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. Clie to RT-130 (comm.)

> 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: -0.1 CH 2: -1.8 CH 3: -1.7

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: 0.1 CH 2: 0.3 CH 3: -0.4

WAVEFORM MONITOR: Control -> Monitor -> View: Record Midpoint and Range
CH 1: 691 CH 2: 328 CH 3: 918

START ACQUISITION: Control -> Status -> Start Acq.
DAS Status: (use Update to Refresh)
Time: 2007:17:58:02:572
Acq: Start
Events: 3
RAM: 3.64 of 4352, Increasing?
Disk1: 0.64 of 1450, Current?
Disk2: 0.64 of 1950, Current?
Temperature: 21.2
Power: 12.6, 3.3 backup
Ch: 1, 2, 3 DS: 11

GPS Status: GPS
Time: 2007:28:02:06:34
Sec since LL: 4 min.
Phase Diff. (ps): -1.4
Mode: Cyclic
Status: GO, SVs: 11
Lat: N 43° 17.34300'
Lon: W 116° 58.8840'
Elev (m): 1349

DEPARTURE TIME (local): 7:07

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

STATION: 10001  Month: 5  Day: 16  Year: 2007  ARRIVAL TIME(local): 5 PM
Voltage CH 1: +0.1  CH 2: -0.8  CH 3: -0.2
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
Events: G262
RAM: 1354 41432  Increasing?
Disk1: 1939 1930 M  M (Current)
Disk2: 1524 1850
Temperature: 35.5 C
Power: 12.9 in. 203.1 Volts, 0.0 0.0
Ch: 123

GPS Status: GPS
Sec since LL: 108.07:1:00
Phase Diff (us): -9,000,000
Mode: cycle
Status: Sleep, SV’s: 1
Lat: 43.17.37
Lon: 40.11.58
Alt: 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: 2008/137/23:16:33

Disks Removed (1 or 2) circle one or both: Install new disk(s): Confirm that correct disk has been removed by checking
disk content: Control -> Status: disk 1/disk 2.

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...... (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 -2 R 770  CH 2: M -1207 R 617  CH 3: M -339 R 169
Microseism? V  Microseism? V  Microseism?

START ACQUISITION: Control -> Status -> Start Acq:
DAS Status: use Update to Refresh
Acq: Start
Events: 3
RAM: 1354 41432  Increasing?
Disk1: 1939 1930 M  M (Current)
Disk2: 1524 1850
Temperature: 40.0
Power: 12.9 in. 203.1 Volts, 0.0 0.0
Ch: 123

GPS Status: GPS
Sec since LL: 99:23:87:00
Phase Diff (us): -9,999,999
Mode: cycle
Status: Searching, SV’s: 1
Lat: 43.17.37
Lon: 40.11.58
Alt: 1343

DEPARTURE TIME(local):

*PLEASE NOTE GENERAL STATE OF THE STATION AND ANY SPECIAL PROBLEMS IN SPACE BELOW
Tarp blew off. Fence was wonky. Fixed fence.
Cow fur on fence. Solar panel poles slightly @
an rakish angle. Likely GPS antenna problem.
will come back tomorrow to fix.

GPS DID NOT LOCK!
WE WILL COME BACK TOMORROW.

DEPARTURE TIME(local):
→ 5/17/08 9:20 AM → came back to swap out GPS antenna. That fixed the problem.
Now GPS is locked, all is working.

Time on: 2008-05-17 09:20:58.04

Time left: 9:58.47
HLP RT-130 SERVICE SHEET (v4) (last revised 20080716 MJF)

STATION: J061 Month: 09 Day: 11 Year: 2008 ARRIVAL TIME (local): 11:10
Voltage CH 1: 7.7 CH 2: 2.2 CH 3: -3.3
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: ________________ CH 2: ________________ CH 3: ________________

DAS Status: Control -> Status: (use Update to Refresh)
Acq: Start CH
Events: 54.25
RAM: 1429.0 K 4.3 E 2 Increasing?
Disk1: 168 P 1.95GB (Current)
Disk2: 18982 0+1.95GB (Current)
Temperature: 72.6 C
Power: 17.0 3.3 60 L
Ch: 121 DS: CC

GPS Status: GPS
Sec since LL: 00: 00: 00: 11: 00
Phase Diff. (us): 0
Mode: Cycle
Status: Asleep
SVs: 11
Lat: N 43: 17: 39.21
Lon: W 116.59.86.0
Alt (m): 1249

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: 2008: 255: 20: 19: 23

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: _______ Control -> Status: GPS Status: _______ (confirm lock?)
Control -> Reset DAS: _______ Configuration: Load new parameters only after GPS lock
Control -> Format Disk 1: _______ Control -> RAM -> Clear: _______
Control -> Format Disk 2: _______ Control -> Reset DAS: _______ Control -> Format Disk 1 & 2: _______

WAVEFORM MONITOR: Control -> Monitor -> View: Record Midpoint (M) and Range (R)
CH 1: M 267 R 5.47 CH 2: M -1139 R 927 CH 3: M -243 R 1.114
Microseism: _______ Microseism: _______ Microseism: _______

START ACQUISITION: Control -> Status -> Start Acq.
DAS Status: use Update to Refresh
Acq: Start CH
Events: 3
RAM: 20.0 4.35 K Increasing?
Disk1: 0 3.3 K (Current)
Disk2: 0 1.95GB (Current)
Temperature: 37.5 C
Power: 12.0 3.8 60 Lp Ch: 121 DS: CC

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: _______

GPS Status: GPS
Sec since LL: 00: 00: 00: 11: 00
Phase Diff. (us): 0
Mode: Cycle
Status: Locked
SVs: 11
Lat: N 43: 17: 39.24
Lon: W 116.58.88.46
Alt (m): 1348

DEPARTURE TIME (local): 1:45 +

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

REPLACED GPS ANTENNA 5/9 3816 WITH WHITE-RING GPS 7N 106B
HLP RT-130 DEMOBILIZATION SHEET (v4) (last revised 20090904 MJF)

OPERATOR:  Longe  DAS S/N: 9BBF  POWER: BATT-1: 13.15  BATT-2: 13.15
SENSOR MASS POSITION: Control -> Aux. Cntr1 -> Aux. Ch1
Voltage CH 1: +1.0  CH 2: -0.6  CH 3: 0.3
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: 2009-25-00:31:51 Accurate? (Y) N
Acq.: Status ON
Events: 3550
RAM: 399484 KB  Increasing?
Disk1: 256 MB  (Current)
Disk2: 4111 MB  (Current)
Temperature: 41.0°C
Power: 12.4 W 02.3 V 0.2 A
Ch: 123  DS: 66

CALIBRATION: Control -> Aux. Cntr1 -> Test 1-3:...... Wait quietly for 18 min. 5:34pm

STOP ACQUISITION: Control -> Status -> Stop Acq: Wait until disk is no longer in use, update status screen then
remove and record time here: 2009-25-00:13:59
☐ 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: 0
☐ Remove sensor; enter sensor information: Type: ESP  Serial #: T3712
☐ Enter assumed declination from installation (as written on sensor pad): 15.4
☐ 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 Streckheisen). Enter orientation: NS
If measured orientation does not appear to be correct, double check measurement and confirm with
at least one other team member!

Datalogger
☐ Disconnect power box
☐ Disconnect datalogger (all cables); enter serial #: 9B8C
☐ Disconnect batteries; cover terminals with plastic caps or tape
☐ Disconnect solar panels and GPS; enter GPS serial #: 103405

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