

**New**

## **WAVEDUMP2**

**Open Source  
Software for  
Digitizer 2.0 and 1.0  
Series**



## Features

- Open Source software, released under GNU LGPL 3.0 license
- Graphical waveform recording application based on the Qt cross-platform framework
- Oscilloscope-like display with simultaneous visualisation of up to 8 acquisition channels
- Multi-board readout management with support for synchronised multi-board systems
- Comprehensive GUI-based configuration of trigger logic and per-channel acquisition parameters
- Persistent configuration management: save and reload settings from file
- Waveform data export in ASCII and binary formats for offline analysis
- Runtime post-processing: FFT spectral analysis and waveform sample histogramming

## Description

**WaveDump2** is an open-source C++ readout application for CAEN waveform digitisers, developed on the Qt cross-platform framework. It provides a comprehensive graphical user interface for the complete configuration of acquisition hardware, covering both global board parameters and channel-level settings such as trigger thresholds, DC offsets, and input dynamics. All configuration parameters can be stored and reloaded from a plain-text file, ensuring reproducible experimental conditions.

WaveDump2 is designed to operate with any CAEN Digitizer 2.0 running the Scope firmware for waveform recording. Multi-board data acquisition and the management of synchronised multi-board systems — relevant in complex detector readout architectures — are fully supported through a dedicated toolbar.

Compatibility with the Digitizer 1.0 platform has been implemented via the Dig1 Library, extending support to the **720, 724, 725, 730, 740, and 751** series.

The integrated oscilloscope section provides real-time visualisation of acquired waveforms across up to 8 channels simultaneously. On-screen measurement cursors enable direct quantitative inspection of signal features, while dedicated marker lines indicate the trigger position and threshold level. Individual channel traces can be selectively enabled or disabled, and an on-screen legend facilitates signal identification. Full zooming capability is available on both the time and amplitude axes. Runtime signal processing functions — FFT spectral analysis and sample amplitude histogramming — are directly accessible within the interface, supporting rapid detector performance assessment.

Acquired waveform datasets can be exported in ASCII or binary format for subsequent offline analysis with user-defined analysis frameworks.

<b>License</b>	GNU LGPL 3.0 (Open Source)
<b>Programming Language</b>	C++
<b>Framework</b>	Qt cross-platform application framework
<b>Firmware Compatibility</b>	Scope firmware (Waveform Recording)
<b>Supported Hardware (2.0)</b>	All CAEN Digitizer 2.0 series
<b>Supported Hardware (1.0)</b>	720, 724, 725, 730, 740 and 751 series (via Dig1 Library)
<b>Operating Systems</b>	Windows, Linux

## Related Products

### X2730B

### DT5740



32 Input Channel 12 bit 62.5MS/s Digitizer

### DT5724



4/2 Input Channel 14 bit 100 MS/s Digitizer

### V2740



64 Channel 16 bit 125 MS/s Digitizer

### DTL2745



8 Input Channel 16 bit 125 MS/s Digitizer

## VX1725 / VX1725S



16/8 Input Channel 14-bit 250 MS/s Digitizer

## V1730 / V1730S



16/8 Channel 14 bit 500 MS/s Digitizer

## DTL2730



8 Input Channel 14 bit 500 MS/s Digitizer

## DT5740D



32 Input Channel 12 bit 62.5MS/s Digitizer supporting DPP-QDC firmware

## VX2751



16 Input Channel 14 bit 1 GS/s Digitizer with Programmable Input Gain

### **DTL2751**



4 Input Channel 14 bit 1 GS/s Digitizer

### **DT5751**



2/4 Input Channel 10 bit 2/1 GS/s Digitizer

### **N6740D**



32 Channel 12bit 62.5 MS/s Digitizer

### **N6720**



4 Channel 12 bit 250 MS/s Digitizer

### **V1751**



4/8 Input Channel 10 bit 2/1 GS/s Digitizer

### **VX1724**



8 Input Channel 14 bit 100 MS/s Digitizer

### **V1740D**



64 Input Channel 12 bit 62.5 MS/s Digitizer supporting DPP-QDC firmware

### **N6730 / N6730S**



8 Channel 14-bit 500 MS/s Digitizer

### **VX1730 / VX1730S**



16/8 Input Channel 14 bit 500 MS/s Digitizer

### **VX1740D**



64 Input Channel 12bit 62.5 MS/s Digitizer supporting DPP-QDC firmware

## DT5730 / DT5730S



8 Input Channel 14 bit 500 MS/s Digitizer

## DT5720



4/2 Input Channel 12bit 250 MS/s Digitizer

## N6740



32 Channel 12bit 62.5 MS/s Digitizer

## DT2745



64 Channel 16 bit 125 MS/s Digitizer with Programmable Input Gain

## N6724



2/4 Channel 14 bit 100 MS/s Digitizer

### **VX1740**



64 Input Channel 12bit 62.5 MS/s Digitizer

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### **V1724**



8 Input Channel 14 bit 100 MS/s Digitizer

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### **DT2740**



64 Input Channel 16 bit 125 MS/s Digitizer

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### **VX2730**



32/16 Input Channel 14 bit 500 MS/s Digitizer with Programmable Analog Gain

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### **V1725 / V1725S**



16/8 Input Channel 14-bit 250 MS/s Digitizer

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## V1720



8 Input Channel 12bit 250 MS/s Digitizer

## VX1751



4/8 Input Channel 10 bit 2/1 GS/s Digitizer

## DT5725 / DT5725S



8 Input Channel 14-bit 250 MS/s Digitizer

## V2745



64 Channel 16 bit 125 MS/s Digitizer with Programmable Input Gain

## V1740



64 Input Channel 12 bit 62.5 MS/s Digitizer

### DT2730



32/16 Input Channel 14 bit 500 MS/s Digitizer with Programmable Analog Gain

### N6751



2/4 Channel 10 bit 2/1 GS/s Digitizer

### VX2740



64 Input Channel 16 bit 125 MS/s Digitizer

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8 Input Channel 12bit 250 MS/s Digitizer

### DT2751



16 Input Channel 14 bit 1 GS/s Digitizer with Programmable Input Gain

## N6725 / N6725S



8 Channel 14-bit 250 MS/s Digitizer

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