At many stations, large (~1 second) phase delays are often seen in horizontal-component records relative to arrivals on vertical components. This is a real seismic effect and probably reflects unusual near-source structure; several tests (kicking the piers, comparing high-frequency vs. low-frequency arrivals, etc.) were conducted to verify that timing was identical on all three channels. This effect seems least pronounced at GUM.

Vertical-component polarities at NAG, KUB, GUM, and MIC are reversed relative to the normal seismological convention (i.e., positive signal corresponds to downward ground motion for these stations). The reversal has been traced to the internal wiring of the Kinemetrics SV/1 sensors. Tests in the summer of 1993 found horizontal-component orientations reversed for the following channels: NAG-N, NAG-E, GUM-E. These changes are flagged by appropriate dip/azimuth settings in the SEED volumes. Additionally, channels KUB-N and KUB-E were found swapped; these channels were re-assigned to be correct for all of the 1992 data released as SEED volumes.

The central Omega clock lost lock when a circuit board failed in mid-September 1992 and was not fixed until the November 1992 visit by Lamont service personnel. An unknown clock correction comment is included with all relevant SEED volumes. Comparison with KIV GSN data suggests that time errors do not exceed a few seconds, but caution is advised.

The 1992 data show an unusually high rate of data corruption in the raw data files, either from the recording system or from the tape writing system then in use. These problems manifest themselves as an incorrect or missing difference in a time series, which has the effect of producing occasional steps in the data on the order of the differences between adjacent samples. Spot checks indicate that 10-40% of the waveforms are affected by at least one such error, so caution is urged in interpreting high-frequency data steps. The errors are not found in data written after November 1992, when a new tape writing system was installed at Kislovodsk.

6.1 Comparison with the PDE

In order to evaluate the detection and location capabilities of the network, we can make various comparisons of the CNET catalog with the USGS PDE catalog over the same time period. Since the PDE is a catalog that provides essentially time continuous coverage, and a catalog produced from a triggered network, such as CNET, is much more susceptible to inconsistent time coverage due to network down time, this comparison has to be made carefully. By looking at figure 12, we can see that the network operational status was inconsistent until about mid-March, after which the network seemed to operate continuously until the end of this reporting period. There were individual station outages, but the network as a whole appears to run throughout the mid-March to November 9 time period. In order to test this hypothesis we accumulated a set of events from the PDE during this time period that we felt should have been seen by CNET if it was operating properly. Our criteria was Mb of 6.0 or greater for events between 10 and 90 degrees distance from KIV, Mb of 5.5 or greater for distances between 5 and 10 degrees, Mb of 4.6 or greater for distances between 3 and 5 degrees, Mb of 3.6 or greater for distances between 1 and 3 degrees and all events inside of 1 degree. This produced a list of 36 PDE events and all but 4 of these events were detected at CNET. Of the 4 missing events 3 were apparent aftershocks associated with main shocks that were recorded at CNET and the missing aftershocks came within several minutes of the main shocks. These events were likely in the waveform coda of the main shocks and were not picked by the analyst. The only remaining event that was not seen at CNET was a Mb 6.0 event at a distance of 85 degrees on April 6 at 13:54:40. We conclude that the network probably was in a continuous operational state from mid-March to November 9, 1992.

Assuming that the network was in a continuous operational state from mid-March to Novem-