

IPC.dll for ANumLFRF Using Manual

Overview

The IPC.dll allows to control ANumLFRF.exe program from a host program. When the DLL is loaded, a specific process for ANumLFRF.exe is created, and the dialog between DLL and ANumLFRF is done through Inter Process Communication.

When the DLL is loaded, the process ANumLFRF.exe is executed but it is not visible on the screen.

There is only one function to interface the DLL, and only one structure of parameters. Thus, the ANumLFRF.exe program can evolve without modification of the DLL.

The commands have the same behaviour as the commands on the GUI.

For example, the command "RUN" has the same behaviour as the START button on Run sheet.

Syntax

Ret = API(char *Command, void *Structure)

With Structure is:

```
struct TAPILFRF
{
    char          StringIn1[API_STRING_SIZE];
    char          StringIn2[API_STRING_SIZE];
    char          StringIn3[API_STRING_SIZE];
    char          StringIn4[API_STRING_SIZE];
    unsigned char ByteIn1;
    unsigned char ByteIn2;
    unsigned char ByteIn3;
    unsigned char ByteIn4;

    char          StringOut1[API_STRING_SIZE];
    char          StringOut2[API_STRING_SIZE];
    char          StringOut3[API_STRING_SIZE];
    char          StringOut4[API_STRING_SIZE];
    unsigned char ByteOut1;
    unsigned char ByteOut2;
    unsigned char ByteOut3;
    unsigned char ByteOut4;
};
```

With API_STRING_SIZE is 1024 bytes

Commands available in the DLL ANumLFRF

In indicates Parameters the host program must send to the DLL.

Out indicates Parameters the DLL returns to the host program.

Note : String must finish with '\0' character.

"LOAD"**Description:**

Load a configuration file created with ANumLFRF.exe

In:

StringIn1 = file name

Out:

Ret = 0 if all is OK

Ret = 3 if the file not exists

"RUN" or "RUN_MANUAL"**Description:**

Start run in manual mode

In :

none

Out:

Ret = 0 if the session can be started

Ret = 3 if the licence is expired or missing

"RUN_SCRIPT"**Description:**

Start run in Script mode

In :

none

Out:

Ret = 0 if the session can be started

Ret = 3 if the licence is expired or missing

"RUN_BROADCAST"**Description:**

Start run in Broadcast mode

In :

none

Out:

Ret = 0 if the session can be started

Ret = 3 if the licence is expired or missing

"RUN_INDIVIDUAL"**Description:**

Start run in Individual mode

In :

none

Out:

Ret = 0 if the session can be started

Ret = 3 if the licence is expired or missing

"RUN_CFG"**Description:**

Start run according the mode saved in the configuration file

In :

none

Out:

Ret = 0 if the session can be started

Ret = 3 if the licence is expired or missing

"IDFILTER"**Description:**

Specify the ID(s) to be received

In :

StringIn1 = List of ID, or null string for all ID.

Use comma and space characters to separate the IDs.

ID must not have 'h' suffix.

Ex: "12E67, A45, 78676EEC"

Out:

Ret = 0

"STOP"**Description:**

Stop the run

In :

none

Out:

Ret = 0

"LFPWR"**Description:**

Modify the LF Power

In :

ByteIn1 = [0..100] %

Out:

Ret = 0 if the LF power value is correct else <> 0

"SENDER"**Description:**

Send a LF frame defined by its name

In :

StringIn1 = Frame name

StringIn2 = 1st parameter (if defined)

StringIn3 = 2nd parameter (if defined)

StringIn4 = 3rd parameter (if defined)

ByteIn1 = Number of frames [1..255] for LF Data mode (note 0 value indicate a non stop emission)

ByteIn2 = Interframe [0..255] ms for LF Data mode

ByteIn3 = CW Duration LSB for LF CW mode

ByteIn4 = CW Duration MSB for LF CW mode

Out:

Ret = 0 if the LF frame exists, else <> 0

"STOP"**Description:**

Stop the LF frame emission, in case of

In :

none

Out:

Ret = 0

"SHOW"**Description:**

Show ANumLFRF.exe GUI

In :

none

Out:

Ret = 0

"HIDE"**Description:**

Hide ANumLFRF.exe GUI

In :

none

Out:

Ret = 0

"FEXISTS"**Description:**

Test if the LF frame name is defined in the list.

Important: this command can be executed only when the test started (after a RUN or RUN_xxx).

In :

StringIn1 = LF Frame name

Out:

ByteOut1 = 1 if the LF Frame exists, else = 0

Ret = 0

"FSENT"**Description:**

Returns flag to indicate if the current LF Frame is sent

In :

none

Out:

ByteOut1 = 1 if the LF Frame is sent, else = 0

Ret = 0

"FREAD"**Description:**

Read a received frame (see Using chapter).

Important: during this command, up to 256 frames are get from ANumLFRF, so the next FREAD commands will unstack the other received frames, without interrogate ANumLFRF, for a quick behaviour.

In :

none

Out:

ByteOut1 = Number of received frames (255 maximum)

StringOut1 = 1st received frame (complete)

StringOut2 = 1st received frame (Hex field only)

Ret = 0

"CLRBUF"**Description:**

Clear the receiving buffer, used with FREAD function.

In :

none

Out:

Ret = 0

"IDREAD"**Description:**

Read the ID field in the 1st received frame of the buffer.

Important: all received frames are deleted with this function, so FREAD will return 0 available frame.

In :

none

Out:

ByteOut1 = 1 if ID field exists, else 0

StringOut1 = Received ID value

StringOut2 = Received frame

Using

The only thing to do with ANumLFRF.exe GUI is to define all the descriptions and the parameters, and save them into a configuration file.

This configuration file must be loaded with the DLL (command "LOAD").

In the order, you must use :

- function LOAD to load a configuration file
- function LFPWR to define the LF power output level
- function RUN to run the session
- function SENDF to send a LF frame
- function FSENT to wait the frame is sent
- function FREAD to know if a RF frame is received and decoded
- function SENDF to send another LF frame
- function FSENT to wait the frame is sent
- ..
- function STOP to stop the session

Notes

- All received frames are saved in a FIFO in ANumLFRF.exe

When you use "FREAD" command, the DLL download up to 255 received frame and save them into DLL FIFO to have a best response time.

If more than 255 frames are received, you must use "FREAD" command until ByteOut1 is equal to 1, and the next "FREAD" command will download the next received frames.

- When the DLL is loaded, all existant ANumLFRF.exe are killed to be sure that only one instance is running.

- In case of problem, you can use "SHOW" command to display the GUI and execute some actions manually to verify the software behaviour with the configuration file.