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

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

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

On **-SHUTDOWN+** command:
- Message about power down state
- 24 characters to display followed by
  - o Letter "**;M**"
  - o New line and carriage return characters.
Once shutdown is started monitor state of RPi GPIO27. When Low RPi is off (needs to be checked).