## UART interface protocol between RPi and main uP

Pins use 3.3V logic levels

115200 baudrate, parity – none, 8 bits, 1 stop bit

Commands:

**-Player+** = start mp3/flac player

**-GO+** = OK

**-STOP+** = pause played song in player mode

**-UP+** = up in menu movement

**-DOWN+** = down in menu movement

**-BACK+** = left/back-10 sec. in menu/song movement

**-NEXT+** = right/forward+10 sec. in menu/song movement

**-iRadio+** = starts internet radio

**-GO+** = OK

**-UP+** = up in menu movement

**-DOWN+** = down in menu movement

**-DAB+** = starts digital radio

**-GO+** = OK

**-UP+** = up in menu movement

**-DOWN+** = down in menu movement

**-RDS+** = starts displaying radio station names indicated by command

**-FM\_01+, -FM\_02+, -FM\_03**+, … commands

*Reception and decoding of RDS data is not implemented*

**-SHUTDOWN+** = powers down RPi

Returns:

On **-Player+** command:

* When **browsing** **folders** display
  + Selected folder number followed by
  + Number of subfolders in current folder followed by
  + Folder name using capital letters
* 24 characters to display followed by
  + Letter “**;P**”
  + New line and carriage return characters.
* When **browsing files** display
  + Selected file number followed by
  + Number of files in current folder followed by
  + File name
* 24 characters to display followed by
  + Letter “**;P**”
  + New line and carriage return characters.
* When **listening** display
  + File name or artist/song names followed by
  + Number of remaining seconds of played file
* 24 characters to display followed by
  + Letter “**;P**”
  + New line and carriage return characters.

On **-iRadio+** command:

* When **browsing** display
  + Selected radio station number followed by
  + Number of all radio stations in the file in iRadio folder followed by
  + iRadio station name
* 24 characters to display followed by
  + When online by letter “**;O**”
  + When offline by letter “**;F**”
  + New line and carriage return characters.
* When **listening** display
  + Radio station or artist/song names provided by iRadio station
* 24 characters to display followed by
  + When online by letter “**;O**”
  + When offline by letter “**;F**”
  + New line and carriage return characters.

On**-DAB+** command:

* When **browsing** display
  + Selected radio station number followed by
  + Number of all radio stations in the file in DAB folder followed by
  + DAB station name
* 24 characters to display followed by
  + Letter “**;D**”
  + New line and carriage return characters.
* When **listening** display
  + Radio station or artist/song names provided by DAB station
* 24 characters to display followed by
  + Letter “**;D**”
  + New line and carriage return characters.

On **-RDS+** command:

* Radio station name read from RDS folder
* 24 characters to display followed by
  + Letter “**;N**”
  + New line and carriage return characters.
* Decode radio station RDS message
  + *Reception and decoding of RDS data is not implemented*
* 24 characters to display followed by
  + Letter “**;R**”
  + New line and carriage return characters.

On **-SHUTDOWN+** command:

* Message about power down state
* 24 characters to display followed by
  + Letter “**;M**”
  + New line and carriage return characters.

Once shutdown is started monitor state of RPi GPIO27. When Low RPi is off (needs to be checked).