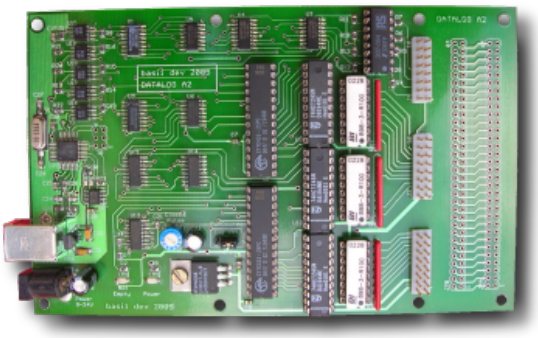
UF120

USB, Isolated, LCD Data Acquisition Interface

18-bits FIFO input / 4 optocoupler inputs

- Small and portable isolated digital I/O interface
- Typical application: LCD data recording for display reconstruction and backlight monitoring in a test system
- 18-bits FIFO input: configurable clock source
- 4 optocoupler static inputs, 1 3/5V TTL input.
- USB 2.0 full speed host interface (12 Mb/s), optically isolated from the data acquisition circuitery
- Configurable power source: 9-24VDC external power supply or 5VDC from target application
- Configurable interconnection area for easy interfacing to target application
- Euro PCB (100x160mm) with mounting holes

The UF120 device is a generic digital data acquisition interface. Its primary purpose is to record trafic from a LCD data port within an automated testing system, but it may also be used for any application requiring a FIFO for data input. Four optocoupled static inputs are also available to monitor other signals such as LCD power or backlight activity.



Power Supply

Two options are available for powering the UF120 interface:

- Using a 9-24VDC external power supply. A voltage regulator is present on the board.
- Directly from the target application (5VDC), through the Vcc/GND pins of the LCD connector.

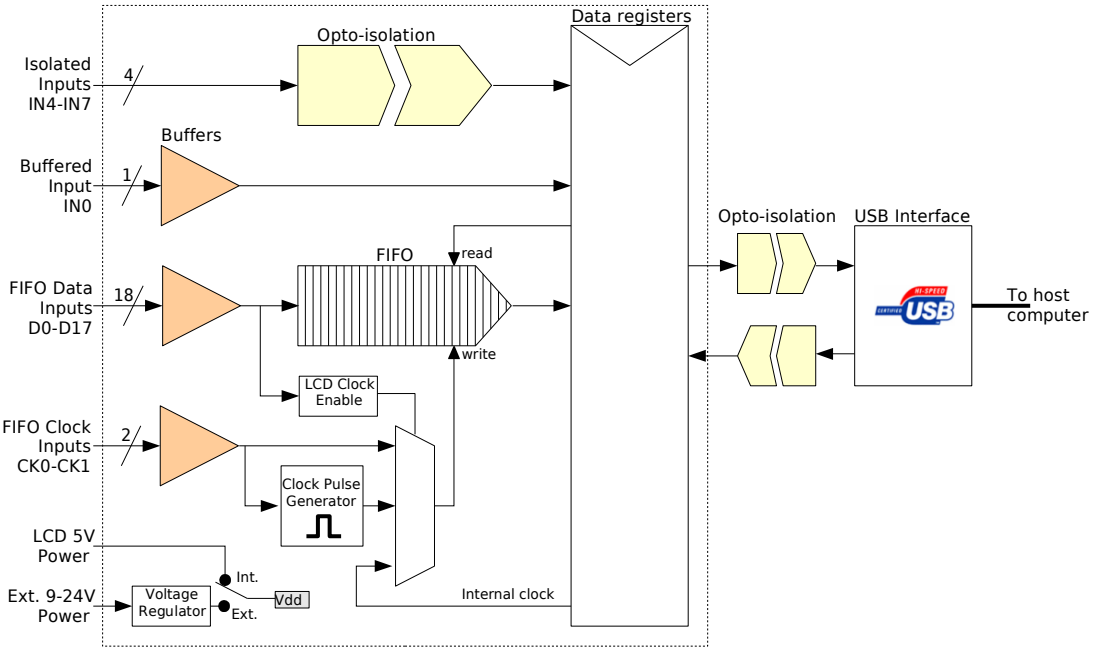
A jumper allows to select the power source. Typical current consumption is 50mA with two FIFO chips installed.

Static Inputs

- 4 optocoupled inputs are present for general-purpose signal monitoring. Each input drives an optocoupler LED via a 470 ohms resistor. One of these inputs is used for monitoring the LCD backlight state.
- One input to 3/5V HCT buffer, primarily used for monitoring the LCD powering state.

FIFO Inputs

- Use standard and replaceable 4Kwords FIFO chips.
- 20 inputs to 3/5V HCT buffer: 18 data bits and 2 clock sources.
- Data acquisition on 9 bits (1 FIFO chip) or 18 bits (2nd optionnal FIFO chip).
- FIFO clock signal is selected by software from 2 inputs. All clock sources are also configurable as direct or inverted (by software). One clock source can be configured to trig a clock pulse generator, adjustable with a potentiomer on the board.
- An internal clock is available for probing the FIFO chips or for performing synchronous data acquisition.



Hardware architecture of the UF120 USB interface.

Control Software

The control software drives the UF120 interface by executing simple commands in plain text format. All input events are reported as plain text messages with a 10ms accurate time stamp. The control software is designed for the TestFarm automated testing system, and is delivered with a TestFarm compatible PERL library.

The UF120 interface control software allows to define logical data flows connected to the physical inputs of the electronic board. These logical flows can then generate events to the TestFarm test engine, either directly or through a post-processing program. To give a typical example, a post-processing program is used to perform LCD display reconstruction, capable of interpreting LCD raw data to send clear text messages to the test engine.

Two standard post-processing programs are included in the UF120 interface control software package: one for basic alphanumeric display, and one for B&W graphical display (SED156x LCD controller). Other post-processing program are easy to develop in any language.

Alternatively, a logical data flow may also send data to a TCP/IP network connection, in order to perform post-processing in a remote computer or process (such as LabView, etc.).

Target Connection area

The application connector area allows to directly solder connectors that are pin-compatible with the target application. A interconnection pad allows to configure connectors pinout using a small adaptation daughter-board. Alternatively, it is also possible to configure target connectors pinout by simply using wrapped wires, thus simplifying the hardware integration task of the testing system.

A standard LCD-compatible connector is also present, which allows to directly connect the UF120 interface to a LCD module that have a standard pinout.

Operating system

The UF120 USB I/O interface is ready to run under Linux 2.6 or higher. No device driver is required. The control program is available in a RPM software package for Fedora Core Linux distributions.

Ordering Information

UF120-A2 USB Interface
Includes TestFarm compatible management software

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