

Application Note

63600 User Defined Waveforms (UDW) with Parallel Loads

63600 DC Electronic Loads

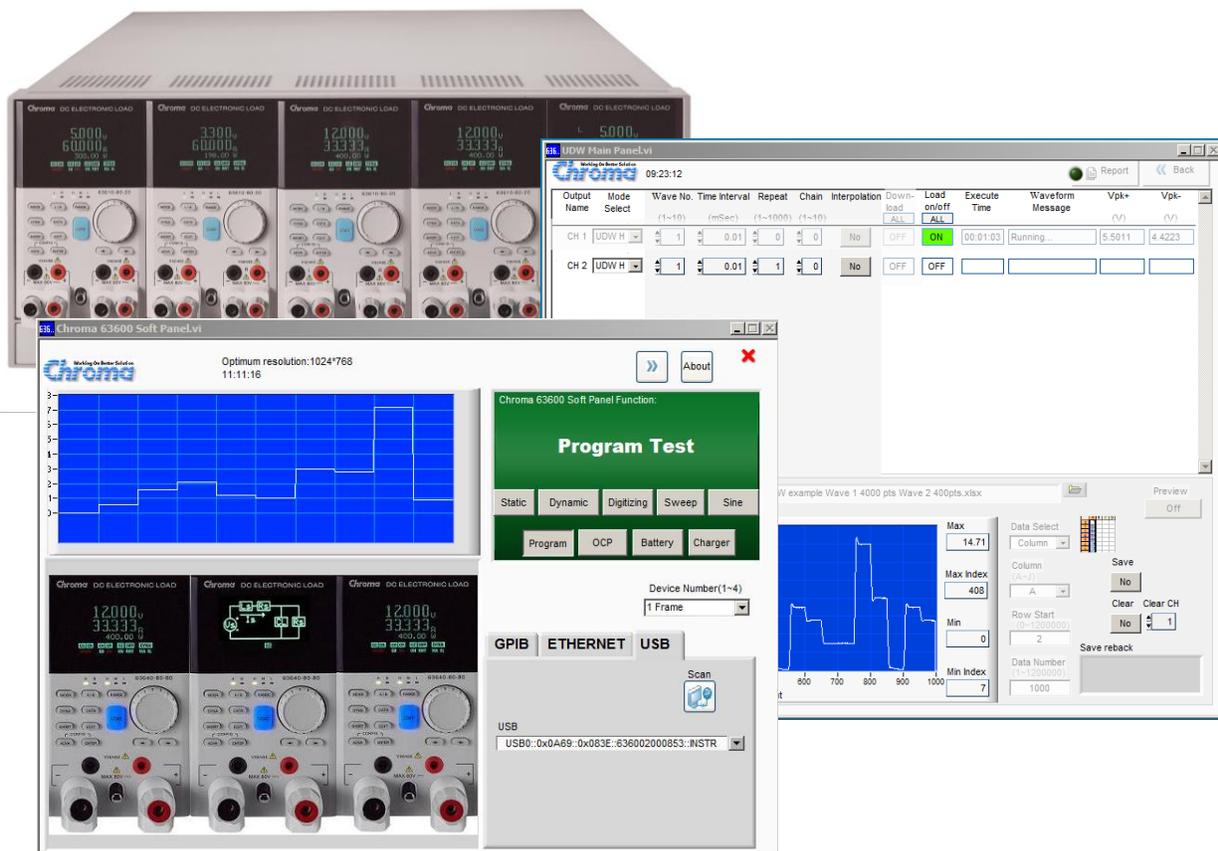
May 26, 2017

Application Note

Title: 63600 UDW with Parallel Loads
Product: Chroma 63600 Modular DC Load

Abstract: DC Power Supply's, DC Converter's, or Batteries are generally tested using DC Electronic Loads, in some cases it is preferred to see how the DC Source performs with an actual device it will be supplying power to. This is not always practical or the device is not always available. The Chroma 63600 Modular DC Loads have a feature that allows the customer to load a current waveform that they have captured from their actual device under test (DUT) using a Datalogger or O-Scope. The Chroma 63600 User Defined Waveform (UDW) Feature allows the waveform to be loaded into the Chroma 63600 DC Load from an Excel File. There are 10 File Locations in the Chroma 63600 Loads with upto 120,000 Data Points per file and they can be chained together for up to 1.2Million Data Points. Occasionally the Maximum current or Power may exceed the rating of a single 63600 Load Module. When this occurs it may be required to parallel Loads.

Solution: Chroma 63600 Loads can be paralleled to achieve higher current or power, and still share the same User Defined Waveform. This App Note describes how to set up the 63600 Loads in Parallel and how to share the same User Defined Waveform (UDW)



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The User Defined Waveforms and Parallel Configurations settings can be set using the Chroma software package PN 10532 “63600 Softpanel”. This will allow downloading the Current Waveform from an Excel file. The Parallel Master Slave Configuration settings used with the UDW feature is different then the typical settings for Master Slave paralleling.

(Reference 63600 Softpanel User Manual Version 1.2 SECTION 4.7)

NOTE: when setting the Master / Slave Parallel configuration on the 63600 you **DO NOT** select the **“Parallel Initial”** on the loads. (See circled in Red on Fig 1)

From the Hardware Setting Panel on the Chroma 63600 Softpanel you can select the loads to paralleled and select the Master and Slave **Parallel Type** as shown in Fig 1. After selecting the loads to be paralleled, and without pressing the **“Parallel Initial”** button, you can select the **UDW Tab** to go to the User Defined Waveform panel as shown in Fig 1.

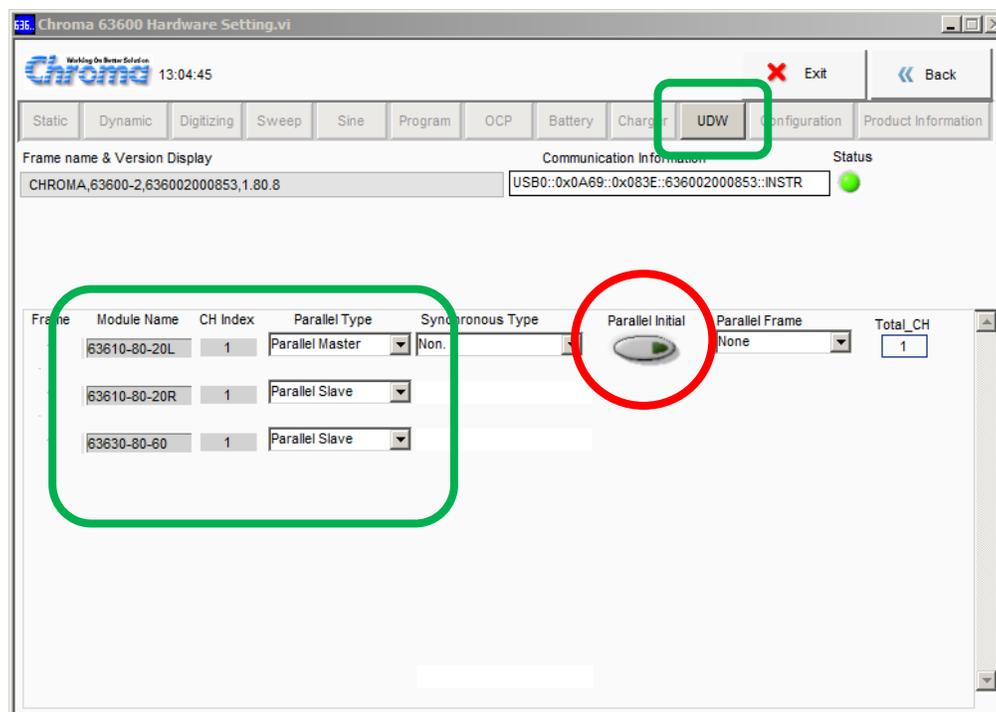


Fig. 1

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The Softpanel User Defined Waveform panel (Fig 2), has the following settings:

1. **Excel Path** to select the file that has the Raw data for the Waveform.
2. **Data Select**, you can choose Column or Row and then select the Column and Row Start, that the Data is stored in on the Excel File. The Data Number is the number of Data Points in the Column and can have up to 1.2M data points max.
3. **Preview** button will display the Data Graphically on the Excel Data Graph.
4. You can **Save** the data to a memory location in the Load by pressing the Save button
5. You can **Clear** the data by selecting the Clear button and Clear CH
6. The Parameters at the top of the panel are:

Mode Select, UDWH, UDWM, UDWL these select the UDW mode and the high, Mid and Low ranges.

Wave No., is the number of the file storing the data in the 63600.

Time Interval, is the time between Data Points.

Repeat, is the number of times the Waveform will run.

Chain, allows for chaining more then 1 waveform together.

Interpolation, the File into the Load.

Load on off, turns on the load and activates the wave form and turns off the load.

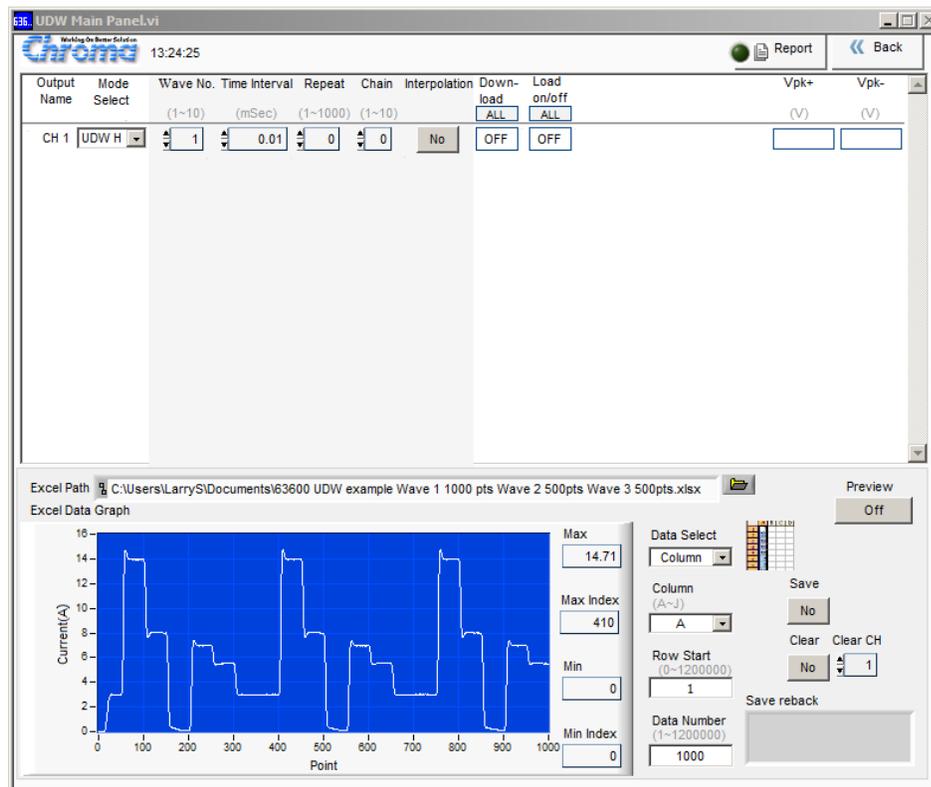


Fig 2

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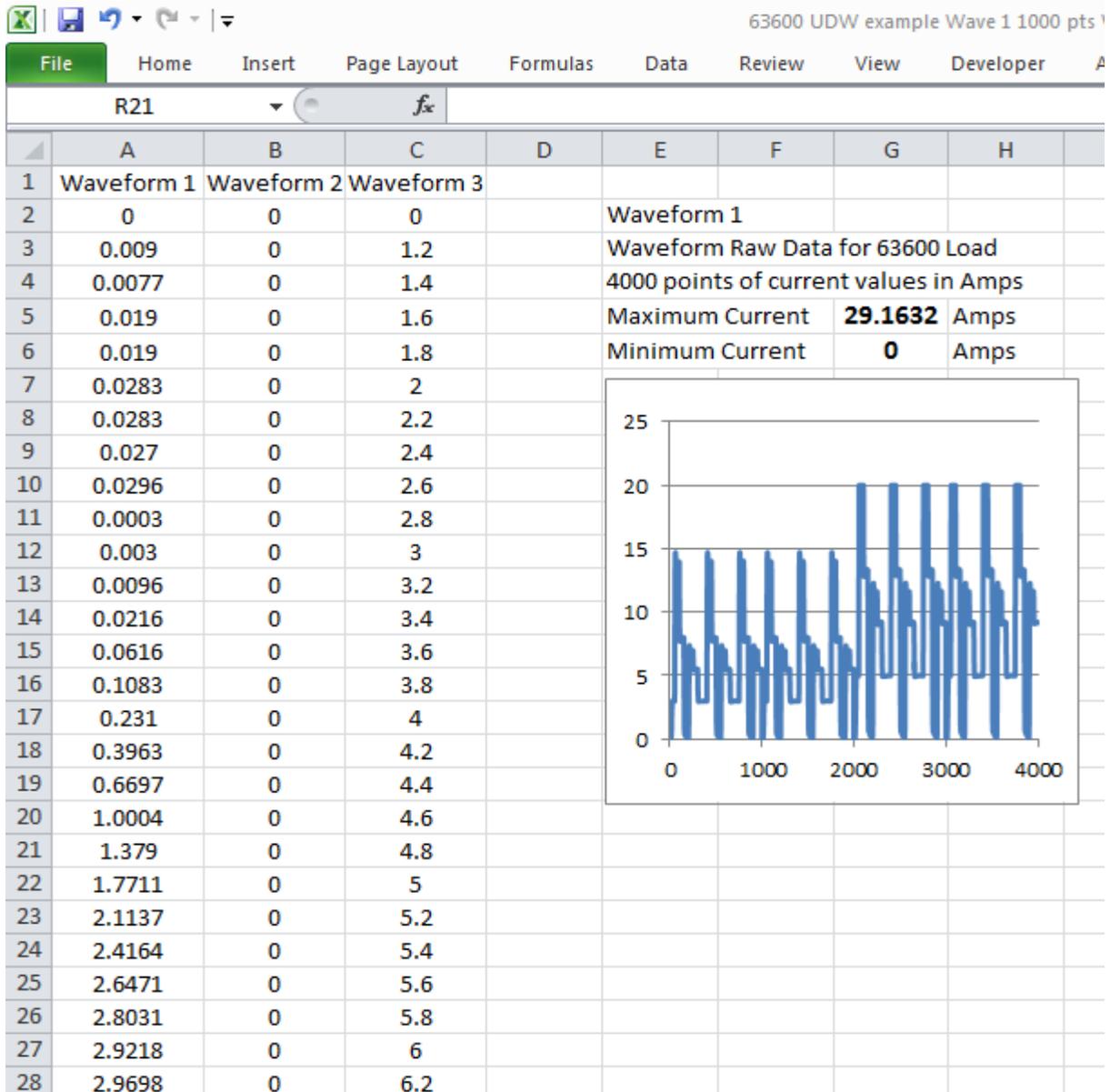
Turn the Load ON using the Load On/Off select at the top of the UDW Panel and the load current will follow the data settings form the selected waveform as seen below in Fig 3



Fig 3

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Fig 4 is a partial example of the Excel File that has the Raw data and a Plot of the waveforms that were downloaded into the 63600 UDW Memory. You can store multiple waveforms in a single excel file with each waveform in a different column.



For more information visit the Chroma USA Website.

www.ChromaUSA.com