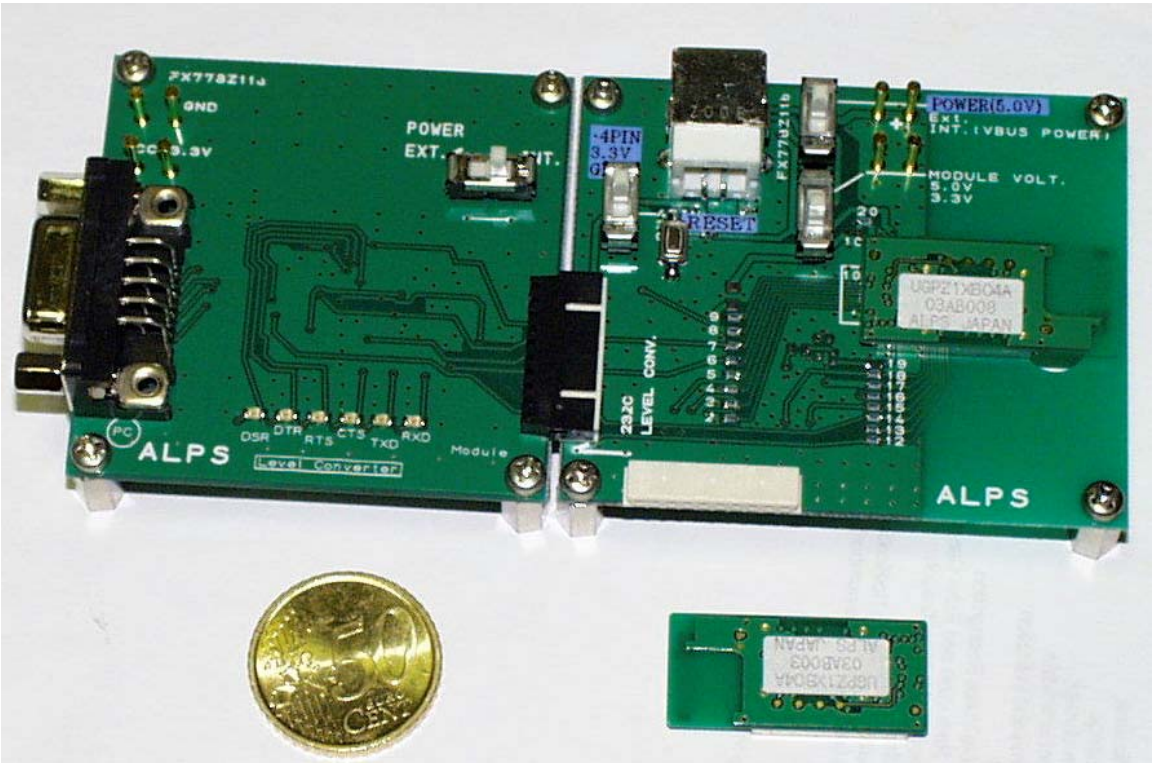
ALPS Virtual Cable Light Hardware Application Note

REVISION 1.0



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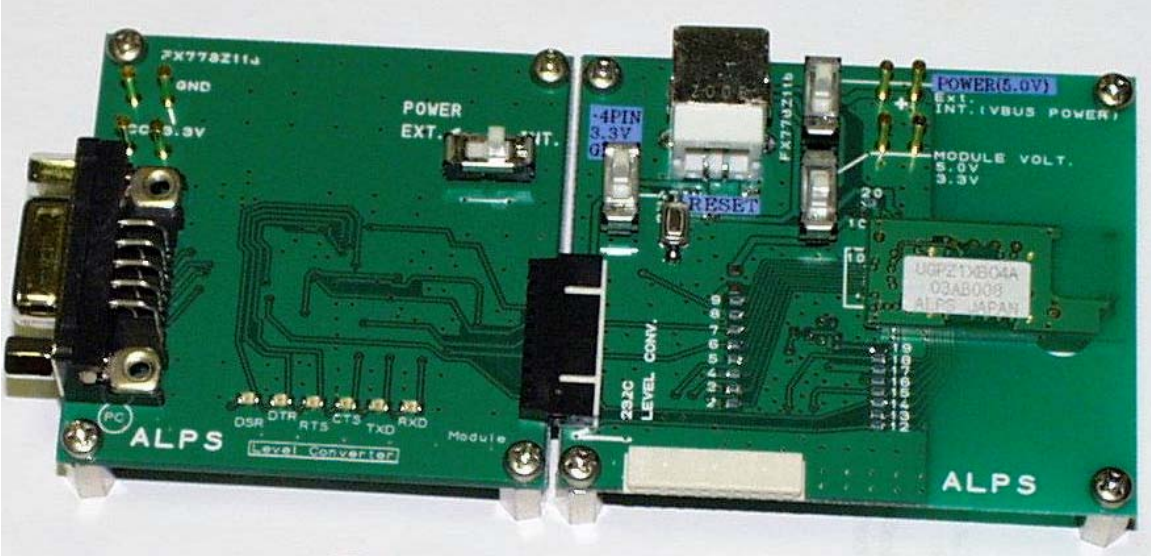
1. Purpose

This document is intended as a quick guide for the user to get up and running quickly with the ALPS Virtual Cable Light modules, software and the hardware boards on which the modules are mounted. The various switches and their modes of operation will also be explained.

2. Description

The actual board used for the Virtual Cable Light module can be seen below.



It comprises of 2 boards connected to each other through a 10-pin connector. The board on the right-hand side of the figure is where the module is mounted. On the left-hand side of the above figure the line-driver board can be seen. This Board is used to convert between TTL levels and RS232 levels. The boards can be powered through a single 5V supply, which is connected to the board on which the module is mounted. The line driver board is powered from that board. In the following sections the function of each the 4 switches will be explained.

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3. Operation

In this section, it shall be described to the user how to connect and operate the ALPS hardware platform when connected to the users' PC. Also the function of each switch will be covered.

3.1 Line Driver Power Switch

The board that is marked FX778Z11a (Serial Line Driver Board), contains one switch that needs to be set depending on what power supply configuration the user will adapt. The user can select either "EXT" mode or "INT" mode.

If the user selects "INT", this board will be powered from the board marked FX778Z11b. This board converts from RS232 levels to TTL and Vice Versa. The D-SUB 9 pin connector is connected via a Serial "straight" Cable to the users' PC or embedded communication platform. The logic states of the RS232 signals can also be monitored as each signal line is also connected to an LED.

3.2 Data-Command control switch.

This switch is located on the left-hand side of the USB connector on the board marked FX778Z11b. The Virtual Cable light must have some way of knowing if incoming data to the module is command or user data.

If the switch is set in the 3.3V position, the module recognizes this as a logic "1" setting and allows the data to pass through as user data. If the switch is set in the GND position, the module recognizes this as a logic "0" and will run all data through its' parser to process the AT-command being sent by the user.

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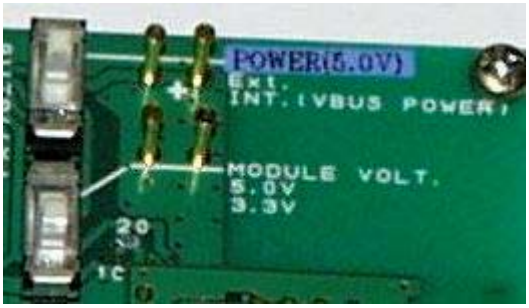
3.3 Power Supply and Module Supply Switches

The user has 2 possible options to power the board. One is by using an external voltage supply and the second option is to supply through the VBUS line of the USB connector. It is also important for the user to note that for this type of board 2 types of modules may be mounted. Depending on what module is being used, the “Module Volt.” switch must be set accordingly.



By referring to the above Figure, both switches and their roles will be explained.

3.3.1 Board Power Supply

If the hardware is to be powered over an external power supply, the switch must be set in the up, “EXT” position. To power over USB, the user must simply connect a USB cable from the PC directly to the FX778Z11b board. The switch must then be set in the down, “INT (VBUS POWER)” position.

3.3.2 Module Power Supply

Currently only Class 1 modules are being delivered with the Virtual Cable Light package. However the board also supports Class 2 modules. If the user is using a Class 1 “UGPZ1” module, the switch must be set to the up, “5.0V” position. If the module being used is a Class 2 “UGPZ2” module, the switch must be set in the down, “3.3V” position.

3.4 Reset Switch

This switch can be pressed each time the user wants to put the module back into a known or initial state.

The switch is located just to the right of the “Application Control” switch.

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