

HD Video over Ethernet Cable

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a) Demonstration of HDBaseT

Projector

Projected Image

HDMI cable

PlayStation 3 (PS3)

HDBaseT receiver (connected to projector with HDMI cable)

100m Category 6 cable

HDBaseT transmitter (connected to PS3 with HDMI cable)

b) Comparison of HDBaseT and other standards

	HDBaseT	DiViVA 1.0a	HDMI 1.4
Peak data rate in video signal line	20Gbps (1st-generation design 10.2Gbps)	13.5Gbps	10.2Gbps (estimate by <i>Nikkei Electronics</i>)
Range	100m	25m	Not defined (about 10m)
Power supply	50W max	4W max	No
Connectors	General-purpose (RJ-45)	Dedicated	Dedicated
Cabling	General-purpose (Category 5e/6)	General-purpose (Category 6)	Dedicated

Fig A-1 Sending HD Video over Ethernet The HDBaseT prototype system from Valens Semiconductor (a) is capable of transferring HD imagery over current-standard Ethernet cables. The range is a long 100 meters, and the standard can supply up to 50W of power as well.

HDBaseT, developed by Valens Semiconductor of Israel, a fabless manufacturer ([Fig A1](#)) is a new emerging interface for AV equipment. A single Ethernet cable is used to pump uncompressed HD video and audio simultaneously.

The intriguing features of the new technology are a long range (up to 100m) and the ability to carry power. These features were built in specifically targeting home networks interconnecting equipment in different rooms.

The cabling can be the same Category 5 or 6 cabling used for Ethernet, and it can use standard RJ-45 connectors, with no need for the special connectors that DiViVA needs. In other words, off-the-shelf cabling - which means minimal cost for introduction of cables, connectors, etc. For example, says a source at Valens Semiconductor, "For a length of four meters or more, the

cabling cost is less than HDMI." It supports up to 50W of power over Ethernet (PoE), supporting standards like PoE (IEEE802.3af) and PoE Plus (IEEE802.3at).

Valens Semiconductor plans to sample-ship HDBaseT transmitter ICs in the third quarter of 2009, and is already marketing the technology to equipment manufacturers. In the future it plans to launch a promotion organization with participation by major equipment manufacturers.