HIOKI 8855 Firmware and optional 9549 Software Defect Details

1. Erroneous current measurement with the Hioki 8855 and 9279, and PC application enhancements

Affected Versions:

- 1.10 to 2.55 (shipped between July 19, 2001 and July 19, 2001, and January 25, 2006)
- 5.00 to 5.55 (when using the 9549 Function Upgrade Disc, shipped between March 27, 2002, and January 25, 2006.)

Details:

- When measuring current with **the combination of Model 8951 Voltage and Current Unit and the 9279 Current Probe**, after acquired waveform data has been saved as a binary format file, data values will be 1.25 times larger than their initially measured values when the file is subsequently loaded by the Model 9335 Waveform Processor or the WV Wave Viewer. The measurement ranges producing erroneous values are **500 mA/div, 1 A/div, 10 A/div and 20 A/div**.
- As a result, if the waveform data file is converted to CSV format by the Hioki 9335 or WV software application and displayed graphically in Excel, its amplitude will be 1.25 times the measured level.
- However, the waveform displayed on the 8855 is unaffected.

Defect Example:

500 mA/div range: with 2.5 A (rms) input data converted to CSV format and displayed in Excel

$\rightarrow$ Measured values of about 7 A_{P-P} are erroneously displayed as about 8.8 A_{P-P}.
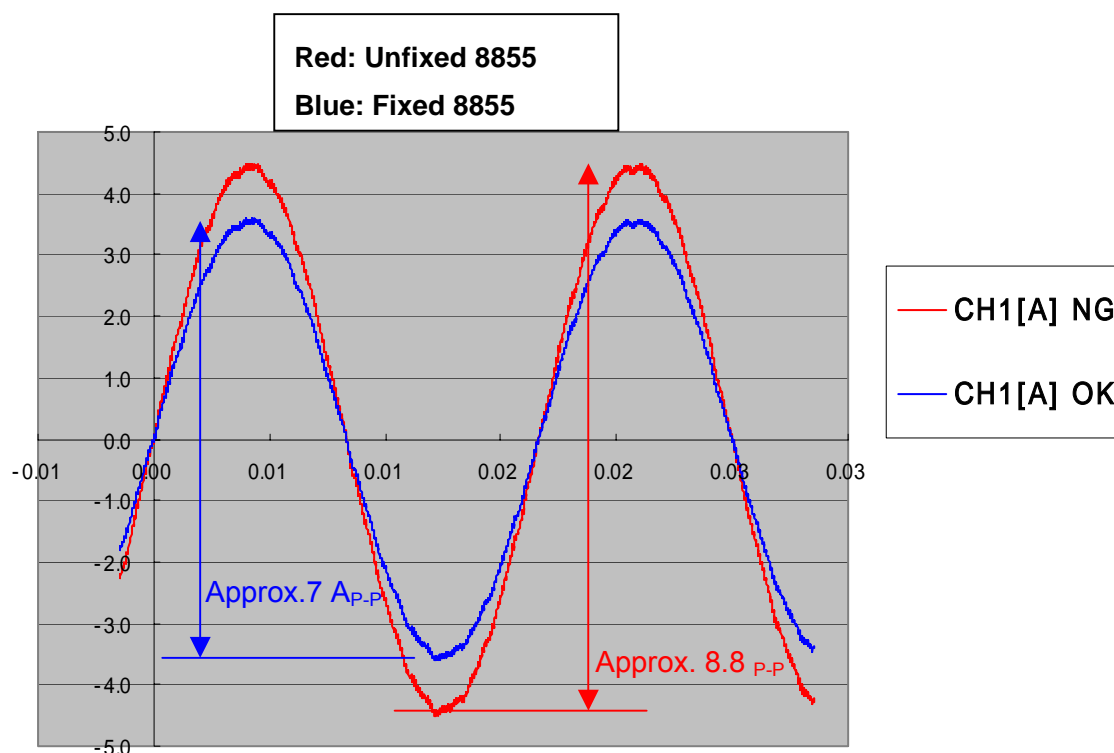
Enhancement:

Improved functions of the Hioki 9333, 9335 and WV software applications - <u>Waveform files that were saved before the 8855 was fixed</u> can be read properly by calculating a new conversion factor using the 8855 range information and according to whether or not the Model 9279 was used, without using the conversion factor saved with the (binary format) waveform files.

2. Erroneous timebase settings with the Recorder Function of the Hioki 8855

Affected Versions:

- 1.10 to 2.54 (released between July 19, 2001, and October 25, 2005)
- 5.00 to 5.54 when using the Model 9549 Function Upgrade Disc, released between March 27, 2002, and October 25, 2005.
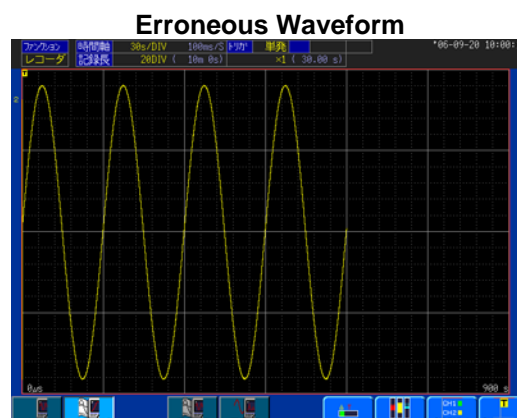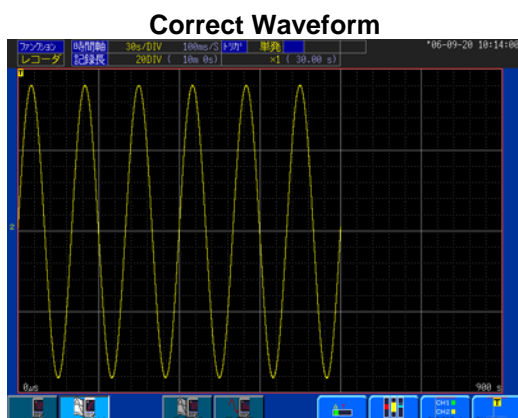
Details:

- Depending on the combination of the timebase and sampling settings, actual recording length may be shorter than the set time. Particularly when the timebase is set to 30 s/div, actual recording occurs at 20 s/div, so the time axis is erroneously lengthened and recording time is only 2/3 of the correct length.

		Sampling		
		10us	100us	100ms
Time Axis [/DIV]	100ms to 200ms	--	--	--
	500ms	499ms	--	--
	1s	0.999s	--	--
	2s	1.999s	--	--
	5s	--	--	--
	10s	--	--	--
	30s	--	29.99s	20s
	1min	--	59.99s	50s
	2min	--	1min59.99s	1min50s
	5min to 1h	--	--	--

Defect Example:

With the instrument timebase set to 30 s/div, monitoring a sine wave with a 100-second period for 20 divisions should capture six cycles of the waveform. However, because of the defect, only four cycles are captured, as the actual timebase is 20 s/div.

Correct Waveform	Erroneous Waveform

3. Erroneous Numerical Value Calculation (Average, RMS and Area)

<u>Affected Versions:</u>

- 2.10 to 2.14 (when using the Model 9549 Function Upgrade Disc versions 5.00 to 5.04, released between March 28, 2002, and October 28, 2002.)

<u>Details:</u>

- When performing numerical calculation on lower-numbered channels using the Memory function, calculation results for Average, RMS and Area values on channels other than CH1 are incorrect (calculated results are completely unrelated to measured values).

  Calculation results with the following channels are erroneous:

  CH2 when the Use Channels setting is CH1-2

  CH2, CH3 and CH4 when the Use Channels setting is CH1-4

  Note: When the Use Channels setting is CH1-8, no problems occur.

<u>Defect Example</u>

- In this case, the Use Channels setting is CH1-2, with a 2 Vp-p sine wave applied to CH1 and no signal applied to CH2. Average, RMS and Area values are calculated after measurement.
- Although the calculation results for CH2 should be near zero, before the fix is applied (left figure), they are almost the same as the values for CH1(!). After the fix is applied (right figure), the calculated values for CH2 are near zero. (This is only one example of the defect: the erroneous values are not always near those of CH1.)

Unfixed   RMS CH2 0.70850 V   Erroneous   **Fixed   RMS CH2 0.00359 V   Normal**
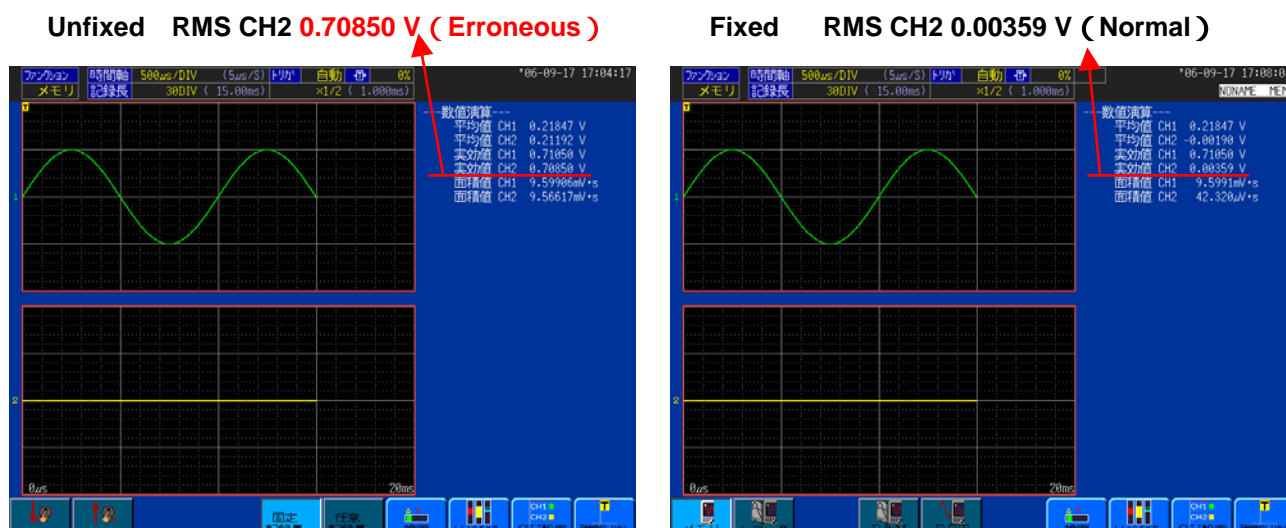
4. Erroneous text data ftp transfer via LAN

Affected Versions:

- Model 8855 HiCORDER: versions 2.00 to 2.14 (shipped from December 21, 2001, to Otober 28, 2002)
- Model 9549 Function Up Disk: versions 5.00 to 5.04 (shipped from March 27. 2002, to October 28, 2002)

Details:

- When sending stored memory data (acquired /STORAGE/TEXT/DATA.TXT) from the 8855 as text using the ftp function, the created file is missing some data after each 64 KB.
- Binary file transfers are unaffected by this defect.

Defect Example:

Some data is missing at each multiple of 64 KB from the start of the file.

```
…
 +8.405000000E-05,-6.0000E-01,+4.0000E-01,+2.9000E+00
 +8.410000000E-05,-6.0000E-01,-2.0000E-01,+2.8500E+00
 +8.415000000E-05,-6.0000E-01,-1.0000E+00,+2.9500E+00
 +8.420000000E-05,-6.0000E-01,-2.0000E-01,+2.8500E+00
 +8.425000000E-05,-4.0000E-01,-8.0000E-01,+2.8000E+00
 +8.430000000E-05,-4.0000E-01,
 E+00
 +8.440000000E-05,-2.0000E-01,-4.0000E-01,+2.9000E+00
 +8.445000000E-05,-6.0000E-01,+4.0000E-01,+3.0000E+00
 +8.450000000E-05,-6.0000E-01,-6.0000E-01,+2.9000E+00
 +8.455000000E-05,-4.0000E-01,+0.0000E+00,+2.7500E+00
 +8.460000000E-05,-6.0000E-01,-8.0000E-01,+2.7500E+00
 +8.465000000E-05,-8.0000E-01,+4.0000E-01,+2.8500E+00
 …..
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