

## LightNex Connected Home Program Structured Wiring Specifications - MDU

It is LightNex's goal to ensure new houses are constructed with a structured wiring system that will enable the homeowner to take full advantage of advanced voice, video and data service. One of our most common customer complaints is when a customer moves into their new home expecting an advanced structured wiring system, only to find out that it was done incorrectly or not at all. We're trying to do something about that. It is important that sufficient wiring is installed and industry standard wiring specifications are followed to allow your home buyers to take full advantage of the advanced fiber-to-the-home network being deployed in Bozeman by LightNex.

### Facilities Entrance

LightNex will place a fiber optic cable to each building over which voice, video and data services will be provided. This fiber optic cable will be terminated at an Optical Network Terminal (ONT). Generally the ONT is placed in the mechanical room or on the building within 3 feet of the power service/meter. This is the location for demarcation of the each unit's structured wiring. The structured wiring contractor will run (2) Category 5E cables, preferably one blue (for data) and one white or gray (for voice) and one RG-6 coaxial cable from each unit's Smart Panel to the demarcation point.

The ONT also requires a standard AC power source. The electrician will provide a single-gang outlet for the ONT which shall be marked for exclusive use of the telecommunications system. LightNex will install a small wall mount battery backup unit near this outlet, so the outlet should be placed in an area appropriate for this purpose. The outlet must be within 20 feet of the ONT.

### Smart Panel

Each unit is required to have a Smart Panel distribution box located in a garage, closet, utility room, or basement. The Smart Panel will serve as the central hub for the unit's telecommunications network and allows the resident the flexibility to control and manage his network. The electrician shall provide a standard AC outlet in the Smart Panel to be used for powering network hubs, routers, switches, etc.

All voice CAT-5 cables (gray) shall be terminated in the Smart Panel to a split 66 block. All data CAT-5 cables (blue) shall be terminated to a CAT-5 patch panel. All RG-6 cables shall be

terminated with compression/waterproof "F" connectors. LightNex will install a coax splitter and/or amplifier as appropriate when services are provisioned.

## Cabling

The LightNex Connected Home program provides sufficient materials for multimedia ports in 8 locations throughout each unit. All multimedia ports must have 2 CAT-5 (one blue and one gray) and 1 RG-6 cables home-run to the Smart Panel. No daisy chained or looped wiring is allowed. These cables should be terminated to the appropriate jack on the multimedia faceplate. The RG-6 cable should be terminated with a compression/waterproof "F" connector. The CAT-5 cables should be terminated using a 110 punch to the voice and data jacks.

## Cable Standards

- All CAT-5 data cables shall be terminated using the TIA-568A standard (Wh/Gr,Gr,Wh/Or,Bl,Wh/Bl,Or,Wh/Br,Br)
- All cables should be labeled at both the jack and the termination in the Smart Panel
- All cabling should be tested after installation using an appropriate tester for the service involved. A simple continuity test is *not* sufficient.

## Other Notes

The contractor may wish to install additional cabling or infrastructure above what is required by the Connected Home program. We suggest considering installing empty conduit (smurf tube) from the Smart Panel to the crawlspace and to the attic for future use (if applicable).

## Support and Training

LightNex gladly provides free technical support and training to participants in our Connected Home program. Please feel free to contact us at 1-877-FIBER-MT for further information.