

**APPENDIX A
CABLING, COMMUNICATIONS
AND EQUIPMENT SPECIFICATIONS**

Cabling

- a) *Communication: A continuous 4-pair communications cable (plenum-rated Category 5 such as Belden 1624P or approved equal) is required between the instruments.*
- b) *Interconnection: A continuous 4-pair interconnection cable (plenum-rated RS485 cable similar to Belden 9844 or approved equal) is required between the instruments. (Conduit is only required where the cable is likely to be damaged.)*
- c) *Alternate communication and interconnection methods using dedicated building cabling between the instruments may be approved after review.*

Communications

A four-port AC-powered telephone switch (such as ComSwitch 7500 or approved equal) is to be installed at the base-level instrument (with the default port connected to that instrument), to allow communication with all three instruments via one phone line. The other telephone switch ports are to be connected to the other instruments via the communication cable. Alternate methods of communication between the instruments may be approved after review.

Equipment Specifications

The minimum performance requirements for the accelerographs are as follows:

The instruments should be comprised of either a central-recording system with simultaneous sampling of the sensors or of three interconnected individual accelerographs located as required above. In either case, the system shall be digital recording, of a type *approved and in use by the CGS or USGS strong motion programs*, and meet the following criteria:

1. Sampling rate: 200sps.
Full scale recording capability: >3 g.
2. Rms noise of system shall be less than 40 micro-g measured over a 0-80Hz band.
3. If separate accelerographs are used, they must have common triggering and common timing, with timing to better than 2 milli-seconds.
4. The accelerograph system *may* extract peak accelerations and velocities in real time, and transmit these together with event time and location, by email to the building owner or his agent.
5. Owners are encouraged to employ more than the minimum three instruments.
6. Instruments meeting the referenced System Requirements will be monitored to assure correct operation by CSMIP at the owner's request.