

## Signal Separation

Work with a CTS certified professional to protect the audio and display system quality. AV professionals know how to ensure electrical interference does not cause auditory or visual noise in a client's system. One way to meet this need is by practicing signal separation.

Signal separation refers to providing physical distance among cables carrying various signal levels. This protects weaker, low voltage signals from noise and interference. Signal separation principles apply to cable routing and installation.

When planning conduit and cable pathways, different signal levels should be separated. In general:

- Signal cables should be routed in a completely alternate path from power cables.
- Use rigid, metallic conduit for signal cables when nonmetallic conduit (PVC) is used for the power or when power and signal cables are close together over a distance.
- Do not put microphone cables and speaker cables in the same bundle or conduit.
- Keep voice lines separate from data lines to avoid spikes and data clicks in audio.
- If a control cable contains digital information, it must be kept separate.
- If there is only one conduit, do not mix high level and mic level signals.

### Best Practice

When planning a cable route, keep your signal cables as far away as possible from sources of electrical noise; fluorescent lights, transformers, motors, elevator relays, radio transmitters for burglar alarms, and similar sources of noise.