

# HP 3458A - Feature #1285

## Measure stability per SN 18

16/11/2015 05:04 - tin

<b>Status:</b>	In Progress	<b>Start date:</b>	16/11/2015
<b>Priority:</b>	Normal	<b>Due date:</b>	26/11/2015
<b>Assignee:</b>	tin	<b>% Done:</b>	0%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>			

### Description

\*\*Computation of the drift rate of calibration constant 72 (will take 1 week to complete):

$$C = [(A - B) * 1000000] / [A * D] \text{ ppm per day}$$

A = the value of the calibration constant 72 (following an ACAL on day 1 of the test)

B = the value of calibration constant 72 (following an ACAL on the last day of the test)

C = the drift rate of calibration constant 72 in ppm per day

D = the number of test days where the instrument was powered on during the test interval

(See Note # 1)

If the absolute value of C is > 0.43 ppm per day, then the A3 assembly in your instrument needs to be replaced.

### Complete an ACAL just prior to obtaining the present value of Calibration Constant 72

Date	CAL 72 after ACAL	ppm Deviation	TEMP?
11/16	981.648769E-3	Initial	+41.3°C
11/16 +3h	981.652110E-3	+0.334	+35.5°C
11/17	981.652541E-3	+0.043	+37.0°C
11/17 7PM	981.665868E-3	+1.333	+40.1°C
11/18			

Date	CAL 72 after ACAL	ppm Deviation	TEMP?	Deviation from day 0, ppm
1/18	997.711415e-03	0	32.5	0
1/19	997.711486E-03	+0.0712	31.9	+0.0712
1/20	997.711441E-03	-0.0451	33.8	+0.0261
1/21	997.711391E-03	-0.0501	31.5	-0.0241
1/24	997.711709E-03	+0.3187	30.6	+0.2947
1/25	997.711798E-03	+0.0892	31.9	+0.3839
1/26	997.712097E-03	+0.2997	29.9	+0.6836
1/28	997.711577E-03	-0.5212	32.3	+0.1624
1/29	997.711566E-03	-0.0110	33.0	+0.1513
2/02	997.711546E-03	-0.0200	32.7	+0.1313
2/03	997.711203E-03	-0.3438	34.6	-0.2125
2/04	997.711465E-03	+0.2626	33.4	+0.0501
2/07	997.712158E-03	+0.6946	35.2	+0.7447
2/08	997.712250E-03	+0.0922	34.8	+0.8369
2/09	997.712179E-03	-0.0712	36.4	+0.7658
2/10	997.711496E-03	-0.6846	37.6	+0.0812
2/12	997.711259E-03	-0.2375	40.7	-0.1564

2/13	997.711034E-03	-0.2255	42.2	-0.3819
2/14	997.711229E-03	+0.1954	41.1	-0.1864
2/16	997.711666E-03	+0.4380	36.9	+0.2516
2/17	997.711682E-03		35.0	
2/24	997.711203E-03		35.7	
2/26	997.710995E-03		35.6	
2/28	997.710960E-03		37.9	
3/01	997.710894E-03		37.8	
3/05	997.710730E-03		40.8	
3/06	997.710628E-03		44.7	
3/08	997.711302E-03		37.4	
3/15	997.711152E-03		31.7	

**Drift rate : -0.01623 ppm/day**

**Drift rate 2 : -0.03329 ppm/day (D = 23)**

**Drift rate 2 : -0.00839 ppm/day (D = 30)**

**Recalibrated DCV to 7V MM**

**CAL? 2,1 : 7.18067804**

**CAL? 1,1 : 39.9996932E+3**

Date	CAL 72 after ACAL	ppm Deviation	TEMP?	Deviation from day 0, ppm
3/22	997.700746E-3	0	36.5	0

### History

**#1 - 16/11/2015 05:06 - tin**

- Description updated

**#2 - 16/11/2015 11:38 - tin**

- Description updated

**#3 - 16/11/2015 14:03 - tin**

- Description updated

**#4 - 16/11/2015 17:28 - tin**

- Description updated

**#5 - 17/11/2015 11:10 - tin**

- Description updated

**#6 - 18/01/2016 11:50 - tin**

Cal 72  
997.711415e-03

Cal 2  
7.18075438

TEMP? : 32.5

**#7 - 19/01/2016 18:07 - tin**

CAL 72?

997.711486E-03

CAL 2  
7.18075438

TEMP : 31.9

**+0.0712 ppm**

**#8 - 20/01/2016 15:03 - tin**

CAL 72?  
997.711441E-03

CAL 2,1?  
7.18075438

TEMP?  
33.8

**-0.0451 ppm**

**#9 - 21/01/2016 15:43 - tin**

CAL 72?  
997.711391E-3

TEMP?  
31.5

**-0.0501ppm**

**#10 - 23/01/2016 19:29 - tin**

+997.711709E-3

TEMP?  
30.6

**+0.3187 ppm**

**#11 - 24/01/2016 16:26 - tin**

TEMP?  
31.9

CAL72?

997.711798E-3

**+0.0892 ppm**

**#12 - 25/01/2016 13:56 - tin**

TEMP?  
29.9

CAL72?  
+997.712097E-3

**+0.2997 ppm**

**#13 - 28/01/2016 08:58 - tin**

TEMP?

32.3

CAL 72?  
997.711577E-03

**-0.5212 ppm**

**#14 - 28/01/2016 09:08 - tin**

- Description updated

**#15 - 28/01/2016 09:08 - tin**

- Description updated

**#16 - 29/01/2016 11:56 - tin**

TEMP?  
33.0

CAL 72?  
997.711566E-03

**-0.0110 ppm**

**#17 - 02/02/2016 00:07 - tin**

TEMP?  
32.7

CAL? 72  
997.711546E-03

**#18 - 03/02/2016 14:45 - tin**

TEMP?  
34.6

CAL? 72  
997.711203E-03

**#19 - 04/02/2016 14:17 - tin**

TEMP?  
33.4

CAL? 72  
997.711465E-03

**#20 - 07/02/2016 02:15 - tin**

TEMP?  
35.2

CAL? 72  
997.712158E-03

**#21 - 08/02/2016 03:53 - tin**

TEMP?  
34.8

CAL 72?  
997.712250E-03

**#22 - 09/02/2016 00:51 - tin**

TEMP?  
36.4

CAL? 72  
997.712179E-03

**#23 - 09/02/2016 01:04 - tin**

- Description updated

**#24 - 10/02/2016 06:11 - tin**

temp?

37.6

cal? 72  
997.711496E-3

**#25 - 12/02/2016 05:04 - tin**

TEMP? 40.7

CAL? 72

997.711259E-3

**#26 - 12/02/2016 19:52 - tin**

temp?  
39.6

cal? 72  
997.711453e-3

**#27 - 13/02/2016 07:45 - tin**

temp?  
42.2

CAL? 72  
997.711034E-03

**#28 - 13/02/2016 13:26 - tin**

temp? 41.1  
cal  
997.711229e-3

**#29 - 15/02/2016 18:19 - tin**

TEMP?  
36.9

CAL? 72  
997.711666E-3

**#30 - 17/02/2016 05:20 - tin**

- Description updated

**#31 - 17/02/2016 13:24 - tin**

TEMP?

35.0

CAL?  
997.711682E-03

**#32 - 24/02/2016 11:25 - tin**

TEMP?  
35.7

CAL? 72  
997.711203E-03

**#33 - 25/02/2016 20:59 - tin**

TEMP? 35.6

CAL? 72  
997.710995E-03

**#34 - 28/02/2016 12:19 - tin**

TEMP> 37.9

CAL? 72 - 997.710960E-3

**#35 - 01/03/2016 00:11 - tin**

TEMP? 37.8

CAL? 72 = 997.710894E-03

**#36 - 04/03/2016 22:58 - tin**

TEMP?

40.8

CAL 72?

997.710730E-3

**#37 - 06/03/2016 10:01 - tin**

TEMP?

44.3

CAL? 72:

997.710628E-03

**#38 - 07/03/2016 17:30 - tin**

TEMP?

37.4

CAL 72? : 997.711302E-03

**#39 - 15/03/2016 14:55 - tin**

TEMP? = 31.7

CAL? 72 = 997.711152E-03

**#40 - 22/03/2016 04:44 - tin**

TEMP? 36.5

CAL? 2,1 : 7.18067804

CAL? 1,1 : 39.9996932E+3

CAL? 72: 997.700746E-3

**#41 - 22/03/2016 09:08 - tin**

- Description updated

**#42 - 23/03/2016 13:24 - tin**

TEMP: 35.8

CAL? 72: 997.700556E-03

**#43 - 23/03/2016 17:27 - tin**

TEMP? 35.5

CAL? 72: 997.700650E-03

**#44 - 24/03/2016 15:03 - tin**

TEMP? 33.9

CAL? 72

997.700700E-03

**#45 - 25/03/2016 11:05 - tin**

TEMP: 32.5

CAL? 72: 997.700717E-03

**#46 - 27/03/2016 02:41 - tin**

TEMP:

33.3

CAL: 997.700654E-03

**#47 - 04/04/2016 02:17 - tin**

TEMP?  
42.3

CAL?  
997.699913E-3

**#48 - 04/04/2016 17:27 - tin**

TEMP? 41.5  
CAL? 72: 997.699898E-03

**#49 - 09/04/2016 18:33 - tin**

TEMP?  
39.7

CAL 72? 997.700689E-03

**#50 - 10/04/2016 15:23 - tin**

TEMP? 36.1

CAL 72: 997.700957E-03

**#51 - 12/04/2016 16:23 - tin**

TEMP? 38.1

CAL? 997.701051E-3

**#52 - 15/04/2016 16:38 - tin**

TEMP? 35.5

CAL? 997.701010E-3

**#53 - 18/04/2016 16:48 - tin**

TEMP? 34.2

CAL? 72:

997.701191E-03

**#54 - 19/04/2016 00:26 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
36.6

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.701099E-03

**#55 - 01/05/2016 04:06 - tin**

root@rpi3:/repo/3458# python ./sn18.py  
Temp?  
38.8

CAL? 1,1  
39.9996932E+03

CAL? 2,1

7.18067804E+00

CAL? 72  
997.701098E-03

**#56 - 15/05/2016 23:32 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
40.7

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700590E-03

**#57 - 17/05/2016 16:02 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
38.1

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700868E-03

**#58 - 19/05/2016 17:37 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
35.3

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.701128E-03

**#59 - 21/05/2016 18:50 - tin**

root@pi2:/repo/3458# python sn18.py  
Temp?  
35.0

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700983E-03

**#60 - 24/05/2016 14:21 - tin**



root@pi2:/repo/3458# python sn18.py  
Temp?  
40.1

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700720E-03

**#61 - 27/05/2016 17:22 - tin**

root@pi2:/repo/3458# python sn18.py  
Temp?  
37.8

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700819E-03

**#62 - 29/05/2016 06:30 - tin**

root@pi2:/repo/3458# python sn18.py  
Temp?  
43.6

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700477E-03

**#63 - 29/05/2016 14:48 - tin**

root@pi2:/repo/3458# python sn18.py  
Temp?  
37.2

ID = HP3458A

CAL? 1,1  
39.9996932E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700852E-03

**#64 - 29/05/2016 17:22 - tin**

RECAL OHMF ZERO and OHM 10K

python sn18.py  
Temp?  
37.6

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700852E-03

**#65 - 30/05/2016 13:52 - tin**

root@pi2:/repo/3458# python sn18.py  
Temp?  
37.2

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700983E-03

**#66 - 31/05/2016 00:28 - tin**

root@pi2:/repo/3458# python sn18.py  
Temp?  
44.6

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700402E-03

**#67 - 05/06/2016 16:00 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
42.2

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.699773E-03

**#68 - 07/06/2016 16:39 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
36.7

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72

997.700540E-03

**#69 - 10/06/2016 07:50 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
36.2

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700289E-03

**#70 - 13/06/2016 18:08 - tin**

Temp?  
42.2

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.699524E-03

**#71 - 14/06/2016 17:09 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
35.6

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700094E-03

**#72 - 19/06/2016 14:18 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
41.3

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.699730E-03

**#73 - 22/06/2016 18:32 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
35.5

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700065E-03

**#74 - 23/06/2016 17:33 - tin**

root@pi2:/repo/3458# python ./sn18.py  
Temp?  
35.8

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700054E-03

**#75 - 25/06/2016 18:52 - tin**

Temp?  
35.5

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.699999E-03

**#76 - 28/06/2016 19:57 - tin**

Temp?  
36.0

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.699949E-03

**#77 - 09/07/2016 17:00 - tin**

Temp?  
37.1

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700085E-03

**#78 - 10/07/2016 00:40 - tin**

Temp?  
35.4

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700342E-03

**#79 - 10/07/2016 15:23 - tin**

Temp?  
36.6

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700394E-03

**#80 - 11/07/2016 14:01 - tin**

Temp?  
36.4

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700292E-03

**#81 - 11/07/2016 14:36 - tin**

Temp?  
35.5

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700452E-03

**#82 - 17/07/2016 17:11 - tin**

Temp?  
36.3

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700165E-03

**#83 - 19/07/2016 18:09 - tin**

Temp?  
37.6

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700105E-03  
Temp?  
37.6

ID = HP3458A

CAL? 1,1  
39.9985977E+03

CAL? 2,1  
7.18067804E+00

CAL? 72  
997.700105E-03