



Overview

Wave Generator Xpress is an Arbitrary Digital Waveform Generator or Digital Pattern Generator. It allows the generation of arbitrary digital patterns on up to 16 bits at up to 50 MHz from a PC using a USB 2.0 high speed connection.

Wave Generator Xpress maximum total throughput is 100 MByte/s ('burst throughput') if the pattern depth does not exceed the embedded 16 kByte memory. The maximum data depth per run is 100 MByte if data is streamed directly from the PC over the USB link. In such case, the maximum sustainable throughput goes up to 11 MByte/s.

Wave Generator Xpress is delivered with the **8PI Control Panel / ADWG mode of operation** control software. It includes: a graphical user interface (GUI), a TCL/tk scripting interface and a free access to a C/C++ API, enabling the control of the Wave Generator Xpress from custom applications and third party environments.

Wave Generator Xpress Package

The Wave Generator Xpress package contains:

- ▶ Wave Generator Xpress USB 2.0 device
- ▶ USB cable mini-B to USB type A (2m)
- ▶ 34 coloured flying lead wires

Applications

- ▶ ASIC, FPGA, DAC and digital board verification and characterisation
- ▶ Automated stimulus generation
- ▶ Data source emulation
- ▶ Custom serial and parallel protocol exerciser

Features

- ▶ USB interface:
 - USB 2.0 High speed 480 Mbit/s
 - Maximum sustained data rate: 11 MByte/s¹
 - Continuous streaming over USB up to 100 MByte data depth per run
- ▶ User interface connector:
 - 34 leads dual row 2.54mm pitch (0.1 inch) standard header
 - 16 data lines
 - 6 control lines for repetitive sequence generation and I/O clock signals.
 - Internal or external reference clock
- ▶ Operating frequency: 800 Hz to 50MHz
- ▶ Max. burst throughput: 100 MByte/s
- ▶ Up to 100 MByte data depth / run
- ▶ USB- or externally-powered
- ▶ 8PI Control Panel host software:
 - Operating system: Windows® 2000, Windows® XP, Windows Vista
 - 3 user interfaces: GUI, TCL, C/C++ API
 - Use C/C++ function calls to control the GP-22050 from Visual Basic, Python, LabView® and more.
 - Multiple formats for pattern entry (text file, binary text file, binary file) or generation from script (TCL/tk) / programming (C/C++) interface.
 - Multi-threaded software
- ▶ I/O voltage from 1.2V to 3.3V
- ▶ 5V-compatible with additional hardware plug-in
- ▶ Anodised aluminium case (WxLxH: 55x80x16 mm)

Contact

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¹ Result of a test with the ADWG application with a Pentium 4 3 GHz host PC. The actual throughput depends on the host PC.