Introducing
The New

LYNX ULTRA™

Series Hubs and Baluns

4K and HDTV on Cat 6 Cable

Product Highlights

800 Digital RF Channels Distributed on
Cat 5 or Cat 6 Cable

860 MHz over 100 Meters

4K, 8K, HD or SD Resolution

Technology Bridge to IPTV

The New Lynx Ultra™

The new Lynx Ultra simultaneously delivers up to 804 digital channels or 268 HD channels on Cat 5 or Cat 6 cable. It distributes RF with frequencies up to 860 MHz over distances up to 100 meters, and offers stunning resolution and visual quality, including HD, 4K (with UHD or HDR), and 8K content.

An Ultra hub in the wiring closet (IDF) converts an unbalanced 75 ohm coaxial signal into 8, 16, or 24 100 ohm balanced signals transmitted on twisted pair cables. At the point of use an Ultra converter changes the signals back to coaxial form. The RF signals do not pass through a switch and do not use any bandwidth on the network.

A passive converter is used for most TVs. An amplified converter (powered by the TV) is available for applications with very high frequencies and TVs located more than 230 feet from the IDF.

Ultra Converter

Amplified Ultra Converter receives power from a USB port on the TV or from a power cube and wall outlet.

Features and Benefits

State-of-the-art RF baluns: Sophisticated high frequency, impedance matching baluns deliver a clean RF signal to each TV.

Cost effective and ultra reliable equipment: The hubs and passive converters do not require power and thus are very cost effective and extremely reliable. There are no internal amplifiers, power supplies or fans that will inevitably fail over time. All components are bi-directional, as required for set top box applications.

Reliable infrastructure: A structured cabling / homerun design improves reliability compared to coax. No taps and splitters between the IDF and the TV. No messy coax splitters in the IDF.

Flexibility: Moves, adds and changes are easy with a patch panel and UTP cable.

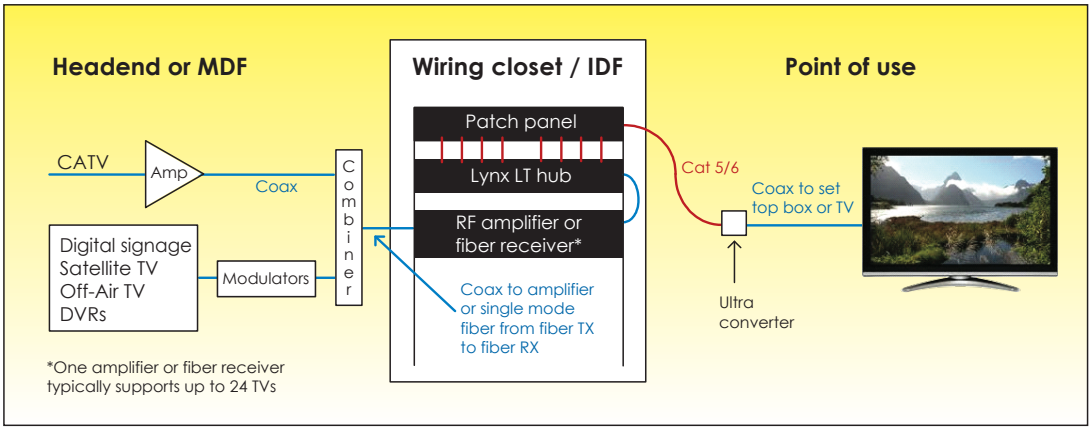
Simplicity: Data, phone and television can all be delivered on a unified UTP infrastructure.

Technology bridge to IPTV and Internet streaming services: Lynx Ultra sets up UTP cabling to the TVs for future use when IPTV becomes less expensive and uses less bandwidth, or for streaming services like Netflix and Hulu.

Fiber transmitters and receivers: Fiber transmitters and receivers are available to deliver RF to the hubs. Optional remote control equipment provides centralized control for on/off, channel control and volume selection.

LEED certification: The unpowered design and an option for centralized on/off controls reduces energy consumption and helps obtain LEED certification.

Equipment Layout



The Lynx Ultra is designed for cable TV, off-air TV, and satellite TV applications. Satellite TV must be remodulated using a satellite headend — usually a DirecTV Com2000 or a Dish smartbox™.

Capabilities

	Meters	Feet	Frequency	Digital ch. (1 MHz)	HD channels (3 MHz)	Analog ch. (6 MHz)
Distance capabilities with amplified converter (assumes 48 dB to hub and Cat 6 cable)	100	328	860 MHz	804	268	134
Distance capabilities with passive converter (assumes 48 dB to hub and Cat 6 cable)	70	230	860 MHz	804	268	134
	76	240	750 MHz	702	234	117
	81	265	550 MHz	468	156	78

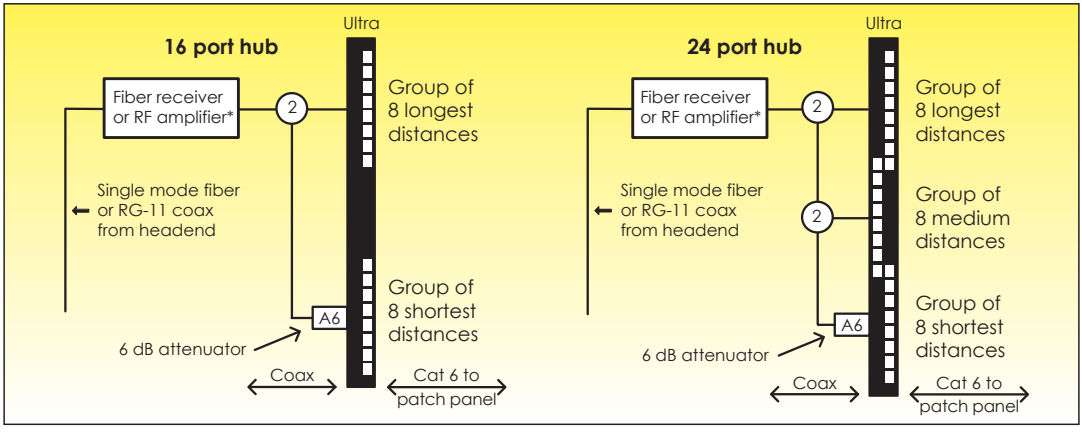
For a free interactive design model that calculates losses and predicts signal strength at the TV, email info@lynxbroadband.com

Distance capabilities at 860 MHz

Ultra with amplified converter — 328 feet

Ultra with passive converter — 230 feet

System Design



Lynx will provide a detailed system design (at no charge) that includes drawings like the ones above and also drawings of the fiber or coax backbone servicing the IDF. The design includes specific recommendations on the signal strength at the output of each fiber transmitter and receiver or RF amplifier.

Specifications

Content	HD, 4K, 4K with HDR (high dynamic range), 8K, SD and analog television
Frequency range	5 MHz to 860 MHz
Bi-directional frequencies	5 MHz to 42 MHz DOCSIS / FSK / T Channel video return capable
Insertion loss for hub and passive converter	14 dB at 550 MHz, 15 dB at 860 MHz
System return loss	-15 dB at 550 MHz
Power	No power required for hub or passive converter. Power for amplified converter is delivered via a micro USB. 5V, 2.5W max.
Output impedance	100 ohms
MER	Minimal degradation of MER (modulation error ratio)
Temperature	-20° C to +60° C with passive converter, 0° C to 55° C with amplified converter
Agency compliance	FCC CFR 47 Part 15 Class A, EN55022, CISPR 22
Warranty	1 year warranty on parts

Equipment Options

8 port hub

16 port hub

24 port hub

Ultra converter

Amplified Ultra converter – includes USB cable to deliver power from the TV

Back side of 24 port hub

		Part #	Width	Height	Depth	Emission Testing
Ultra hub and rackmount plate						
8 port Ultra hub	HD8	L40-0269	19.0"	1.75"	3.0"	FCC Part 15 Class A
16 port Ultra hub	HD16	L40-0270	19.0"	1.75"	3.0"	FCC Part 15 Class A
24 port Ultra hub	HD24	L40-0271	19.0"	1.75"	3.0"	FCC Part 15 Class A
Ultra converters						
Ultra passive converter	UC	L40-0257	2.1"	1.10"	2.1"	FCC Part 15 Class A
Ultra amplified converter	AUC	L40-0258	2.1"	1.10"	2.1"	FCC Part 15 Class A
Amplifiers[1]						
40 dB power doubling amp[2]		180-0521	8.5"	1.60"	7.3"	NA
38 dB power doubling amp rackmounted – one way only[3]		180-0522	19.0"	1.75"	6.6"	NA
Other						
12" coax jumper cable		180-0455	Connects the Ultra converter to the F connector on the TV			
Shelf for mounting Ultra hubs on a wall		180-0529				
4 port LT hub (not rack mounted)		040-0217	3.3"	1.2"	3.7"	FCC Part 15 Class A
Rackmount for 4 port hub		819-1647				

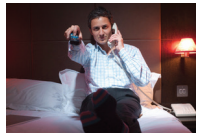
1. Amplification is needed upstream of each group of hubs. Each RF amplifier can support up to 24 TVs. If the input signal is delivered on single mode fiber, a fiber receiver with an output of 48 dB is usually recommended.
2. This bi-directional amp can be mounted to a wall, or two can be placed on a 1U rack shelf. For rack shelf mounting allow 1U of open space above the amps to provide adequate heat dissipation.
3. This amp is not bi-directional, so it cannot be used in cable TV applications where a set top box is required.

Markets

Lynx equipment is currently servicing more than 50,000 televisions in hospital, hotel, government, corporate, education and MDU applications.

Hospitals: Lynx products deliver patient education videos, television programing, and digital signage to patient rooms in more than 50 hospitals worldwide. They are an excellent choice for hospitals that want to future proof their facility in anticipation of IPTV, and existing hospitals that need to upgrade their ageing coax infrastructure to support digital content.

Corporations: Lynx is used in many trading floor applications where traders and brokers need immediate access to the latest world and financial news. It is also used to deliver television and digital signage to lobbies, breakrooms and cafeterias in corporations, law firms, PR firms, and other professional organizations. The flexibility for handling moves, adds and changes is a huge advantage relative to coax.



Hotels: The Lynx Ultra is ideal for hotels that want to reduce costs by unifying their infrastructure so that data, voice and television are all delivered on twisted pair cable. Many of these properties have a satellite headend designed around a Com2000 from DirecTV, or a smartbox™ from Dish Network. The Lynx Ultra works extremely well with both of these products.

Education: The Lynx Ultra is an excellent choice for school and university applications. It is a flexible and cost effective method for delivering television and digital signage to dormitories, classrooms, lobbies and administrative offices. The Ultra and twisted pair cable is much more flexible than coax when there are frequent moves, adds and changes.

Government: Lynx products are used in many local, state and federal applications. Examples include VA hospitals, Air Force and National Guard bases, the U.S. Treasury, the Commerce Department, the CIA, the FBI, the Federal Reserve Bank, and several U.S. District Courts.

MDU Applications: Lynx products have been installed in MDUs, dormitories, nursing homes, and other multiple occupancy properties. The additional frequency and distance capabilities of the Lynx Ultra make it especially well suited to these applications.

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