

HD-TVI HD-CVI



AHD HD-SDI

Compare HD Analog Technology

See how the different formats stack up...

HD Analog technology offers a very compelling alternative to traditional analog and IP surveillance options. HD Analog solutions deliver megapixel resolution video over coaxial cabling (HD over coax), and greatly reduce the installation and operational complexity (relative to IP).

Since the introduction of HD Analog technology in 2010, several HD Analog formats have emerged, including: HD-SDI, AHD, HD-CVI and HD-TVI. While all HD Analog options offer the same basic benefits compared to analog or IP, each format features a unique set of capabilities and compatibilities.

At this time, there is no “standard” format – or established “winner” – in the HD Analog space... But it is clear that certain formats are better positioned to succeed – offering clear competitive advantages, that translate to significant and measurable benefits for the end user.

Here are how HD Analog formats compare:

Technology ▶		HD-CVI	AHD	HD-SDI	HD-TVI
Max Resolution		1080p 1920 x 1080 px	1080p ⁽¹⁾ 1920 x 1080 px	1080p 1920 x 1080 px	1080p 1920 x 1080 px
Video Output Quality		Good <i>Very good in daylight; Images not as crisp; in low light conditions</i>	Good <i>Images not as crisp; Colors not as accurate</i>	Very Good <i>Sharp images up to 1080p; True colors</i>	Very Good <i>Sharp images up to 1080p; True colors</i>
Transmission Distance	Coaxial Cable (RG59)	1600' (720p) 1300' (1080p)	1600'	492'	1600'
	Twisted Pair (CAT5)	650'	492'	350' (digital converter required)	700'
DVR Input Compatibility	Analog	All analog cameras, limited channels, limited configurations	All analog cameras, limited channels, limited configurations	Limited models, limited channels, limited configurations	All analog cameras, on any channel, in any configuration
	HD Analog	Like-branded HD-CVI cameras, on any channel, in any configuration	Like-branded AHD cameras, on any channel, in any configuration	Select HD-SDI cameras, on any channel, in any configuration	Any HD-TVI cameras, on any channel, in any configuration
	IP	Supported IP cameras, on select channels, in select configurations	N/A	N/A	Supported IP cameras, on 2 channels, in any configuration
DVR Hybrid Capabilities		Limited configurability	Limited configurability	Limited configurability	Yes, unlimited configurability
Format Compatibility		Proprietary technology, only produced by 1 manufacturer: Dahua (China). Disadvantages are limited supply options, limited technology options, and lack of competitive pricing	Open standard, limited manufacturers	Open standard, multiple manufacturers who are currently exiting the market as alternative HD formats outpace SDI	Open standard, over 100 manufacturers have launched or are developing solutions using TVI technology

(1) Expected EOY 2014

Analysis & Conclusions

Comparing formats across several dimensions that matter most to end users...

Resolution & Image Quality	Video Transmission Distance	Camera Selection & Configuration Flexibility	Cost of Ownership
<p>Winner: HD-SDI, HD-TVI</p> <ul style="list-style-type: none">✓ All HD Analog formats offer models that capture up to 1080p resolution✓ HD-SDI produces the highest quality, followed closely by HD-TVI	<p>Winner: HD-TVI</p> <ul style="list-style-type: none">✓ HD-TVI offers the longest transmission without signal degradation across both RG59 and CAT5 cabling	<p>Winner: HD-TVI</p> <ul style="list-style-type: none">✓ HD-TVI is clearly advantaged here, allowing the user to connect to any analog or HD-TVI camera, on any DVR channel... and is the only HD Analog format that supports IP cameras.✗ Other formats are limited in both camera compatibility and channel configurations	<p>Winner: HD-TVI, HD-CVI, AHD</p> <ul style="list-style-type: none">✓ HD-TVI, HD-CVI and AHD cameras and recorders are available at similar costs to the end user.✗ HD-SDI is considerably more expensive, with compatibility limitations that significantly increase Total Cost of Ownership (TCO)