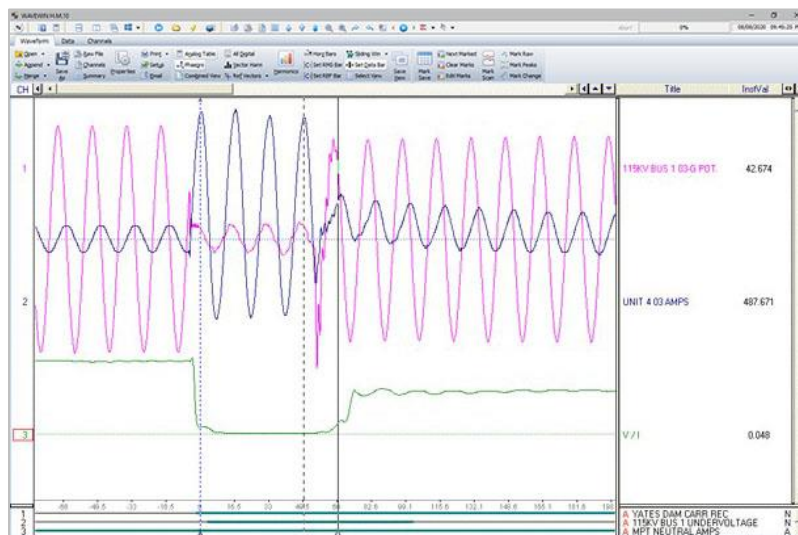


## Product Description

The software is used for line restoration, fault and disturbance analysis, dynamic relay testing, real time monitoring of evolving loads, contingency planning, and intelligent maintenance applications.

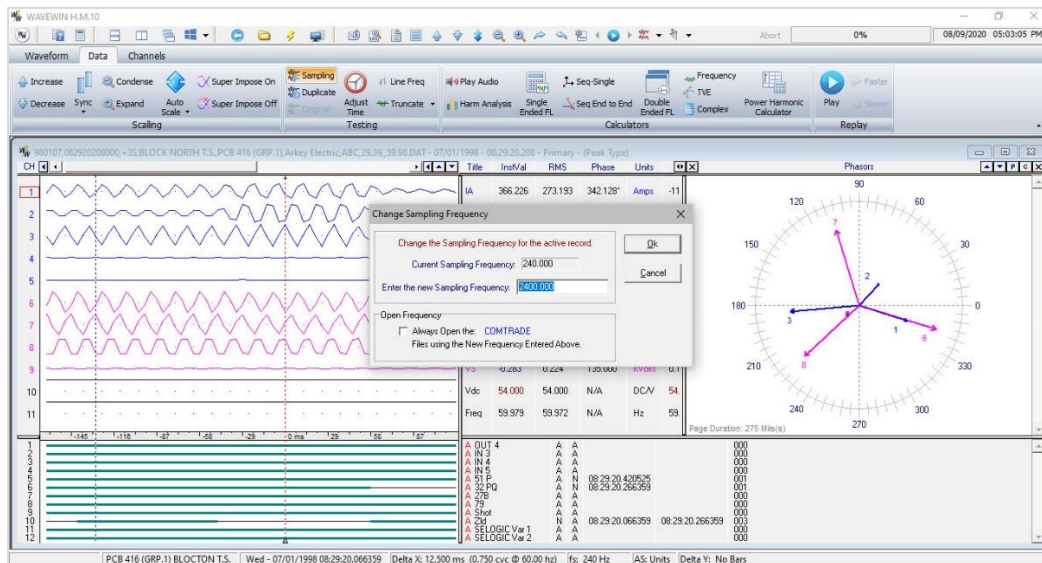
The software is a specialized, high-resolution graphic interface designed for universal management, display and analysis of digital fault records. The software supports IEEE Std. C37.111 (1991, 1999, and 2013 COMTRADE formats) and the standard CSV format (allows for trending of periodic load measurements over long periods of time).

The main benefits are increased system reliability and reduced engineering time.



## Features

- Reads various types of proprietary & standard formats from DFRs, Digital Relays, Meters and more.
- Translates fault records from their native format to the IEEE Std. C37.111 "COMTRADE format".
- Provides calculated channels for modeling of missing phases, sequence components, fault resistance...
- Creates combined event sequences from various types of digital fault records.
- Merges multiple fault records into one COMTRADE record (composite fault records).
- Supports IEEE Std. C37.232 (COMNAME - Common Format for Naming Time Sequenced Data Files).



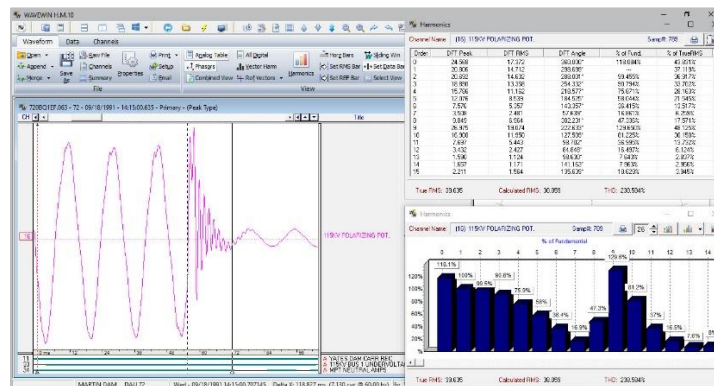
## Channel Operations

- Add, subtract, multiply and divide channels
- Shift phases and align channel data
- Plot RMS profiles and envelopes
- Plot harmonic waveforms and histograms
- Plot sequence components
- Plot real and imaginary components
- Plot watts, vars, and power factor
- Convert between secondary and primary values
- Convert between Peak and RMS calibrated data

- Correct polarities of currents and voltages
- Reconstruct missing phases
- Display phasor diagrams and circular charts
- Calculate fault resistance
- Calculate single ended fault location
- Calculate double ended fault location

## Harmonics

- Sliding window harmonic analysis
- Dynamic/directional harmonic analysis
- Total harmonic distortion calculation

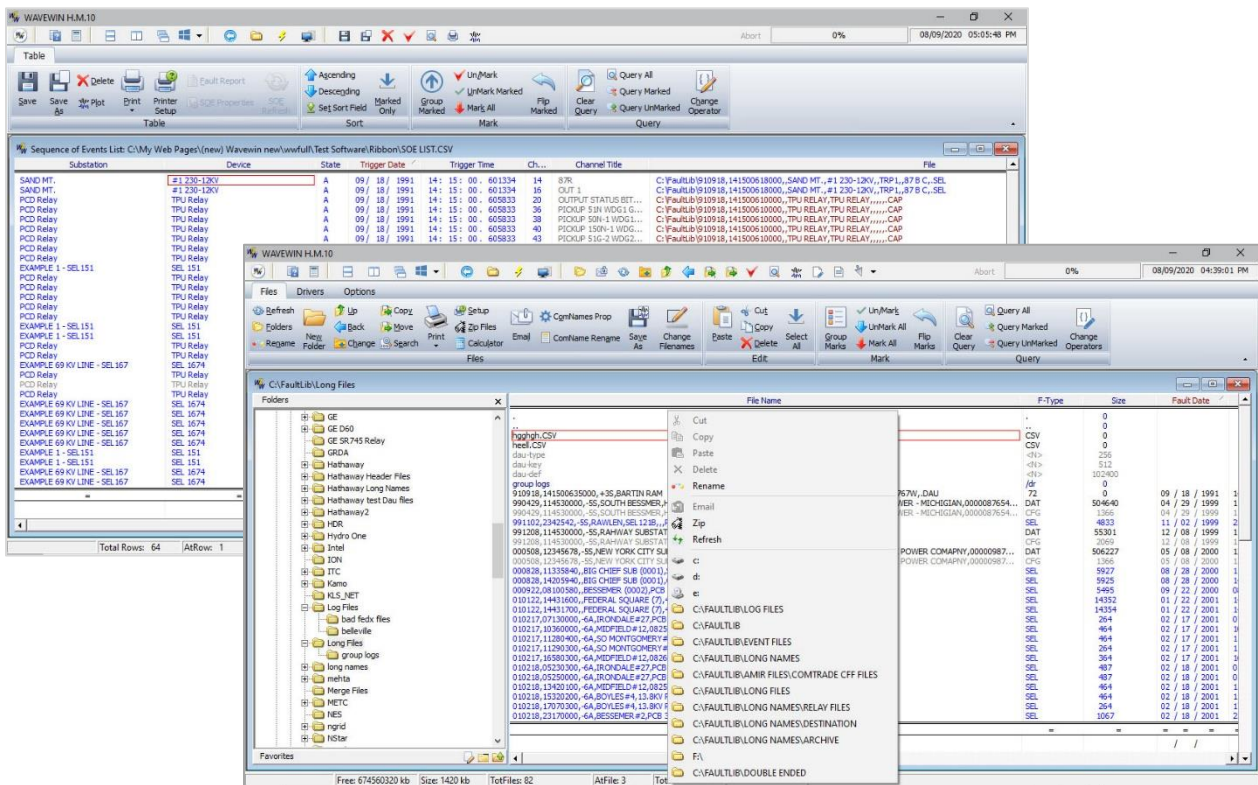


## Waveform Operations

- Merging selected analog & digital channels
- Appending selected analog & digital channels
- Peak and cycle hopping
- Amplitude & time scaling
- RMS, phase, and crest calculations
- Synchronizing data bars across multiple records
- Superimposing currents and voltages
- Changing sampling frequency
- Adding and removing cycles
- Measuring fault durations
- Creating macros with RMS & phase values
- Displaying digital events & sensors
- Saving views and software channels

## File Operations

- Auto append all marked files
- Auto merge all marked files
- Convert proprietary data to COMTRADE
- Rename to IEEE C37.232-2011 convention
- Open all selected waveform files
- Automatic fault summary reports
- Fast search and query engines
- Specialized copy, move and email engines



## Requirements and Support Services

- **Requirements** - The software works with Windows NT, 7, 10 and 2008/2012/2016 servers. The software requires 32MB of storage space and, depending on usage, may use up to 2GB of available memory. The software supports local and shared drives on the network, it is small, structured, and non-intrusive (does not modify any operating system files).
- **Technical Support** - Standard technical support services are available at 800.818.3463 or at support@softstuf.com.

- **Custom Services** - For custom development services please contact our support team at [support@softstuf.com](mailto:support@softstuf.com).
- **Training** - We offer a variety of training classes, for information on these classes please use this link [www.softstuf.com/wavewinclasses.html](http://www.softstuf.com/wavewinclasses.html). For other training inquiries please contact our support team at [support@softstuf.com](mailto:support@softstuf.com).
- **Warranties** - Softstuf warrants that the software will substantially achieve the functionality as advertised and described in the Manuals. In the event any future deficiency is discovered in the software then Softstuf shall at its own sole expense make the changes necessary to correct said deficiency within a reasonable time of being notified.
- **New Devices** - Softstuf will initially provide an extensive library of drivers for working with various types of event and fault data records from various types of numerical relays, digital meters, and fault recorders. In the event new drivers are requested then Softstuf will develop said drivers at rates and lead times that are mutually agreed upon.

## Licensing and Upgrades

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- The Universal Viewer is a standalone executable. Each copy requires activation and is downloaded from the website. Several trial runs are allowed before activation is required.
- The Viewer can be installed on individual stations or on a network server. If used with a network server, then it will require an activation code per user account.
- Upgrades are available for download from the website, activation is also required.

## Ordering Information

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<i>Item</i>	<i>Part Number</i>	<i>Description</i>
1	WWUV-WEB	<i>Downloadable zip file containing the software, all software documentation and an install program. Open the install program and follow the instructions to begin using the software.</i>

## Contact Us

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