

BOONTON

Technical Note

4400A/4500A Storing Data and Documenting Results To Floppy

The 4500A/4400A include a 3.5", 1.44 MB (DOS compatible) disk drive that can be a valuable tool for storing data and documenting measurement results.

Screen Image Files

Storing bit map files to floppy is a feature of the 4400A/4500A added in control software 20020511. These images are quickly and easily inserted into email messages, test reports and other documents to display measurement results.

The following image was setup using the "Util > Hardcopy" menu, stored by pressing "PLOT" and inserted into this Microsoft Word document using the "Insert > Picture" menu.



Power Versus Time Data Output

Each trace display of the 4400A/4500A is derived from a 501-element data buffer. The data for each of the channels, channel math or references can be output to the floppy in ASCII delimited (comma, LF, CR, Space) text. This data can be read into a spreadsheet or other math program that accepts ASCII delimited files, post acquisition processed and analyzed. This feature is effective for control software 20010119 and later.

The following example shows channel 1 pulse waveform data exported to the floppy using the “Prgm > Trace Data” menu and imported into a Microsoft Excel spreadsheet with the text import wizard.

The image shows two overlapping windows. The top window is the Boonton 4500A Pulse generator interface. It displays various settings and a pulse waveform. The settings include:

- Freq: 1.00 GHz
- Vid BW: High
- Avging: 1000
- Period: --.-- us
- PRFreq: --.-- Hz
- Duty C: --.-- %
- OverSh: 0.01 dB
- Top: 0.07 dBm
- Bot: -31.74 dBm

The waveform shows a pulse with a peak power of 0.07 dBm and a duration of 0.05 dB. The text 'Boonton Electronics Model 4500A RF Peak Power' is visible on the waveform.

The bottom window is a Microsoft Excel spreadsheet titled 'Data_Example.xls'. It shows a plot of the pulse waveform with the y-axis labeled 'dBm' and the x-axis labeled 'Time'. The plot shows a pulse that rises from -31.74 dBm to 0.07 dBm and then decays. A 'Text Import Wizard - Step 1 of 3' dialog box is open over the spreadsheet, showing the 'Delimited' option selected for the original data type. The preview of the file A:\B4500A03.TXT shows the following data:

Row	Value
1	-31.74
2	-31.74
3	-31.74
4	-31.74
5	-31.74

Store and Recall Instrument Setups

Productivity can be increased when developing multiple tests or when multiple users are sharing the instrument by storing and recalling instrument setups. Setup files store the state of the instrument and include the time settings, amplitude settings, display setup, trigger setup as well as measurements.

In the following example the 4500A was setup with a mix of status indicators, timing measurements and amplitude measurements. The time scale, trigger delay, vertical offset, vertical, trigger level, averaging and display type were also adjusted. All in all this was accomplished in 30 or more key presses on the front panel. The file was saved to floppy using the “Prgm > Instr Store” menu in a file B4500A01.ISU that contains the instrument status. This file can later be recalled if the instrument settings are changed (e.g. return to default settings) and 30 or more manual key presses are avoided.

