Obonok Technologies

PRODUCT OVERVIEW

1. Introduction

Obonok Technologies is dedicated to develop core technologies to enable the large-scale high-definition digital video switching, distributing and extending over a single CAT5e/CAT6 UTP cable. Obonok Technologies provides high-quality and reliable equipment based on its patent pending technologies to meet the needs of commercial, professional and consumer applications, from one-to-one extenders, one-to-multiple daisy-chainable distributors to non-blocking expandable large matrix video switches.

2. Product Lines

Obonok Technologies' high-definition digital video products are designed, manufactured and offered through two product lines.

A) Blu-Wire™ HDMI-over-single-UTP extenders and distributors

All Blu-Wire™ products use the same HDMI-over-single-UTP technology. All products in this product line are interoperable at the UTP level.

The HDMI signals are neither compressed nor buffered, so video quality is not degraded and no delay is introduced even when daisy-chained. It can extend 1080p with HDCP to 50 meters (164 feet) for each hop with single UTP cable.

Blu-Wire™ products provide very cost-effective solutions to distribute HDMI video and audio to ≈ 250 displays within about 300 meters (1000 feet) over UTP.

Patent pending technologies make Blu-Wire™ outstanding:

1. Proprietary impedance matching and frequency shaping network
2. Proprietary HDCP and TMDS multiplex encoding scheme
3. Unique adaptive equalizer to fit the transfer function of UTP cable automatically
4. Proprietary wide-band low-jitter PLL to restore the digital video to the original quality to enable the long haul daisy chain.

Major shortcomings of competitors:

1. Must use two shielded cables
2. No daisy-chain capabilities - only one-hop extension
3. Cannot use UTP (Unshielded Twisted Pair)
4. Must manually adjust the gain at the receiver to match the cable length
5. Must use wall-plug AC-DC power adapter at the receivers

B) Blu-Eye™ video extenders, distributors and switch/routers

All Blu-Eye™ products employ proprietary encoding technologies to process video, audio, control and USB signals so that the signals can be transported over single CAT5e/CAT6 UTP at bi-directional 1Gbps with higher integrity and longer distance. For each hop, it can reliably reach 150 meters (492 feet) for single UTP and up to tens of miles for single or dual fiber.

Blu-Eye™ products, as building blocks, can be used to create systems from extending one source to one display, one source to hundreds of displays through distributors cascading, and to no-blocking matrix switching between hundreds of sources and displays through video routers and distributors.

The encoding process takes only about 0.03 second in the transmitter and the decoding process takes only about 0.02 second in the receiver. The audio is calibrated to be in sync with the video for the audience at the distance of 5 meters (16 feet) to the display. For the large distribution system, the distributor and the video routers will add less than 0.00001 seconds for each hop, so that all the displays will show the same image well within the distinguishable time with the human's eyes.

Key technologies that make Blu-Eye™ outstanding:

1. Proprietary encoding technologies
2. Reliable Bi-directional 1Gigabit per second data transportation
3. Video, Audio, Serial/USB signals are extended, distributed and routed simultaneously.
4. Expandable large matrix video router
5. Control-oriented system

Blu-Wire™ products and Blu-Eye™ products are not interoperable at UTP level but they can work together through standard HDMI interfaces, so that the two lines of products can be mixed to fit the needs of the applications.

Compared with Blu-Eye™ products, Blu-Wire™ products are less expensive and easier to set up and maintain. Whenever the requirements can be met, Blu-Wire™ products should be chosen over Blu-Eye™ products. The Blu-Eye™ products are designed for the content rich applications that require intensive switching, long distance distribution and multiple contents share the same UTP for computer based applications, like airport concourses and subway systems.