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March 26, 2014

RECEIVED

Mr. Jeff Derouen  
Executive Director  
Commonwealth of Kentucky  
Kentucky Public Service Commission  
P.O. Box 615  
Frankfort, KY 40602-0615

MAR 27 2014

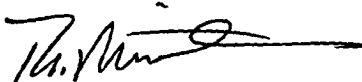
PUBLIC SERVICE  
COMMISSION

RE: Case No. 2012-00310  
Case No. 2012-00311  
Case No. 2012-00312

Dear Mr. Derouen:

Enclosed please find the original and ten copies of Meade County Rural Electric Cooperative Corporation Comments To The Staff Investigative Report in the above-styled cases.

Respectfully submitted,



Thomas C. Brite  
Attorney for Meade County RECC

TCB: bep

Enclosure



reported which indicates an acceptable system was in place. Further, Meade points out that there are other situations where these fluctuations and variations could occur. One instance would be the power supplier itself (Big Rivers) whose transmission lines have not been monitored and could cause some spikes. Also there could be problems between the meter and the service of each complainant as the complainants' systems have not been monitored. Finally, it should be noted that animals, birds and other unknown factors on utility lines can result in voltage fluctuations and spikes similar to those monitored.

In concurrence with the Commission's monitoring, Meade also installed digital recorders during the same time periods. The resulting data charts can be seen in the attached addendum. It should be noted that these recorders are capable of sampling the voltage levels 256 times per cycle or 15,360 times per second which is over 200 times faster than a human can perceive a lighting change. The graphs show the minimum and the maximum samples in any 10 second logging period during the 10 days or so they were recording.

These recorders were installed at idle services in order to measure any fluctuations due to the primary source and not anything that the member could be creating within their service. The graphs shown in the addendum are from an idle service to a grain bin near Mr. Bell's residence which immediately precedes the three complainants' residences.

The first graph in each group represents the overall voltage levels for the entire recording period. The following graphs show voltage readings for the 5 PM to 11 PM time frame for each day during the recording period. The average or nominal voltage for the Big Bend area of the system is around 125.5 Volts. Therefore, from 11 PM to 5 PM, the voltages must remain within 10% of the nominal voltage, yielding a range of 113 Volts to 138 Volts. During the 5 PM to 11 PM time period, the voltage range of 5% (not to exceed a total variation of more than 6%) equates to a range of 119.2 Volts to 131.8 with a variation not to exceed 7.5 Volts. See the requirements set forth in 807 KAR 5:041, Section 6, Voltage and Frequency.

During the first span of testing (April 23 through May 14, 2013) there was a sustained outage on the 28<sup>th</sup> of April and only one sag on May 13 that was outside of the required boundaries for a couple of logging periods and the reason is not known. A sag lasting more than one logging period is usually due to a brief interruption such as a reclosure operation or something coming in contact with the primary line such as a small bird or falling limb. However, there were no samples outside of the required boundaries within the 5 – 11 PM time periods.

The next two testing periods (6/24 – 7/3 and 7/15 – 7/25) do depict a few samples outside of the requirements; however, the majority of these are due to thunderstorms that rolled through the area. These have been marked as storm related incidences; three outside of the 5-11 PM window have no known reasons at this time. Three occurred between 5 and 11 PM on the 27<sup>th</sup> and 29<sup>th</sup> of June and one on the 20<sup>th</sup> of July. The one on the 29<sup>th</sup> looks to be caused by an outside

disturbance, such as something contacting the line; the other two are minimally out of the 5% limits and are unexplainable at this time.

See Addendum attached to this Defendant's Comments to the Staff Investigative Report.

### CONCLUSION

Meade believes that it is satisfying the requirements as set forth in 807 KAR 5:041, Section 6, Voltage and Frequency. It is Meade's position that the Moore report and its data does not indicate a violation of this section, and in particular, sub-section (2) relative to the voltage at the customer service entrance or connection and sub-section (6) of this regulation.



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HARDINSBURG, KENTUCKY 40143  
ATTORNEY FOR PLAINTIFF,  
MEADE COUNTY RURAL ELECTRIC  
COOPERATIVE CORPORATION

### CERTIFICATE OF SERVICE

The undersigned does hereby certify that a true and correct copy of the foregoing Defendant's Comments to the Staff Investigative Report was on this 26 day of March, 2014 mailed to Mona Corrin Jarboe, 7055 Big Bend Road, Battletown, Kentucky 40104; Steven L. Miles, 6750 Big Bend Road, Battletown, Kentucky 40104 and David Ballantine Bell, 5615 Big Bend Road, Battletown, Kentucky 40104, the original with ten (10) copies to Jeff Derouen, Executive Director, Kentucky Public Service Commission, 211 Sower Blvd., P.O. Box 615, Frankfort, Kentucky 40602-3460.



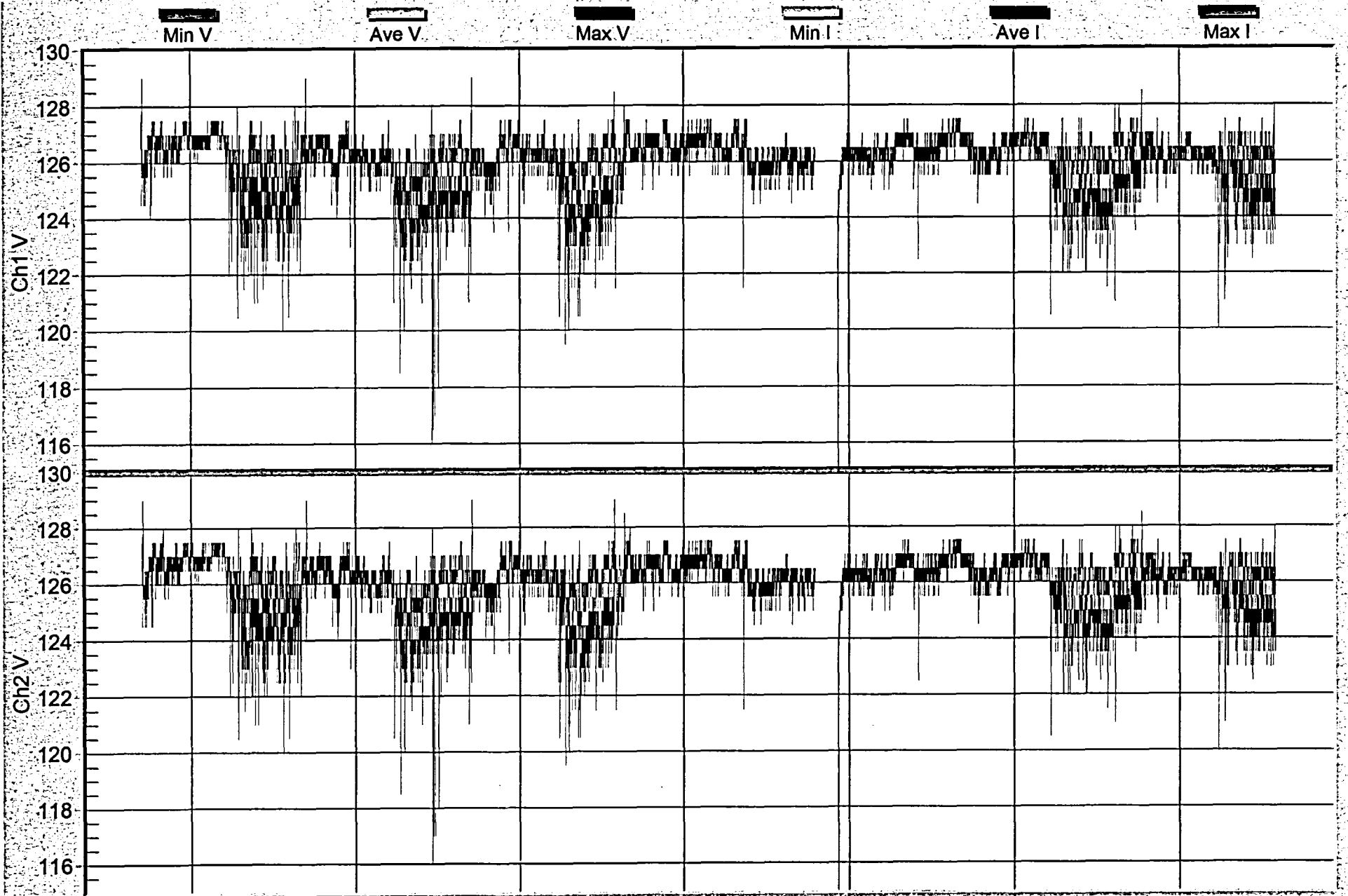
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THOMAS C. BRITE  
ATTORNEY FOR MEADE COUNTY  
RURAL ELECTRIC COOPERATIVE  
CORPORATION

**April 23, 2013 to April 30, 2013**

*Pole 1215A (Roll's Guin Bin)*

### RMS Voltage and Current

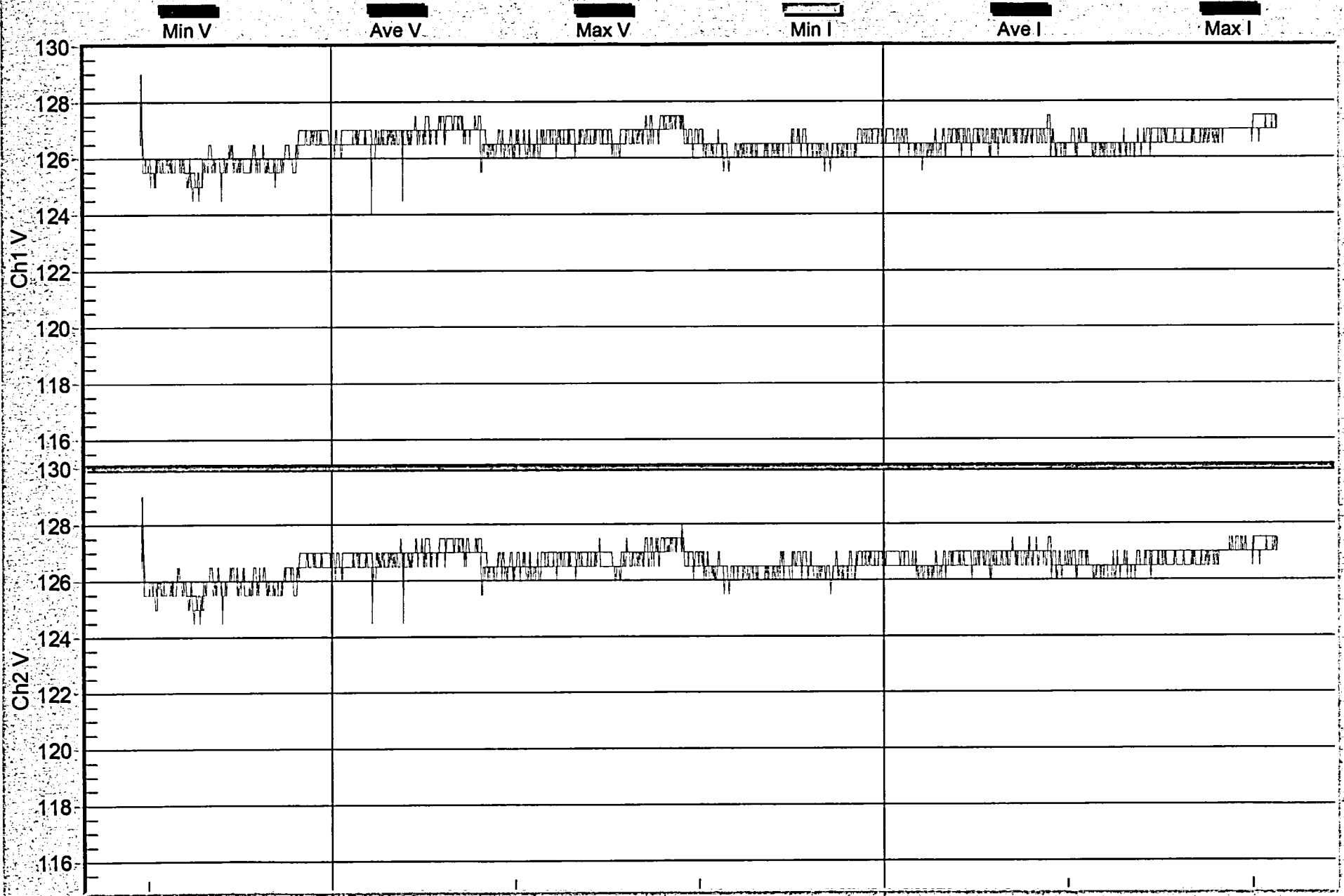


24 Wed      25 Thu      26 Fri      27 Sat      28 Sun      29 Mon      30 Tue

Apr-2013

*Outage*

# RMS Voltage and Current

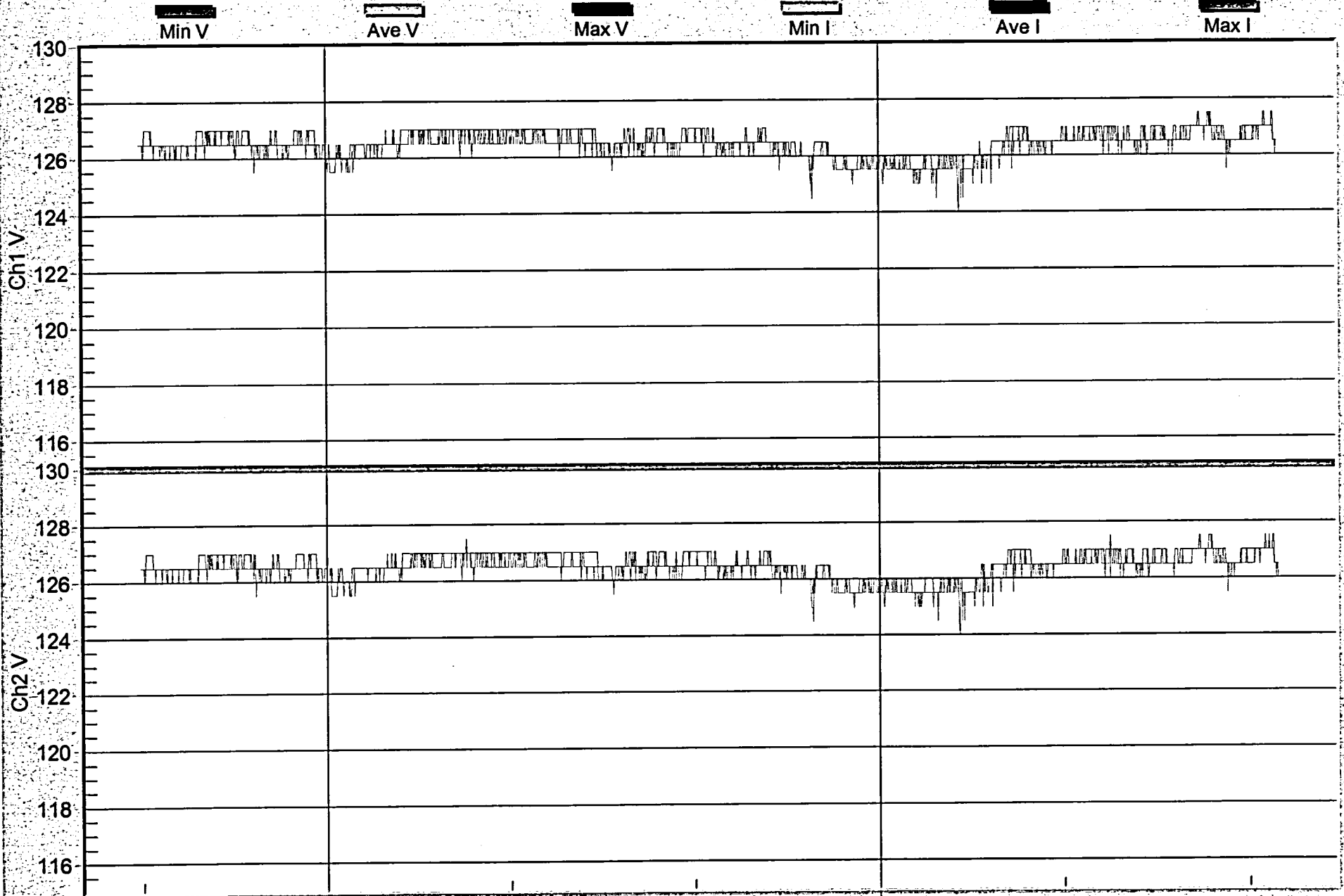


Apr 23 Tue 2013

6PM

9PM

# RMS Voltage and Current



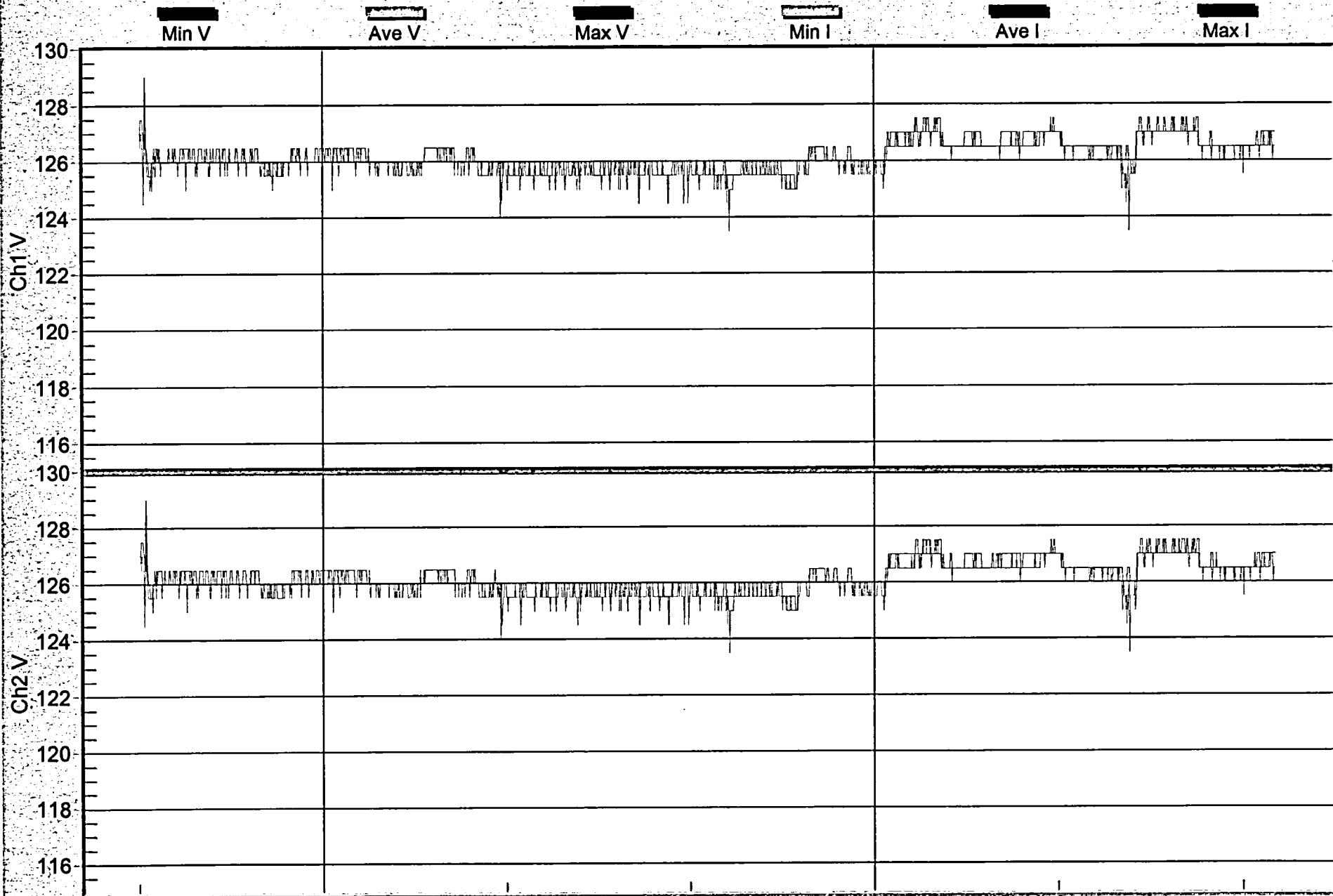
Apr 24 Wed 2013

6PM

9PM



# RMS Voltage and Current

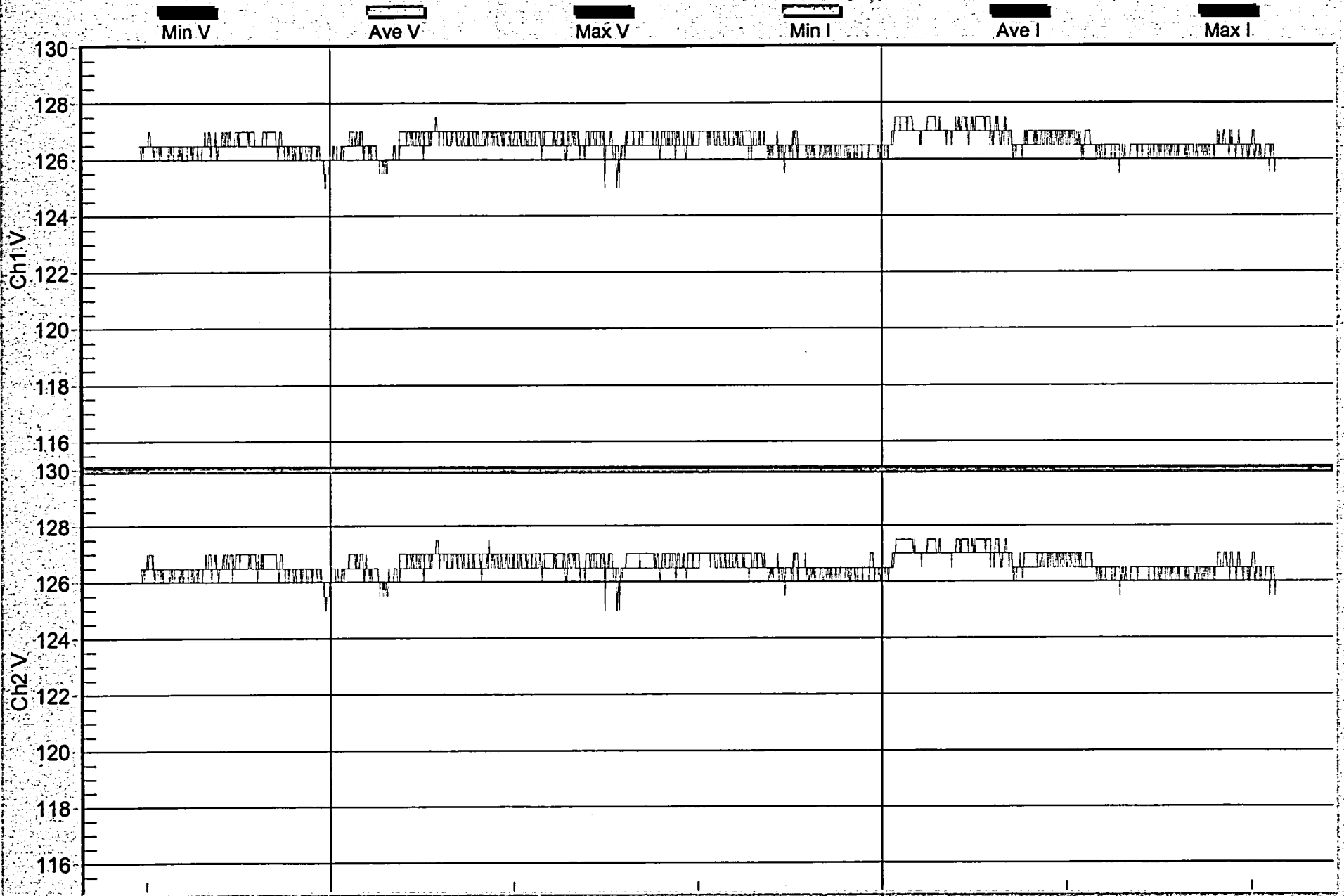


Apr 25 Thu 2013

6PM

9PM

# RMS Voltage and Current

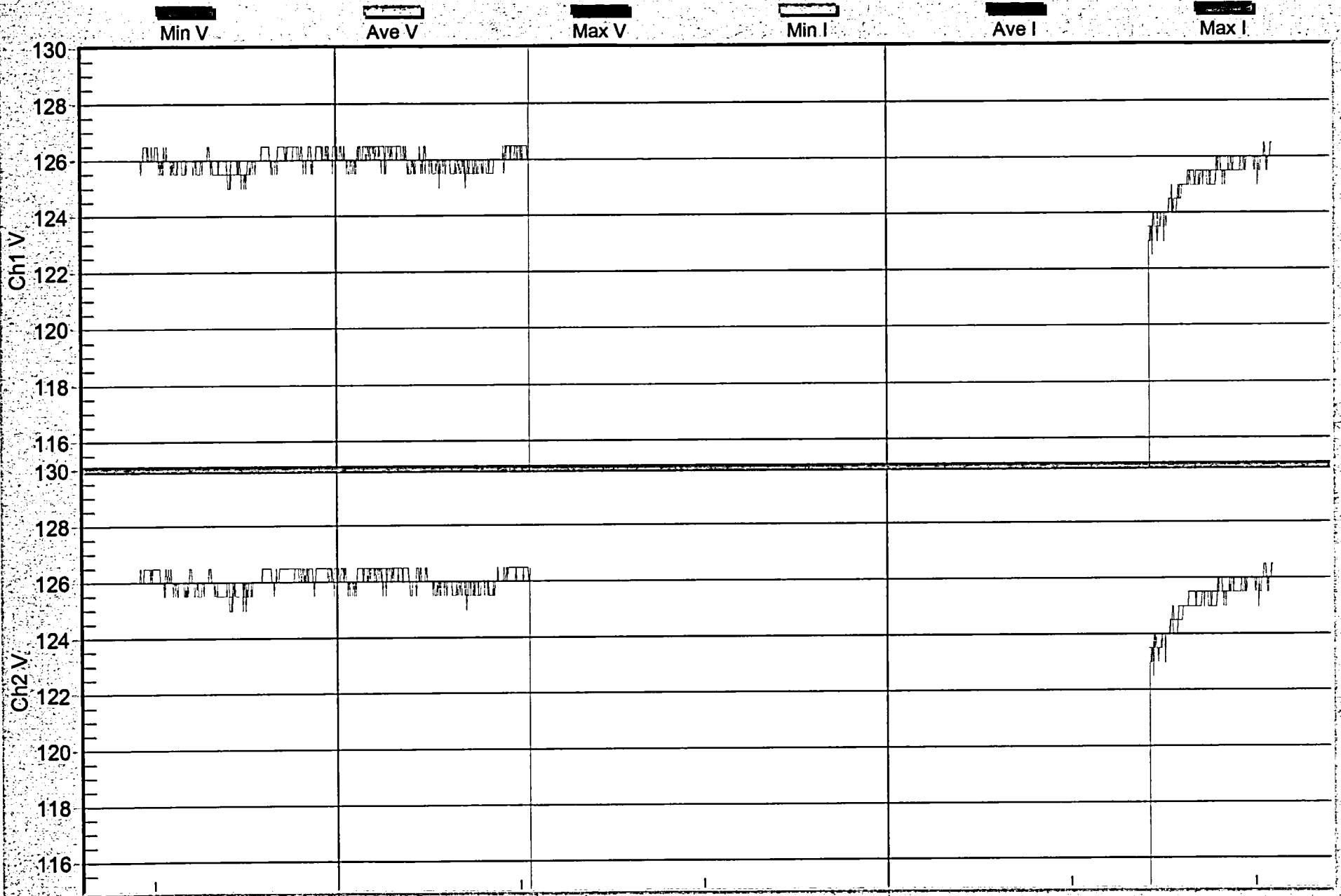


6PM

9PM

Apr 26 Fri 2013

# RMS Voltage and Current

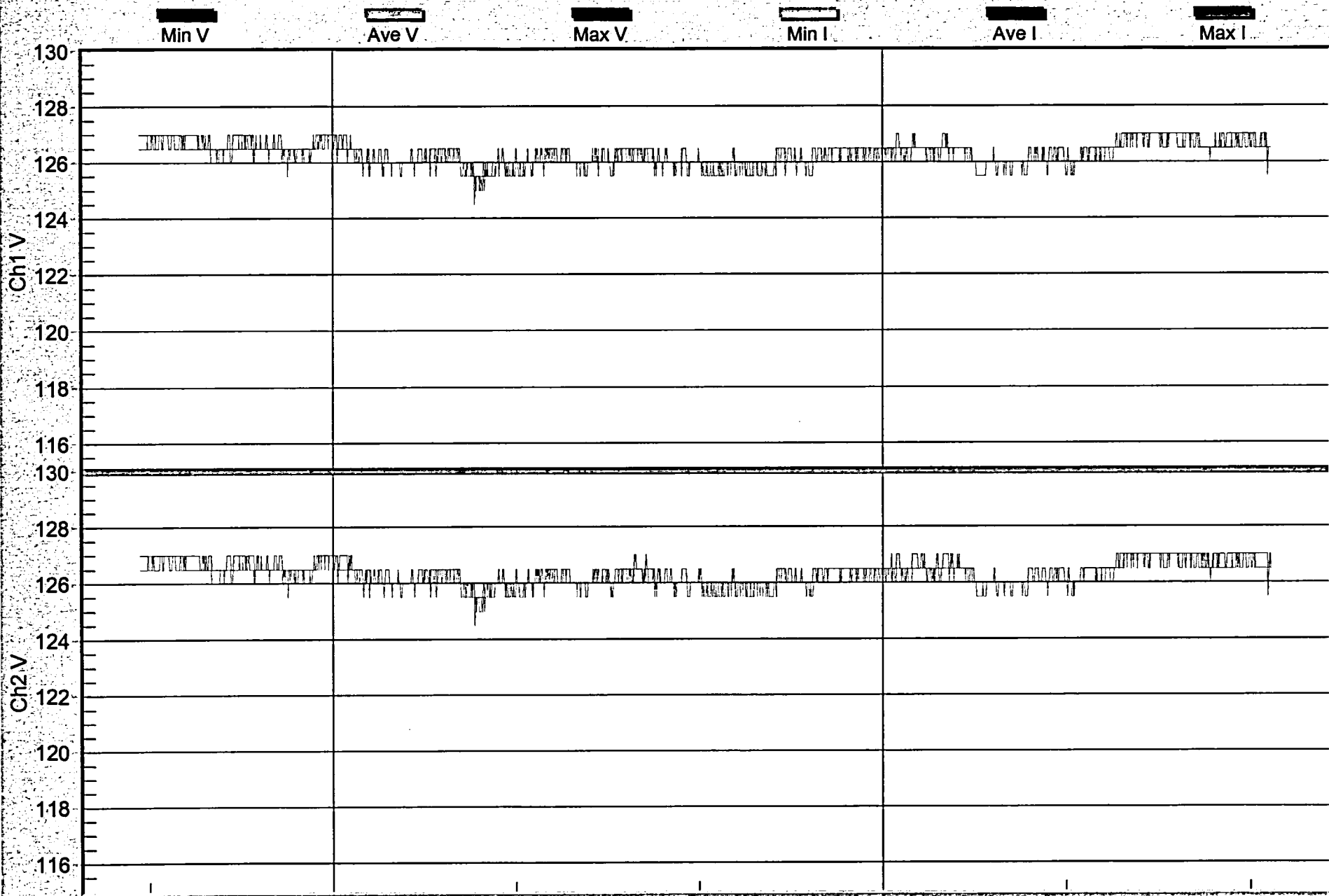


Apr 27 Sat 2013

6PM

9PM

# RMS Voltage and Current

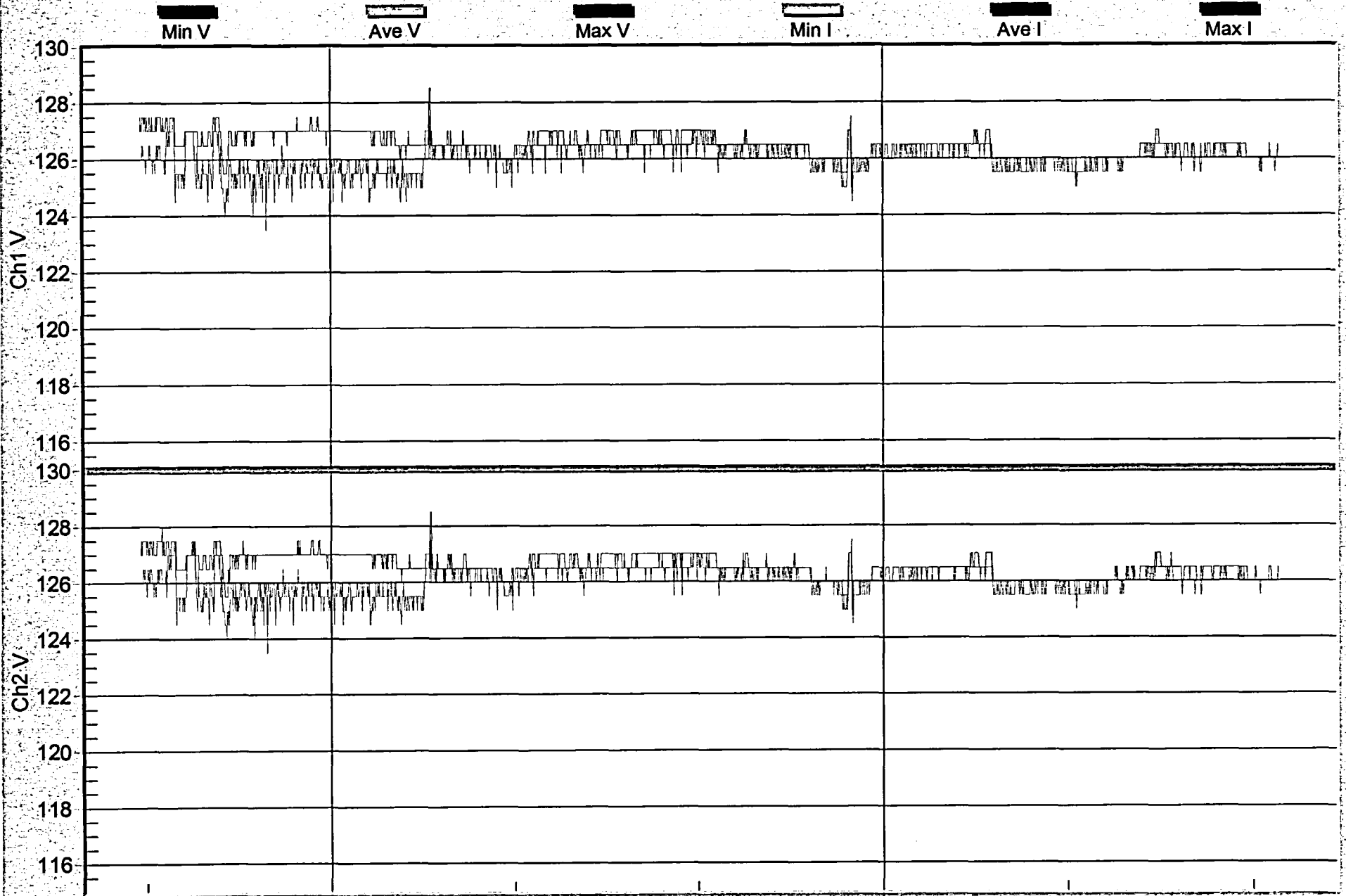


6PM

9PM

Apr. 28 Sun 2013

# RMS Voltage and Current



Apr 29 Mon 2013

6PM

9PM

**May 1, 2013 to May 7, 2013**



# RMS Voltage and Current

Min V

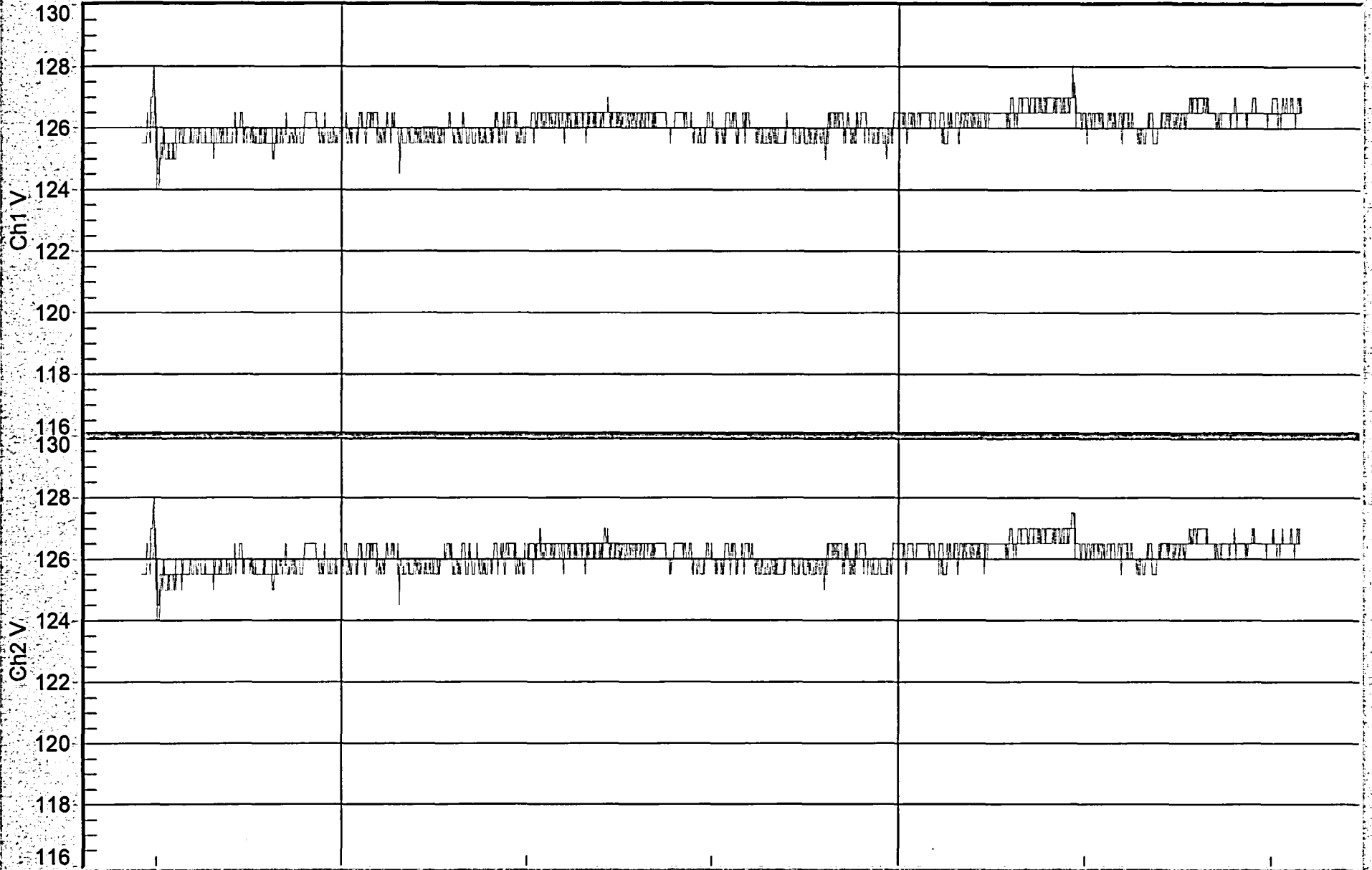
Ave V

Max V

Min I

Ave I

Max I



6PM

9PM

May 1 Wed 2013



# RMS Voltage and Current

Min V

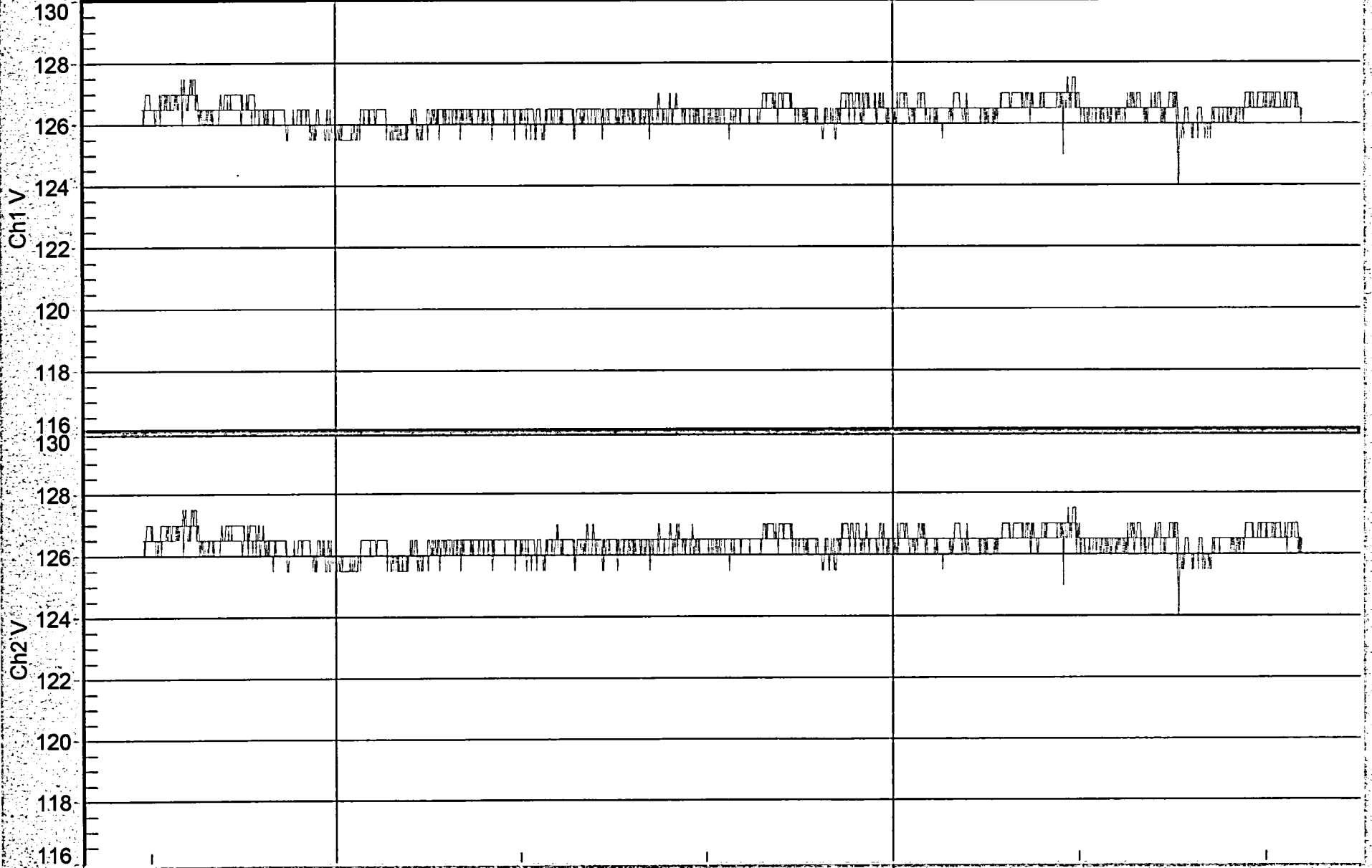
Ave V

Max V

Min I

Ave I

Max I



May 2 Thu 2013

6PM

9PM

# RMS Voltage and Current

Min V

Ave V

Max V

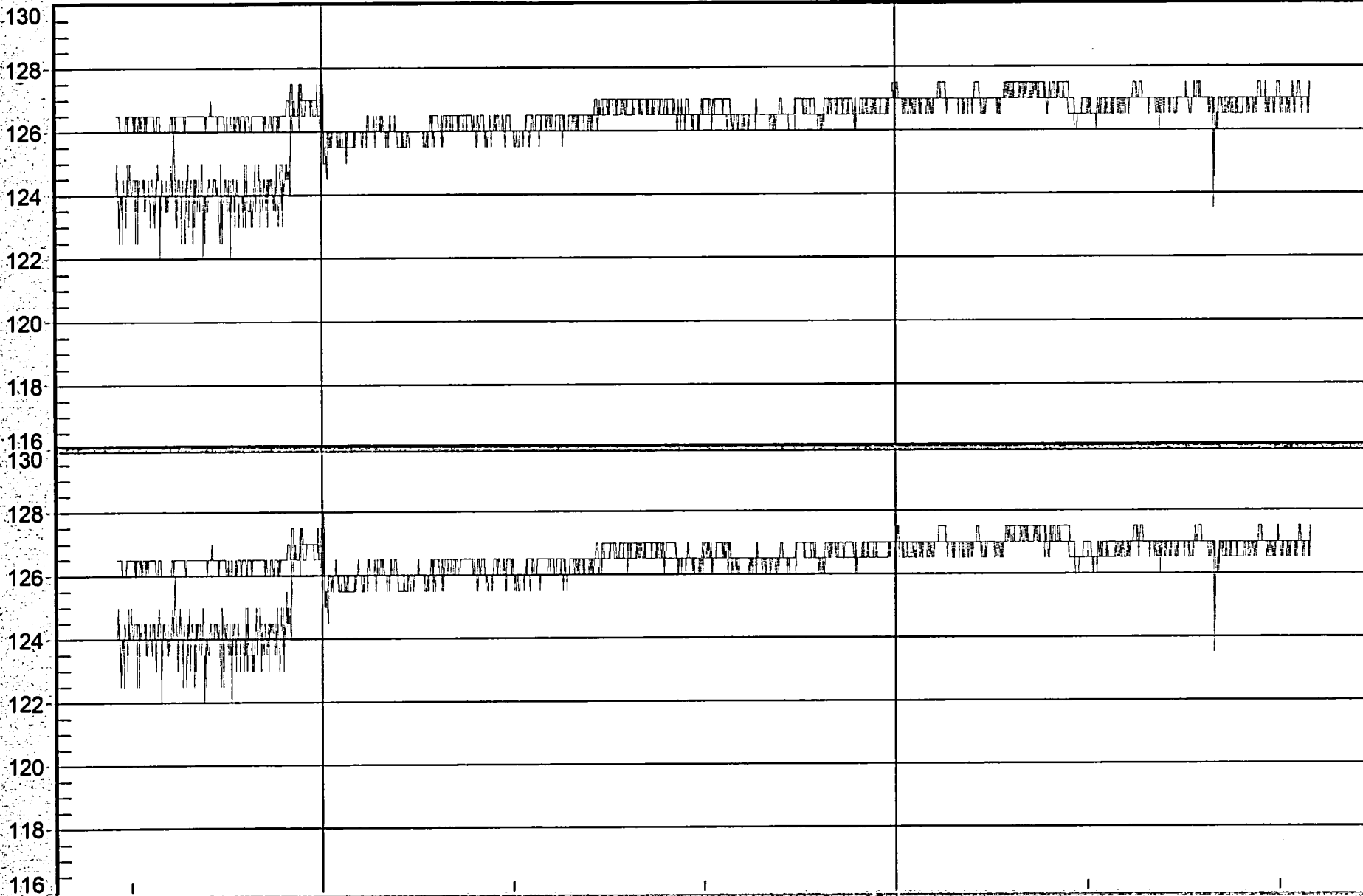
Min I

Ave I

Max I

Ch1 V

Ch2 V



6PM

9PM

May 3 Fri 2013

# RMS Voltage and Current

Min V

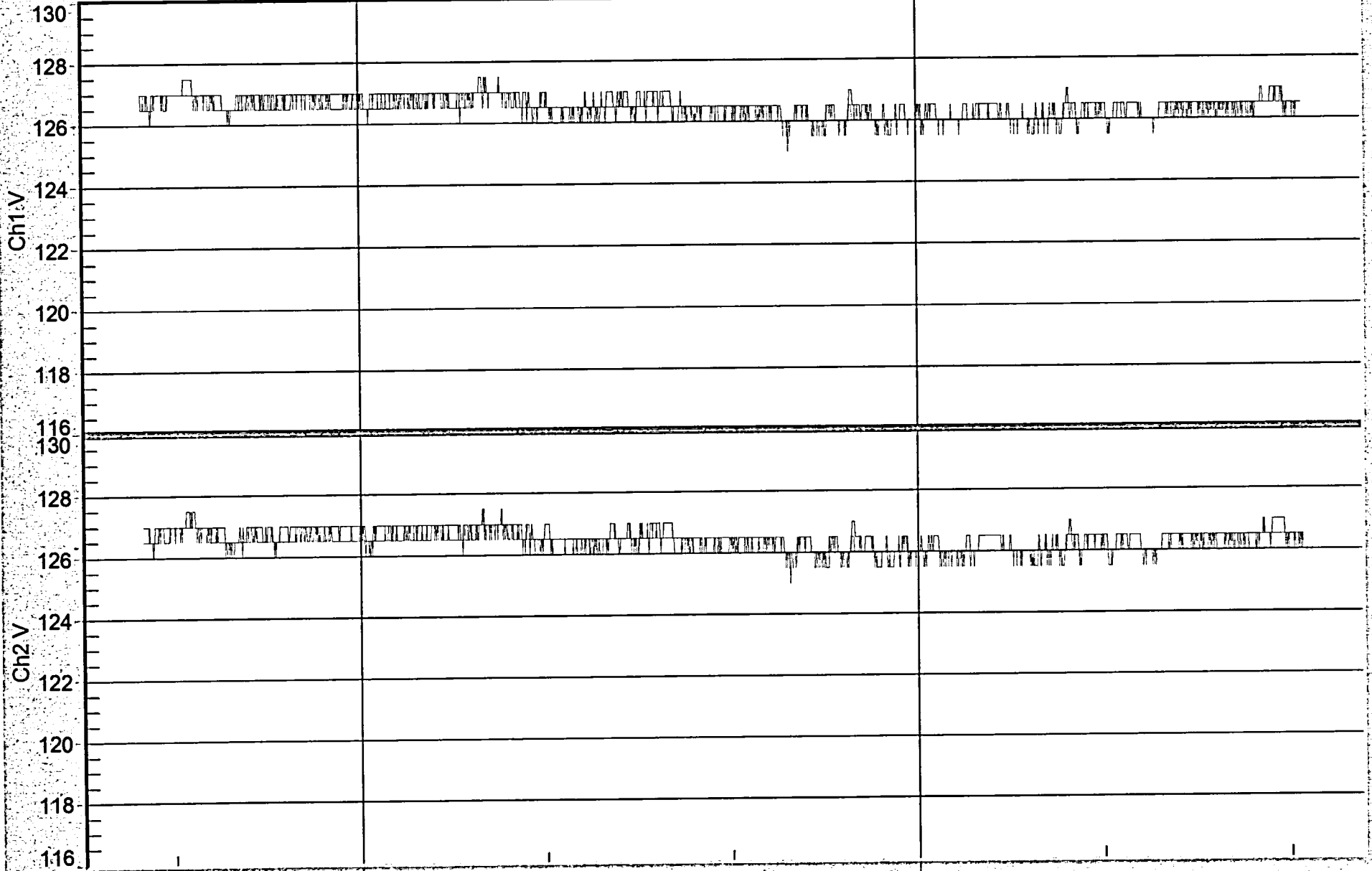
Ave V

Max V

Min I

Ave I

Max I

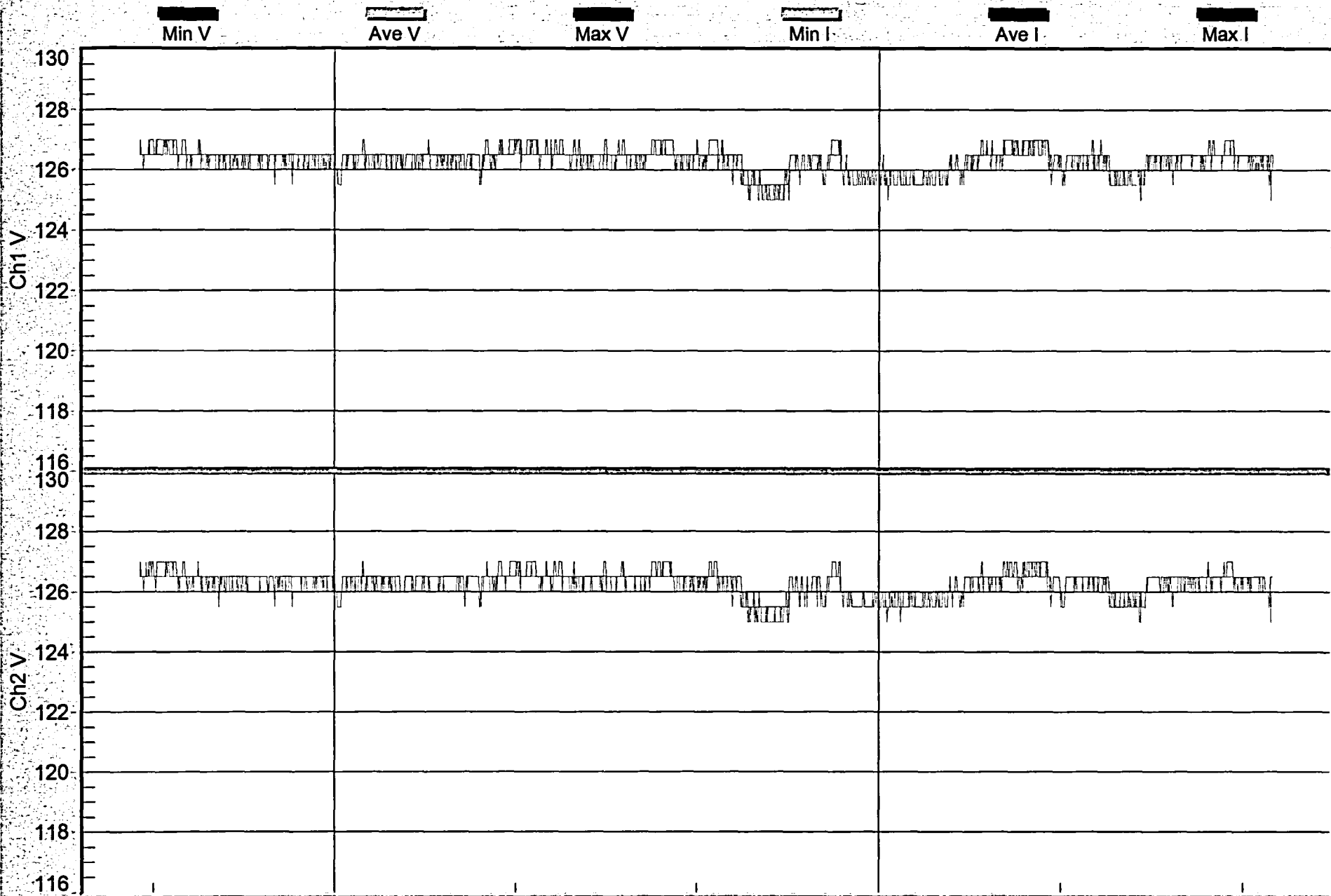


6PM

9PM

May 4 Sat 2013

# RMS Voltage and Current

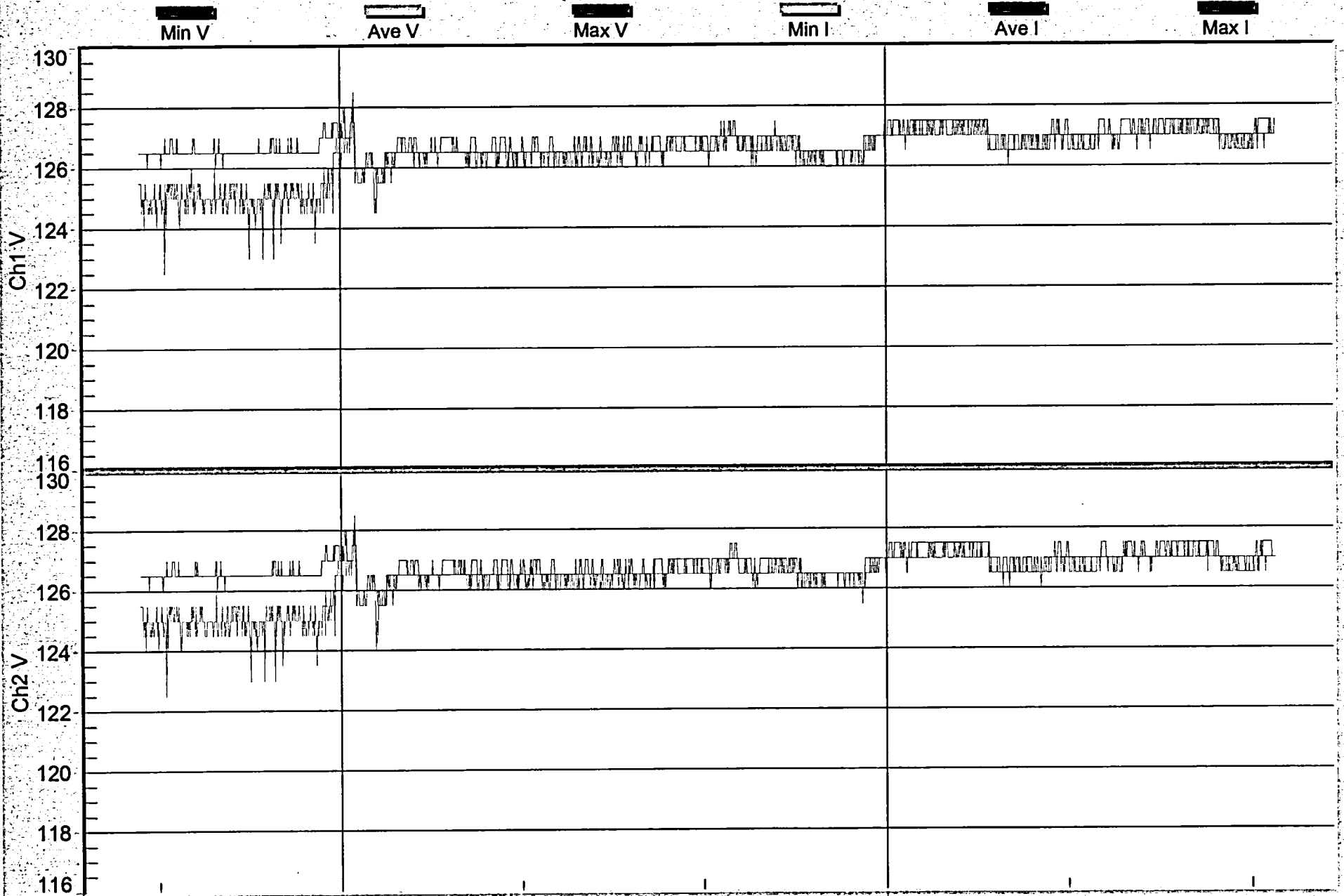


6PM

9PM

May 5 Sun 2013

# RMS Voltage and Current



May 6 Mon 2013

6PM

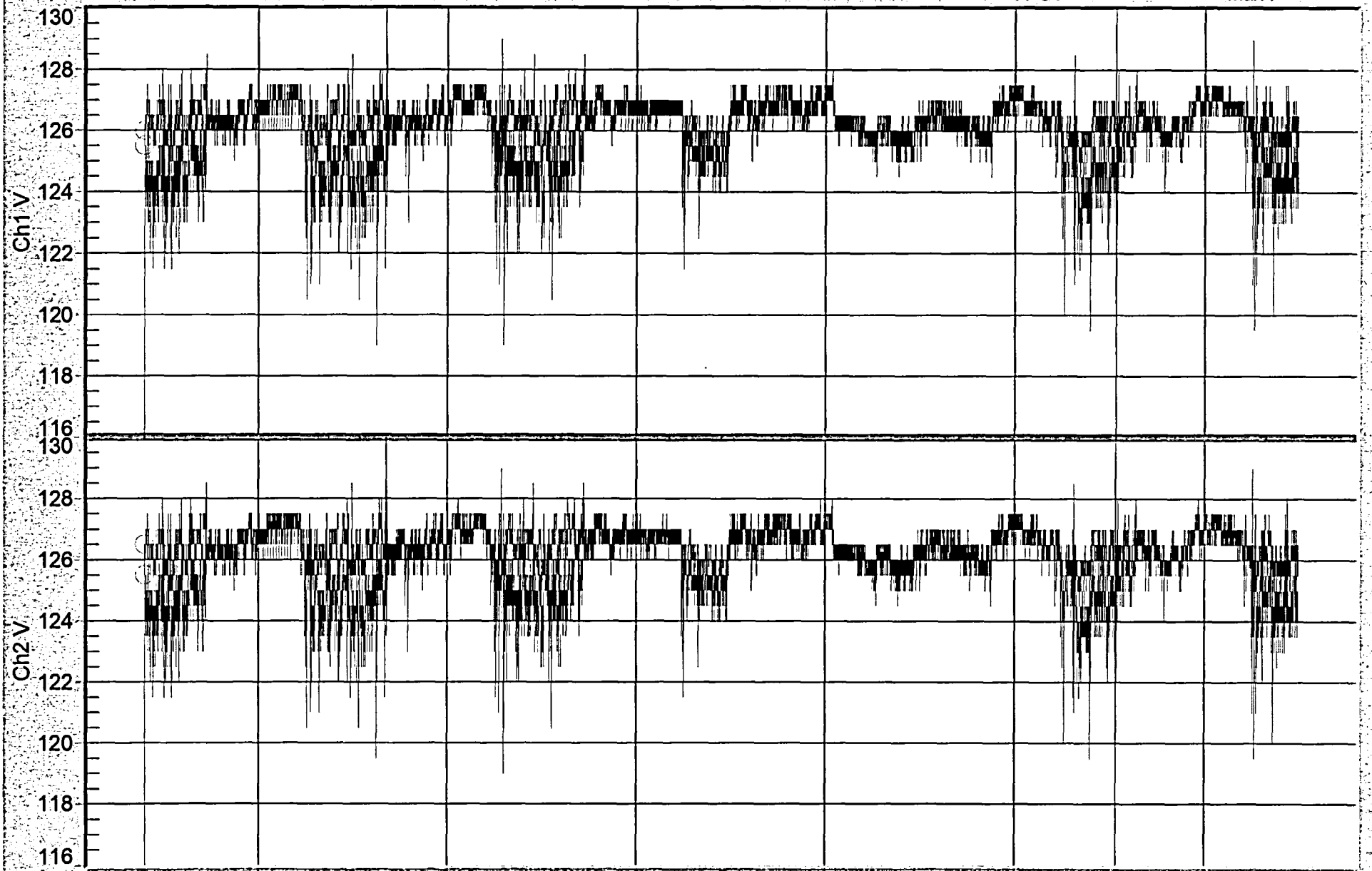
9PM

**May 8, 2013 to May 14, 2013**

*Pl 12154 (Mr. Balls Gen 31)*

### RMS Voltage and Current

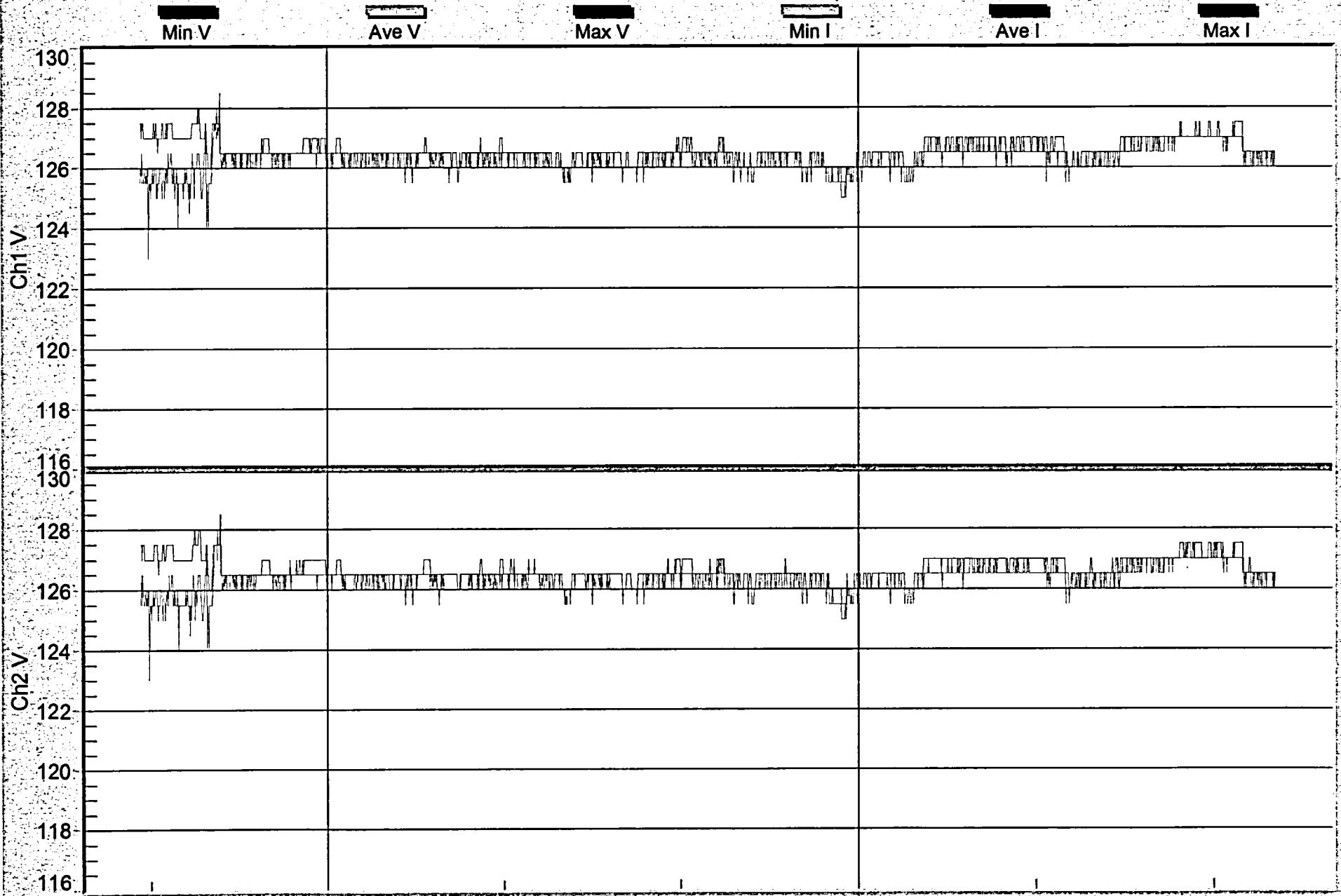
Min V      Ave V      Max V      Min I      Ave I      Max I



9 Thu      10 Fri      11 Sat      12 Sun      13 Mon      14 Tue

May 2013

# RMS Voltage and Current



6PM

9PM

May 8 Wed 2013



# RMS Voltage and Current

Min V

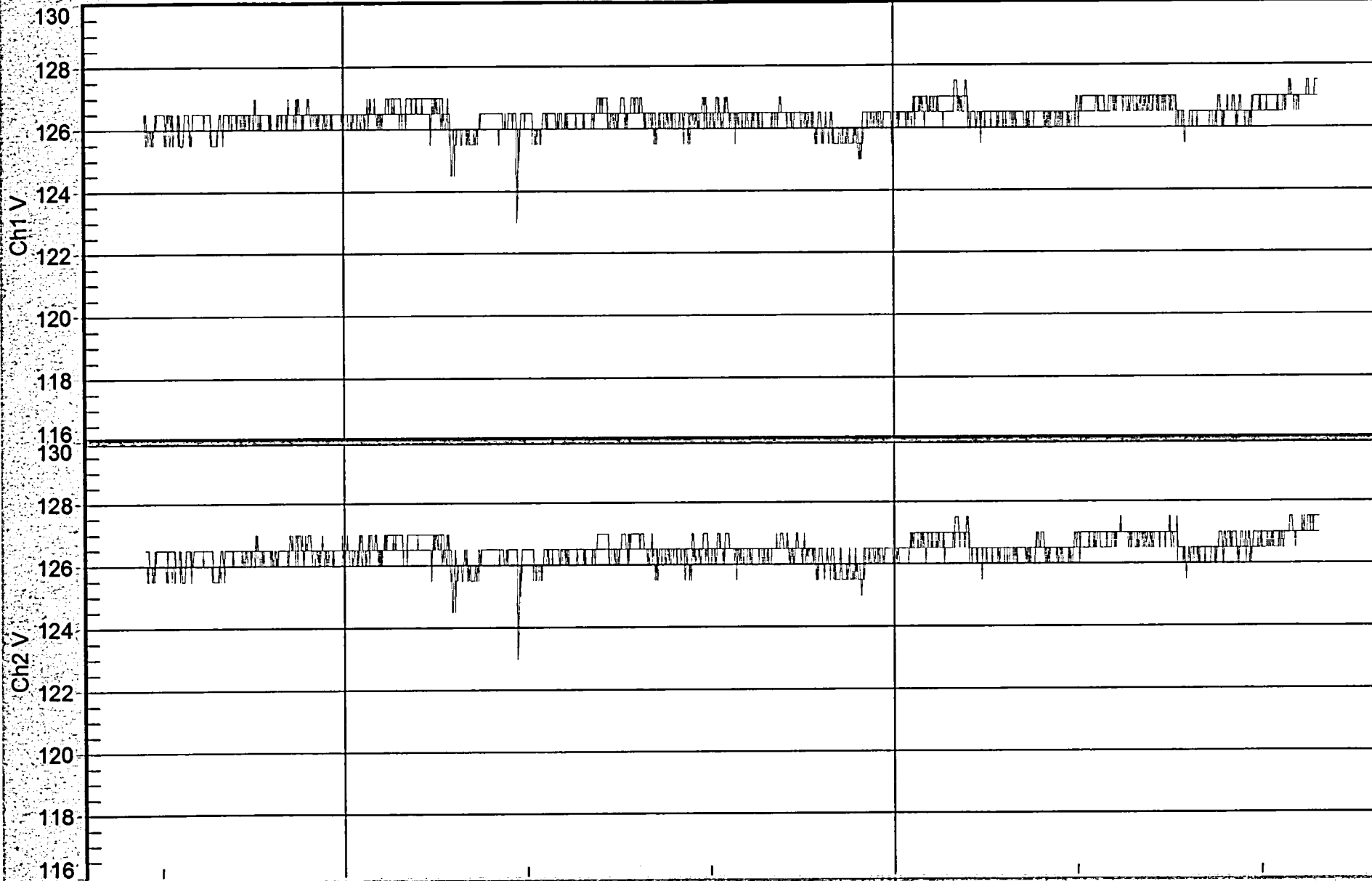
Ave V

Max V

Min I

Ave I

Max I

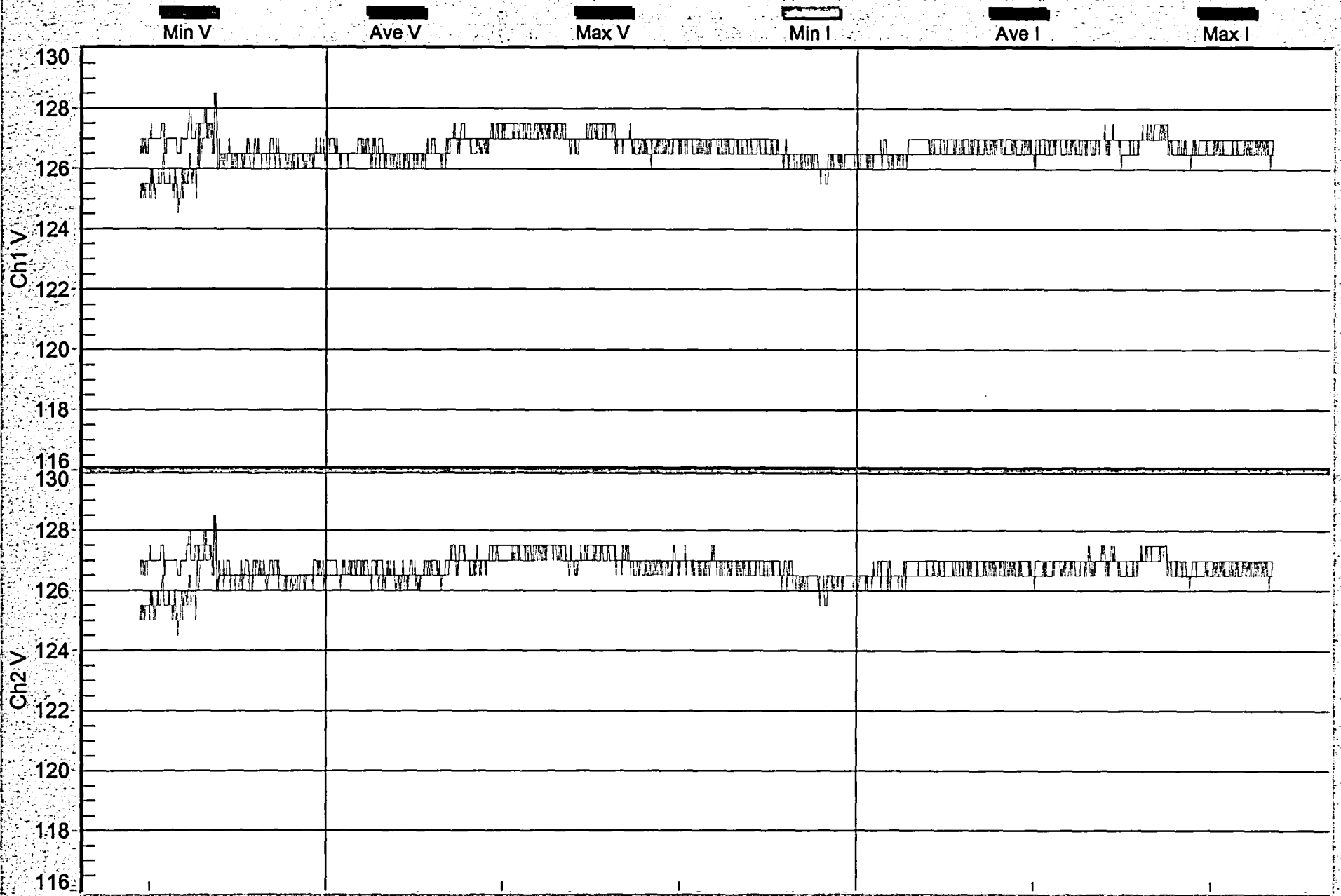


6PM

9PM

May 9 Thu 2013

# RMS Voltage and Current

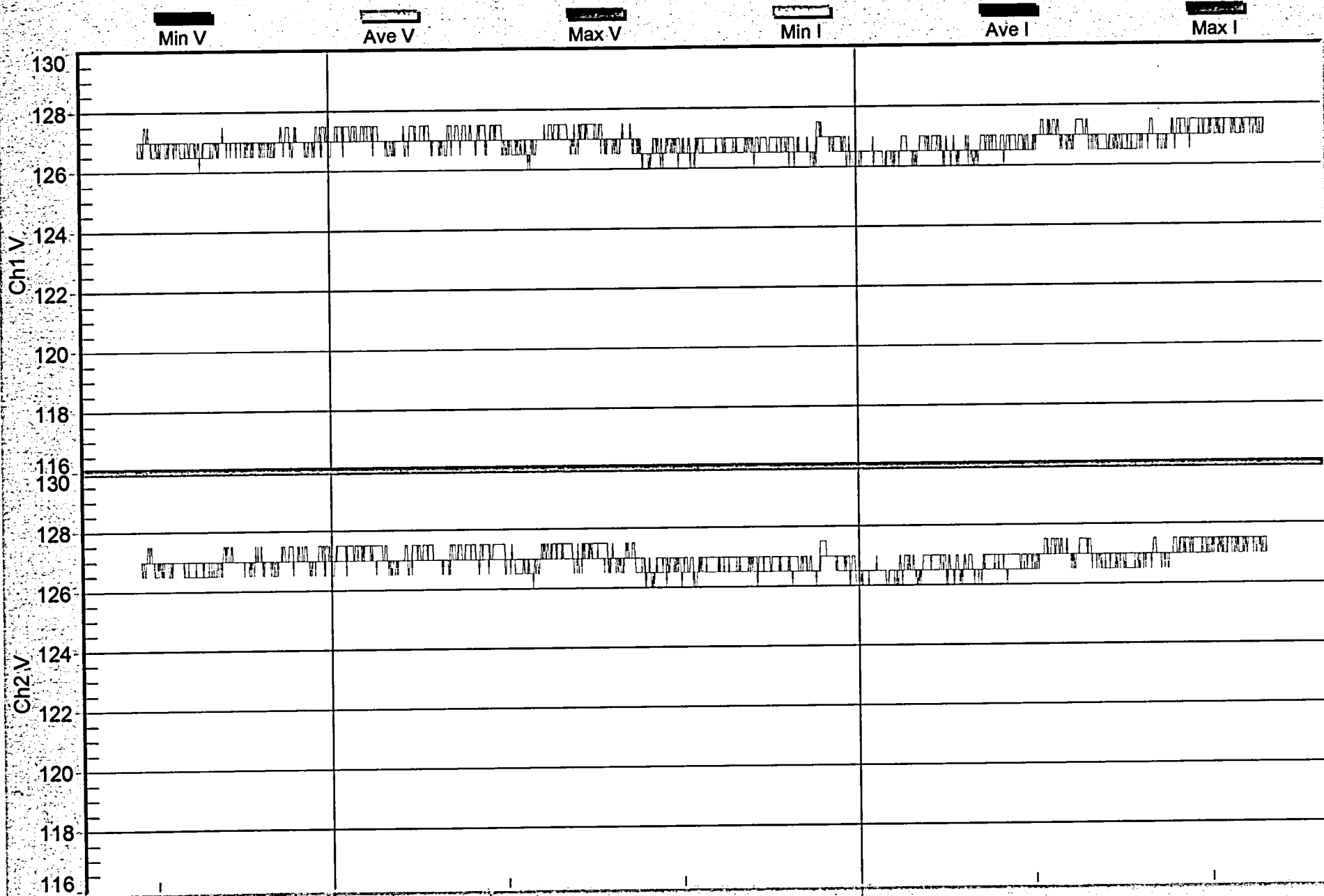


May 10 Fri 2013

6PM

9PM

# RMS Voltage and Current



May 11 Sat 2013

6PM

9PM

# RMS Voltage and Current

Min V

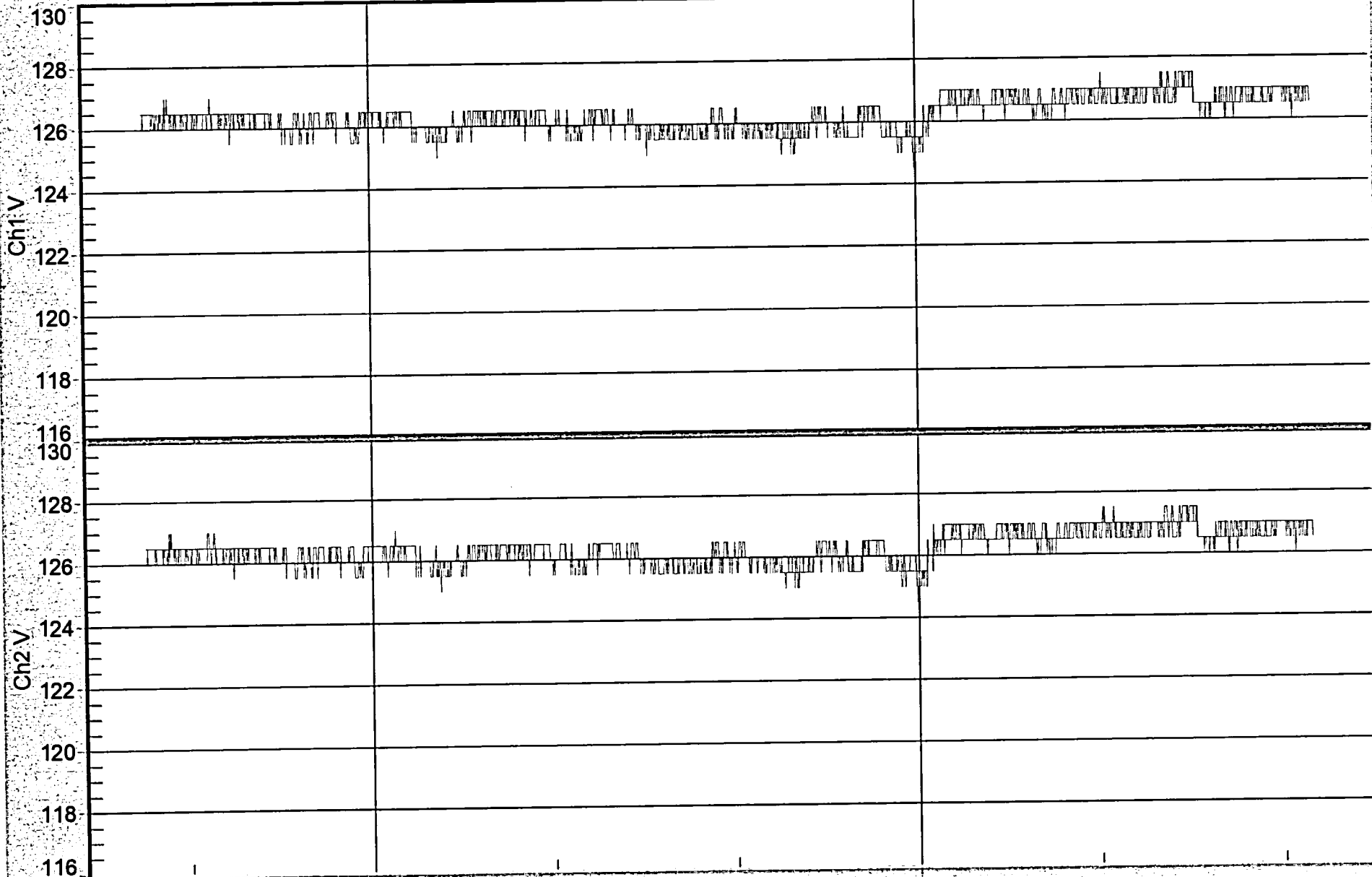
Ave V

Max V

Min I

Ave I

Max I



6PM

9PM

May 12 Sun 2013

# RMS Voltage and Current

Min V

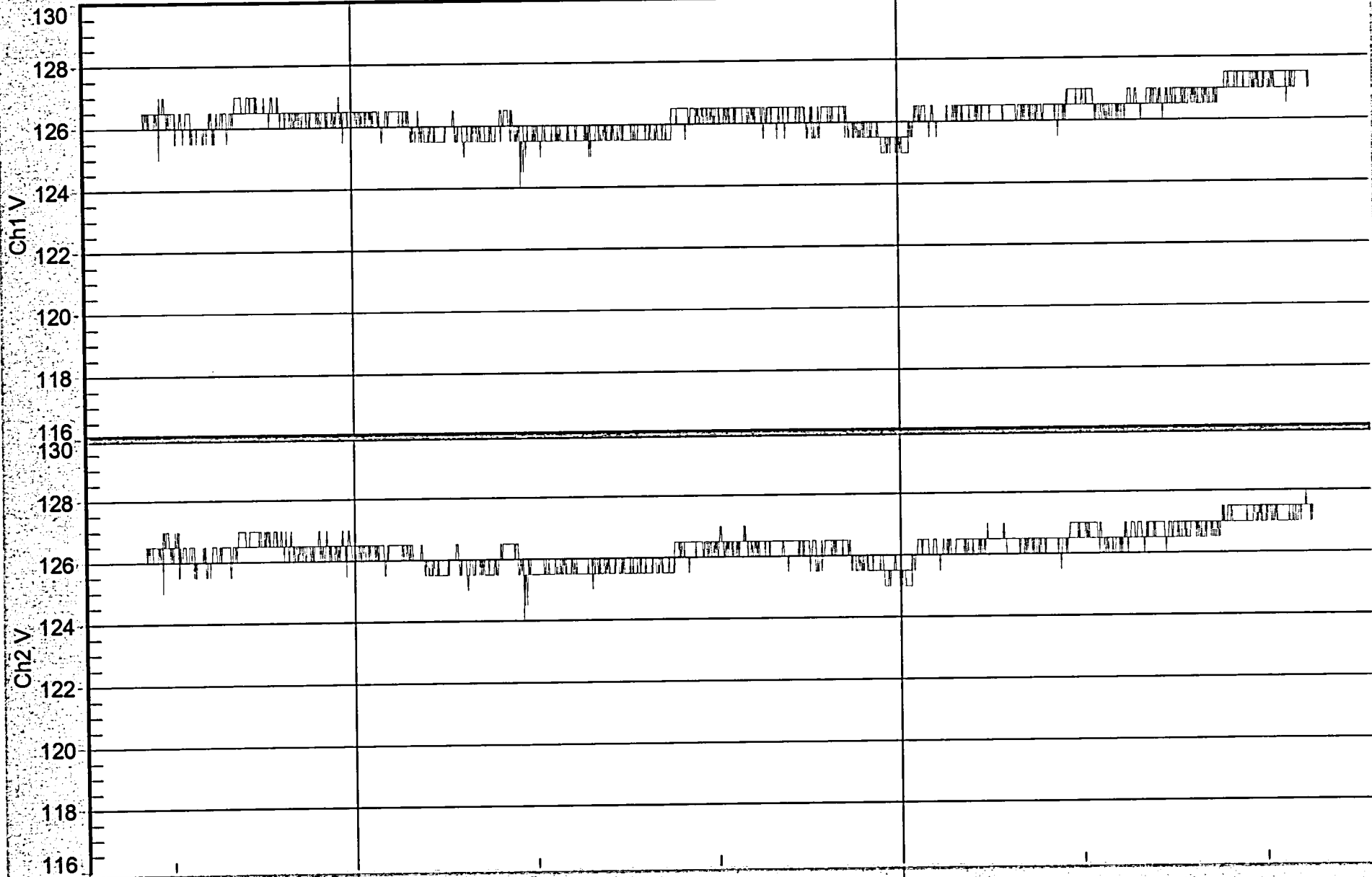
Ave V

Max V

Min I

Ave I

Max I



May 13 Mon 2013

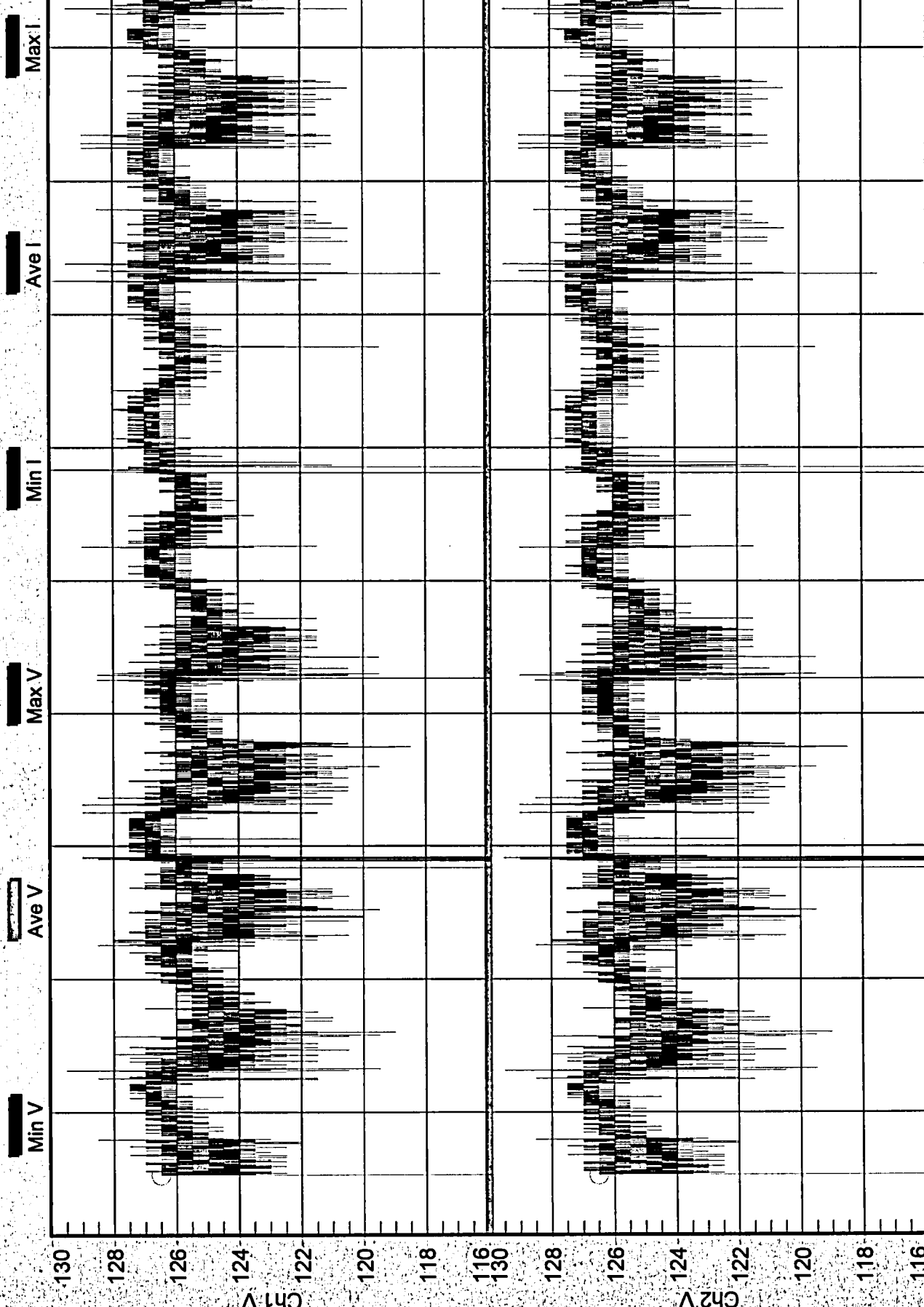
6PM

9PM

**June 24, 2013 to July 3, 2013**

P/e 7/15/13 UM Bell's Cr. B.

### RMS Voltage and Current



25 Tue 26 Wed 27 Thu 28 Fri 29 Sat 30 Sun 1 Mon 2 Tue 3 Wed

Jun 2013

Storms

# RMS Voltage and Current

Min V

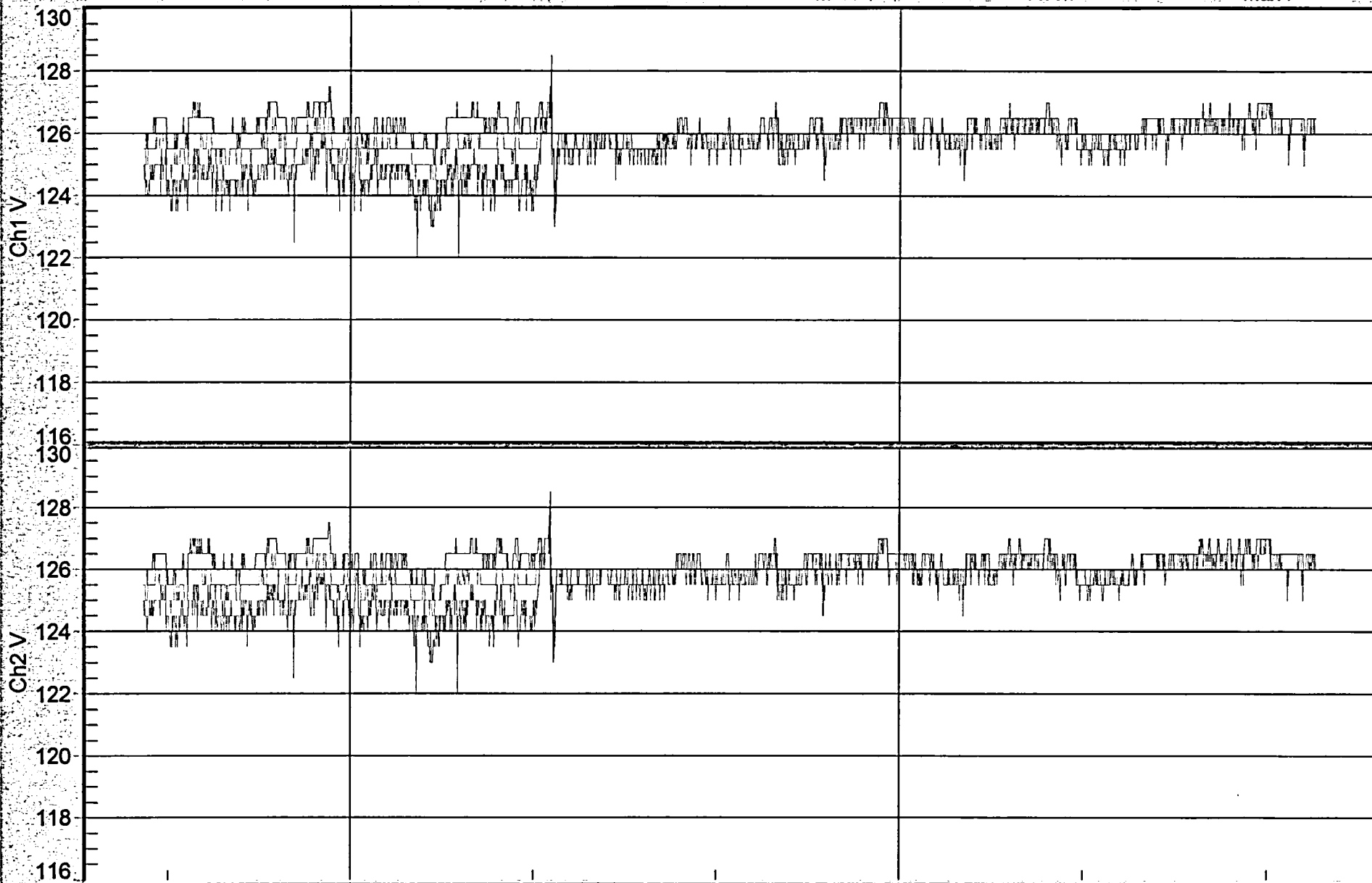
Ave V

Max V

Min I

Ave I

Max I



Jun 24 Mon 13

6PM

9PM



# RMS Voltage and Current

Min V

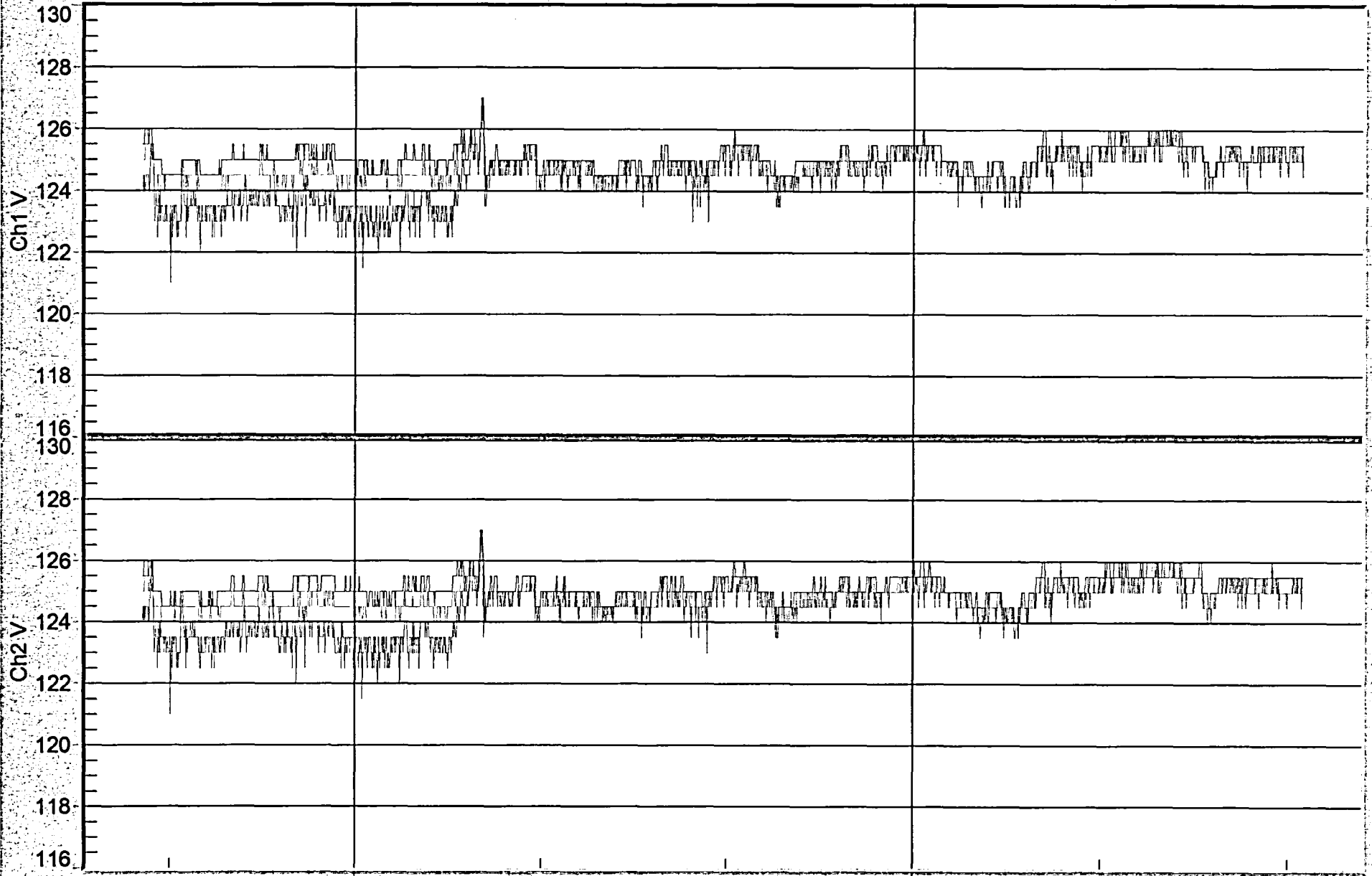
Ave V

Max V

Min I

Ave I

Max I

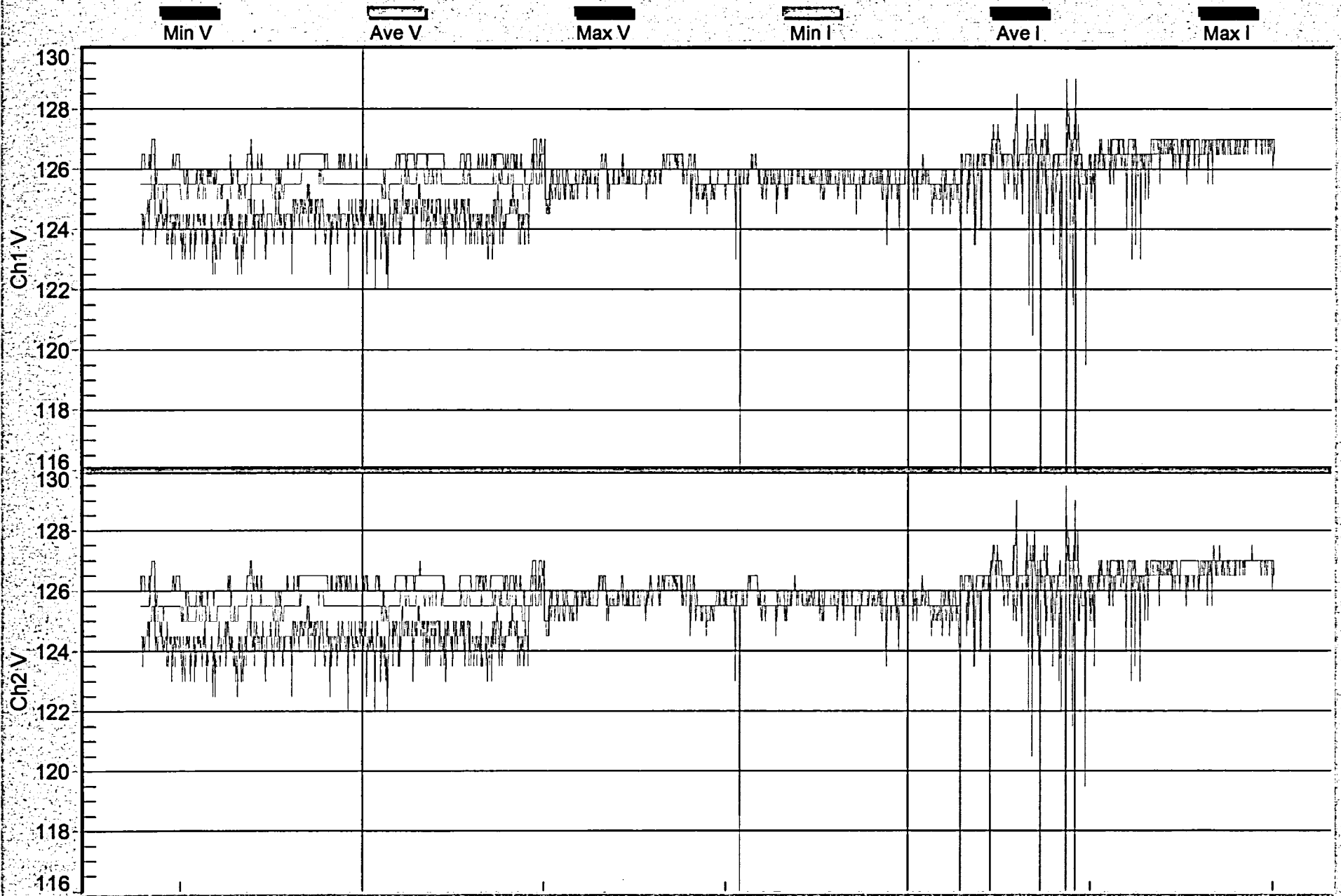


6PM

9PM

Jun 25 Tue 2013

# RMS Voltage and Current



Jun 26 Wed 2013

6PM

9PM

# RMS Voltage and Current

Min V

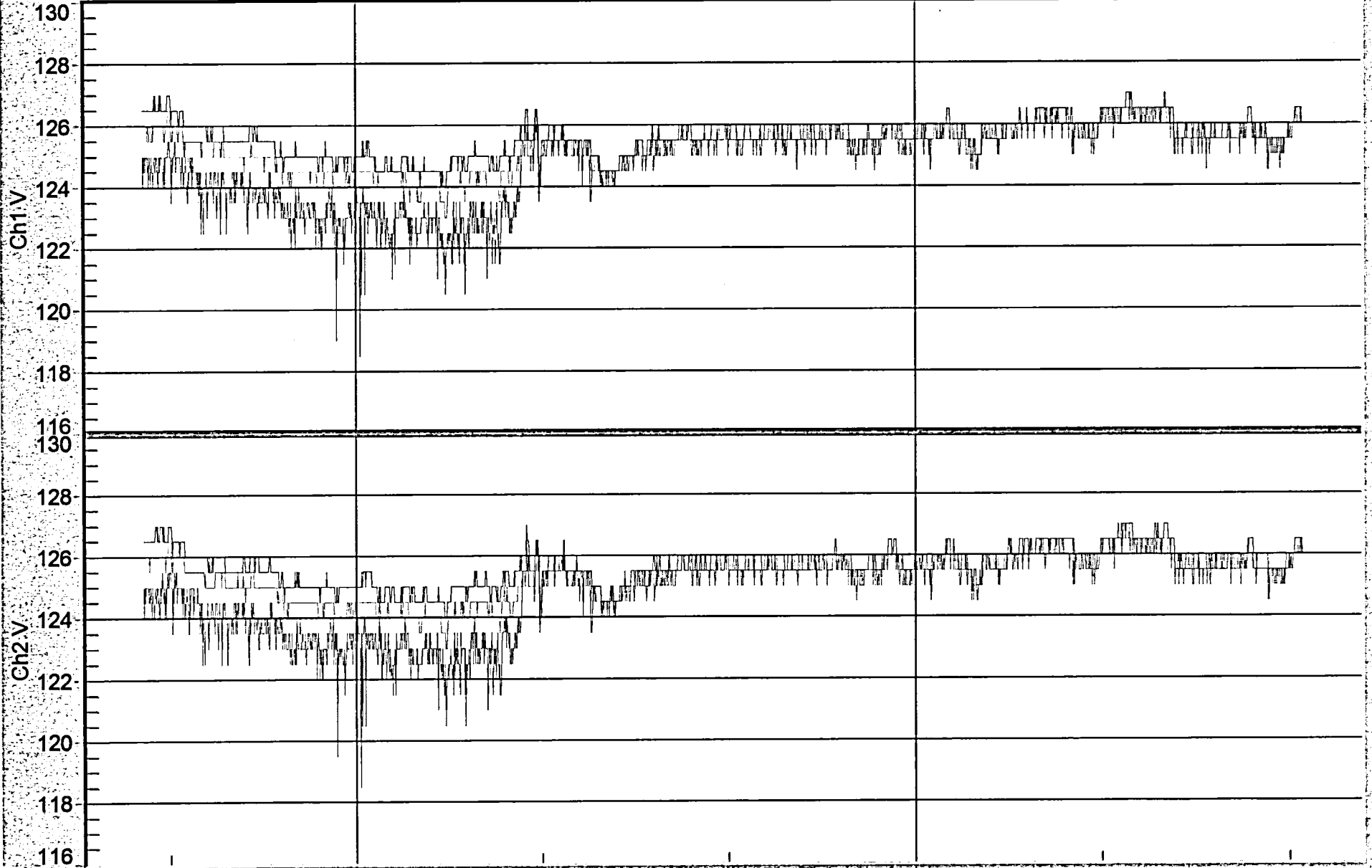
Ave V

Max V

Min I

Ave I

Max I



Jun 27 Thu 2013

6PM

9PM

# RMS Voltage and Current

Min V

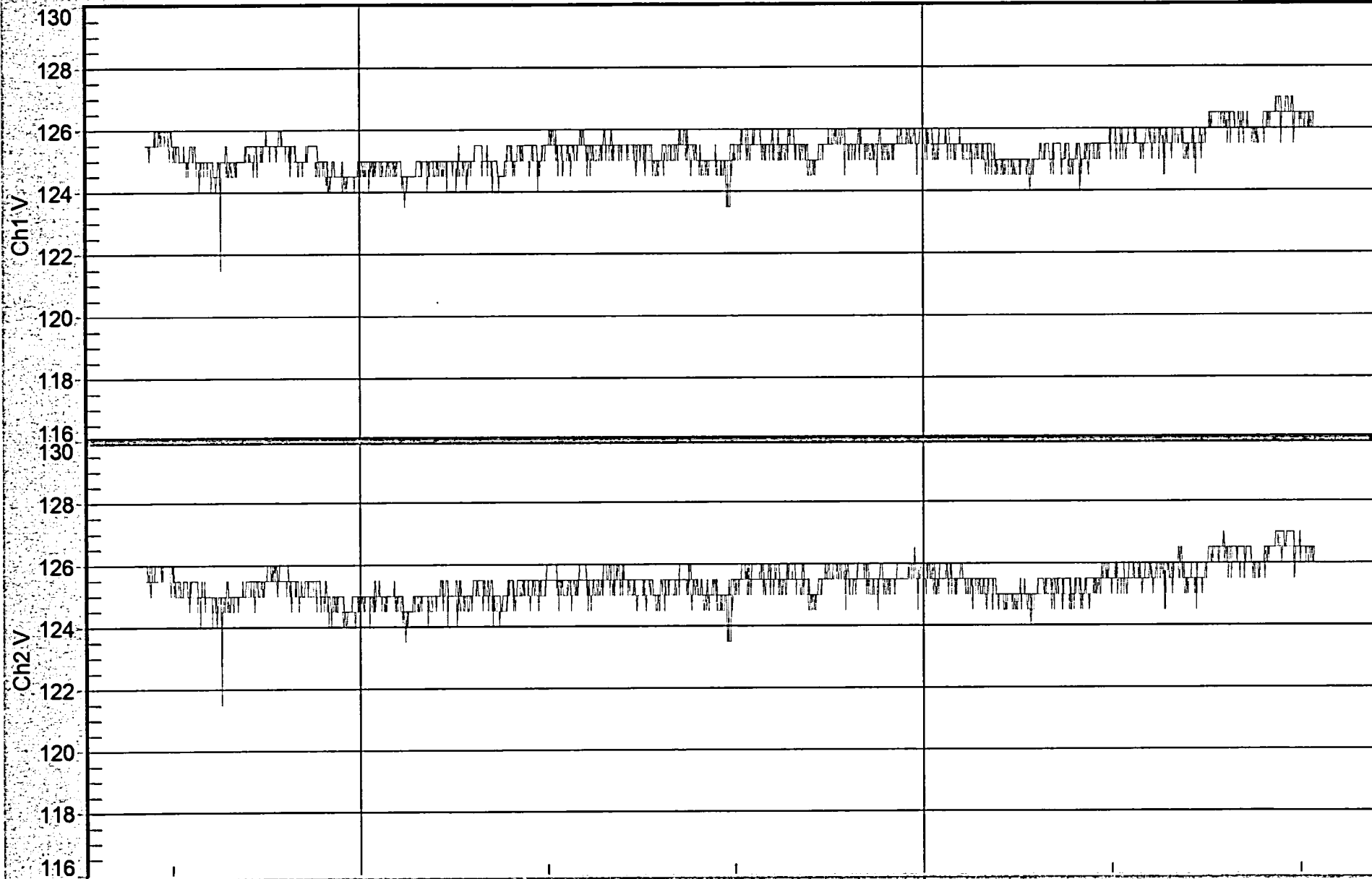
Ave V

Max V

Min I

Ave I

Max I



Jun 28 Fri 2013

6PM

9PM

# RMS Voltage and Current

Min V

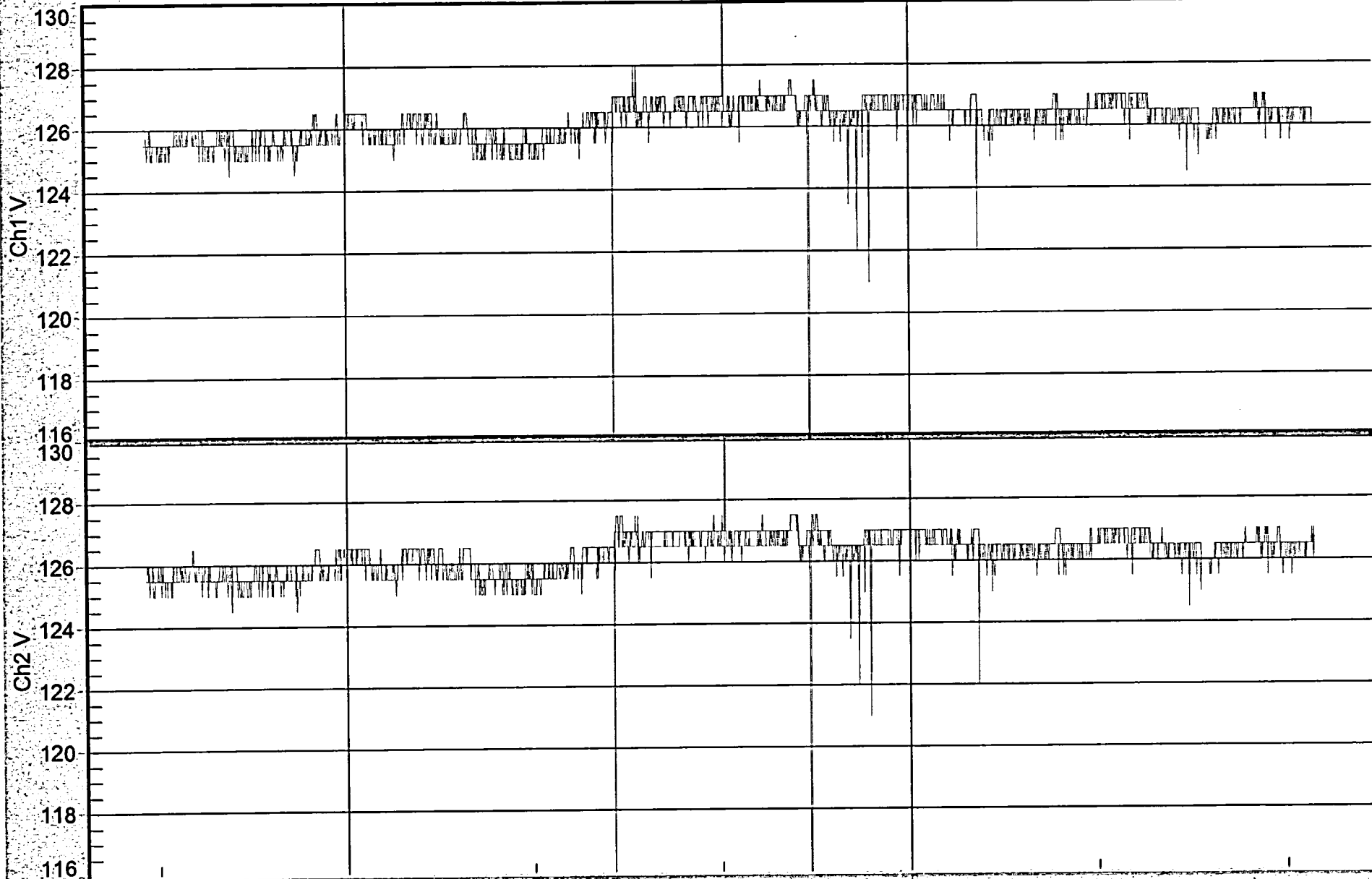
Ave V

Max V

Min I

Ave I

Max I



6PM

9PM

Jun 29 Sat 2013

# RMS Voltage and Current

Min V

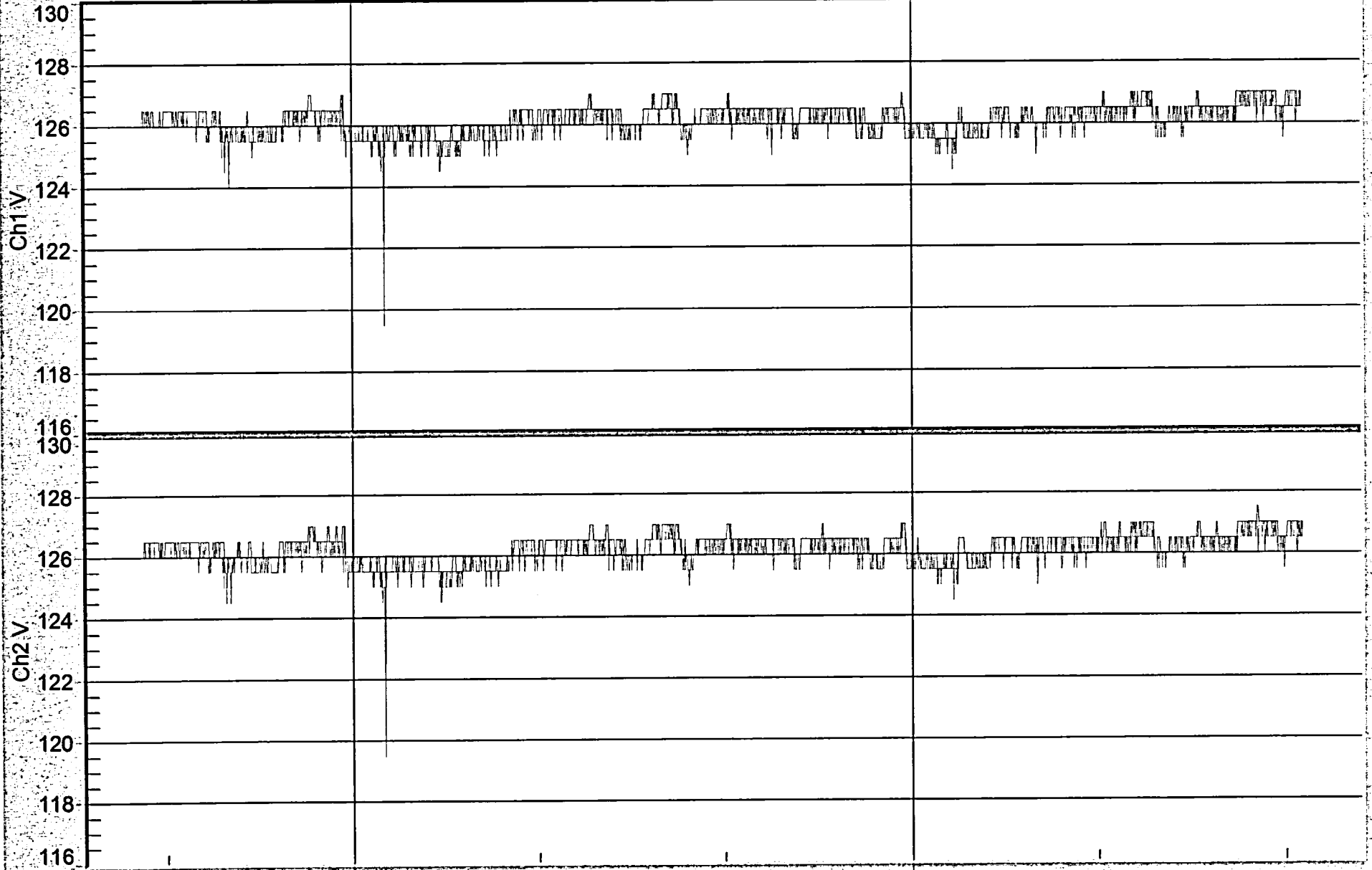
Ave V

Max V

Min I

Ave I

Max I

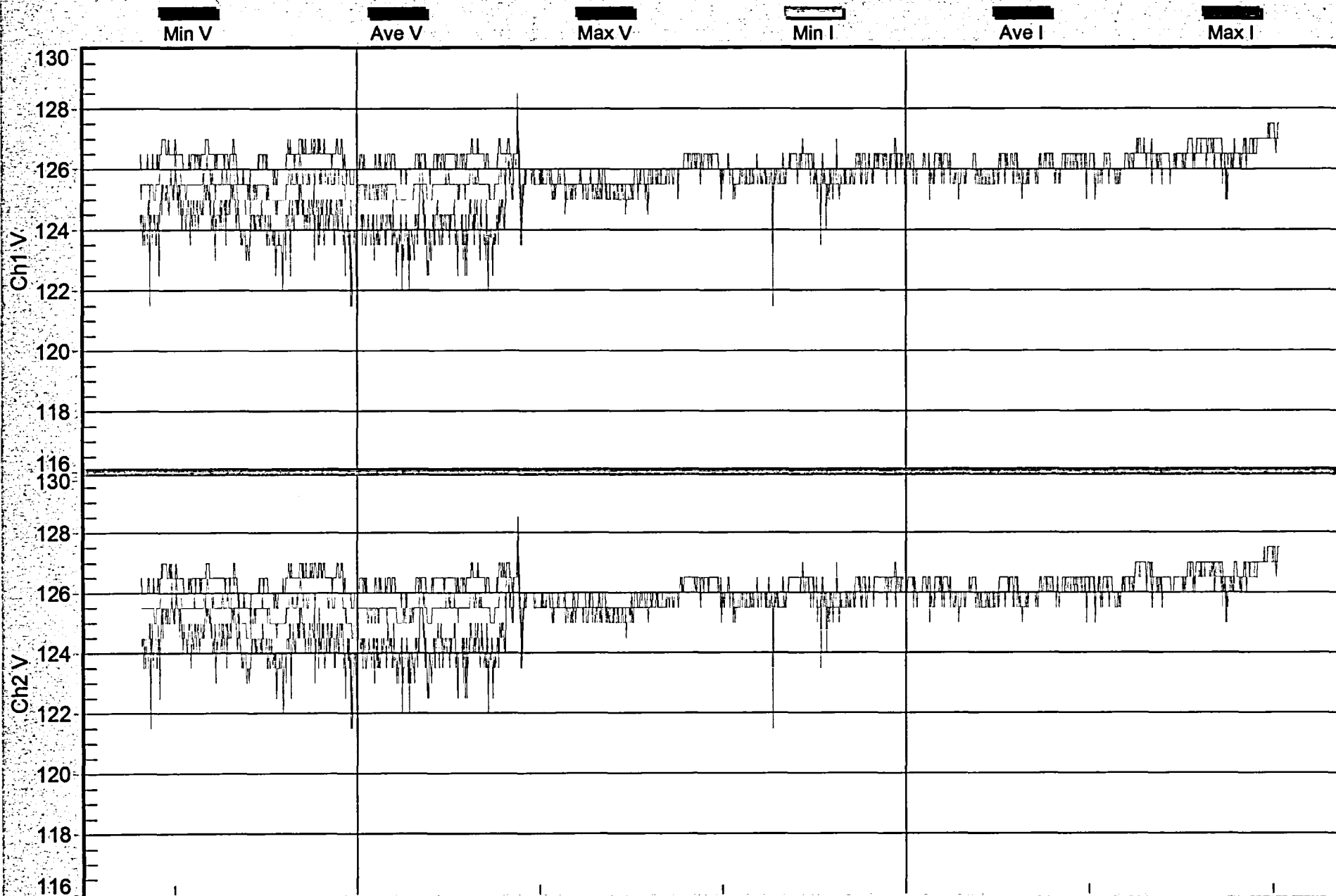


6PM

9PM

Jun 30 Sun 2013

# RMS Voltage and Current



Jul 1 Mon 2013

6PM

9PM

# RMS Voltage and Current

Min V

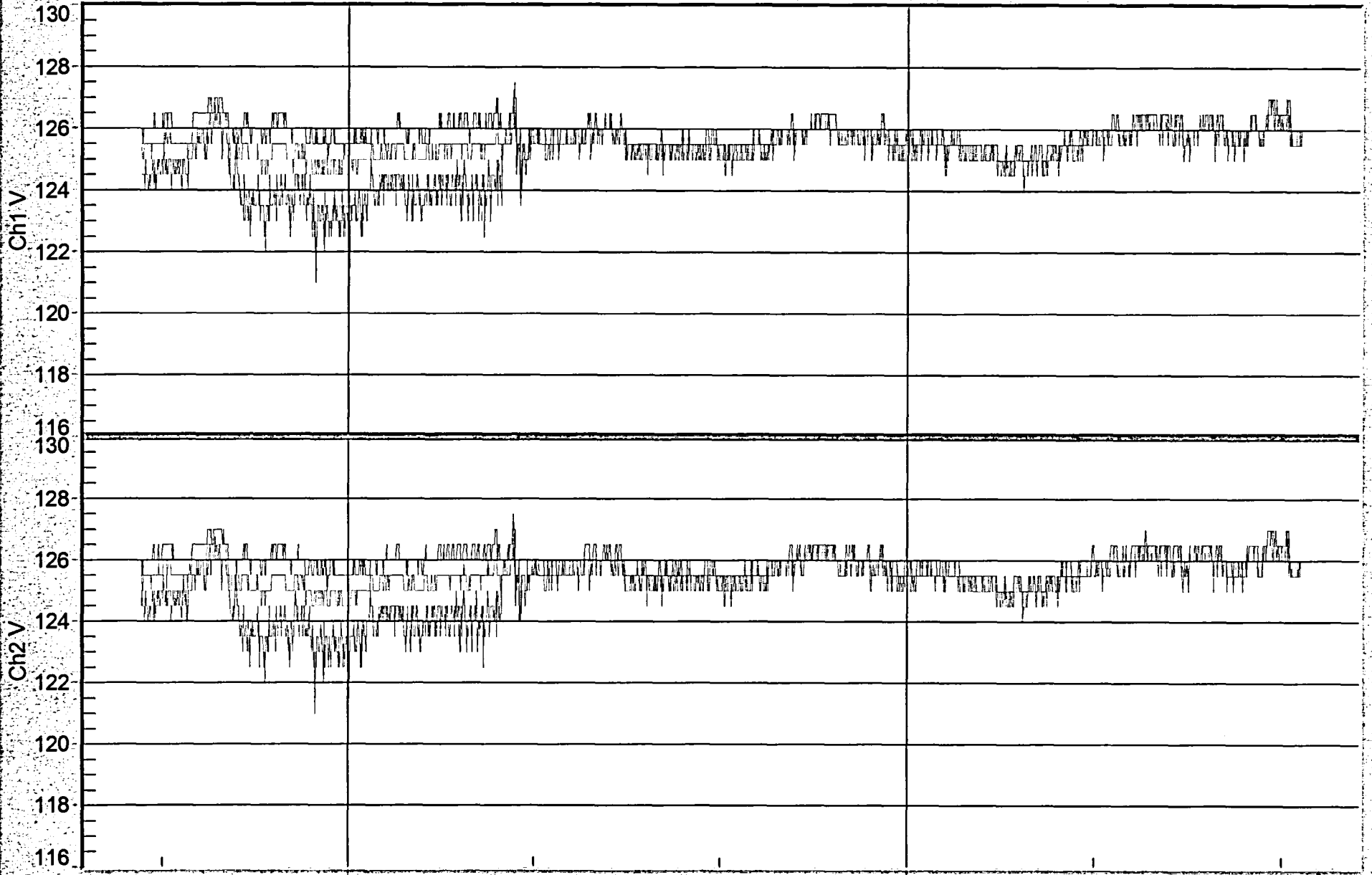
Ave V

Max V

Min I

Ave I

Max I



Jul 2 Tue 2013

6PM

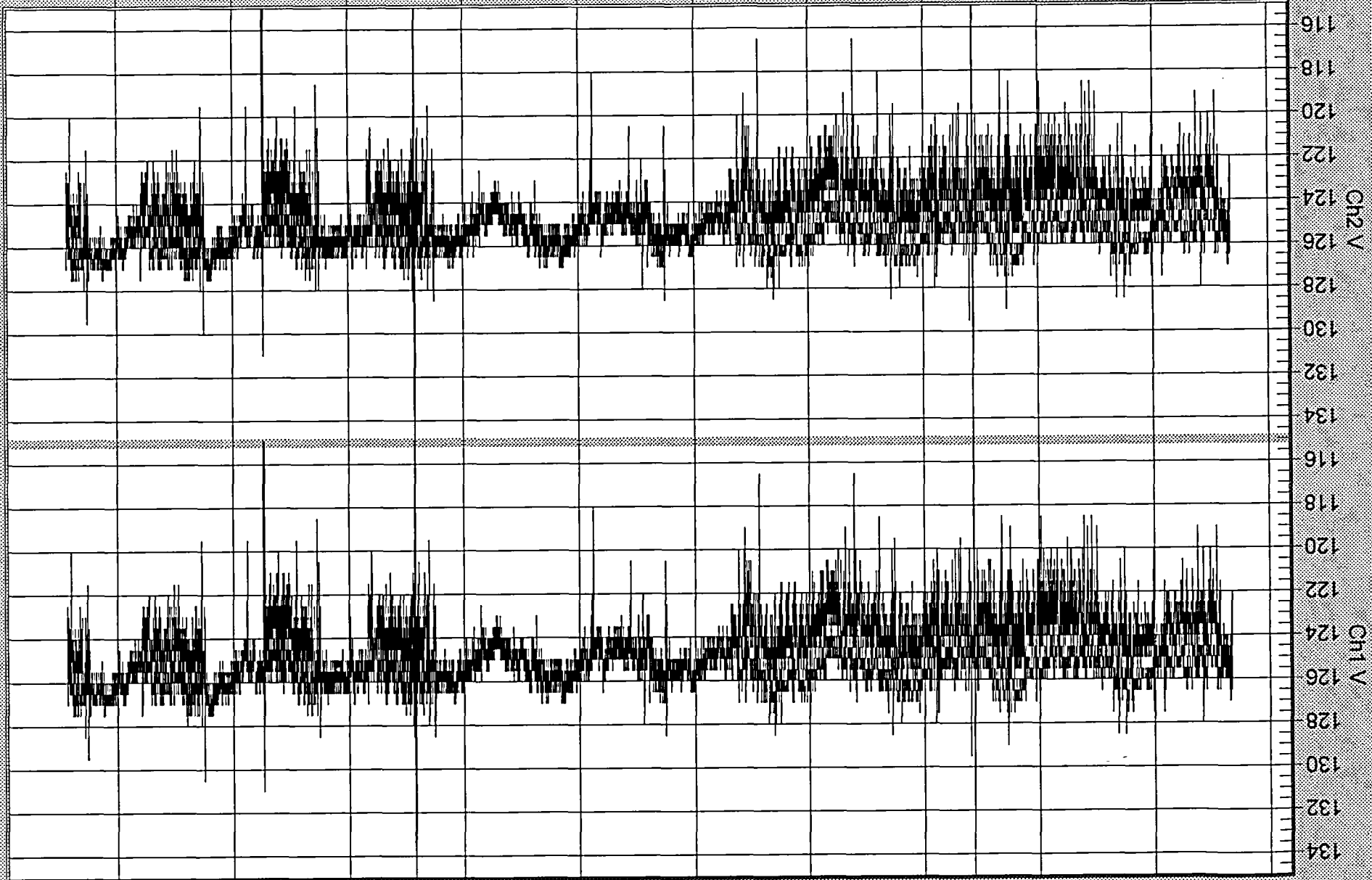
9PM



**July 15, 2013 to July 25, 2013**

Thunderstorms Thunderstorms

JUL 2013  
15 Mon 16 Tue 17 Wed 18 Thu 19 Fri 20 Sat 21 Sun 22 Mon 23 Tue 24 Wed 25 Thu



Max Ave Min

RMS Voltage

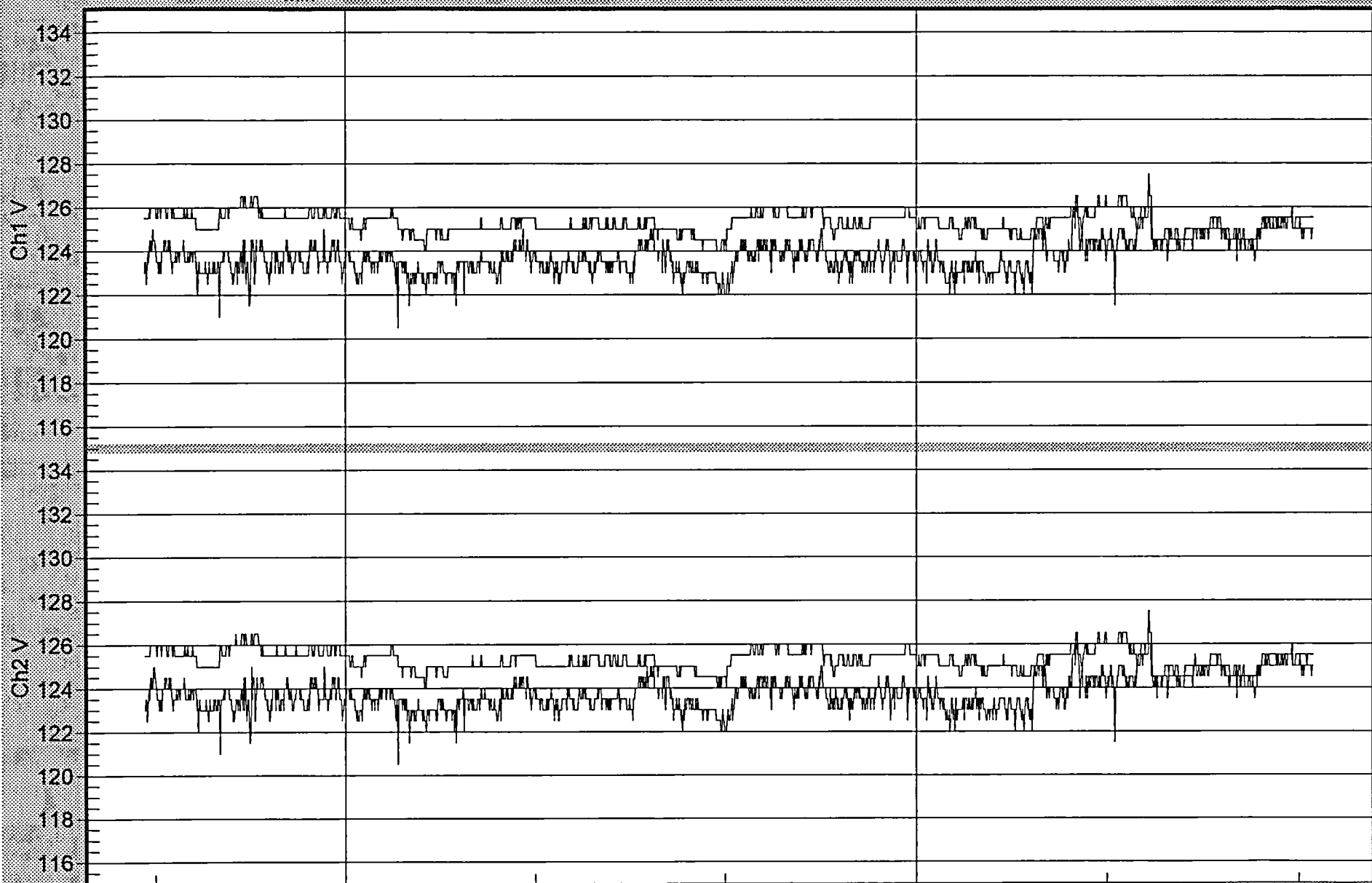
of [unclear]

# RMS Voltage

Min

Ave

Max



6PM

9PM

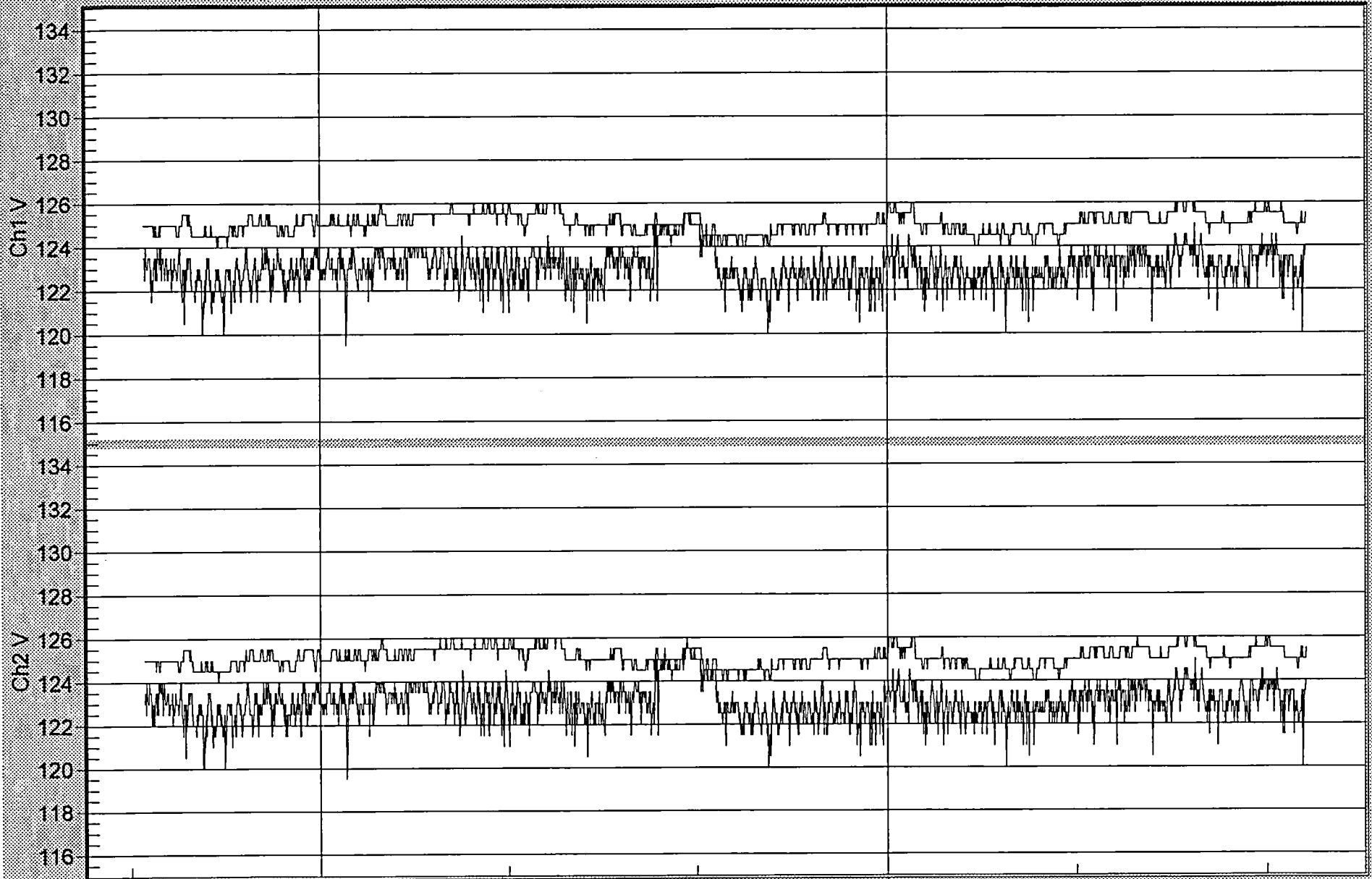
Jul 15 Mon 2013

# RMS Voltage

Min

Ave

Max



6PM

9PM

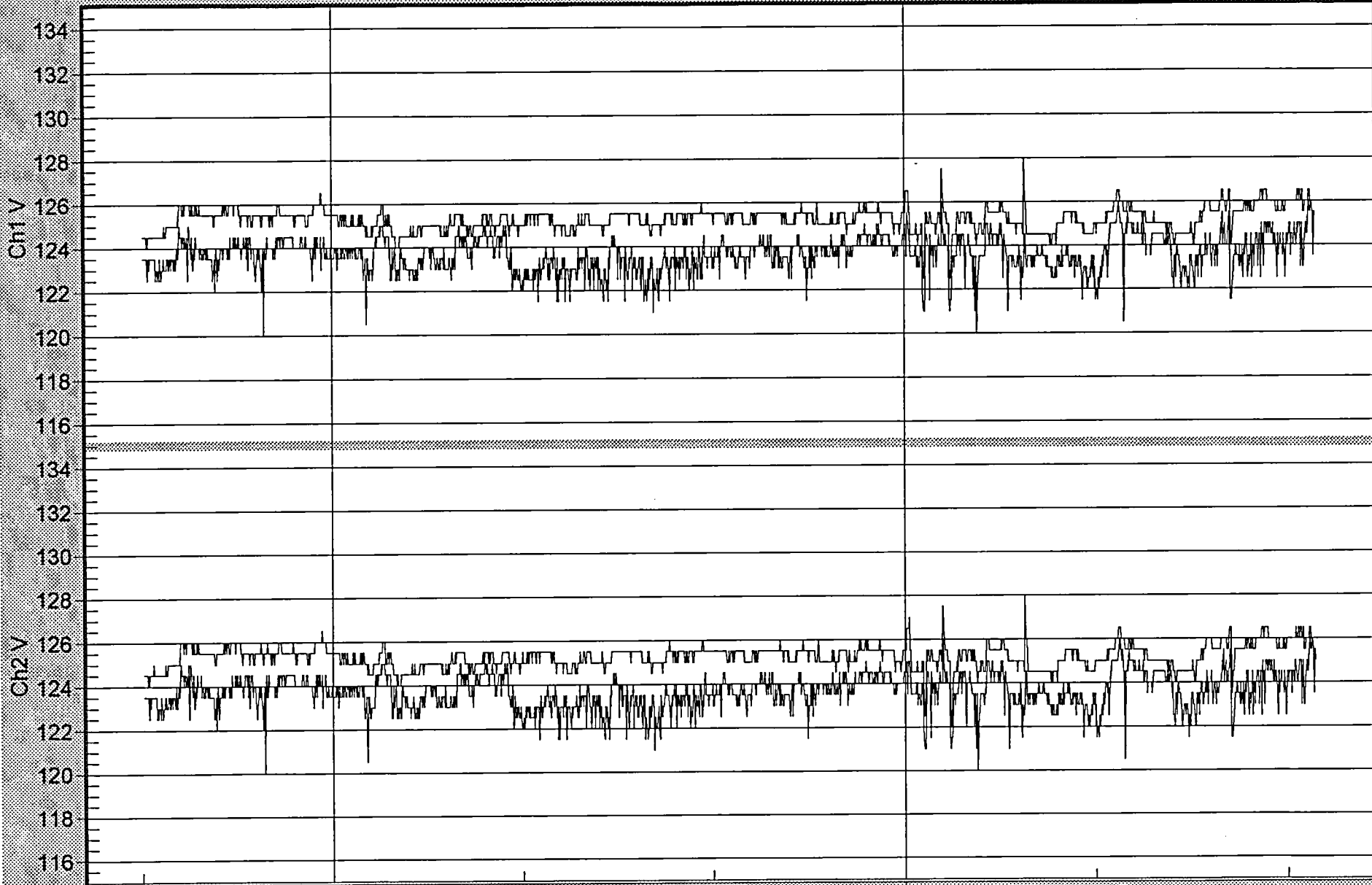
Jul 16 Tue 2013

# RMS Voltage

Min

Ave

Max



Jul 17 Wed 2013

6PM

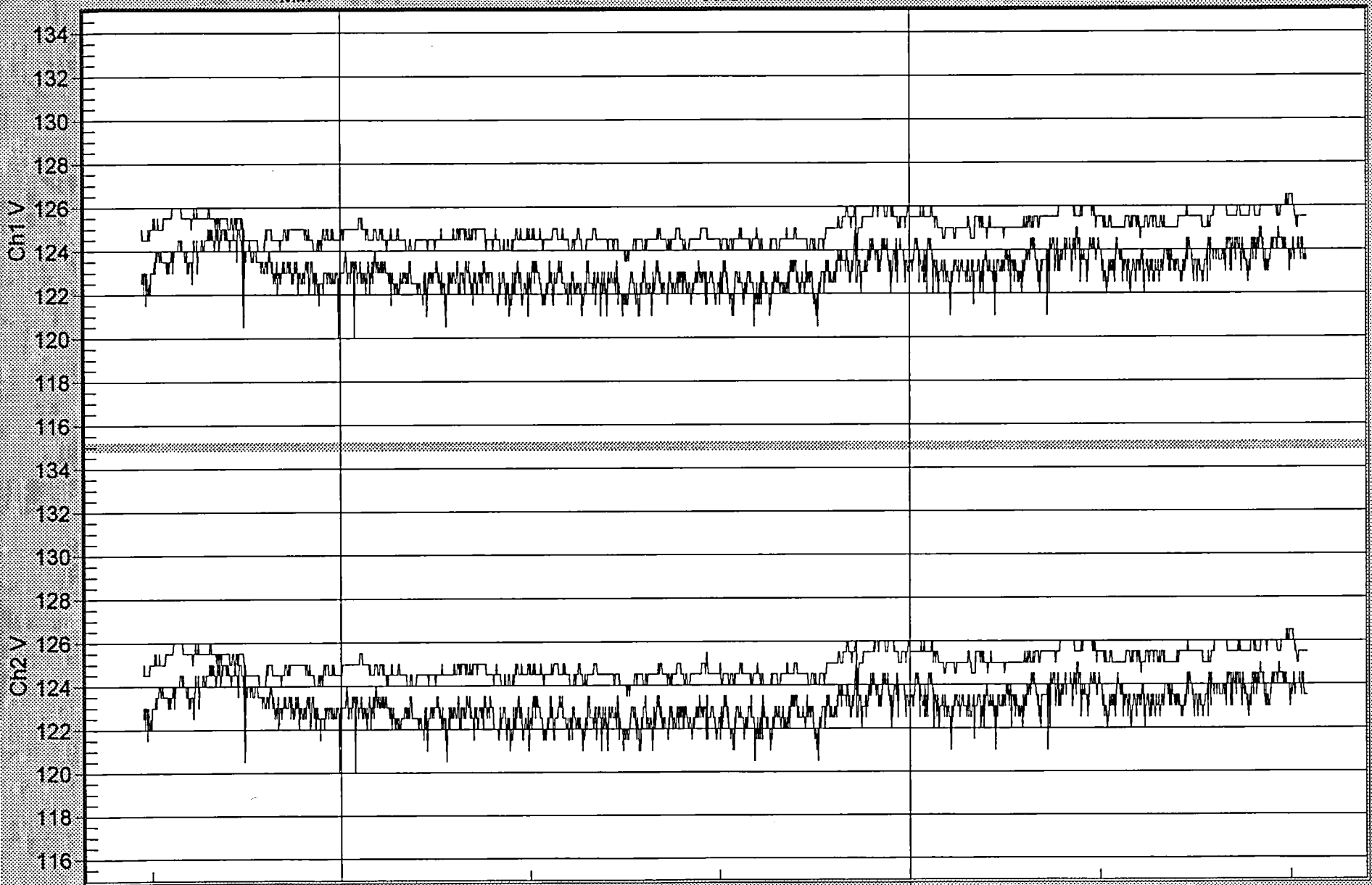
9PM

# RMS Voltage

Min

Ave

Max



6PM

9PM

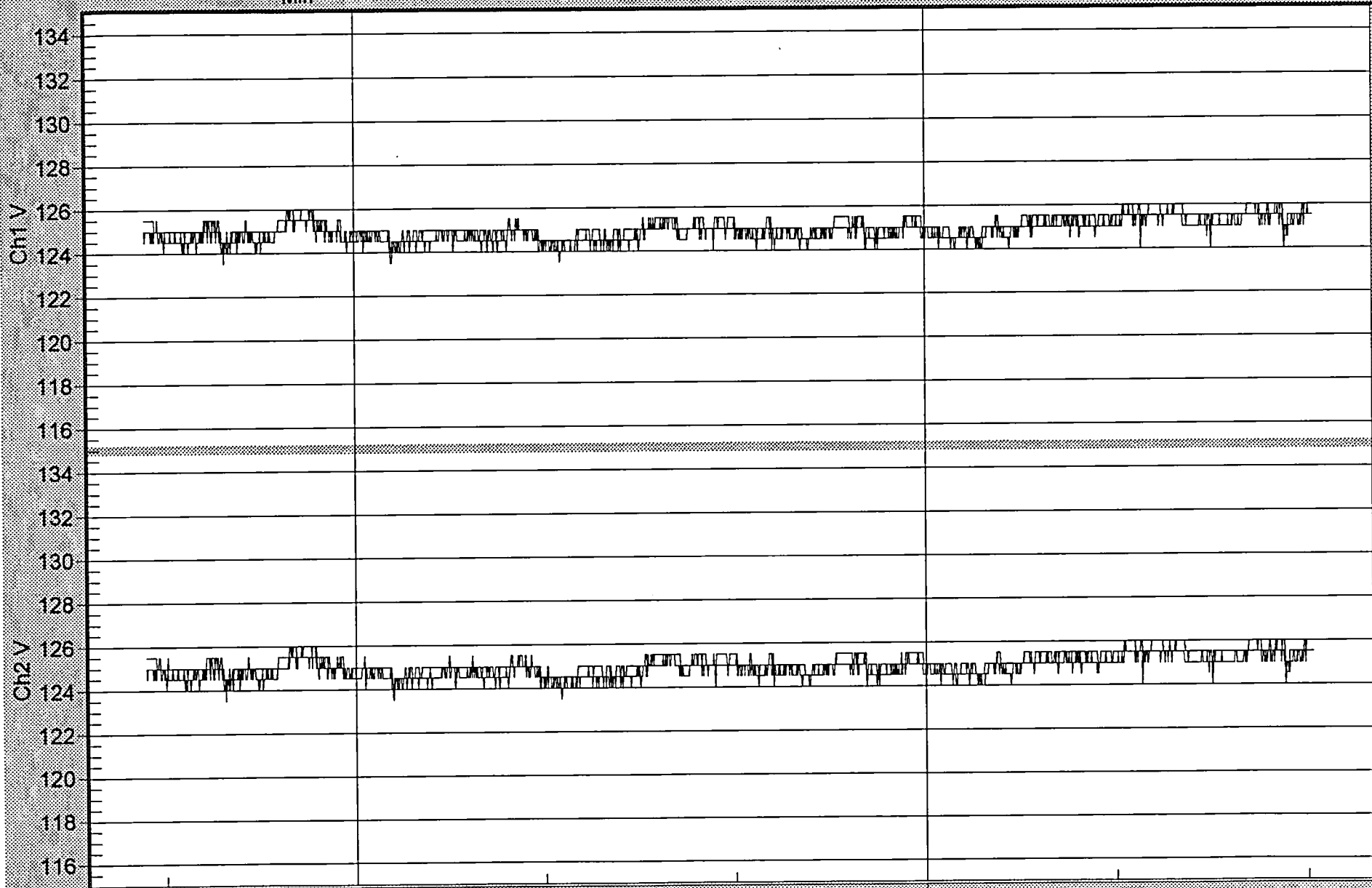
Jul 18 Thu 2013

# RMS Voltage

Min

Ave

Max



Jul 19 Fri 2013

6PM

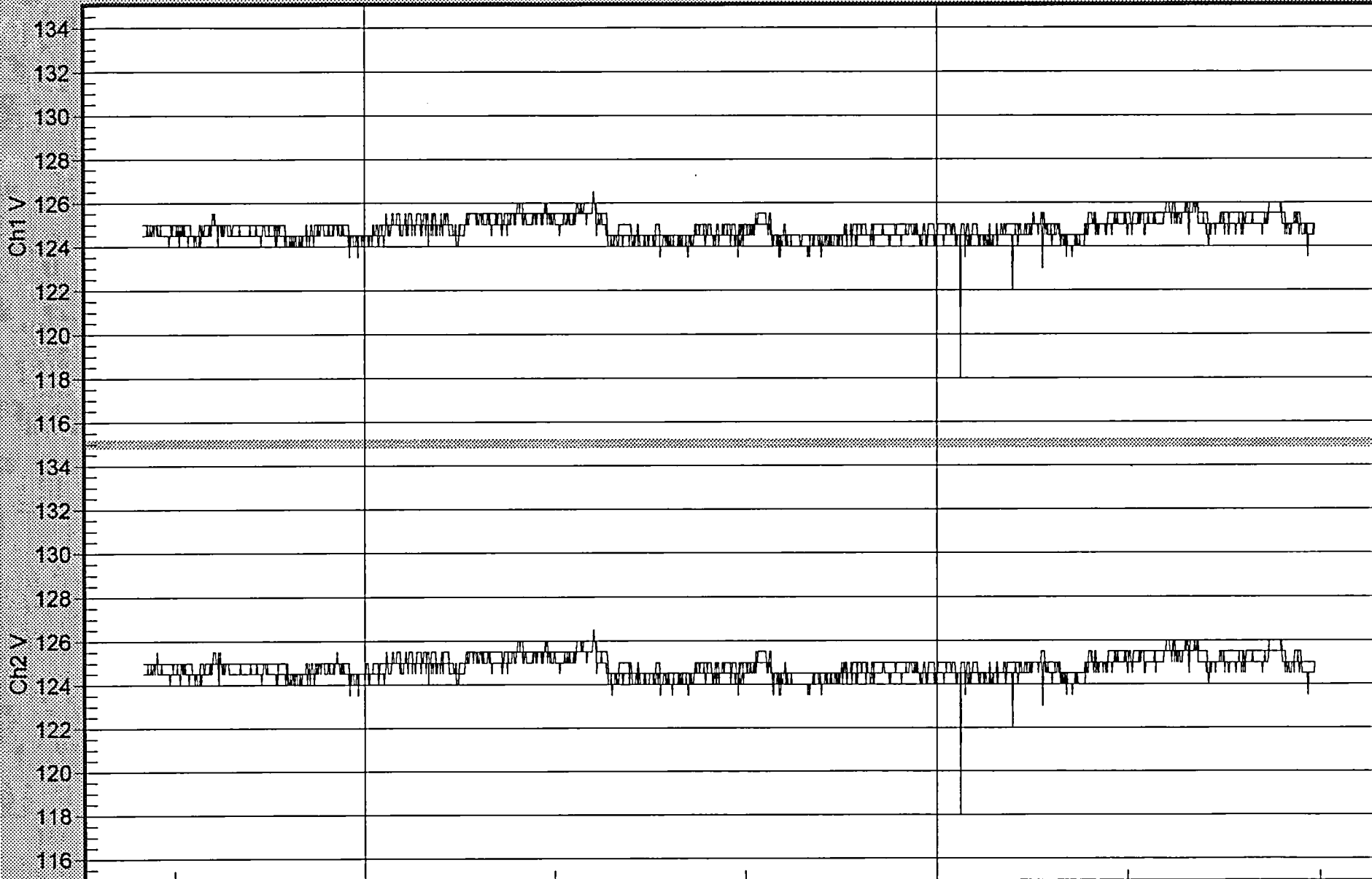
9PM

# RMS Voltage

Min

Ave

Max



Jul 20 Sat 2013

6PM

9PM

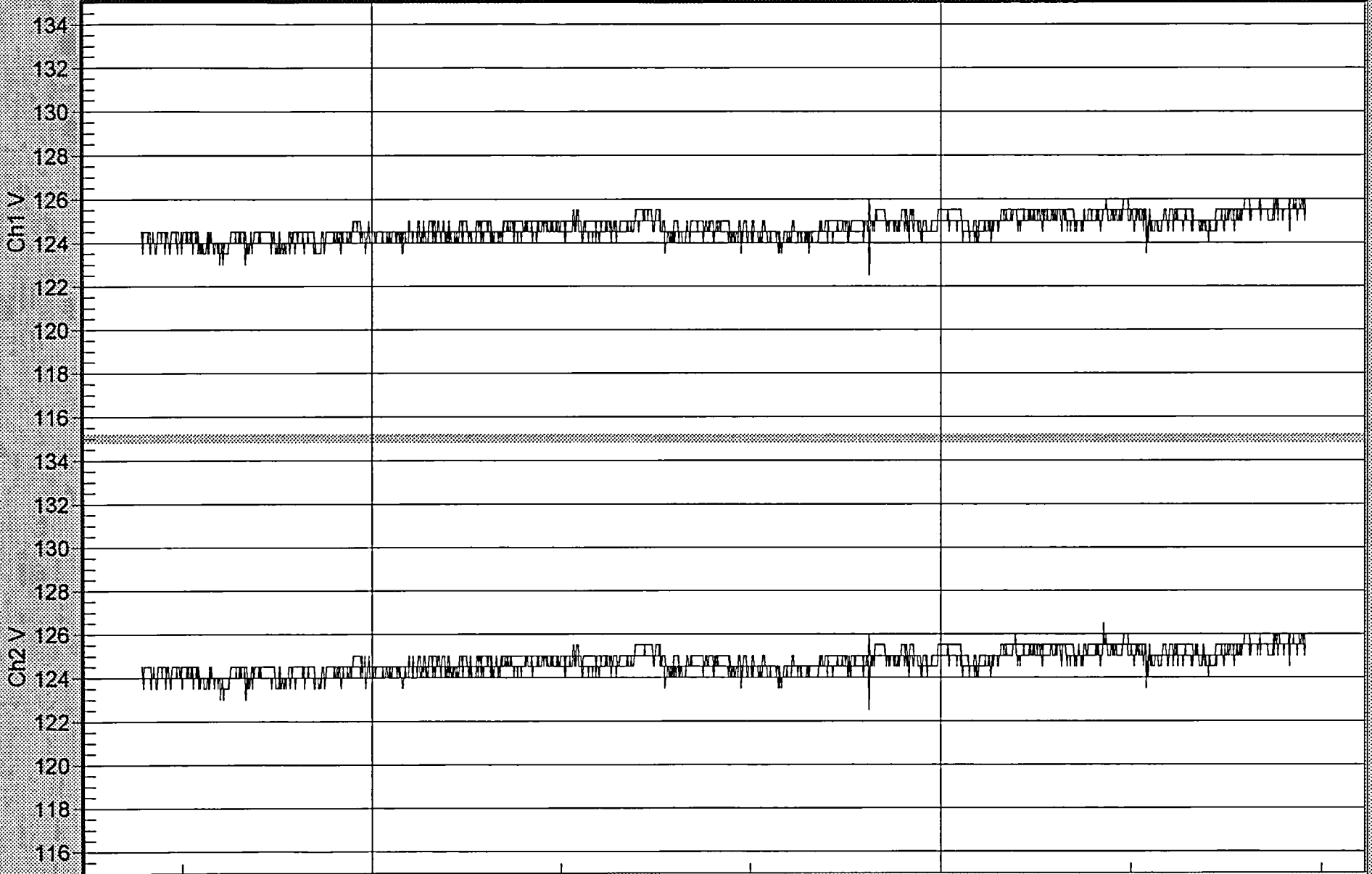


# RMS Voltage

Min

Ave

Max



6PM

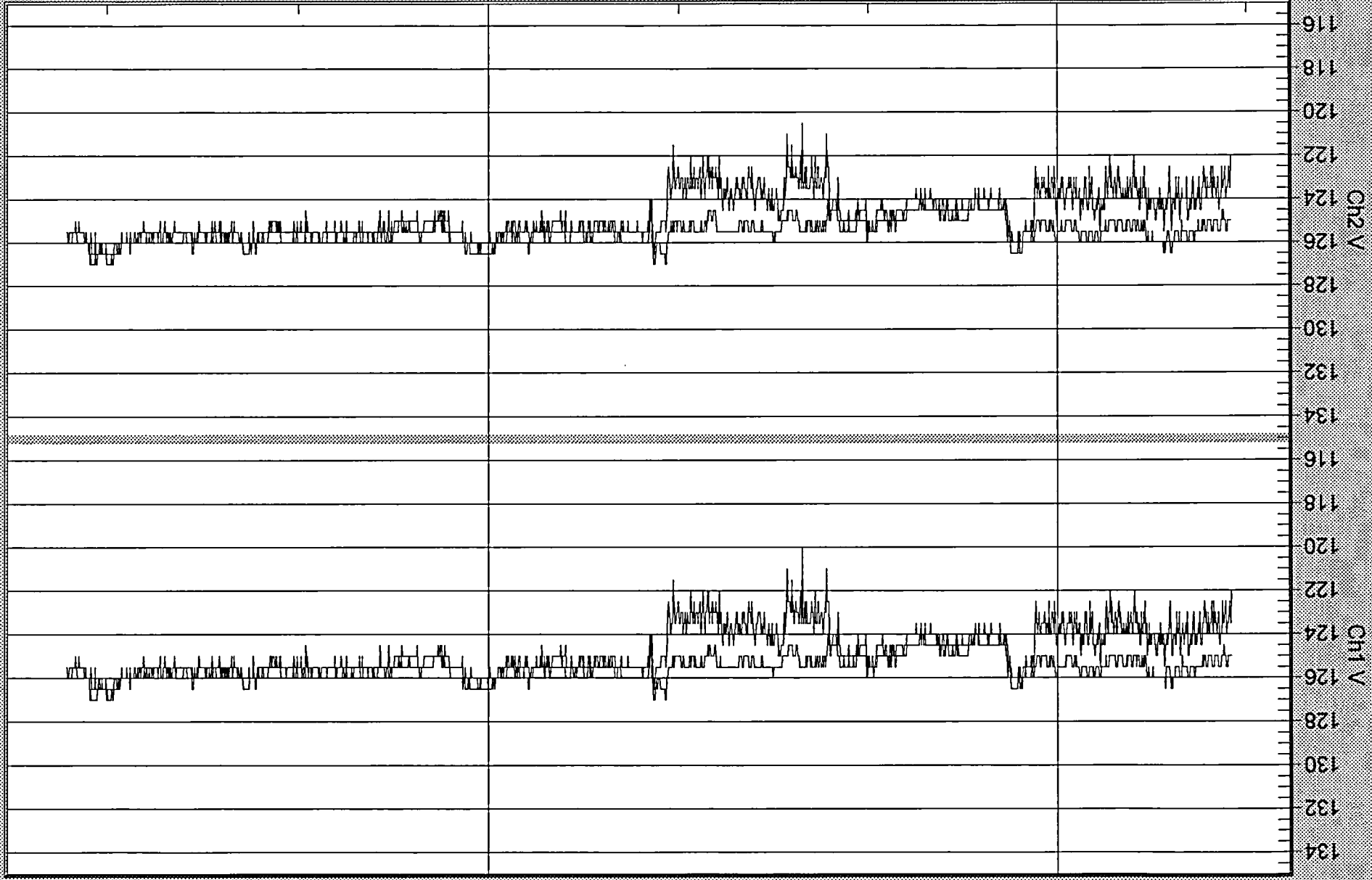
9PM

Jul 21 Sun 2013

Jul 22 Mon 2013

6PM

9PM



RMS Voltage

Min

Ave

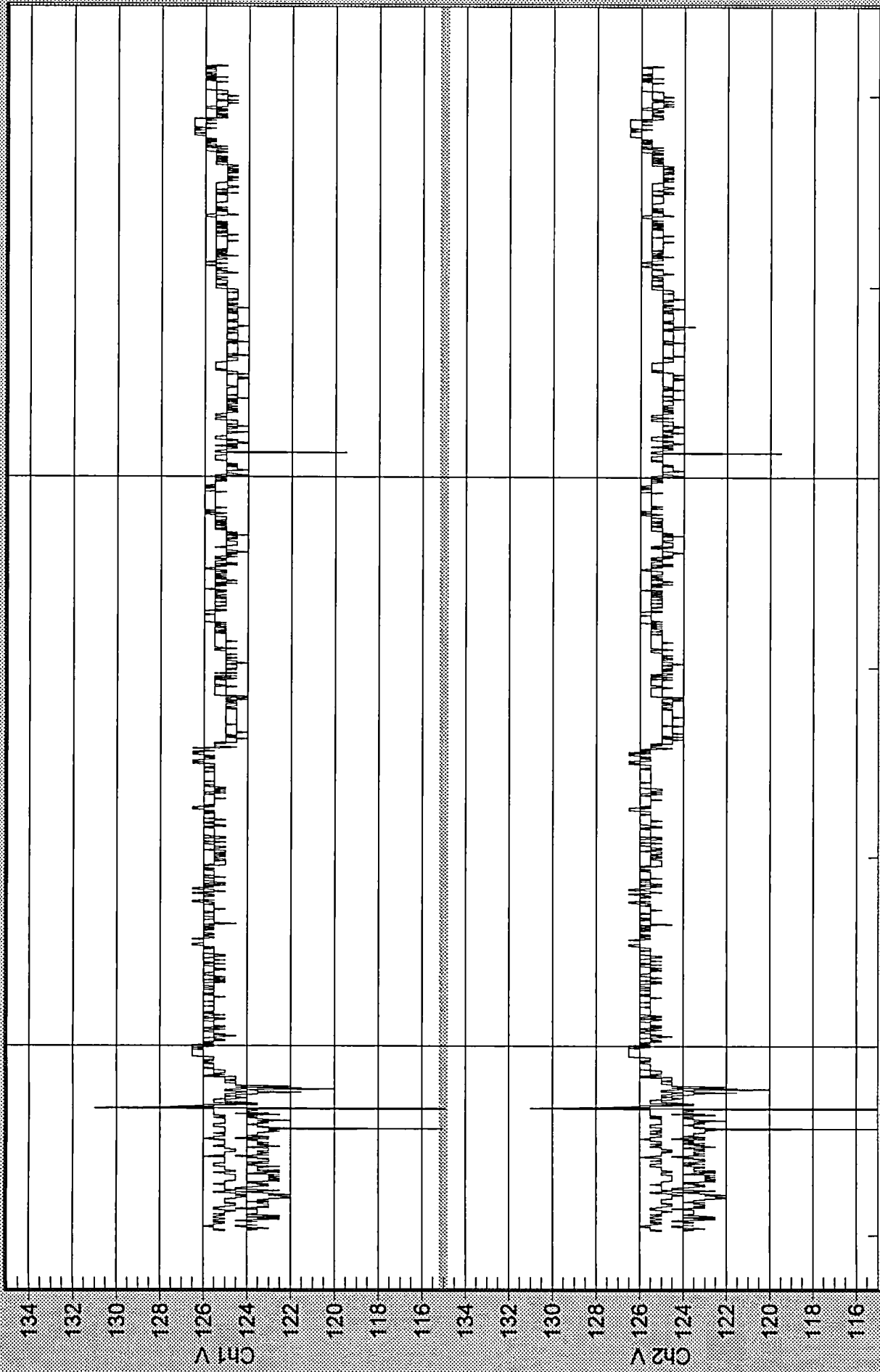
Max

RMS Voltage

Max

Ave

Min



9PM

6PM

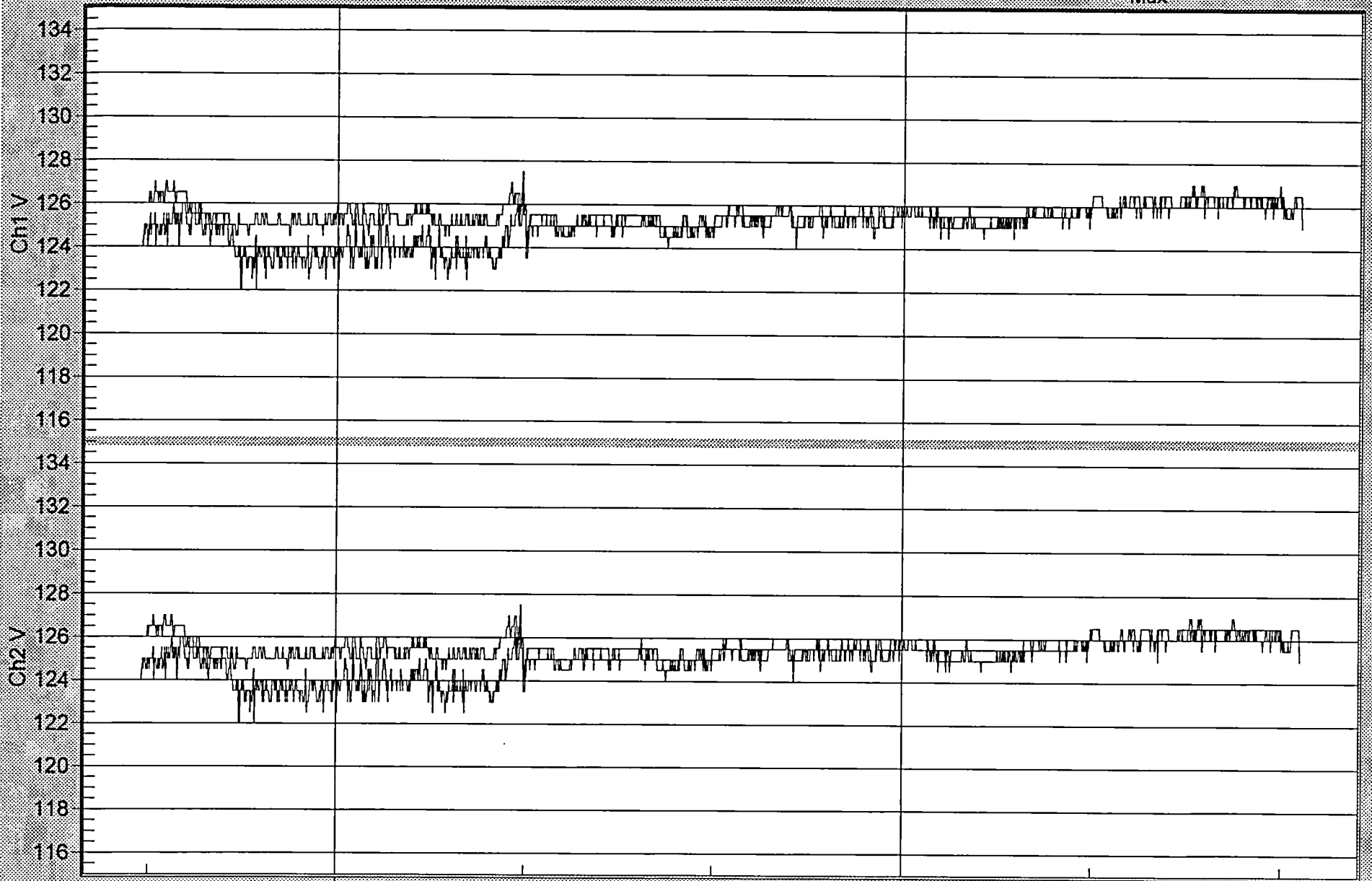
Jul 23 Tue 2013

# RMS Voltage

Min

Ave

Max



Jul 24 Wed 2013

6PM

9PM