Lynx Video Network

Installation Instructions

These instructions provide a brief guide to a correct installation. More detailed information is available in the Design and Installation Manual on the attached CD.

Design and balance the system before installing it

Prior to installing the Lynx Video Network, the installer should design the system using the interactive system design model available on the attached CD. The model uses an interactive spreadsheet to predict the signal strength at each TV as a function of the strength of the incoming signal, the length of each run, and the highest and lowest channels being distributed.

The model makes it relatively easy to design a system that delivers acceptable signal strengths to each TV. The range of acceptable signal strengths can be defined by the designer, but Lynx recommends a range between –10 dBmV and +15 dBmV.

Balancing the system with the design model is easier than making "trial and error" adjustments after the equipment is installed.

Install the coax and the amplifiers

Coaxial cable is used to deliver the RF signal from the headend to the distribution hubs. It should be installed using standard procedures recommended by the cable supplier, applicable building and electrical codes, and good installation practices. A broadband video amplifier is often needed to amplify the RF signal before it enters the Lynx distribution hub. In many applications it will be much easier to balance the system if the amplifier permits a "tilt" adjustment. In bi-directional applications all amplifiers will have to be bi-directional.

The coax cable must deliver the proper signal strength to the hub, as determined by the design model. After installing the coax and the amplifier, use a signal strength meter to determine whether the proper signal strength is reaching the Lynx hub. If it is not, adjust the amplifier as needed.

CAUTION: Be sure that all power is turned off before installing coax, Category 5e cable, or any Lynx equipment.

Install the UTP Cable

Install the Cat 5, Cat 5e, or Cat 6 cable from the wiring closet to the point of use, if it is not installed already.

Install the distribution hubs

Install the distribution hubs in the locations called for in the system design.

IMPORTANT NOTE: If there are multiple hubs in one location, a properly designed system will have one hub for the shortest runs, another hub for the mid-length runs, and a third hub for the long runs. Short runs often require little or no amplification, mid-length runs often require moderate amplification, and long runs often require significant amplification. Grouping runs of similar lengths makes it possible to "balance" the system, and provide the optimal signal strength at each TV. (A 16 port hub should be considered to be two 8 port hubs when grouping the runs.)

Installing hubs in structured wiring racks

Lynx distribution hubs equipped with rackmount plates (part numbers, 040-0101, and 040-0102) can be installed in standard 19" structured wiring racks. Because they are passive devices with minimal heat dissipation, they can be stacked one on top of the other to any depth. However, care must be taken not to block ventilation paths for other equipment installed above or below the distribution hubs. The distribution hubs are bolted to the racks using the four holes in the corners of the faceplate.

Installing hubs on walls

The Lynx distribution hub without a rackmount plate (040-0090) is designed for wall mounting.

Select a mounting surface with sufficient strength to hold the hub, cables, and accessories (such as amplifiers) securely. Determine the orientation and location of the distribution hub that makes it easiest to attach the coaxial input cable and the Cat 5 output cables. Attach a minimum of two, and a maximum of four drywall screws of sufficient length to the mounting surface, with no more than 1/8" of screw shank protruding. (A template is available in Appendix B, page 20, of the Design and Installation Manual to help you mark the appropriate hole location. The manual is available on the attached CD.)

Orient the video hub properly, place it over the screw heads, and slide it into place. If necessary, drive an additional screw near the front face of the panel to lock it in place.

Installing hubs on horizontal surfaces

Select a level surface that is sufficiently large to hold the distribution hub and any accessories needed. Place the unit on the surface and secure all cables attached to it to prevent the unit from moving due to the weight of the cables. Self adhesive rubber feet are available from electronics supply stores if you wish to protect the finish on the horizontal surface.

Attaching cables to the distribution hub

After installing the distribution hubs, attach the coaxial input cable to the F connector on the back of the hubs.

Insert Cat 5 cables (terminated with RJ-45 connectors) into the ports on the front of the distribution hubs. These cables may run directly to the point of use, or to a patch panel with cables running to the point of use.

NOTE: All unused ports on the front of the hub must be terminated with port terminators plugs, part number 040-0069, to ensure proper system performance and prevent excessive electromagnetic emissions. When a distribution hub is installed properly, all ports on the front of the unit will be filled with RJ-45 connectors or port terminators. There should be no "empty" ports on the front of the hub.

Installing Single Port Converters at the TV End

At the TV the signal must be converted back to an unbalanced 75 ohm coaxial signal before it enters the TV. If the Cat 5 cable from the distribution hub runs directly to the TV, terminate it with an RJ-45 connector, and snap the connector into the single port converter. Then install a short coax cable between the F connector on the single port converter and the F connector on the TV. (The maximum torque on the F connector should not exceed 12 inch/pounds.)

If the cable to the point of use terminates in a data wallplate, obtain a Category 5 patch cord of sufficient length to extend from the wallplate to the TV. Attach the patch cord to the data wallplate and the single port converter. Then install a short coax cable between the F connector on the single port converter and the F connector on the TV. (The maximum torque on the F connector should not exceed 12 inch/ pounds.)

Single Port Converter

Installing a Wallplate F at the TV end

If you prefer to convert the signal back to coax using a wallplate converter, the wallplate F (part number 040-0123) can be used. This device has an RJ-45 jack on the back and an F connector on the front.

To install the wallplate terminate the Cat 5 cable with an RJ-45 connector, making sure that the Cat 5 cable is long enough to reach the back of the wallplate. Then plug the RJ-45 connector into the back of the wallplate. Attach the wallplate to the mudring or electrical box housing, using the bolts shipped with the wallplates.

Connect the TV to the wallplate using a coax cable.

Wallplate F

Start-Up Procedures

Activate the system by turning on the power at the headend. Then check the TV reception for the highest and lowest channels on the longest and shortest cable runs. If problems are noted, refer to the "troubleshooting" section of the Design and Installation Manual on the attached CD.

Even if no problems are noted, emissions testing is recommended. This is typically done by walking through the installation with a cumulative leakage instrument (CLI). (See the Emissions Testing section on page 12 of the Design and Installation Manual on the attached CD.)

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