Q330 Station Installation (Last revision 05/21/2007 DEJ)

STATION NAME: OR044 OPERATOR: ROY CASAR, LATENJARCO
MONTH: 5 DAY: 27 YEAR: 2007 ARRIVAL TIME (local): 9:00 am
SENSOR TYPE: Guralp HLG01 SENSOR SN: T3247
Q330 SN: 7171 BALEER SN: 5125 GPS SN: 1175
Handheld GPS Stn Loc: Lat: 44°18'32"N Long: 119°21'49"W Elev: 1451

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Connect cables:
- Build power system
- Connect Q330 (Qnet) to baler
- Q330 (GPS) to GPS
- Cline to Q330 (console)

[Warning: Q330 does not supply power to Cline, and cable draws continuous power. Disconnect cable from Cline when not in use.]

Cline >Q330Beta >Cmds >Cloning

- Select file to clone (STS2 HLS01) or Guralp (HLG01)
- Station names
  - Click "Palm overrides 330" in dropdown
  - Check "Edit/Verify"
  - IP Addresses: Un-Check "Edit/Verify"
  - Send
  - Station Names > DP4 > New (Enter Station Name in ALL CAPS, up to 5 characters)
  - Save/Reset

- >Views (from dropdown) > Data Recording > DP3
  - Confirm that Station is same as sensor name (e.g. HLG01)

- >Views (from dropdown) > Data Recording > DP4
  - Confirm that station name and sample rates are correct.

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Connect Sensor to Q330. Verify that sensor configuration matches sensor type.

Unlock sensor. For Guralp, to unlock from Cline: Views: > Sensor. Set duration = 10 sec. > Unlock A.
- Views > Sensor (click "refresh"): Mass Positions (Vin < 15 (Guralp); < 25 (STS-2))
  - Voltage (*10) CH1: -15 CH2: -14 CH3: -13
  - Set Duration = 10 and click Center A command if any channel > 15 (Guralp); > 25 (STS-2) and click Refresh

- Views > Quickview (waveform monitor) > chan1,2,3 > Start: Write down Max Min Midpoint (click "stop" to record values)

  CH1 20186 -22154 17191
  CH2 -2223 -952 84352 138368
  CH3 12142 -67861

- Views > System: Last GPS Lock: 8 Clock: 02:05:32
  Q330 Software Version: 1.89

- Status > GPS (confirm GPS lock)
  GPS Time: 12:11:24.9
  GPS Date: 27/05/2007
  Lat: 44°18'32"W Long: 119°21'49"W
  Elev: 1451

- Status > Data Port Tx/r > Data4: Packet Buffer: 4 (increasing? (refresh))

- Cline > Baler cmds > Turn on Baler: "Send baler cmd" Check baler is on (solid green light)

- Status > Data Port Tx/r: Data4. Packet Buffer decreases to zero: "All Packets Sent: 229"

[Note: If the Q330 does not transfer data to the Baler try clearing the Baler "Association" by holding the Baler Attention button until the light turns solid red (~5 sec). Release the button and then, after the light begins to flash green, press the Attention button once to shut down the Baler. Repeat the process once more, ending in Baler shutdown. Press Alt button once to turn Baler on and check that data transferred.]

- Status > General > Total Resyncs: 78

- Commands: Make docfile. add station name (STA) to default filename, Conf-YrMoDy-Q330-STA, and delete "Conf " from start of filename (or filename will be too long for station names 4 or more characters in length.)

DEPARTURE TIME (local): 11:30 am

PLEASE DETAIL SPECIAL PROBLEMS ON BACK OF THIS SHEET, AND NOTE BELOW*
HLP Q330 SERVICE SHEET (Last revised 06/22/07 DEJ)

STATION: 0044  Month: 06  Day: 24  Year: 2007  ARRIVAL TIME (local): 8:33
OPERATOR: SADLI, NIGUEL  POWER: BATT-1 12.87  BATT-2
Q330 S/N: 071  OLD BALER S/N: 05125  NEW BALER S/N: 05512
SENSOR MASS POSITION: Views > Sensors * Boom Positions
1: 21  2: 21  3: -3
Use Center A to recenter if any CH > +/-15 for Guralp; > +/-25 for STS-2. Check here.
Continue with Center A command (and update) until all channels are < +/-15 or 25.
Enter final mass positions: 1: 0  2: -1  3: -4

> Views > Data Recording > DP3 * Station: HLG01  > DP4 * Station: 0044
(DP3 Station should match program (HLG?? for Guralp, HLS?? for Streckeisens), DP4 Station should match station name)

> Views > System: (use Refresh to Update)
Last GPS Lock: 14 min ago
Phase error: -0.846 deg
Clock quality: 0.06 sec Freeze (4)
Input volts: 15.60
Temperature: 27.0°C
Last Boot: 2007-06-23 01:34:16
Last Resync: 2007-06-23 01:34:16

> Views > System: Turn GPS ON. Status > GPS
Locked? ...
Satellites viewed: 9
Satellites used: 5
Time: 03:41:05
Date: 25/06/2007
Latitude: 43.326283
Longitude: -119.241708
Elev (m): 1481.8

Calibration and Waveform Monitor

> Cmds > Calibration: DURATION bar: 240 s (wrongly labeled "min" on Cile); SETTLING bar: 6 min; TRAILER bar: 1 min
> Cmds > Calibration: Waveform > STEP, AMPLITUDE bar: 24 dB Guralp or -18 dB STS2, STEP POLARITY: Positive
> Cmds > Calibration: CALIBRATE CHANNELS: ISelect all 3 channels; START: 1 minute; IStart.
Sit quietly for 12 min and note local start time here: 8:40 Click Stop, then O.K. when finished.

> Views > Quickview (waveform monitor) > chan 1,2,3 > Start: Write down Max Min Midpoint (click "stop" to record values)

CH 1 116 945 146.9  CH 2 1812 -21 650 2199.0  CH 3 3533 -381.3 243.2

> Status > Data Port Txf > Data4 * Packet Buffer __ Increasing? (press Refresh)
> Cmds > Baler > ISend command to baler (Baler should turn on, with packets being sent)
> Status > Data Port Txf > Data4 * Packet Buffer Decreases to zero? Packets Sent: 181461
> Commands > Baler Cmds > Turn Off Baler (wait for slow green blink = idle)
Swap out Baler
> Status > Data Port Txf > Data4 * Packet Buffer __ Increasing? Yes
> Cmds > Baler > ISend command to baler (Baler should now be on)
> Status > Data Port Txf > Data4 * Packet Buffer Decreases to zero? Packets Sent: 181624
(Note: If the Q330 does not transfer data to the Baler try clearing the Baler "Association" by holding the Baler Attention button until the light turns solid red (-5 sec). Release the button and then, after the light begins to flash green, press the Attention button once to shut down the Baler. Repeat the process one more, ending in Baler shutdown. Press Attention button once to turn Baler on and check that data transferred)

> Status > General * Total Resyncs: ??
> Commands > Make Default. (A bug here means you should delete "Conf." at the start of the default filename, append the station name to end of the remaining default filename and click OK. Check that name is correct.)

DEPARTURE TIME (local): 7:15

*PLEASE NOTE GENERAL STATE OF THE STATION AND ANY SPECIAL PROBLEMS IN SPACE BELOW*
HLP Q330 SERVICE SHEET (Last revised 06/22/07 DEJ)

OPERATOR: KEVIN/STEVE POWER: BATT-1: 13.4V BATT-2: 13.4V
SENSOR MASS POSITION: > Views > Sensors > Boom Positions
1: 6 2: -9 3: 13
Use Center A to recenter if any CH > +/-15 for Guralp; > +/-25 for STS-2. Check here.
Continue with Center A command (and update) until all channels are < +/- 15 or 25.
Enter final mass positions: 1: 2: 3: __________

> Views > Data Recording > DP3 *Station: HLG04 > DP4 *Station: 08049
[DP3 Station should match program (HLG?? for Guralp, HLS?? for Streckeisen), DP4 Station should match station name]

> Views > System: (use Refresh to Update)
Last GPS Lock: 70 mins ago
Phase error: 0
Clock quality: OD lock, Frozen (H)
Input volts: 13.2
Temperature: 18 C
Last Boot: 2007-06-23 01:34:16
Last Resync: 2007-06-23 01:34:16

> Views > System: Turn GPS ON. Status > GPS
Locked? X
Satellites viewed: 11 Satellites used: 6
Time: 23:42:02 Date: 07/10/2007
Latitude: 43.6326333 Longitude: 119.5197200
Elev (m): 1175.1 m

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Calibration and Waveform Monitor - ρ

☐ > Cmds > Calibration: DURATION bar: 240 s (wrongly labeled "min" on Clie); SETTLING bar: 6 min.; TRAILER bar: 1 m
☐ > Cmds > Calibration > Waveform > STEP. AMPLITUDE bar: -24 db Guralp or -18 db STS2; STEP POLARITY: Positive
☐ > Cmds > Calibration > CALIBRATE CHANNELS: !Select all 3 channels; START: 1 minute; ISStart.
Sit quietly for 12 min and note local start time here: __________ Click Stop, then O.K. when finished.

> Views > Quickview (waveform monitor) > chan1,2,3 > Start: Write down Max Min Midpoint (click "stop" to record values)
CH 1 6122 -948 147.8 CH 2 -4875 -10123 207.4 CH 3 -953 -2417 38.4
☐ Microseisms visible? X (check if yes)

☐ > Status > Data Port Txr > Data4 *Packet Buffer X Increasing? (press Refresh)
☐ > Cmds > Baler > !Send command to baler (Baler should turn on, with packets being sent)
☐ > Status > Data Port Txr > Data4 *Packet Buffer (Decreases to zero)? Packets Sent: 9241532
☐ > Commands > Baler Cmds > !Turn Off Baler (wait for slow green blink = idle)
☐ > Swap out Baler
☐ > Status > Data Port Txr > Data4 *Packet Buffer X Increasing?
☐ > Cmds > Baler > !Send command to baler (Baler should now be on)
☐ > Status > Data Port Txr > Data4 *Packet Buffer X Decreases to zero? Packets Sent: 9241683
[Note: If the Q330 does not transfer data to the Baler try clearing the Baler "Association" by holding the Baler Attention button until the light turns solid red (~5 sec). Release the button and then, after the light begins to flash green, press the Attention button once to shut down the Baler. Repeat the process once more, ending in Baler shutdown. Press Ath button once to turn Baler on and check that data transferred.]

> Status > General *Total Resync: 79
> Commands > Make Docfile (A bug here means you should delete "Conf." at the start of the default filename, append the station name to end of the remaining default filename and click OK. Check that name is correct.)

DEPARTURE TIME (local): 1655

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

Note: There is a road block about 100m from closest point of approach to station with no trespassing sign. This is new.
**HLP Q330 SERVICE SHEET** (Last revised 06/22/07 DEJ)

**STATION:** 4R-40 Month: May Day: 2 Year: 2005 ARRIVAL TIME (local): 7:45 a.m.
**OPERATOR:** Steve. KB4RGR **POWER:** BATT-1: 12.4V BATT-2: 12.4V
**Q330 SN:** 0707 **OLD BALER SN:** 5614 **NEW BALER SN:** 5844

**SENSOR MASS POSITION:** > Views > Sensors > Boom Positions
1: 0 0 2: 1.5 3: -1.4
Use Center A to recenter if any CH > +/15 for Guralp; > +/-25 for STS-2. Check here.
Continue with Center A command (and update) until all channels are <-15 or 25.
Enter final mass positions: 1: 0 0 2: 0.5 3: -0.4

> Views > Data Recording > DP3 *Station:* HLC101 > DP4 *Station:* OR044
[DP3 Station should match program (HLG?? for Guralp, HLS?? for Streckelsen), DP4 Station should match station name]

> Views > System: (use Refresh to Update)
- Last GPS Lock: 11114:11
- Phase error: 68.047
- Clock quality: Good
- Input volts: 3.855
- Temperature: 77
- Last Boot: 10/25/2005 1:57:33

**Calibration and Waveform Monitor**

- **Cmds > Calibration:** DURATION bar: 240 s (wrongly labeled "min" on Cile); SETTLING bar: 6 min.; TRAILER bar: 1 m
- **Cmds > Calibration:** Waveform > STEP. AMPLITUDE bar: -24 dB Guralp or -18 dB STS2; STEP POLARITY: Positive
- **Cmds > Calibration:** CALIBRATE CHANNELS: SELECT all 3 channels; START: 1 minute; STOP: 1
- Sit Quietly for 12 min and note local start time here: __________ Click Stop, then O.K. when finished.

> Views > Quickview (waveform monitor) > chan1,2,3 > Start: Write down Max Min Midpoint (click "stop" to record values)

**CH 1 437 113 182.7 2 CH 2 -18 -16.9 19.4 7 CH 3 93 -165 27.6
**Microseisms visible? (check if yes)

- **Status > Data Port Txr > Data4 > Packet Buffer:** Increasing? (press Refresh)
- **Cmds > Baler > Send command to baler (Baler should turn on with packets being sent)
- **Status > Data Port Txr > Data4 > Packet Buffer (Decreases to zero)**
- **Packets Sent: 3264977
- **Commands > Baler Cmds > Turn Off Baler (wait for slow green blink = idle)
- **Swap out Baler
- **Status > Data Port Txr > Data4 > Packet Buffer:** Increasing?
- **Cmds > Baler > Send command to baler (Baler should now be on)
- **Status > Data Port Txr > Data4 > Packet Buffer:** Decreases to zero? **Packets Sent: 3265103
[Note: If the Q330 does not transfer data to the Baler try clearing the Baler "Association" by holding the Baler Attention button until the light turns solid red (<5 sec). Release the button and then, after the light begins to flash green, press the Attention button once to shut down the Baler. Repeat the process once more, ending in Baler shutdown. Press Attn button once to turn Baler on and check that data transferred.]

> Status > General > Total Resyncs: 83
> Commands > Make Docfile (A bug here means you should delete "Conf," at the start of the default filename, append the station name to end of the remaining default filename and click OK. Check that name is correct.)

**DEPARTURE TIME (local): 2:40 P.M.**

*PLEASE NOTE GENERAL STATE OF THE STATION AND ANY SPECIAL PROBLEMS IN SPACE BELOW*
HLP Q330 SERVICE SHEET (v8) (last revised 20080716 MJF)

STATION: 0R044  Month: 1  Day: 12  Year: 2008  ARRIVAL TIME (local): 7:10
Q330 S/N: 971  OLD BALER S/N: 05844  NEW BALER S/N: 05228
SENSOR MASS POSITION: > Views > Sensors > Boom Positions
1: 2: 3: 2: 9
Use Center A to recenter if any CH > +/- 15 for Guralp; > +/- 25 for STS-2. Check here X.
Continue with Center A command (and update) until all channels are < +/- 15 or 25.
Enter final mass positions; 1: 0 2: 8 3: 9

> Views > Data Recording > DP3 *Station: HLC01  > DP4 *Station: 0R044
[DP3 Station should match program (HLG?? for Guralp, HLS?? for Streckeisen), DP4 Station should match station name]

> Views > System: (use Refresh to Update)  > Views > System: Turn GPS ON. Status > GPS
Last GPS Lock: 158 minutes
Phase error: -0.000 2.0
Clock quality: 3 (lock T)
Input volts: 12.7 V
Temperature: 27.7
Last Boot: 1008-07-28 07:59:31
Last Resync: 1008-07-28 07:51:52

Calibration, Recheck of Sensor Mass Positions, and Waveform Monitor

☐ > Cmds > Calibration: DURATION bar: 6 min (if running Q330Beta V1.441); SETTLING bar: 8 min; TRAILER bar: 5
☐ > Cmds > Calibration > Waveform > STEP. AMPLITUDE bar: -24 db Guralp or -18 db STS2, STEP POLARITY: Positive
☐ > Cmds > Calibration > CALIBRATE CHANNELS: Select all 3 channels; START: 1 minute; START.
Sit quietly for ~18 min and note local start time here.

☐ > Views > Sensors: Use Center A to recenter if any CH > +/- 15 for Guralp; > +/- 25 for STS-2. Check here X.
Enter final mass positions; 1: 0 2: 8 3: 9

WAVEFORM MONITOR: > Views > Quickview > chan1,2.3 > Start: Enter Max Min Midpoint (click "stop" to record values)
CH 1 = 9.0 1 -13.5 62.9  CH 2 = 7.383 1560 17.77  CH 3 = 7.72 = 36.8 115.1
Microseism? X  Microseism? X

☐ > Status > Data Port Txf > Data4 *Packet Buffer X Increasing? (press Refresh)
☐ > Cmds > Baler > 'Send command to baler (Baler should turn on, with packets being sent)
☐ > Status > Data Port Txf > Data4 *Packet Buffer (Decreases to zero)? Packets Sent: 4027704
☐ > Commands > Baler Cmds > ITurn Off Baler (wait for slow green blink = idle)
☐ Swap out Baler
☐ > Status > Data Port Txf > Data4 *Packet Buffer X Increasing?
☐ > Cmds > Baler > 'Send command to baler (Baler should now be on)
☐ > Status > Data Port Txf > Data4 *Packet Buffer X Decreases to zero? Packets Sent: 4027859
[Note: If the Q330 does not transfer data to the Baler try clearing the Baler "Association" by holding the Baler Attention button until the light turns solid red (~5 sec). Release the button and then, after the light begins to flash green, press the Attention button once to shut down the Baler. Repeat the process once more, ending in Baler shutdown. Press Attn button once to turn Baler on and check that data transferred.]

> Status > General > Total Resyncs: 8 5
> Commands > Make Docfile (A bug here means you should delete "Conf_" at the start of the default filename, append the station name to end of the remaining default filename and click OK. Check that name is correct.)

DEPARTURE TIME (local): 3:35

"PLEASE NOTE GENERAL STATE OF THE STATION AND ANY SPECIAL PROBLEMS IN SPACE BELOW"
HLP Q330 DEMOBILIZATION SHEET (v3) (last revised 20090904 MJF)

STATION: BRCR9 Month: 09 Day: 10 Year: 2009 ARRIVAL TIME (local): 11:23 am
OPERATOR: Look OLD BALER S/N: 05335
Q330 S/N: 971 POWER: BATT-1: 13.6V BATT-2: 13.5V
SENSOR MASS POSITION: > Views > Sensors > Boom Positions
1: 15 2: 14 3: 13
Use Center A to recenter if any CH > +/-15 for Guralp; > +/-25 for STS-2. Check here √
Continue with Center A command (and update) until all channels are < +/- 15 or 25.
Enter final mass positions: 1: 0 2: 13 3: 5

> Views > Data Recording > DP3 * Station: HLRG 1 > DP4 * Station: BRCR9
[DP3 Station should match program (HLG?? for Guralp, HLS?? for Streckeisen), DP4 Station should match station name]

> Views > System: (use Refresh to Update)
Last GPS Lock: 12:00am
Phase error: 0
Clock quality: DB low, Frozen (H)
Input volts: 12.3V
Temperature: 24°C
Last Boot: 2009-12-19 (17:30) 31
Last Resync: 2009-01-01 00:10:10

Calibration
✓> Cmnds > Calibration: DURATION bar: 6 min (if running Q330Beta V1.44t); SETTLING bar: 6 min.; TRAILER bar: 5
✓> Cmnds > Calibration: Waveform > STEP: AMPLITUDE bar: -24 db Guralp or -18 db STS2; STEP POLORITY: Positive
✓> Cmnds > Calibration: CALIBRATE CHANNELS: 1Select all 3 channels; START: 1 minute; 1Start.
Sit Quietly for ~18 min and note local start time here: 11:33 am

✓ Status > Data Port Txf > Data4 * Packet Buffer 1 Increasing? (press Refresh)
✓ Cmnds > Baler > 1Send command to baler (Baler should turn on with packets being sent)
✓ Status > Data Port Txf > Data4 * Packet Buffer (Decreases to zero)? Packets Sent: 23341177
✓ Commands > Baler Cmnds > 1Turn Off Baler (wait for slow green blink = idle)

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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: Guralp Serial #: 13236
✓ Enter assumed declination from installation (as written on sensor pad): 15.5
✓ 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 Streckeisen). Enter orientation: N-S

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 #: 971
✓ Label baler with station name and date
✓ Disconnect batteries; cover terminals with plastic caps or tape
✓ Disconnect solar panels and GPS; enter GPS serial #: 2340917

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