

Audio Envelope

audiopc@earthlink.net

February 17, 2016

As more data-cabing contractors enter the AV systems integration market, the following pre-qualifications of basic skills and tools are suggested for the individual data-cable technicians installing the systems.

Please send any comments or questions to Phil Cartier, audiopc@earthlink.net

I. Skill Sets / Experience:

- A. Technicians must be able to terminate CAT5e, CAT6 and CAT6a cable and connectors, both UTP & STP, to EIA/TIA 568A & B with reasonable proficiency.
- B. Technicians must be able to manage and dress cables / devices in a neat, serviceable manner inside furniture, inside fixed millwork, above ceilings, behind wall plates, etc.
- C. Technicians must be able to terminate insulated conductors to fork, ring or blade terminals with insulated crimps.
- D. Technicians must be able to read and follow simple "block" diagrams (also called "flow" or "riser" diagrams) and follow any related notes.
- E. Technicians must be able to demonstrate careful and safe work habits working over or around installed furniture, millwork and fixtures.
- F. Technicians must be able to demonstrate ability to stage equipment & tools in logical order throughout job progress.
- G. Technicians must be able to demonstrate neatness and safe working habits with tools & materials, especially when working in hallways, lobby or other customer public spaces.
- H. Technicians must be able to use basic test equipment (toner, CAT* continuity tester, multi-meter) with reasonable proficiency and test their own work with reasonable accuracy.
- I. Technicians must be able to keep the work site clean and safe on a continual basis.
- J. Technicians must be able to limit use of cell phones to project-related calls.
- K. Technicians should have experience with installation and cable management of non-CAT-type cabling such as loudspeaker cables, shielded audio cables, video/coax cabling and multi-conductor control cables; soldering experience is not required.
- L. Technicians should have experience with installation and cable management of woven nylon looms, D-rings, bridle rings, safety cables, PVC pipe & fittings, metal EMT & BX fittings, old-work boxes & rings, plastic covers and modules, over-floor raceway. Experience with under-carpet raceway helpful but not mandatory.
- M. Technicians should have some experience with installation of basic AV equipment such as ceiling loudspeakers, projectors, ceiling projector mounts, and wall-mounted projection screens and/or annotation displays, installation of flat-panels displays and mounts, wall-mounted AV equipment cabinets and cable management, AV floor-standing cabinets, etc.

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Pre-Qualifications for Data-Cable Installers working In AV

February 17, 2016

Page 2 of 3

- N. Supervisor(s) should have appropriate permits and licensees on-hand, or proof thereof. Technicians should have list of names & phone numbers of supervisors, project managers, clients, general contractor, electrical contractor, etc.

II. Tools and other items that will be required of AV technicians:

- A. Notebook with paper, pens, pencils.
- B. Basic hand tools (screwdrivers, pliers, adjustable wrenches, wire strippers, hex-key wrenches (including hex-key-post for projector and display mounts), etc.
- C. Flashlight
- D. 25 foot and 50 foot 16/3 (or 14/3, 12/3) extension cords
- E. Assortment of colored electrical tape
- F. Small level (12" or 24")
- G. 25 foot tape measure
- H. RJ45 / RJ11 crimp tool and plugs (including STP-type)
- I. Cable toner (basic fox-n-hound-type or similar)
- J. CAT* continuity tester (pin-mapper optional but not req.)
- K. Basic multi-meter
- L. Plug-in ac receptacle tester
- M. Basic label maker and/or wire number maker
- N. 12 foot fish pole
- O. 50 foot fish tape
- P. Drill (battery or elec.), reasonable complement of twist drill bits up to 1/2 inch, reasonable complement of spade drill bits up to 1 inch, hole saw kit up to 2-1/2 inch
- Q. 1/2 inch x 54 inch cable drill bit
- R. 100 foot roll of 3/32 inch or 1/8 inch galvanized aircraft cable / cable clamps / clips (or 12-gauge hanger wire)
- S. Stud finder
- T. Range finder
- U. Roll of pull string
- V. 8 foot ladder
- W. Portable / handy-vac-type vacuum cleaner

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Pre-Qualifications for Data-Cable Installers working In AV

February 17, 2016

Page 3 of 3

- X. Keyhole saw or roto-zip-type tool
- Y. Roll of heavy-duty two-piece self-adhesive Velcro®
- Z. 1/2 inch or 3/4 inch one-piece Velcro® or RipWrap®
- AA. Plenum and non-plenum cable ties, assorted lengths; adhesive-backed mounting bases
- BB. At least one 6' x 6' moving-type blanket
- CC. Safety glasses or goggles
- DD. Hardhat
- EE. Light-weight work gloves