HLP RT-130 Station Installation (revised 6/27/2007 DEJ)

ARRIVAL TIME(local): 1:15  OPERATOR: Krisandra, Maureen, David, Steven, Mike
DAS S/N: 9ABF  SENSOR S/N: 29415  GPS S/N: 3072
Handheld GPS Sta Loc: Lat: N 42.76772  Lon: W 117.40781  Elev: 1364 m
POWER: BATT-1: 13.1  BATT-2: 13.1  solar panel output (-18V): 2.7amps

Connect cables:
- 1) Build power system
- 2) RT-130 (GPS) to GPS
- 3) Check power with voltmeter
- 4) Sensor to RT-130 (CH1-3)
- 5) power to RT-130
- 6) Cicle to RT-130 (comm.)

Clie -> PFC_130 -> Control -> RAM -> Clear:........
Control -> Reset DAS:...........
Control -> Format Disk -> 1:......  Format Disk -> 2:.....

> Check that GPS has locked:  Control -> Status -> GPS
(Warning: Load parameters from Clie to DAS ONLY AFTER GPS LOCK)

> Exit Control (click Done on successive screens until return to Control)
> PFC_130 -> Work with Configuration (Refer to Configuration Sheet for RT-130 in back of service binder)
> Work with Configuration > Load > HLP (or) Work with Configuration > New > Name: HLP
> Edit configuration file:
> Send to DAS:
> Confirm (optional):  Upload from DAS and confirm that parameters have been correctly set in RT-130:

SENSOR MASS POSITION: (Measure initial voltage at breakout box, vault open)
Voltage CH 1: 0.9  CH 2: -1.1  CH 3: -0.6
Push mass center button from breakout box if any CH > +/-1.5 V (Guralp) or +/- 2.5 V (STS-2) and, if necessary, repeat at 2-3 minute intervals until centered. Seal up vault and continue centering if necessary through the Clie.

> Control -> Aux. Cntrl -> Aux. Ch.
If any CH > +/-1.5V (Guralp) or +/-2.5V (STS-2), touch center 1-3 (and update) until all CH < +/- 1.5 V or 2.5 V.
Final mass position voltages: CH 1: +0.7  CH 2: -0.8  CH 3: -0.6

WAVEFORM MONITOR:  Control -> Monitor -> View: Record Midpoint and Range
CH 1 42.544 13.709  CH 2 19.252 87.563  CH 3  -25.216  22.101

START ACQUISITION:  Control -> Status -> Start Acq.
DAS Status:  (use Update to Refresh)
Time: 2007.287.12:08:54
Acq.: 54min
Events: 3
RAM: 3204449352kb
Increasing?
Disk 1: 0 of 19.1MB
Disk 2: 0 of 1450MB
Temperature: 37.5°C
Power: 13.3 3.3
Ch: 1,2,3  DS: CC

DEPARTURE TIME(local): 15:10

GPS Status: GPS
Time: 2007.287.12:10:22
Sec since LL: 7 min
Phase Diff. (us): 1.0 ms
Mode: Cycled
Status: 05.0 SVs: 10
Lat: 42.0 46.9641°
Lon: 117.28 47.184°
Elev: 1364 m

*****PLEASE NOTE ANY SPECIAL PROBLEMS BELOW ON THIS SHEET*****
HLP RT-130 SERVICE SHEET (v3) (last revised 6/27/2007 DEJ)

STATION: OR 10 Month: 5 Day: 17 Year: 2008 ARRIVAL TIME (local): 15:50
OPERATOR: James Yu DAS S/N: 9283 POWER: BATT-1: 12.8 BATT-2: 12.8

Voltage CH 1: +0.8 CH 2: +0.1 CH 3: -0.4
Use Center 1-3 to recenter if any CH > +/- 1.5 volts Guralp; > +/- 2.5 volts STS-2. Check here.
Continue with recenter command (and update) until all channels are < +/- 1.5 V (Guralp); 2.5 V (STS2)
Enter final mass position voltages: CH 1: _______ CH 2: _______ CH 3: _______

DAS Status: Control -> Status: (use Update to Refresh)
Acq: Start ON
Events: 6:79:5
RAM: 43:4 of 4352 Increasing?
Disk1: 1960 of 1971 MB (Current)
Disk2: 33:5 of 1950 MB (Current)
Temperature: 43.5°C
Power: 12.6
Ch: 12.3 DS: CC

CALIBRATION: Control -> Aux. Cntrl -> Test 1-3:......Wait quietly for 18 min.

GPS Status: GPS
Sec since LL: 1:09:21:0:00
Phase Diff (us): 0
Mode: cycle
Status: a Sleep SVs: 0
Lat: N 48:46.013:0
Lon: W 117:24.491:7
Alt(m): 1,353

STOP ACQUISITION: Control -> Status -> Stop Acq: Wait until disk is no longer in use, update status screen then remove and record time here.

Disks Removed ( ) circle one or both. Install new disk(s): Confirm that correct disk has been removed by checking disk content: Control -> Status: disk1/disk2.

ROUTINE SERVICE
Control -> RAM -> Clear: 
Control -> Reset DAS: 
Control -> Format Disk 1: 
Control -> Format Disk 2: 

REPLACEMENT (record details and new S/N below!)
Control -> Status -> GPS Status: ...
Configuration: Load new parameters only after GPS lock
Control -> RAM -> Clear: 
Control -> Reset DAS: 
Control -> Format Disk 1 & 2: 

WAVEFORM MONITOR: Control -> Monitor -> View: Record Midpoint(M) and Range(R)
CH 1: M 2647 R 644 CH 2: M 1287 R 1745 CH 3: M 1524 R 513
Microseism? 
Microseism?

START ACQUISITION: Control -> Status -> Start Acq.
DAS Status: use Update to Refresh
Acq: Start ON
Events: 3
RAM: 43:4 of 4352 Increasing?
Disk1: 0 of 1950 MB (Current)
Disk2: 0 of 1950 MB (Current)
Temperature: 45.3°C
Power: 12.5
Ch: 12.3 DS: CC

GPS Status: GPS
Sec since LL: 99:23:57:00
Phase Diff (us): +59.9, 39.34
Mode: cycle
Status: a Sleep SVs: 0
Lat: N 48:46.016:4
Lon: W 117:24.491:7
Alt(m): 01341

DEPARTURE TIME (local):

*PLEASE NOTE GENERAL STATE OF THE STATION AND ANY SPECIAL PROBLEMS IN SPACE BELOW*

Now working:
Sec since LL: 0
Phase Diff: +1, 1sec
Mode: cycle
Status: Locked SV 7

2" water in action packer.
HLP RT-130 SERVICE SHEET (v4) (last revised 20080716 MJF)

OR101
STATION: OR101  Month: 9  Day: 14  Year: 2008  ARRIVAL TIME (local): 12:00

Voltage CH 1: +2.8  CH 2: -0.6  CH 3: -1.9
Use Center 1-3 to center if any CH > +/-1.5 volts Guralp; > +/-2.5 volts STS-2. Check here
Continue with centerer command (and update) until all channels are < +/- 1.5 V (Guralp); 2.5 V (STS2)
Enter final mass position voltages: CH 1: +0.4  CH 2: -0.6  CH 3: +0.7

DAS Status: Control -> Status: (use Update to Refresh)
Time: 2008.258:19:05:31  Accuracy: 01N
Acq: Start ON
Events: 3943
RAM: 1297.4 of 4352.06 r Increasing?
Disk1: 1466r of 1950MB r (Current)
Disk2: 0 of 0 r (Current)
Temperature: 40.4°C
Power: 12.7 3.3
Ch: 123  DS: CC

GPS Status: GPS
Sec since LL: 0000:10:00
Phase Diff. (us): -1.1 sec
Mode: cycle
Status: asleep  SV's: 10
Lat: 42:46.06 45
Lon: 117:24.47 17
Alt(m): 1343

CALIBRATION: Control -> Aux. Cntrl -> Test 1-3:......Wait quietly for 18 min.....

STOP ACQUISITION: Control -> Status -> Stop Acq: Wait until disk is no longer in use, update status screen then
remove and record time here: 12:10 1ocal

//Remove disk(s) and label with station ID, date, disk #, & final data amount (in Mb)

Once disks are removed (circle one or both): Install new disk(s): Confirm that correct disk has been removed by
checking disk content: Control -> Status: disk1 disk2.

IMPORTANT NOTE: Disk 1 must be current once acquisition starts. If changing both disks, then insert disk1 first, and
leaving disk2 slot empty, dump RAM to disk1 (Control -> RAM -> Dump RAM), then insert disk2 and proceed.

ROUTINE SERVICE
Control -> RAM -> Clear........ V
Control -> Reset DAS........ V
Control -> Format Disk 1........ V
Control -> Format Disk 2........ V

REPLACEMENT (record details and new S/N below!)
Control -> Status -> GPS Status:.... (confirm lock?)
Configuration: Load new parameters only after GPS lock
Control -> RAM -> Clear:.........
Control -> Reset DAS:........
Control -> Format Disk 1 & 2:........

WAVEFORM MONITOR: Control -> Monitor -> View: Record Midpoint(M) and Range(R)
CH 1: M -6821  R 185  CH 2: M -8300  R 306  CH 3: M -5260  R 239

START ACQUISITION: Control -> Status -> Start Acq.
DAS Status: use Update to Refresh
Acq: Start ON
Events: 3
RAM: 44% of 4352.06 r Increasing?
Disk1: 0 of 1950MB r (Current)
Disk2: 0% of 0 r (Current)
Temperature: 42.6°C
Power: 12.6 3.3
Ch: 123  DS: CC

GPS Status: GPS
Sec since LL: 0
Phase Diff. (us): 0
Mode: cycle
Status: 10thed  SV's: 10
Lat: 42:46.0646
Lon: 117:24.4717
Alt(m): 1356 m

DEPARTURE TIME (local): 12:30

*PLEASE NOTE GENERAL STATE OF THE STATION AND ANY SPECIAL PROBLEMS IN SPACE BELOW*

Station operating normally. Tarp gone replaced.

GPS antenna replaced: Old antenna S/N: 0486; new antenna S/N: 1846
HLP RT-130 DEMOBILIZATION SHEET (v4) (last revised 20090904 MJF)

Voltage CH 1: 2.5 CH 2: 0.7 CH 3: -1.4
Use Center 1-3 to recenter if any CH > [+/-1.5 volts] Guralp; > [+/-2.5 volts] STS-2. Check here.
Continue with recenter command (and update) until all channels are < [+/- 1.5 V] (Guralp); 2.5 V (STS2)
Enter final mass position voltages: CH 1: _____ CH 2: _____ CH 3: _____

DAS Status: Control -> Status: (use Update to Refresh)
Time: 2009: 257:00:39:03 Accurate? Y/N
Acq: Start ON
Events: 23.77
RAM: 128 of 4352
Disk1: 1452 of 3911 Increasing?
Disk2: 0 of 1031
Temperature: 44.6
Power: 12.1 in. 08.3 kwp, 00.0 chg rV
Ch: 12.3 DS: 6C

GPS Status: GPS
Time: 2009: 257:00:40:53
Sec since LL: 00:00:00:00
Phase Diff (us): 100,000,000,000
Mode: cycle
Status: Locked SVs: 9
Lat: N 42.46.0451
Lon: W 117.24.4715
Alt(m): 18.58

CALIBRATION: Control -> Aux. Cntrl -> Test 1-3..... Wait quietly for 18 min. 5:43.20 - 5:59

STOP ACQUISITION: Control -> Status -> Stop Acq: Wait until disk is no longer in use, update status screen then
remove and record time here: 2009: 257:00:51:44

Remove disk(s) and label with station ID, date, disk #, & final data amount (in Mb)

DEMOBILIZE STATION

SENSOR
□ If sensor is a 3T: lock masses twice with power on using breakout box; confirm masses pegged; disconnect
breakout box (NB: May need to connect AUX power cable to breakout box first, or use HCU with power cable).
□ If sensor is an STS2: disconnect breakout box; lock masses with power off
□ Confirm alignment of sensor with vault alignment line. If not aligned, enter misorientation value:
□ Remove sensor; enter sensor information: Type: STS2 Serial #: 29415
□ Enter assumed declination from installation (as written on sensor pad): 15°40' W
□ Confirm Brunton compass declination is set to same value as that written on pad
□ Measure orientation of vault alignment line (N-S for Guralp; E-W for Streckheiser). Enter orientation:
If measured orientation does not appear to be correct, double check measurement and confirm with
at least one other team member!
□ True orientation of line: N86° E
□ Confirmed, DET

DATALOGGER
□ Disconnect power box
□ Disconnect datalogger (all cables); enter serial #: 9BBF
□ Disconnect batteries; cover terminals with plastic caps or tape
□ Disconnect solar panels and GPS; enter GPS serial #: 1846

"PLEASE NOTE GENERAL STATE OF THE STATION AND ANY SPECIAL PROBLEMS IN SPACE BELOW"