



secure



Broadcast – HD-VLC Solutions

# HD Surveillance Selector Guide

Semtech is designing the future of HD surveillance with highly integrated products, enabling all-digital HD video surveillance transmission with industry leading cable reach performance and the highest image fidelity.





# The Future of HD Surveillance

The High-Definition Visually Lossless CODEC (HD-VLC™) has been specifically developed to allow both 720p and 1080p high-definition video to be transmitted at lower data rates over conventional CCTV coaxial cables. Combined with Semtech's industry-leading cable equalizer and CDR technology, cable distances can be extended up to four times the reach of existing HD-SDI and HDcctv 1.0 products, and up to two times the reach of other VLC-based products.

Semtech's next generation of high-performance, all-digital HD video connectivity solutions for surveillance with integrated HD-VLC provide unprecedented levels of cable reach performance and enable long-distance transmission of high quality HD digital video.

## Applications

- HD video surveillance cameras
- Digital Video Recorders (DVR)
- HD monitors & displays
- Video repeaters
- Cable extenders

### CABLE REACH COMPARISON

Cable Type	HD-VLC™ 270Mbps	HD-SDI 1.485Gbps
<b>Belden 1694A</b>	700m	230m
<b>Belden 543945</b>	550m	150m
<b>KW-Link SYV 75-5</b>	500m	140m
<b>Canare L-3C2V</b>	300m	100m
<b>KW-Link SYV 75-3</b>	300m	80m
<b>Cat-5e/6 UTP</b>	150m	–

### GV7700 HD-VLC™ TRANSMITTER

The GV7700 is a serial digital video transmitter for High-Definition component video. With integrated cable driving technology, the GV7700 is capable of transmitting HD video at a compressed 270Mbps and 540Mbps, or uncompressed video at 1.485Gbps and 2.97Gbps over 75Ω coaxial cable, or differentially over 100Ω twisted pair cable.

The GV7700 integrates the HD-VLC technology, which was developed specifically to reduce the transmission data rate of HD video over both coaxial and unshielded twisted pair (UTP) cable. This is achieved by encoding the HD video, normally transmitted at a serial data rate of 1.485Gbps or 2.97Gbps, to the same rate as Standard Definition (SD) video at 270Mbps or 540Mbps serial data rate, respectively.

Data Rate (Mbps)	Downstream Data Insert	Downstream Audio Insert	Max Output Jitter (ps)	BT.1120 Bus Width	HD-VLC Encoder	Temp Range (°C)	Power (mW)	Package
270, 540 1485, 2970	Yes	4 channels	77	8/10 or 16/20 bit	Yes	-20 to +85	180	7x7mm 84-pin Dual Row QFN

### GV7704 QUAD HD-VLC RECEIVER

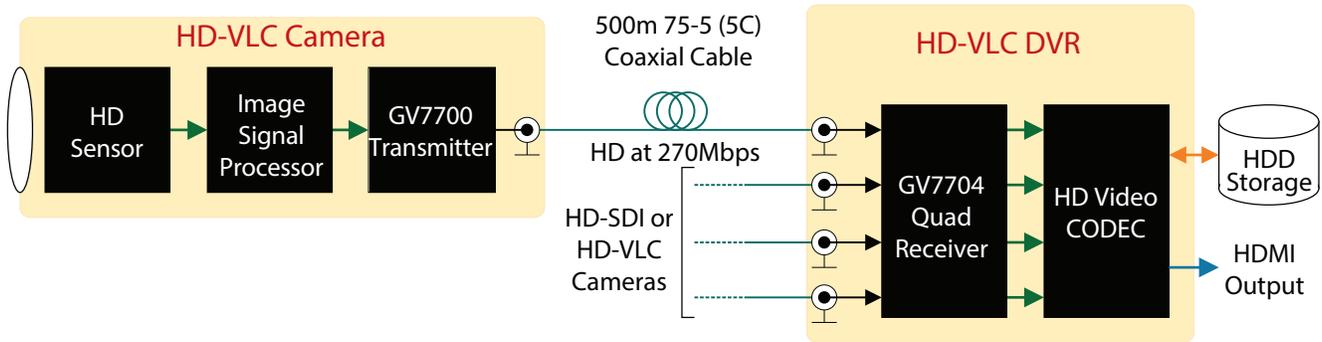
The GV7704 is a quad channel serial digital video receiver for High-Definition component video. With integrated high-performance cable equalizer technology, the GV7704 is capable of receiving compressed video at 270Mbps and 540Mbps, or uncompressed video at 1.485Gbps and 2.97Gbps over 75Ω coaxial cable, or differentially over a 100Ω twisted pair cable.

The GV7704 integrates the HD-VLC technology, which was developed specifically to reduce the transmission data rate of HD video over both coaxial and UTP cable. This is achieved by encoding the HD video, normally transmitted at a serial data rate of 1.485Gbps or 2.97Gbps, to the same rate as SD video at 270Mbps or 540Mbps serial data rate, respectively.

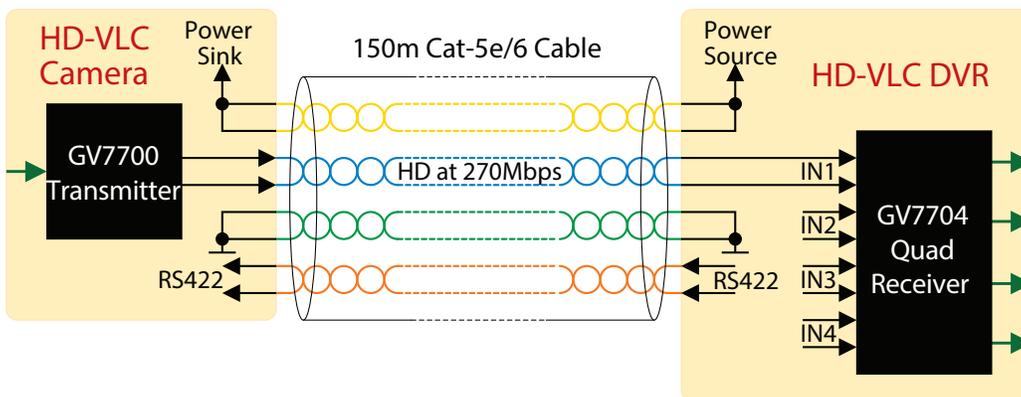
Data Rate (Mbps)	Integrated Equalizer	Downstream Data Extract	Downstream Audio Extract	IJT (UI)	Serial Loop Through	BT.1120 Bus Width	HD-VLC Decoder	Temp Range (°C)	Power (mW)	Package
270, 540 1485, 2970	Yes	Yes	4 channels	0.06 (@270) 0.11 (@1485)	Yes	8/10 bit	Yes	-20 to +85	810*	11x11mm 169-BGA

\* All four channels active

### COAXIAL CABLE APPLICATION: 500m Cable Reach



### UTP CABLE APPLICATION: 150m Cable Reach





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