2014-04-02 2000z
S69 X02
No issues. Acoustics were chatty on way down, but manageable, and very clear during survey.

2014-04-03 0200z
S66 X01
Sensor A005 appears to be unlocked when rigged under arm. Ch3 is swinging from rail to rail, others are swinging as well, but not usually far from a rail. Ch1 mass pos is positive, not negative. While collecting packets, there is no response from p3, and the signals in quick view return to near zero, as if the controller has just reboot and shut off the guralp. The vac board still communicates, but the GU does not. After thirty seconds the Guralp signals come back and the controller board communicates as usual. Dan was taping up the sensor cable when this failure occurred. Perhaps it is an intermittent connection in cable #S1-51.

The Guralp is still swinging rail to rail. Send lock, and now it seems to behave normally, Ch1 mass pos goes negative. Swap in sensor B040 (from S43 prior to address reassignment) and cable S1-20.

Now sensor B040 looks good, except the clock is set to 1903-04-13. Look back at logs, looks like it has been this way since back at the lab, so it was probably never correctly set… set it, then deploy it.

Deck box seems to not correctly deal with range gate immediately after deployment – gives chirp for instrument but does not give a range, gives bottom echo ranges instead. After 8 minutes, power cycle the box, now it works fine, range at 400ms.

2014-04-03 0800z
S27 A06B
Sensor A008 gives no signal on ch1 or ch3, but ch2 looks normal. Try swapping out cable S1-50, but this does not fix it. Swap in sensor A021, originally slated for S73. All looks good now. After deployment Tim opens A008 and finds a sensor connector on the GU board is not seated. After mating this connector all looks good. A008 has been readdressed to S73, and will be ready to deploy after being resealed.

S22 B06
No instrument issues

S14 C06
DPG signal has some odd bumps in it, but mostly looks normal. No other issues

S33 D06
No issues

2014-04-04 11:50z
S67 X04
B035 controller seems to not increment the clock when main power is removed. It remembers the time, but does not increment. It seems OK when power is applied. Test by setting time exactly to GPS clock, then removing power for ~4.5 minutes. Upon reapplying power the clock has lost ~4.5 minutes, but

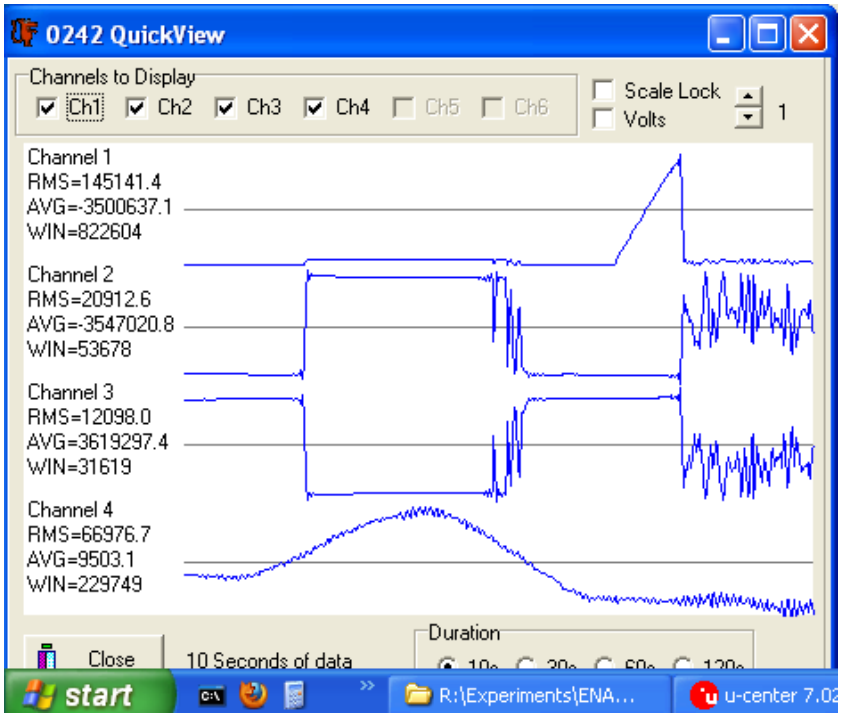
now appears to run with main power applied. Reset the clock and watch in for the rest of the checkout. Looks like the clock is running reliably with main power applied, so deploy as is.

Working on guralp spheres:
Swap Persistor 3864 from A005 into B045. Keep CF#114 with B045. Update tilt coefficients (scale and offset) for Persistor 3864 and change address to S19. Have some confusion where it appears that 3864 is also loosing time in B045 now, but it looks like two confounding factors caused this – first the PC clock is dramatically slow, so even with it being set by GPS every 5 minutes this was introducing at least 10 seconds of "noise" to the reading. Second, the coin cell had a protective backing which had not been removed. This caused the clock to not increment for about 20 minutes while it was unplugged. At 2014-04-04 17:53:30 I set the clock to within 1 second of the Arbiter display, and 10 minutes later it is still completely accurate. This is presumably the same problem which we saw on B035 with S67. So that system should definitely work fine in the water.

S33
No issues

S05
No issues

S59
No issues. Deploy A008 with S59 since it is on a tripod in the van, and ready to go, but the frame is one of the last available frames

S30


Guralp looks funny. Deploy here as it is probably better than the Guralp which was shipped unlocked. This is a less critical site.

S42
No issues

S68 A04
No issues. (some small bumps on Guralp signal for a couple minutes after lock, ~500 count window, went away after 2 minutes, left a typical slow ramp, ~100 count window)

S01 C04
Acoustics not quite as sensitive on deck as everything else. Required the 8011 ducer to be placed closer to the instrument ducer than other instruments had. Worked fine then. No other issues. Survey did not experience any difficulties with reception.

S74 D04
Note from slab testing : BL2 is inverted on B032. Otherwise no issues.

D61 X06
DPG 6023 signal looks bad. Replace cable 3270A-16 with cable 3270A-19. Now signal looks good. Test the cable and it looks good, no shorts or opens. Look back at history and see that this system had a DPG problem in the lab, which was caused by a DPG cable with a clear failure (increased resistances and partial shorts between lines, presumably corrosion inside the connector splices). Odd to have more trouble with the same system, so do some further troubleshooting. DPG signal does look good over several hours on Cimarron. Wiggle the cable a little bit at the jbox and DPG ends. No effect from wiggling the jbox end, but even gentle wiggles cause big glitches to the rail. Swap out DPG 6023 and install 6017. Signal looks good, and wiggling the cable does not cause glitches any more. Will leave cable 3270A-19 installed, although there is no reason to suspect 3270A-16 of being bad.

Further sensor work:
Swap persistor boards from A005 and B045 back to their original systems, readdress, and reprogram tilt coefficients. CF cards have stayed with the original spheres, so there has been no configuration changes with these. Since S19 will need to be deployed soon, B045 has been addressed to S53 and B044 has been addressed to S19 to take its place. B045 remains a good sphere for use after we have had a chance to watch the vacuum. A005 is an undesirable sphere as the Guralp was apparently shipped unlocked, but it could be used in a pinch.

Replace the vacuum board in A001 (#06) with 40??. Looks good now. Reseal. Because S61 is next in line for deployment, readdress A001 to S70, and readdress A004 to S61.

S48 x07
No issues

S19 d03
No issues

S72 c03
Edgetech 31629 in BB1 is set to 13kHz. No instrument issues. **During deployment BB1 top hardhat broke at handle due to excessive force from tagline. Instrument deployed anyway using float ball handle for tagline. BB2 handle severely deformed as well, may not present good target for tagline on recovery.**

S65 a03
BB1 burnwire cable from splice is very short, just barely makes it. Penetrator to splice also very short. BB2 penetrator to splice is short but not as bad.

S46 a02
No issues

S37 b02
No issues

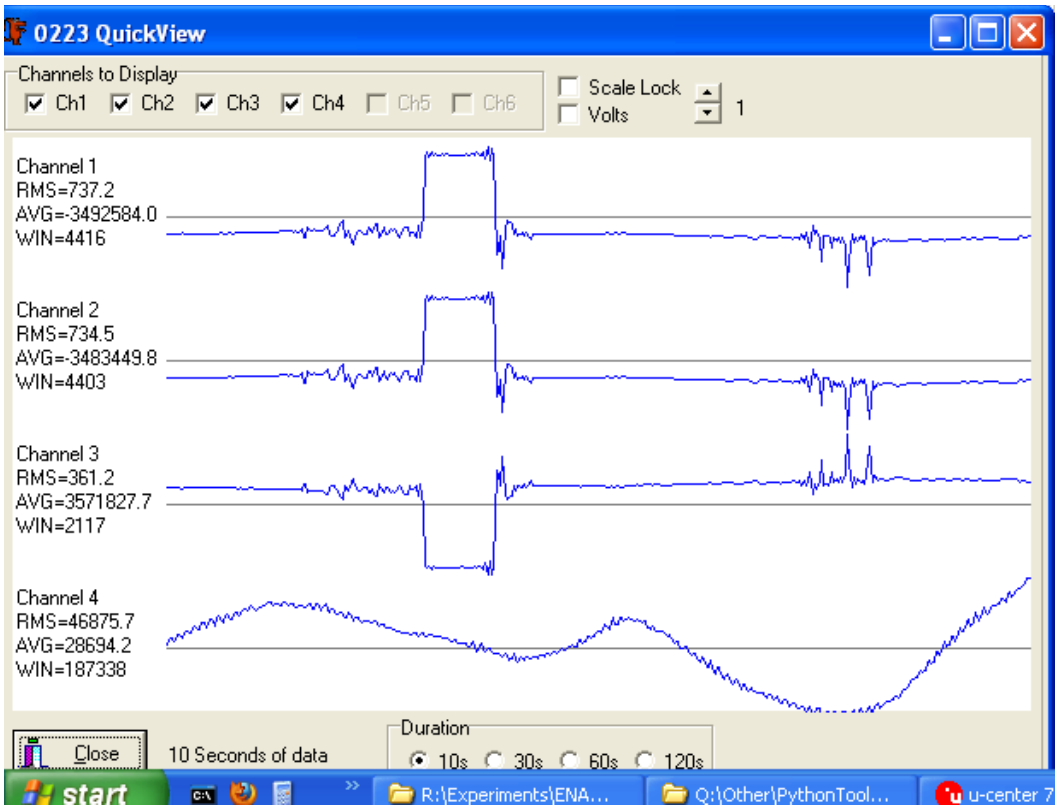
S23 d02
Jbox mounting helicoils stripped by wave, now secured by tie wraps. No other issues

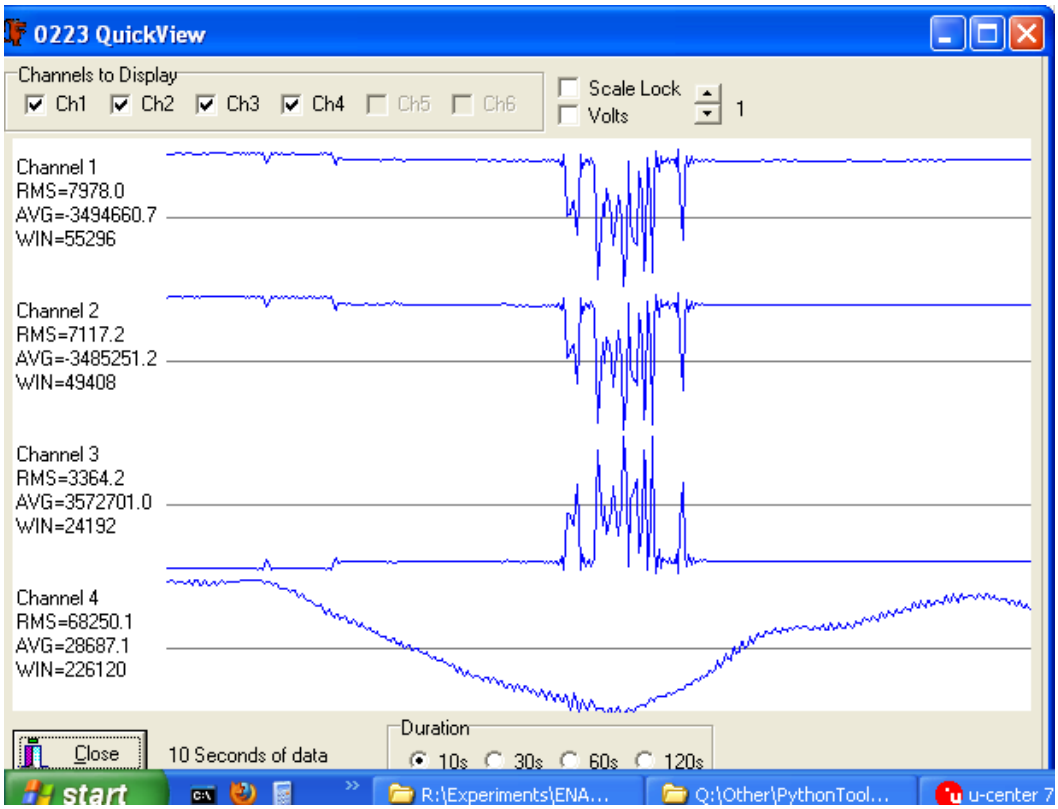
S71 x08
Ducer 31710 on BB2 has oil leak. Sensor ball equatorial ring is upside down. No other issues.

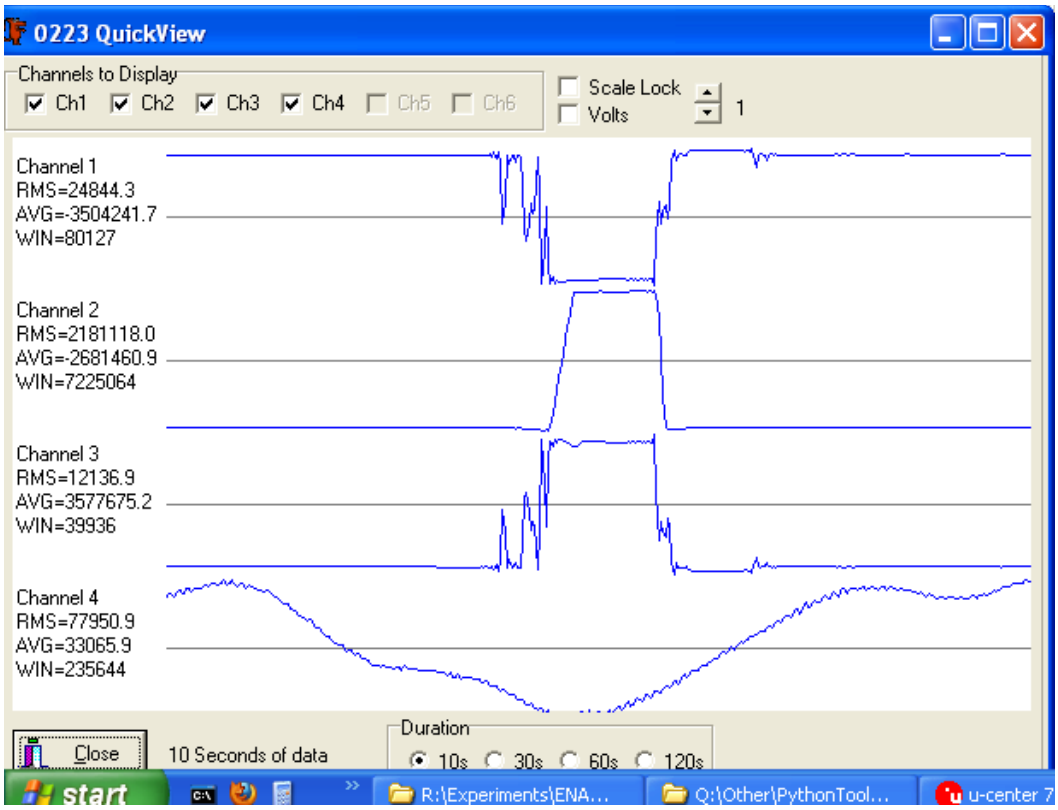
S20 x09
Shore cable came out of dummy and lay on deck. Pin 4 SAIL has severe corrosion, but still works. Will need to be replaced after recovery, but seems to be working fine for now. Should be prepared on recovery to deal with a possible shore connection issue. Sensor cable S1-05 could not mate with sensor ball Seacon. Tried a different cable and this mated fine.

S70 x10
Used a fine file to reduce material around edges of the index bumps on sensor cable S1-05. In particular the non-pin1 bump had a mound of material scraped up, presumably from a previous rough insertion. Used care to not scratch o-ring surface on barrel, then cleaned carefully all around. Mating was still a little tighter than average, but within normal range.

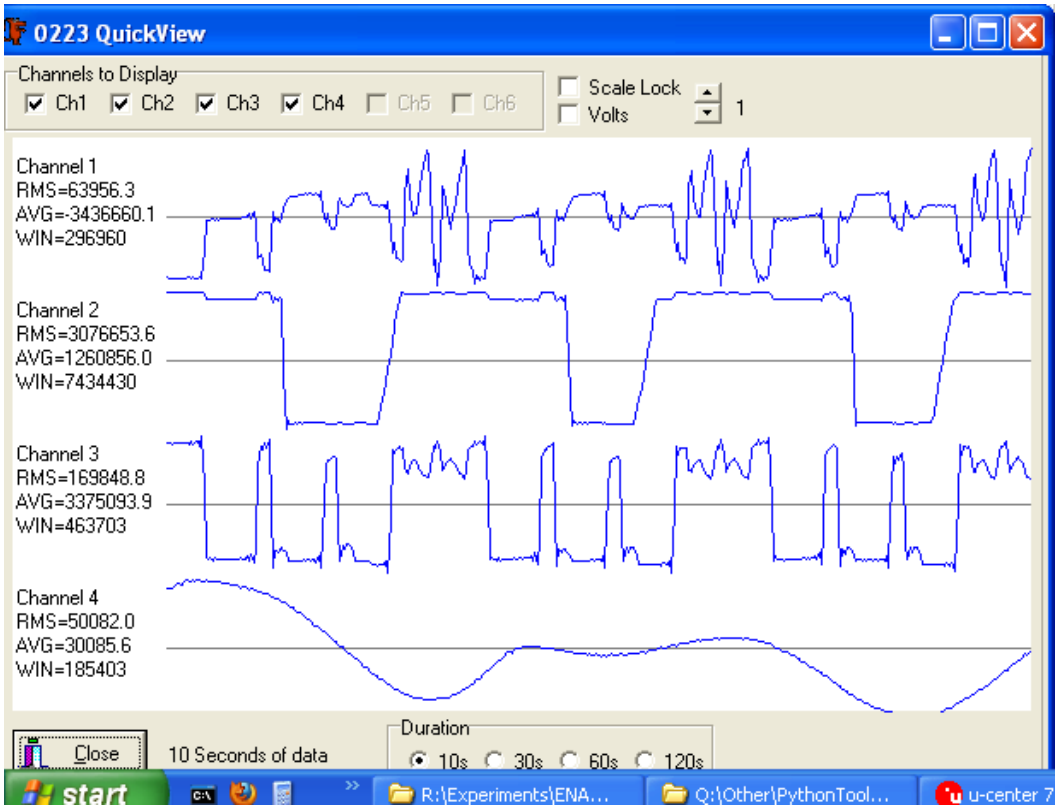
S38 a01
Looks like Channel 2 of Guralp may be unlocked. Even after two lock commands it has occasional rail to rail swings.


0223 QuickView
Channels to Display
Ch1 Ch2 Ch3 Ch4 Ch5 Ch6
Scale Lock
Volts
1
Channel 1
RMS=737.2
AVG=-3492584.0
WIN=4416
Channel 2
RMS=734.5
AVG=-3483449.8
WIN=4403
Channel 3
RMS=361.2
AVG=3571827.7
WIN=2117
Channel 4
RMS=46875.7
AVG=28694.2
WIN=187338
Close
10 Seconds of data
Duration
10s 30s 60s 120s
start
R:\Experiments\ENA...
Q:\Other\PythonTool...
u-center 7

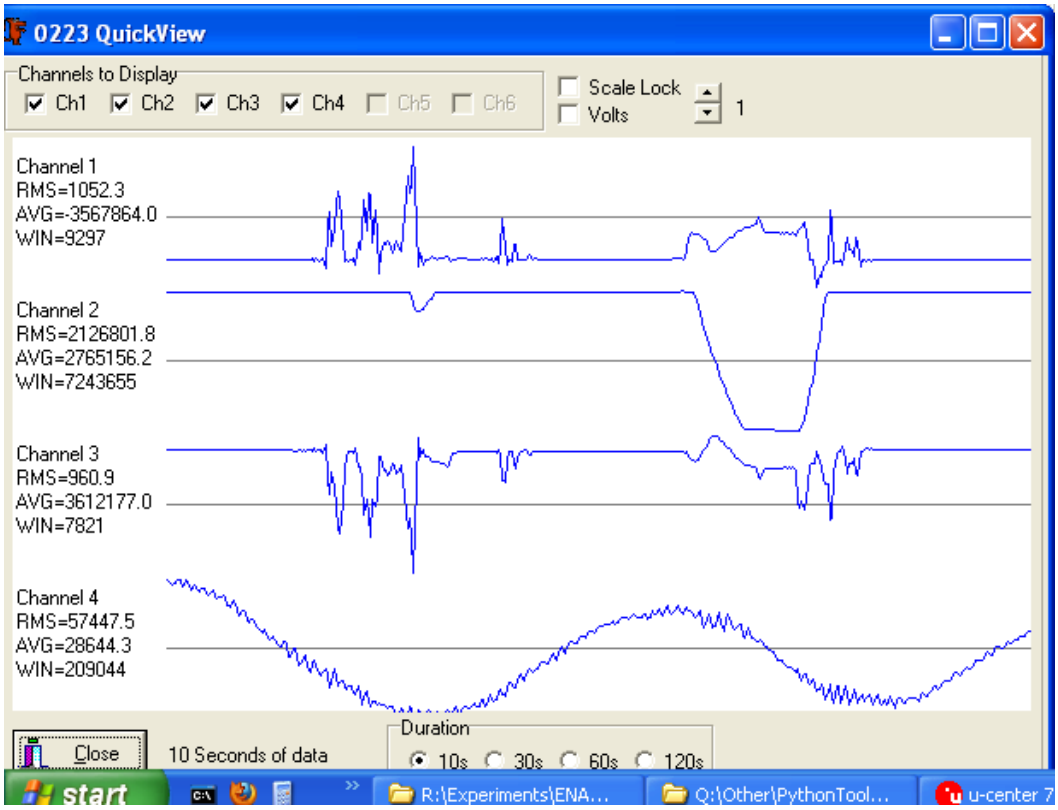

0223 QuickView
Channels to Display
Ch1 Ch2 Ch3 Ch4 Ch5 Ch6
Scale Lock
Volts
1
Channel 1
RMS=7978.0
AVG=-3494660.7
WIN=55296
Channel 2
RMS=7117.2
AVG=-3485251.2
WIN=49408
Channel 3
RMS=3364.2
AVG=3572701.0
WIN=24192
Channel 4
RMS=68250.1
AVG=28687.1
WIN=226120
Close
10 Seconds of data
Duration
10s 30s 60s 120s
start
R:\Experiments\ENA...
Q:\Other\PythonTool...
u-center 7


0223 QuickView
Channels to Display
Ch1 Ch2 Ch3 Ch4 Ch5 Ch6
Scale Lock
Volts
1
Channel 1
RMS=24844.3
AVG=-3504241.7
WIN=80127
Channel 2
RMS=2181118.0
AVG=-2681460.9
WIN=7225064
Channel 3
RMS=12136.9
AVG=3577675.2
WIN=39936
Channel 4
RMS=77950.9
AVG=33065.9
WIN=235644
Close
10 Seconds of data
Duration
10s 30s 60s 120s
start
R:\Experiments\ENA...
Q:\Other\PythonTool...
u-center 7

Second Lock:


0223 QuickView
Channels to Display
Ch1 Ch2 Ch3 Ch4 Ch5 Ch6
Scale Lock
Volts
1
Channel 1
RMS=63956.3
AVG=-3436660.1
WIN=296960
Channel 2
RMS=3076653.6
AVG=1260856.0
WIN=7434430
Channel 3
RMS=169848.8
AVG=3375093.9
WIN=463703
Channel 4
RMS=50082.0
AVG=30085.6
WIN=185403
Close
10 Seconds of data
Duration
10s 30s 60s 120s
start
R:\Experiments\ENA...
Q:\Other\PythonTool...
u-center 7

After lock:

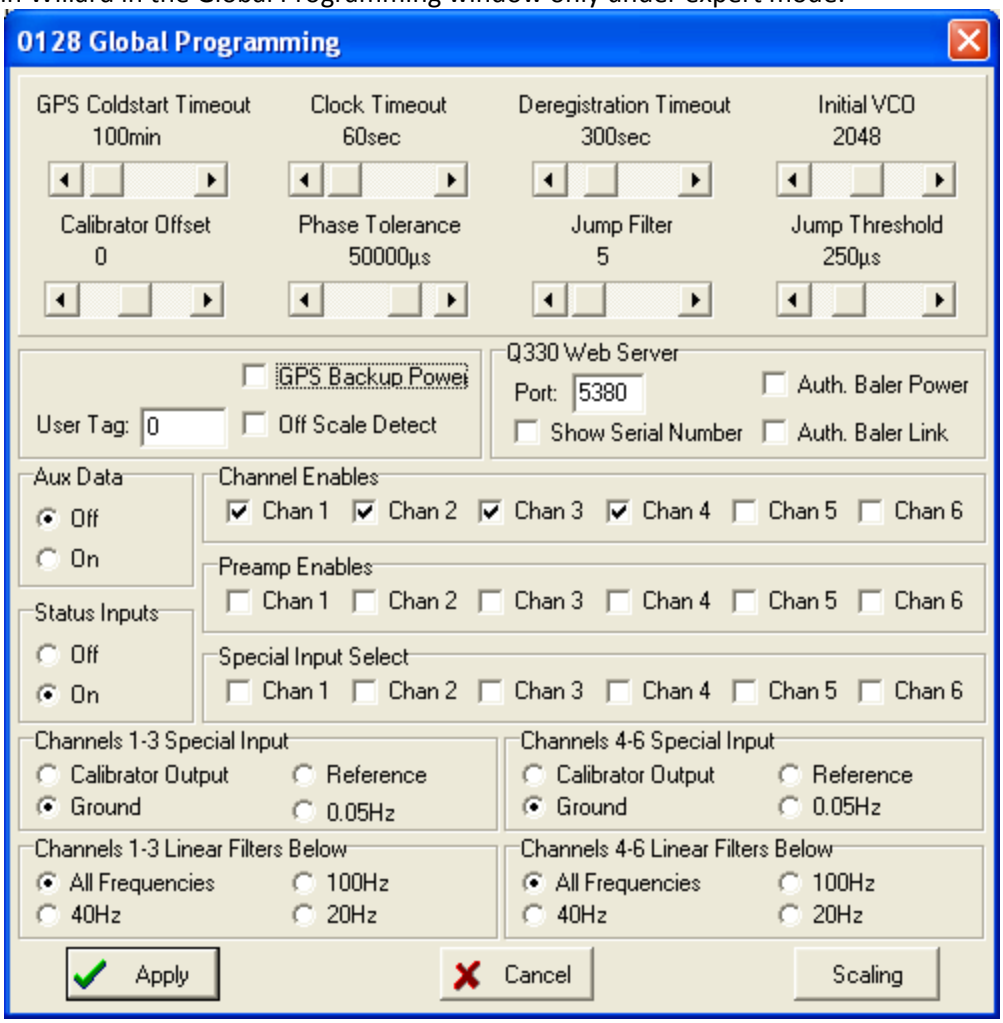

0223 QuickView
Channels to Display
Ch1 Ch2 Ch3 Ch4 Ch5 Ch6
Scale Lock
Volts
1
Channel 1
RMS=1052.3
AVG=-3567864.0
WIN=9297
Channel 2
RMS=2126801.8
AVG=2765156.2
WIN=7243655
Channel 3
RMS=960.9
AVG=3612177.0
WIN=7821
Channel 4
RMS=57447.5
AVG=28644.3
WIN=209044
Close
10 Seconds of data
Duration
10s 30s 60s 120s
start
R:\Experiments\ENA...
Q:\Other\PythonTool...
u-center 7

S53 b01
No issues

S38 c01
No issues

S73 d01
No issues

S28 x03
Q330 power cycled GPS receiver shortly after turn on. When I did xml compare shortly after this power cycle I got a comparison mismatch for gps_backup = 0. Normally this equals 1. It looks like this is visible in Willard in the Global Programming window only under expert mode:



Leave Q330 alone for a while and finally GPS lock is accepted. Now the XML comparison matches as expected, and GPS Backup Power is checked in Global Programming. Email from Joe confirms that this is expected behavior when the Q330 is cold starting the GPS.
Seacon cable had no o-rings! No other issues.