

PBO SEED Codes and Conventions

This document outlines the SEED codes used to store and access PBO strainmeter data in SEED format. Armed with these codes, a user may extract PBO strainmeter data using the standard SEED tools available from either the IRIS Data Management Center or Northern California Earthquake Center.

The PBO Network Code for all strainmeter and seismic data is **PB**.

The SEED Codes for the first five PBO strainmeters are given in Table 1. The channel and location codes are given in Tables 2 and 3 for borehole and strainmeter stations, respectively.

Table 1: PBO Site Codes

Site Code	16-character station name	Location
<i>Borehole Strainmeter Stations</i>		
B001	Golbeck01BWA2005	Sequim, Washington
B004	HokoFallsBWA2005	Hoko Falls, Washington
P403	FloeQuaryBWA2005	Snider, Washington
<i>Laser Strainmeter Stations</i>		
DHL2	DurmidHillCS2005	Durmid Hill, California
GVS1	GlendallSMCS2005	Glendale, California

Table 2: PBO Borehole Strainmeter SEED Channel and Location Codes

SEED Codes		Sample Rate	Description
Channel	Location	(samples/sec)	
BS1	T0	20	GTSM Strain Channel 1, sampled at 20 samples/sec
LS1	T0	1	GTSM Strain Channel 1, sampled at 1 samples/sec
RS1	T0	0.001667	GTSM Strain Channel 1, sampled once every 600 sec
BS2	T0	20	GTSM Strain Channel 2, sampled at 20 samples/sec
LS2	T0	1	GTSM Strain Channel 2, sampled at 1 samples/sec
RS2	T0	0.001667	GTSM Strain Channel 2, sampled once every 600 sec
BS3	T0	20	GTSM Strain Channel 3, sampled at 20 samples/sec
LS3	T0	1	GTSM Strain Channel 3, sampled at 1 samples/sec
RS3	T0	0.001667	GTSM Strain Channel 3, sampled once every 600 sec
BS4	T0	20	GTSM Strain Channel 4, sampled at 20 samples/sec
LS4	T0	1	GTSM Strain Channel 4, sampled at 1 samples/sec
RS4	T0	0.001667	GTSM Strain Channel 4, sampled once every 600 sec
VDD	TP	0.1	Downhole pore pressure
VKD	TP	0.1	Downhole temperature recorded at the pore pressure sensor, approximately 100 meters deep in the borehole
LDO	TS	1	Atmospheric pressure
RDO	TS	0.0005556	Atmospheric pressure
RR0	TS	0.0005556	Rainfall

Table 2: PBO Borehole Strainmeter SEED Channel and Location Codes (cont'd)

SEED Codes		Sample Rate (samples/sec)	Description
Channel	Location		
RK1	T0	0.0005556	Logger temperature
RKD	T0	0.0005556	Downhole temperature, measured by a thermistor inside the GTSM sonde
RE0	T0	0.0005556	Solar amps
RE1	T0	0.0005556	Battery voltage
RK2	T0	0.0005556	Power box temp
RE2	T0	0.0005556	System amps

Note: There are also 24 calibration channels available under channel codes RCA, RCB, RCC, and RCD with location codes T1 through T6. Please contact Greg Anderson, anderson@unavco.org, or Kathleen Hodgkinson, hodgkinson@unavco.org, for more details.

Table 3: PBO Laser Strainmeter SEED Channel and Location Codes

SEED Codes		Sample Rate (samples/sec)	Description
Channel	Location		
LDV	LI	1	Vacuum Pressure
RDV	LI	0.00333	Vacuum Pressure
LS1	LM	1	Laser strain
RS1	LI	0.00333	Laser strain
RS1	LM	0.00333	Laser strain
LX1	LI	1	Correction series from optical anchor at interferometer end
RX1	LI	0.00333	Correction series from optical anchor at interferometer end
LX2	LR	1	Correction series from optical anchor at retroreflector end
RX2	LR	0.00333	Correction series from optical anchor at retroreflector end
LE1	LI	1	Voltage reference channel 1
RE1	LI	0.00333	Voltage reference channel 1
LKI	LI	1	Room temperature at interferometer end
RKI	LI	0.00333	Room temperature at interferometer end
LK2	LI	1	Box temperature at interferometer end
RK2	LI	0.00333	Box temperature at interferometer end
LKI	LR	1	Room temperature at retroreflector end
RKI	LR	0.00333	Room temperature at retroreflector end
LK3	LR	1	Box temperature at retroreflector end
RK3	LR	0.00333	Box temperature at retroreflector end
LKO	LV	1	Air temperature
RKO	LV	0.00333	Air temperature
LKD	LV	1	Ground temperature
RKD	LV	0.00333	Ground temperature
LDO	LV	1	Barometric pressure
RDO	LV	0.00333	Barometric pressure

Table 3: PBO Laser Strainmeter SEED Channel and Location Codes (cont'd)

SEED Codes Channel	SEED Codes Location	Sample Rate (samples/sec)	Description
LU0	LV	1	Light intensity
RU0	LV	0.00333	Light intensity
LRO	LI	1	Rainfall
RRO	LI	0.00333	Rainfall
LE2	LI	1	Voltage reference channel 2
RE2	LI	0.00333	Voltage reference channel 2
LX3	LI	1	Correction series from backup optical anchor at interferometer end
RX3	LI	0.00333	Correction series from backup optical anchor at interferometer end
LX4	LR	1	Correction series from backup optical anchor at retroreflector end
RX4	LR	0.00333	Correction series from backup optical anchor at retroreflector end