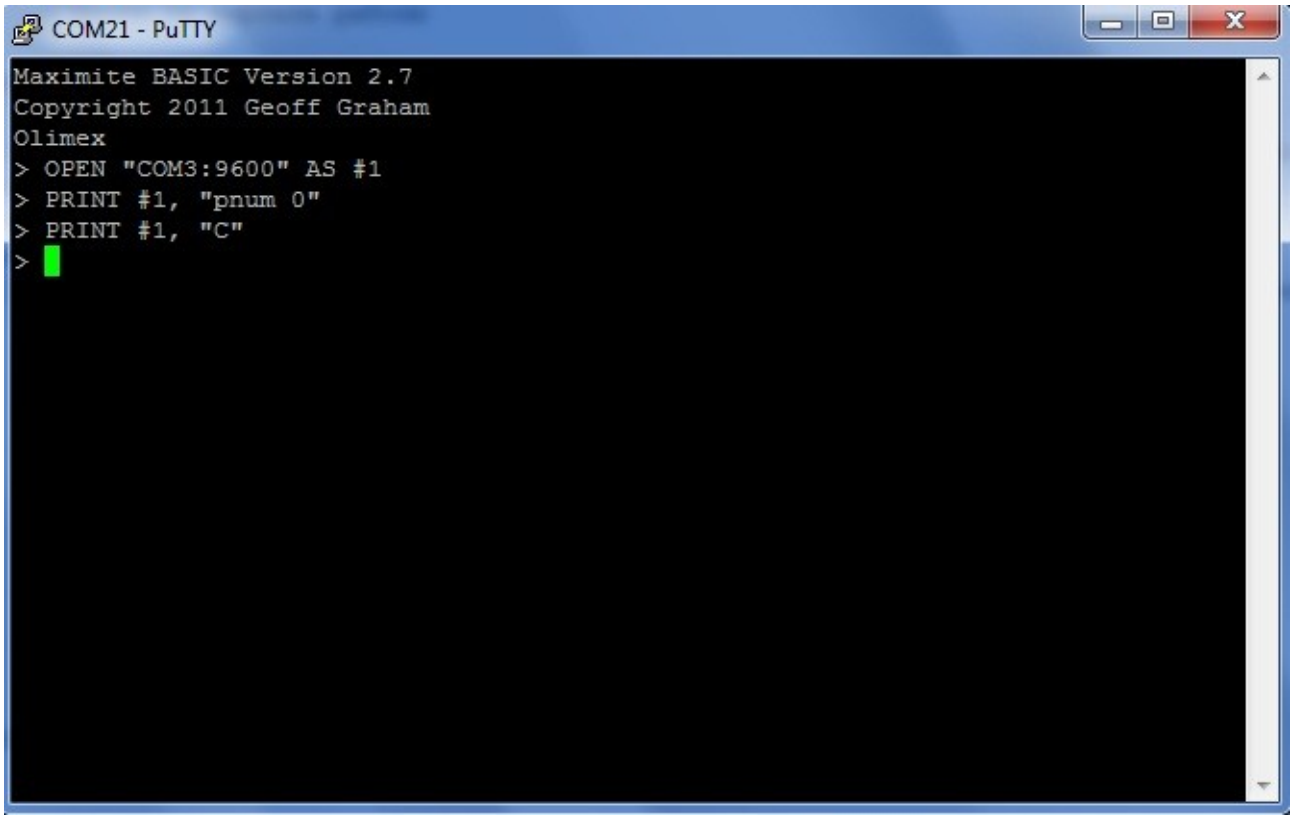
```
OPEN "COM3:9600" AS #1
PRINT #1, "pnum 0"
```

And after a while write:

```
PRINT #1, "C"
```

The first command opens the Duinomite's COM3 at 9600 baud and sets it as variable 1, the second writes on it string “pnum 0” (which means play the first song), the third stops the playing of music (capital C letter). If there is an error try closing the terminal and repowering the board.

This is how my terminal looks like and after the second command the first song in my SD card starts playing. It plays until I enter the third line of code:



You can close the COM3 with:

```
CLOSE #1
```

- "L" - lists the current directory and return its contents, directories are marked with a <DIR> tag
- "CDIRNAME <name>" - switch the current directory to <name>, name should be up to 8 characters long
- "cnum <index>" - switch the current directory to the one with given <index>, as

displayed with the "L" command
- "." - returns to the parent directory, no higher than the root directory
Page 13- "PSONGNAME <name>" - plays file in the current directory by its <name>,
<name> should be in 8+3 format and the only extension supported is ".MP3"
- "pnum <num>" - plays file in the current directory by its <index>, starting from 0.
<index> may be calculated by the sequence number displayed with the "L" command minus the number of directories in the current directory.
- "OFF" - turns the codec chip OFF, may be executed at any time
- "ON" - turns the codec chip ON, may be executed at any time
*Note: All of the commands should be followed by a newline character ('\n' or "\r\n")!

For more info on all avaiable commands for the MOD-MP3-X check it's manual. For more information on the BASIC language check the DUINOMITE manual.

Also be sure to check this page with two more complex examples:
http://olimex.wordpress.com/2012/01/31/duinomite-controls-mp3-player-add-voice-and-music-to-your-embedded-projects/