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Mauna Loa Solar Observatory Observer's Log  
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Fri Sep 10 16:40:51 GMT 1999

Year: 99 Doy: 253

Observer: yasukawa

Fri Sep 10 16:42:04 GMT 1999 CHIP Startup--Initializing new tape

WEATHER COMMENT: Fri Sep 10 16:42:11 GMT 1999

Cool, clear, light south breeze.

Fri Sep 10 16:46:54 GMT 1999 CHIP CHIP Start Patrol

Fri Sep 10 16:47:00 GMT 1999 PICS Start Patrol

Fri Sep 10 16:47:24 GMT 1999 MKIV Start Patrol

\*\*MKIV PROBLEM\*\*: Fri Sep 10 16:59:48 GMT 1999

pins from sky tx pulled out of connector while trying to attach a probe to ground pin. Looking for documentation to figure out which pins of the 37-pin connector they were connected to.

Fri Sep 10 17:02:50 GMT 1999 CHIP Bias

Fri Sep 10 17:03:43 GMT 1999 CHIP End Bias

Fri Sep 10 17:03:52 GMT 1999 CHIP Water

Fri Sep 10 17:04:32 GMT 1999 CHIP End Water

\*\*MKIV PROBLEM\*\*: Fri Sep 10 17:38:24 GMT 1999

OK, David saw my log comment and looked up the pin-outs for the 3125 board and called with the correct pin-outs. pins replaced and sky tx data, albeit noisy, is being input to the A/D. We discussed grounding the inputs to channel 5 as specified in the 3125 manual to hopefully quiet the signal. This will be done when I make up a jumper.

Sky tx is plugged into chan 6, pins 12 (hi) and pin 30 (lo).

PSPT COMMENT: Fri Sep 10 17:42:40 GMT 1999

Got sidetracked and did not start PSPT until a little while ago.

Fri Sep 10 18:00:28 GMT 1999 PICS Flat

Fri Sep 10 18:01:51 GMT 1999 CHIP Bias

Fri Sep 10 18:02:53 GMT 1999 CHIP End Bias

Fri Sep 10 18:03:03 GMT 1999 CHIP Water

Fri Sep 10 18:03:08 GMT 1999 PICS End Flat

Fri Sep 10 18:03:42 GMT 1999 CHIP End Water

Fri Sep 10 18:25:19 GMT 1999 MKIV Start Cal

Fri Sep 10 18:47:11 GMT 1999 MKIV Start Patrol

\*\*MKIV PROBLEM\*\*: Fri Sep 10 18:50:29 GMT 1999

Sky tx cap in place for a couple of scans.

\*\*MKIV PROBLEM\*\*: Fri Sep 10 18:51:13 GMT 1999

One of the things this is doing is the guiding is very unstable as the signal dropped to nearly dark, and the sky tx provides the agc for the guider.

\*\*MKIV PROBLEM\*\*: Fri Sep 10 18:57:48 GMT 1999

Removed cap from sky tx. a/d chan 5 is grounded to pin 1 (pins 13, 31, and 1 are jumpered together).

\*\*MKIV PROBLEM\*\*: Fri Sep 10 18:59:34 GMT 1999

Now I can see sky tx values on KCC monitor jumping around between 340-350.

Fri Sep 10 19:00:58 GMT 1999 CHIP Bias  
Fri Sep 10 19:01:28 GMT 1999 PICS polarization\_calibration  
Fri Sep 10 19:01:56 GMT 1999 CHIP End Bias  
Fri Sep 10 19:02:13 GMT 1999 CHIP Water  
Fri Sep 10 19:02:56 GMT 1999 CHIP End Water  
COMMENT: Fri Sep 10 19:09:01 GMT 1999  
Stopping to reconfigure dome shutter.  
Fri Sep 10 19:09:24 GMT 1999 CHIP CHIP End Patrol  
Fri Sep 10 19:11:15 GMT 1999 PICS End Patrol  
Fri Sep 10 19:15:23 GMT 1999 MKIV End Patrol  
Fri Sep 10 19:19:33 GMT 1999 MKIV Start Patrol  
Fri Sep 10 19:19:56 GMT 1999 PICS Start Patrol  
Fri Sep 10 19:19:56 GMT 1999 PICS Start Patrol  
Fri Sep 10 20:02:48 GMT 1999 CHIP Gain  
Fri Sep 10 20:07:22 GMT 1999 CHIP End Gain  
Fri Sep 10 20:07:32 GMT 1999 CHIP Bias  
Fri Sep 10 20:08:23 GMT 1999 CHIP End Bias  
Fri Sep 10 20:08:38 GMT 1999 CHIP Water  
Fri Sep 10 20:09:19 GMT 1999 CHIP End Water

**\*\*MKIV PROBLEM\*\***: Fri Sep 10 20:36:44 GMT 1999

I got to checking the signal from the sky tx further and if one slows the scope down and reduces the sensitivity, the signal is a square wave with a duty cycle of around 10% "off" and 90% on, with an amplitude of 3.5 volts, and a "lo" voltage of 1 volt, measured in DC across the differential lines. the period is about 17 ms. The excursion to 1-volt and back is not square, but drops rapidly and immediately ramps back up to 3.5 volts with a 2 ms overshoot and recovery of 0.2 volts amplitude around the 3.5 volt level. Could this negative "spike" be the cause of the drift? i.e. reads may occur during the negative excursions or if they are sampled over a short period, the spike may be part of the average?? What is the a/d's sampling frequency??? Are several samples averaged over the display period???? -- Just some food for thought.

Fri Sep 10 21:00:47 GMT 1999 CHIP Bias  
Fri Sep 10 21:01:44 GMT 1999 CHIP End Bias  
Fri Sep 10 21:01:59 GMT 1999 CHIP Water  
Fri Sep 10 21:02:44 GMT 1999 CHIP End Water

**\*\*MKIV PROBLEM\*\***: Fri Sep 10 21:03:00 GMT 1999

Double checked the fact that I was looking at a differential signal and the hi to analog ground maintains the waveform I described above and the lo to analog ground is a noisy 0-volts DC. So the differential signal IS as described above.

Fri Sep 10 22:00:58 GMT 1999 CHIP Bias  
Fri Sep 10 22:01:57 GMT 1999 CHIP End Bias  
Fri Sep 10 22:02:16 GMT 1999 CHIP Water  
Fri Sep 10 22:02:56 GMT 1999 CHIP End Water  
Fri Sep 10 22:04:30 GMT 1999 PICS End Patrol  
Fri Sep 10 22:06:27 GMT 1999 CHIP CHIP End Patrol  
Fri Sep 10 22:07:10 GMT 1999 CHIP ending tape

COMMENT: Fri Sep 10 22:08:57 GMT 1999

Tapes:

MKIV: 99-253

PICS: P01541

CHIP: C00917

LOWL: L00625 in drive #1

Fri Sep 10 22:10:51 GMT 1999

MkIII

16_47.rawmk3	17_50.rawmk3	19_04.rawmk3	20_12.rawmk3	21_15.rawmk3
16_50.rawmk3	17_53.rawmk3	19_08.rawmk3	20_15.rawmk3	21_18.rawmk3
16_54.rawmk3	17_57.rawmk3	19_12.rawmk3	20_19.rawmk3	21_22.rawmk3
16_57.rawmk3	18_00.rawmk3	19_19.rawmk3	20_22.rawmk3	21_25.rawmk3
17_01.rawmk3	18_04.rawmk3	19_23.rawmk3	20_26.rawmk3	21_29.rawmk3
17_04.rawmk3	18_07.rawmk3	19_26.rawmk3	20_29.rawmk3	21_32.rawmk3
17_08.rawmk3	18_11.rawmk3	19_30.rawmk3	20_33.rawmk3	21_36.rawmk3
17_11.rawmk3	18_14.rawmk3	19_33.rawmk3	20_36.rawmk3	21_39.rawmk3
17_15.rawmk3	18_18.rawmk3	19_37.rawmk3	20_40.rawmk3	21_43.rawmk3
17_18.rawmk3	18_21.rawmk3	19_40.rawmk3	20_43.rawmk3	21_46.rawmk3
17_22.rawmk3	18_29.rawmk3	19_44.rawmk3	20_47.rawmk3	21_50.rawmk3
17_25.rawmk3	18_36.rawmk3	19_47.rawmk3	20_50.rawmk3	21_53.rawmk3
17_29.rawmk3	18_43.rawmk3	19_51.rawmk3	20_54.rawmk3	21_57.rawmk3
17_32.rawmk3	18_47.rawmk3	19_54.rawmk3	20_57.rawmk3	22_00.rawmk3
17_36.rawmk3	18_50.rawmk3	19_58.rawmk3	21_01.rawmk3	22_04.rawmk3
17_39.rawmk3	18_54.rawmk3	20_01.rawmk3	21_04.rawmk3	c18_25.rawmk3
17_43.rawmk3	18_57.rawmk3	20_05.rawmk3	21_08.rawmk3	c18_32.rawmk3
17_46.rawmk3	19_01.rawmk3	20_08.rawmk3	21_11.rawmk3	c18_39.rawmk3