3. Site and Instrumentation Characteristics

In 1992, the Caucasus network included five stations. Station codes and locations are given in Table 1 and a map of the network is shown in Figure 1. Four of these stations telemetered data to a central recording site at the Borgostan seismic observatory, where station KIV (Kislovodsk) is located. Each station consists of a set of Kinemetrics SV1/SH1 intermediate-period sensors (5 second corner frequencies) and a 16-bit Nanometrics RD3 digitizer sampling at 60 samples/second. A typical instrument response is shown in figure 2. Signals are telemetered via one-way VHF links (near 167 MHz) to Borgostan, where they are recorded on an OS/2-based Nanometrics system. Data are continuously written to a ring buffer with a 15 hour storage capacity, and run through a STA/LTA trigger algorithm that operates in filtered 1-10 Hz pass band. Triggered data streams, typically 200 s or more, are extracted to disk and later written to tape. Additional data windows of interesting waveforms are manually selected by the Borgostan operators. Tapes are regularly sent from Kislovodsk to Obninsk, where all data are examined and picked. From Obninsk, data are shipped to Lamont for data processing.

Table 1. Caucasus Network Stations

Station Code	Station Name	Latitude	Longitude	Elevation
GUM	Gumbashi	43.7755	42.2280	2.3430
KIV	Kislovodsk	43.9557	42.7238	1.2060
KUB	Kubatava	43.8292	43.4290	0.6700
MIC	Michurinskaya	44.2810	42.3480	0.8800
NAG	Nagutskaya	44.4443	42.7750	0.5820

The network straddles the north flank of the Greater Caucasus mountains (Figure 1), with all stations situated on ridges where basin strata are tilted as a north-dipping monocline. These ridges are built on limestone at Kislovodsk (KIV) and poorly consolidated material farther north (MIC, NAG), and caves and other weathering features are prevalent. Stations GUM and KNG (installed 1993) are on older sandstone hogbacks. All remote vaults were constructed by the OME/Volcan group, and are entirely buried except for the 5-8 m antenna mast. The vaults are typically 3-4 m deep, cylindrical in shape with a vertical axis, with a mid-level floor. Normally closed hatches provide access between the floors and to the surface. The piers appear to be relatively unaffected by daily temperature fluctuations, and are below frost depths. KIV is in the basement of the Borgostan observatory building on a pier next to the KIV GSN station. All stations except KIV rely on battery power.