



## Television, HDTV, and Cable TV on CAT 5 or CAT 6 Cable

### The Lynx® Television Network

- Distributes up to 528 digital channels on Cat 5 or Cat 6 cable
- Excellent for CATV, SMATV, or off-air television distribution
- Simplifies cabling requirements
- Increases flexibility for moves, adds and changes
- Improves reliability
- Creates a technology bridge to IPTV



The Lynx Television Network simultaneously delivers up to 176 HDTV channels, 528 standard digital channels, or 134 analog channels on Cat 5 or Cat 6 cable. Frequency capabilities are 5 MHz to 860 MHz.

A Lynx hub in the wiring closet converts an unbalanced coaxial signal into eight or sixteen balanced signals transmitted on twisted pair cables. At the point of use a wallplate F or single port converter changes the signal back to coaxial form.

The Lynx Network simplifies cable requirements by reducing the need for coax. Now television, phone, and data can all be delivered on twisted pair cables. This simplifies installation, standardizes the wiring, and reduces maintenance requirements.

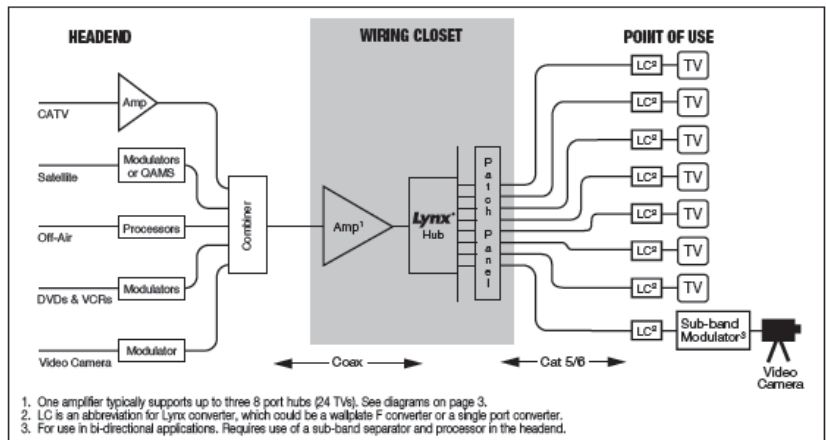
The Lynx Network increases system flexibility because moves, adds, and changes are easy with Cat 5/6 cable.

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

The Lynx Network also provides a “technology bridge” to IPTV by using the same infrastructure that IPTV will use.

A patented RF balun is the centerpiece of the Lynx design. A pair of send / receive baluns delivers a clean RF signal to each TV (on pair four). The baluns use an RF technology that delivers HD, digital, and analog channels on network cables without using any bandwidth on the network itself.

The hubs and point of use converters do not require external power, and are bi-directional. External RF amplifiers compensate for cable and insertion losses.





1. One amplifier typically supports up to three 8 port hubs (24 TVs). See diagrams on page 3.  
2. LC is an abbreviation for Lynx converter, which could be a wallplate F converter or a single port converter.  
3. For use in bi-directional applications. Requires use of a sub-band separator and processor in the headend.



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### Equipment Specifications and Options

<b>Frequency range</b>	5 MHz to 860 MHz		<b>Insertion loss for hub and converter<sup>1</sup></b>		
			<13 dB @ 5 MHz <19 dB @ 860 MHz		
<b>Distance capabilities</b> (assumes 41 dB to hub for HD and digital channels and 49 dB to hub for analog channels)	<b>Meters</b>	<b>Feet</b>	<b>Digital channels (1 MHz)</b>	<b>HD channels (3 MHz)</b>	<b>Analog channels (6 MHz)</b>
	90	295	288	96	78
	80	260	372	124	99
	67	220	528	176	134

	Part Number	Width	Height	Depth	Emission Testing
<b>LT hub with rackmount plate</b>					
16 port LT hub <sup>1</sup>	1U 040-0102 <sup>1</sup>	19.0"	1.75"	4.5"	FCC Part 15 Class A
8 port LT hub <sup>1</sup>	1U 040-0101 <sup>1</sup>	19.0"	1.75"	4.5"	FCC Part 15 Class A
<b>LT hub without rackmount (mounts on wall)</b>					
8 port LT hub <sup>1</sup>	040-0090 <sup>1</sup>	6.2"	1.4"	4.5"	FCC Part 15 Class A
4 port LT hub <sup>1</sup>	040-0217 <sup>1</sup>	3.3"	1.2"	3.7"	FCC Part 15 Class A
<b>LC converters</b>					
Single port converter	040-0074	.9"	.9"	3.3"	FCC Part 15 Class A & B
Wallplate F (light almond)	040-0232	Fits in a light almond wallplate ring (PN 809-1663)			
Wallplate F (white)	040-0237	Fits in a white wallplate ring (PN 809-1678)			
Port terminators <sup>2</sup>	040-0069	.5"	.3"	.9"	NA
12' coax jumper cable	180-0455	connects the single port converter to the F connector on the TV			
<b>Rackmount plates</b>					
16 port (two 8s) 	809-1274	19.0"	1.75"	.1"	NA
20 port (five 4s) 	809-1647	19.0"	1.75"	.1"	NA
Amplifier <sup>1</sup>	35dB gain, 1GHz 180-0465	5.38"	7.63"	3"	20dB slope, 42MHz active return path

1. Amplification is usually needed upstream of each hub. One amplifier usually serves up to 24 drops in each wiring closet. See diagram on next page.

2. Port terminators are required for all unused ports in order to prevent electromagnetic emissions. An eight port hub serving six TVs has two unused ports that must be terminated.

U.S. patents 5,495,212 5,633,614 6,150,896

### Residential Packages

Residential packages are available for applications with one to four TVs. These packages are capable of delivering the full range of HD, digital, and analog channels. They include a bi-directional amplifier, Lynx converters, connectors, coax jumpers, and patch cords.

Two types of packages are available. Packages with a 20 dB amp are typically used to deliver "basic" cable TV service with frequencies up to 550MHz. They can also deliver the "channel 3" output from the F connector on a satellite receiver. Packages with a 35 dB amp are typically used to deliver "premium" cable TV packages or off-air television with frequencies up to 860 MHz. The table below shows distance capabilities for each package.

Number of TVs	Part Number	Amp	Distance with basic cable TV (≤ 550 MHz)	Distance with premium cable TV or off-air TV (≤ 860 MHz)	Splitter	Single Port Converters (spc)	4 Port Hub	Cat 5 Jumpers	Coax Jumpers
<b>20 dB packages - typically used for basic cable TV</b>									
1	040-0218	20 dB	≤ 145 ft.	≤ 100 ft.	-	2	-	1	4
2	040-0219	20 dB	≤ 120 ft.	≤ 80 ft.	2 way	4	-	2	5
3	040-0220	20 dB	≤ 105 ft.	≤ 65 ft.	3 way	6	-	3	6
4	040-0221	20 dB	≤ 100 ft.	≤ 60 ft.	-	4	1	4	7
<b>35 dB packages - typically used for premium cable TV and off-air TV</b>									
1	040-0222	35 dB	≤ 210 ft.	≤ 155 ft.	-	2	-	1	3
2	040-0223	35 dB	≤ 185 ft.	≤ 135 ft.	2 way	4	-	2	4
3	040-0224	35 dB	≤ 170 ft.	≤ 125 ft.	3 way	6	-	3	5
4	040-0225	35 dB	≤ 165 ft.	≤ 120 ft.	-	4	1	4	6