NE-USB USB Communication Sample Program (Linux C)

Contents

1. Overview

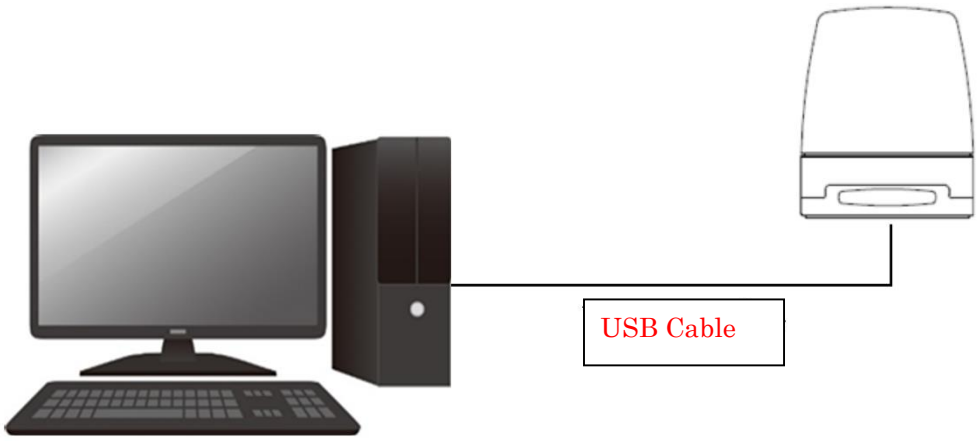
This is an outline of sample programming to control NE-USB via USB communication.

The programs are intended to control the unit using C language without the use of DLLs provided by PATLITE.

1.1. System Overview

The system configuration diagram of this program is as follows.

This program controls one NE-USB by USB communication.



2. Development Environment

The development environment of the sample program is shown below.

2.1. Linux Environment

Development Environment		Remarks
Development OS	Ubuntu	18.04
Development Language	C language	
App Type	CUI application	
Development Tools	gcc	7.5.0
Library	libusb	1.0.21-2

2.1.1. Environment Construction

・Installation of libusb

It is installed as a standard-package in Ubunut (18.04). If, for some reason, it is not installed, install it with apt-get command.

```
$ sudo apt-get update
$ sudo apt-get install libusb-1.0.0
```

-Compile the sample program

Compile with the Make command using the Makefile in the project folder of the sample program.

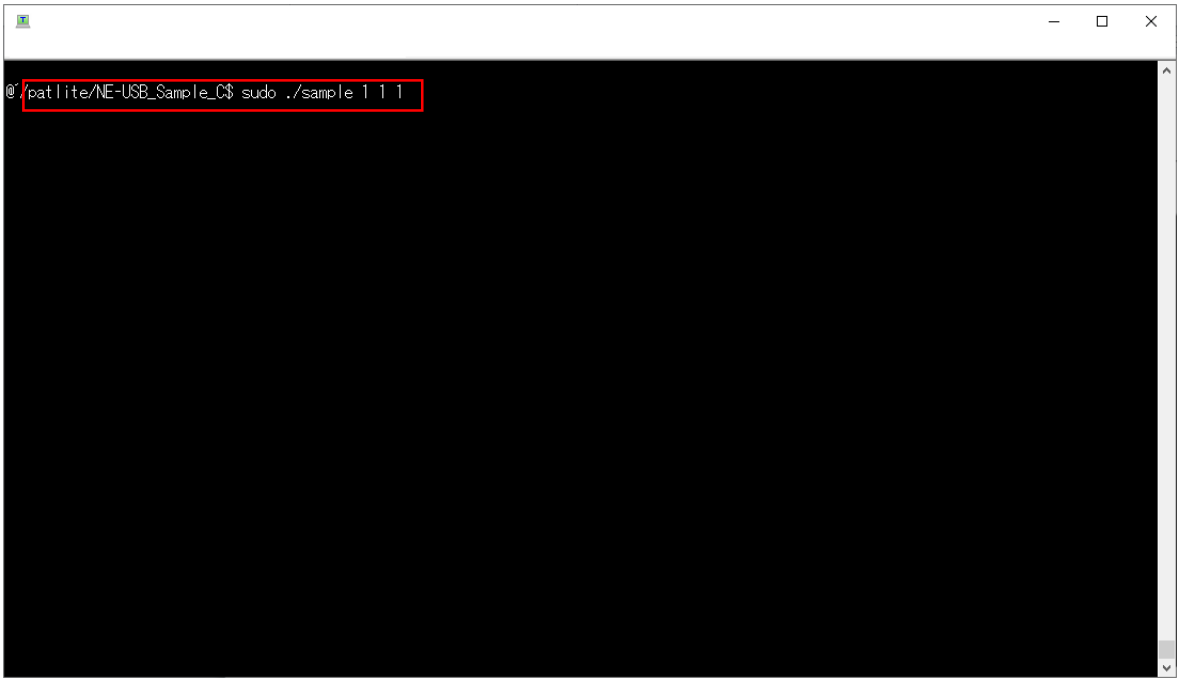
If the compilation is successful, a sample object will be created.

```
$ make
gcc main.c -o sample `pkg-config libusb-1.0 --libs`
$ ls
$ Makefile  main.c  sample
```

3. Sample Source Overview

3.1. Command Operation

At the Command Prompt, specify the command line arguments to execute commands for each operation.



3.1.1. Command List

Command Name	Description
LED Control	Set LED color and LED pattern to display and activate it.
Control Alarm Pattern	Set the alarm pattern and the number of cycles.
Control Alarm Volume	Set alarm volume and activate it.
Control Alarm Pattern and Volume	Set alarm pattern, number of times, and volume and activate it.
Connection Display Settings	Change the display settings when connecting.
Reset	Turn off all LED units and stop the alarm.

3.1.2. LED Control

Execute the command with the following command line arguments.

No.	Command Line Arguments	Value
1	Command Identifier	1
2	LED Color	Off: 0 Red: 1 Green: 2 Amber: 3 Blue: 4 Purple: 5 Sky Blue: 6 White: 7 No change: 15
3	LED Pattern	Off: 0 Lit: 1 LED pattern 1: 2 LED pattern 2: 3 LED pattern 3: 4 LED pattern 4: 5 LED pattern 5: 6 LED pattern 6: 7 No change: 15

Example: sudo ./sample 1 1 1

3.1.3. Control Alarm Pattern

Execute the command with the following command line arguments.

No.	Command Line Arguments	Value
1	Command Identifier	2
2	Alarm Pattern	Stop: 0 Sounding (Continuous): 1 Sweep sound: 2 Intermittent sound: 3 Weak warning sound: 4 Strong warning sound: 5 Twinkle, Twinkle Little Star: 6 London Bridge: 7 No change: 15
3	Alarm Continuous Operation and Number of Cycles	Continuous operation: 0 Number of cycles: 1 to 1 4 No change: 15

Example: sudo ./sample 2 1 1

3.1.4. Control Alarm Volume

Execute the command with the following command line arguments.

No.	Command Line Arguments	Value
1	Command Identifier	3
2	Alamr Volume	Mute: 0 Volume: 1-9 Maximum volume: 10 No change: 15

Example: sudo ./sample 3 1

3.1.5. Control Alarm Pattern and Volume

Execute the command with the following command line arguments.

No.	Command Line Arguments	Value
1	Command Identifier	4
2	Alarm Pattern	Stop: 0 Sounding (Continuous): 1 Sweep sound: 2 Intermittent sound: 3 Weak warning sound: 4 Strong warning sound: 5 Twinkle, Twinkle Little Star: 6 London Bridge: 7 No change: 15
3	Alarm Continuous Operation and Number of Cycles	Continuous operation: 0 Number of cycles: 1 to 14 No change: 15
4	Alarm Volume	Mute: 0 Volume: 1–9 Maximum volume: 10 No change: 15

Example: sudo ./sample 4 1 3 5

3.1.6. Connection Display Settings

Execute the command with the following command line arguments.

No.	Command Line Arguments	Value
1	Command Identifier	5
2	Connection Display Settings	OFF: 0 ON: 1

Example: sudo ./sample 5 0

3.1.7. Reset

Execute the command with the following command line arguments.

No.	Command Line Arguments	Value
1	Command Identifier	6

Example: sudo ./sample 6