NE-USB USB Communication Sample Program (Windows Java)

Contents

1. Overview

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

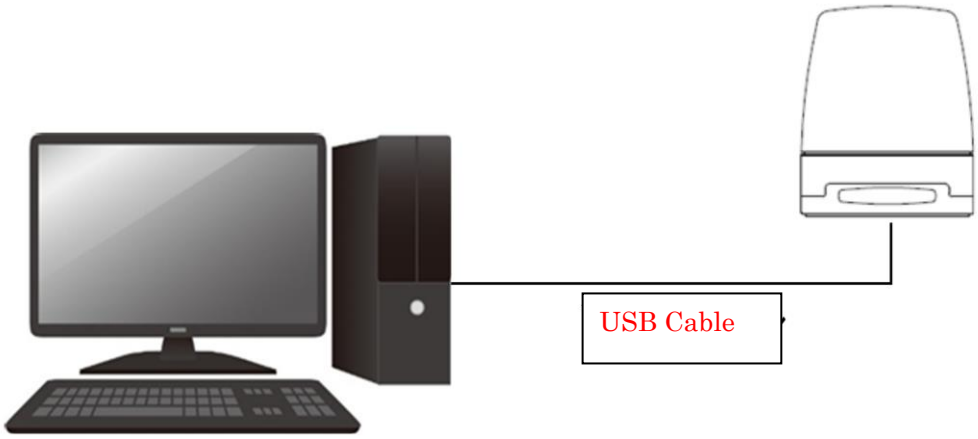
The programs are intended to control the unit using Windows Java without the use of DLLs provided by PATLITE

This program is only a sample and additional design for abnormalities are necessary.

1.1. System Overview

The system configuration diagram of this program is as follows.

This program controls one NE-USB by USB communication.



2. Develompment Environment

The development environment of the sample program is shown below.

2.1. WindowsEnvironment

Development Environment		Remarks
Development OS	Windows10	
Development Language	Java	11.0 or later
Package	usb4java	1.3.0 or later
Library	libusb,	1.0.25 or later

2.1.1. Environment

・Installation of libusb

Download libusb binaries from GitHub.

*As of 2022/03/30, the current version is v1.0.25

https://github.com/libusb/libusb/releases

Unzip VS2019¥MS64¥dll¥libusb-1.0.dll in the compressed file and place it in the C:¥Windows¥System32.

* Administrator privileges are required.

・Installation of usb4java

Download the package.

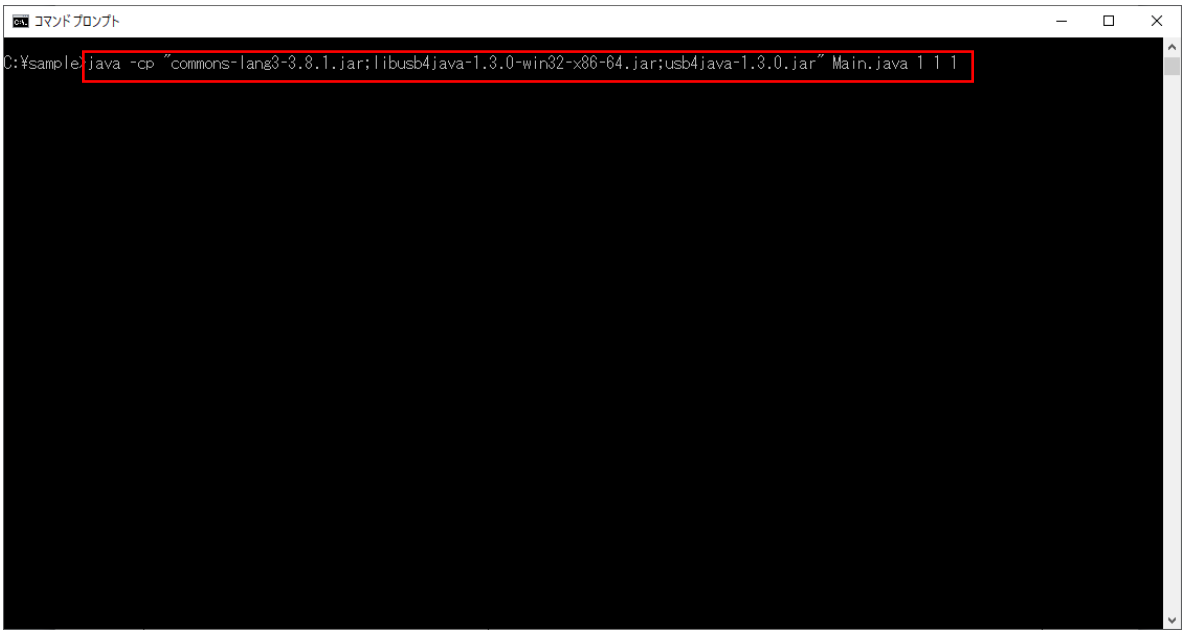
https://github.com/usb4java/usb4java/releases

Place commons-lang3-3.8.1.jar, libusb4java-1.3.0-win32-x86-64.jar, and usb4java-1.3.0.jar in the compressed file in the same folder as Main.java.

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.
Acquire input status of Touch sensor (Only for NE-ST-USB/NE-WT-USB)	Message display the input status of the touch sensor.
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	Command Line Arguments
1	Command Identifier	1
2	LEDColor	Off:0 Red:1 Green:2 Yellow: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:java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 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 caution sound: 4 Strong caution 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 : java -cp ".;commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 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	Alarm Volume	Mute: 0 Volume: 1-9 Maximum volume: 10 No change: 15

Example : java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 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 caution sound: 4 Strong caution 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
4	Alarm Volume	Mute: 0 Volume: 1-9 Maximum volume: 10 No change: 15

Example : java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 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 : java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 5 0

3.1.7. Acquire input status of Touch sensor（only for NE-ST-USB/NE-WT-USB）

Execute the command with the following command line arguments.

No	Command Line Arguments	Value
1	Command Identifier	6

Example：java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 6

Output the status of Command Prompt.

・When touch sensor input status is OFF：touch sensor input = OFF

・When touch sensor input status is ON：touch sensor input = ON

3.1.8. Reset

Execute the command with the following command line arguments

No	Command Line Arguments	Value
1	Command Identifier	7

Example：java -cp "commons-lang3-3.8.1.jar;libusb4java-1.3.0-win32-x86-64.jar;usb4java-1.3.0.jar" Main.java 7