



### The Lynx<sup>®</sup> Video and Data Network

- **Delivers television and data or phone on a shared Cat 5 or Cat 6 cable**
- **Distributes up to 134 analog or HDTV channels (or 402 standard definition digital channels)**
- **Simplifies cable requirements**
- **Increases flexibility for moves, adds and changes**
- **Improves reliability**
- **Creates a technology bridge to IPTV**

The Lynx Video and Data Network simultaneously delivers up to 134 channels of television (RF) on a single twisted pair of a Category 5 cable. The remaining three pairs can transmit Ethernet or telephone signals.

The Lynx Video and Data Hub converts coaxial television signals into balanced signals transmitted on pair four of a Cat 5 or Cat 6 cable. Ethernet or phone signals enter the back of the hub via RJ-45 ports and pass through to the cable on pairs one, two, or three.

At the point of use a Lynx converter changes the television signals back to coaxial signals accessible via an F connector. The Ethernet (or phone) signal is accessible via an RJ-45 jack.

Delivering multiple services on one twisted pair cable makes a structured wiring network more powerful and cost effective than ever. It eliminates the need to install and maintain both UTP and coax cable.

The Lynx Video and Data Network increases system flexibility because new TVs can be added in any location where Cat 5 is available.

A homerun wiring design improves reliability because there are no taps or splitters between the distribution hub and the TV.

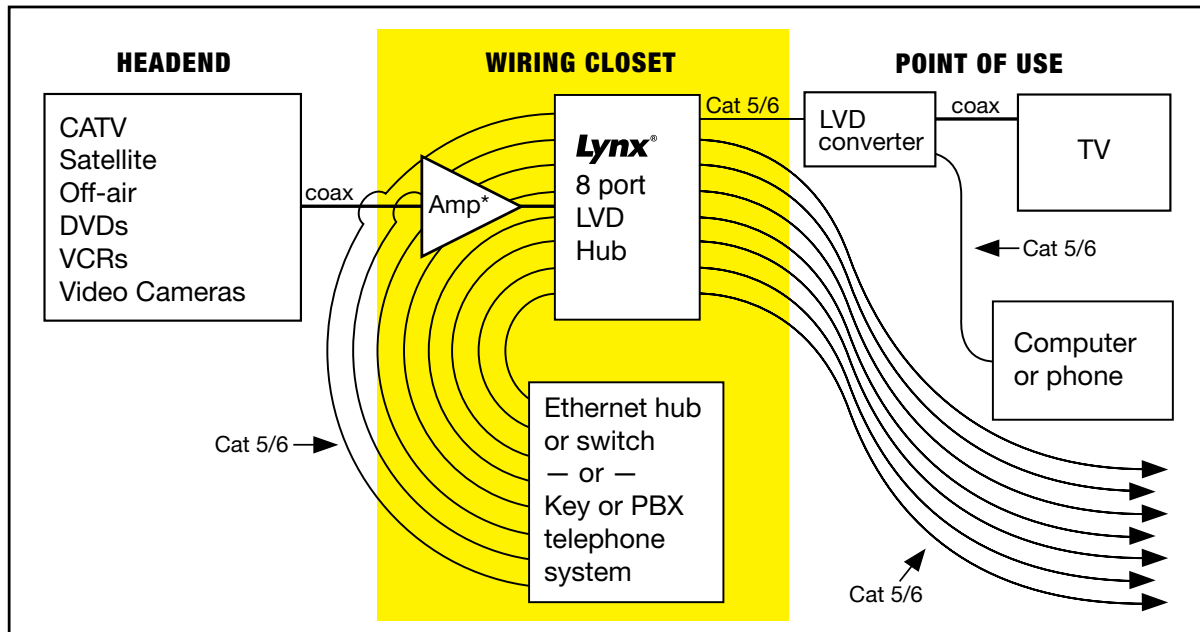
The Lynx Video and Data Network also provides a "technology bridge" to IPTV by using the same infrastructure that IPTV will use.

A patented broadband balun is the centerpiece of the Lynx design. A pair of send/receive baluns deliver a clean RF signal to each TV (on pair four). The baluns can deliver analog, digital, or HDTV programming. The TV signals do not run on the data network, and do not use any bandwidth on the network.

No external power is required. The passive design permits bi-directional operation and is extremely reliable.

## Applications

The Lynx Video and Data Network is designed for education, business, hospital, hotel, apartment and residential applications. A system diagram is shown below.



\* One RF amplifier supports up to three 8 port hubs in most applications.

## 16 Port Video and Data Hub



*Front and back views of the 16 port video and data hub.*

*The back view (top) shows the RJ-45 ports where Ethernet (or phone) signals enter the hub.*

*The front view (bottom) shows the RJ-45 ports where the combined television and ethernet (or phone) signals exit the hub.*

## LVD Converter Alternatives



*Breakout converter processes the signal from an adjacent wallplate*



*Wallplate converter FRJ with F connector and RJ-45 jack on front and punchdown on back*



*Wallplate converter FP has two punchdown connections on the back (one is for data out)*

*The wallplate converter FP splits the signal and sends the data signal to a punchdown block behind the wallplate for routing to a standard RJ-45 wallplate in another location.*

## Television and Ethernet



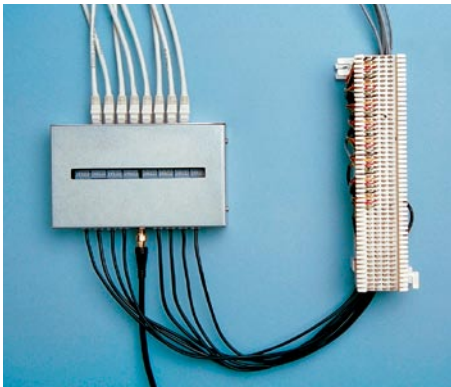
*Lynx Video and Data Hub and Ethernet hub*

Television signals enter the Lynx Network via an F connector on the back of the hub. Ethernet signals enter eight RJ-45 jacks on the back of the hub. RJ-45 jacks on the front of the hub deliver television and Ethernet on twisted pair cables.

Television signals are transmitted and received on pins 7 and 8. Ethernet signals are transmitted and received on pins 1, 2, 3 and 6.

The Lynx hub must be installed downstream from all Ethernet hubs and switches. It accommodates 10 BaseT and 100 BaseT Ethernet.

## Television and Telephone



*Lynx Video and Data Hub and 66 block in PBX closet*

Television signals enter the Lynx Network through an F connector on the back of the hub. Telephone signals enter through eight RJ-45 jacks on the back of the hub.

Television signals are transmitted on pins 7 and 8. Telephone signals are transmitted on pins 4 and 5 for one pair service, pins 3-6 for two pair service and pins 1-6 for three pair service.

Service on the pins and pairs is activated or de-activated by dip switches accessible from outside the hub.

## Specifications

Channels and frequencies: 134 analog or HD channels, 5 to 860 Mhz

		Analog channels	Standard definition digital channels	HDTV channels
Distance capabilities (assumes 50dBmV input signal and Cat 5e cable)	100 meters (330 ft)	60	180	60 (to 410 MHz)
	88 meters (290 ft)	80	240	80 (to 530 Mhz)
	83 meters (270 ft)	100	300	100 (to 650 Mhz)
	68 meters (225 ft)	134	402	134 (to 860 Mhz)

Hub insertion loss < 11 dB @ 5 MHz; < 15dB @ 860 MHz

Converter insertion loss < 2 dB @ 5 MHz; < 4 dB @ 860 MHz

Impedance 75 ohm unbalanced to 100 ohm balanced

Ethernet capabilities 10 BaseT, 100 BaseT

Telephone capabilities Supports any telephone system using one, two or three twisted pairs

Patents U.S. patents 5,495,212; 5,633,614; 6,150,896  
Other U.S. patents pending



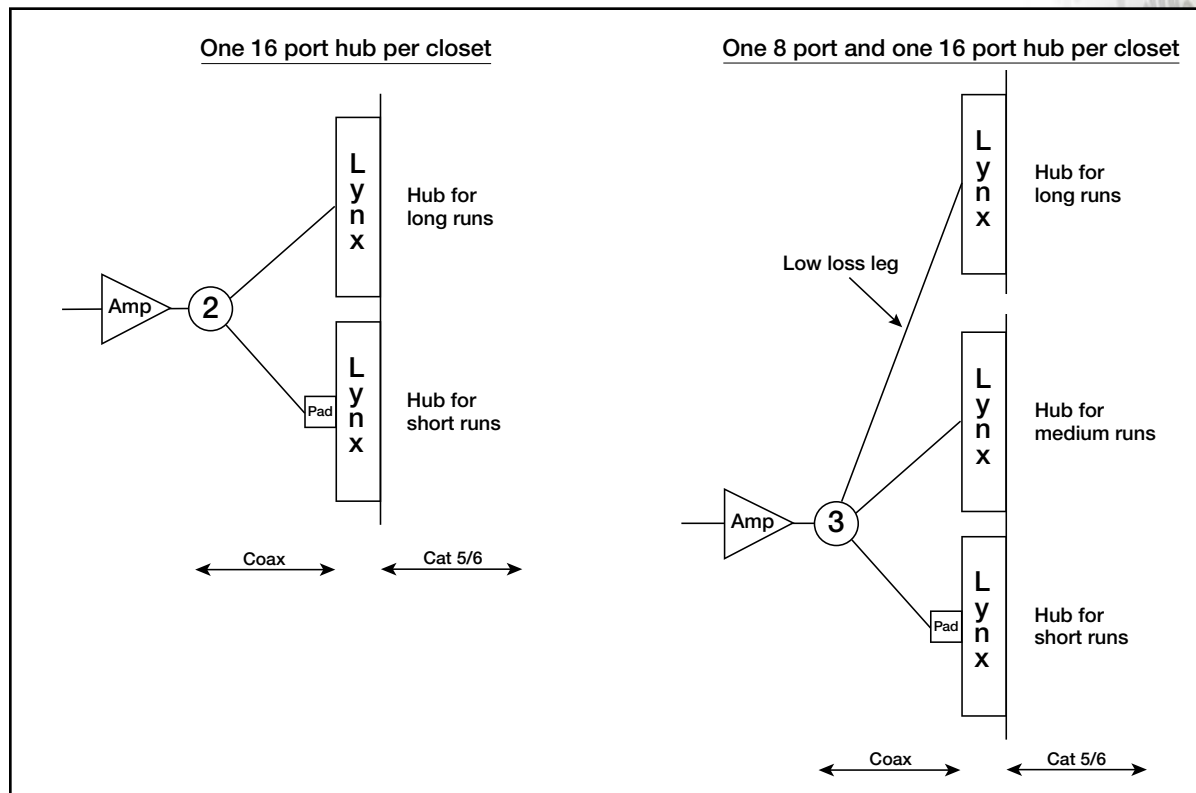
## Equipment Options

	Part Number	Dimensions			Emission Testing <sup>1</sup>
		Width	Height	Depth	
8 port LVD hub with rackmount	040-0118	19.0"	1.7"	4.2"	FCC Part 15 Class A & B
8 port LVD hub w/o rackmount	040-0117	8.7"	1.7"	4.2"	FCC Part 15 Class A & B
16 Port LVD hub	040-0119	19.0"	1.7"	4.2"	FCC Part 15 Class A & B
Breakout converter <sup>2</sup>	040-0114	2.1"	1.1"	2.1"	FCC Part 15 Class A & B
Wallplate converter FRJ <sup>3</sup>	040-0136	2.9"	4.6"	1.9"	FCC Part 15 Class A & B
Wallplate converter FP <sup>4</sup>	040-0137	2.9"	4.6"	1.9"	FCC Part 15 Class A & B
<b>Port terminators<sup>5</sup></b>	<b>040-0069</b>	.5"	.3"	.9"	Not Applicable
12" coax jumper cable	180-0415	Connects breakout converter to the TV			

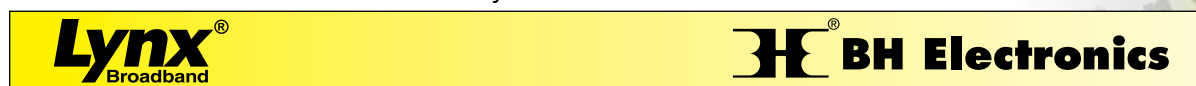
1. Emission testing was conducted at an FCC certified testing facility. The results were in compliance with FCC Part 15/EN 55022 requirements.
2. The breakout converter has an RJ-45 jack on one side and an F connector and RJ-45 jack on the other side. In a typical application a jumper cable (supplied by others) connects the breakout converter to a standard RJ-45 wallplate.
3. Wallplate converter FRJ has an F connector and RJ-45 jack on the front and a punchdown on the back. Light almond color.
4. Wallplate converter FP has an F connector on the front and "in" and "out" punchdown blocks on the back. Ethernet or phone is sent from the "in" punchdown to the "out" punchdown for transmission to another wallplate in a different location. Light almond color.
5. Port terminators are required for all unused ports on the front of the hub. These shielded resistive plugs must be inserted in the unused ports on the front of the hub to prevent electromagnetic emissions. An eight port hub sending video and another service to six locations has two unused ports that must be terminated.

## System Design Suggestions

One amplifier can typically support up to 24 drops from a given wiring closet. Common design configurations are shown below.



[www.lynxbroadband.com](http://www.lynxbroadband.com)



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