1. What is HD-CCTV

- **What is HD-CCTV?**
  
  An HD-CCTV system is a video surveillance system wherein specialized surveillance features defined by official HDcctv alliance for CCTV market is used. *Video(HDTV) signals are transmitted digitally over conventional CCTV media* based on standard HD-SDI transmission technology.

- **Why HD-CCTV?**
  
  High-Definition is no more the terminology for IP solution. The answer is HD-CCTV.

- **What is HD-SDI?**
  
  HD-SDI is short for HD-Serial Digital Interface that were derived from SDI foundational technologies which were developed for the professional HDTV market and widely deployed and defined to be world standard protocol. So the HD-SDI transmission will be only and best way to deliver HD quality image without any loss.
2. Market Trend

- Camera Market Share

[resource: HDcctv alliance 2011]
HDcctv Market Growth

[resource : HDcctv alliance 2011]
3. The Advantages of HD-CCTV

- 1080p(1920x1080)/ 720p(1280x720) resolution
- Full HD live view and recording
- Plug-and-play on the coaxial cable
- Uncompressed image transmission, no delay
- Progressive scan

<table>
<thead>
<tr>
<th>PERFORMANCE</th>
<th>HD-CCTV</th>
<th>CCTV</th>
<th>IP Camera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Works with Existing Coax</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Near 0 Latency</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Comprehensive, Global Interface Standard</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Guaranteed 100% Plug &amp; Play</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>100% Digital</td>
<td>Uncompressed</td>
<td>No</td>
<td>Compressed</td>
</tr>
<tr>
<td>Delivers 720 or 1080 Video Resolution</td>
<td>Uncompressed</td>
<td>No</td>
<td>Compressed</td>
</tr>
<tr>
<td>Delivers Full Frame Rate HDTV</td>
<td>Uncompressed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Commissioned Cost per Video Channel</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Delivers 2 Mega Pixel Video</td>
<td>Planned</td>
<td>No</td>
<td>Compressed</td>
</tr>
</tbody>
</table>
3. The Advantages of HD-CCTV

- **Full-HD Resolution**
  - HD-SDI solution provides about 6 times larger than the size of SD-CCTV’s.
4. HD-CCTV products

## HD series – HD-SDI DVR

<table>
<thead>
<tr>
<th></th>
<th>HD400ME</th>
<th>HD400H</th>
<th>HD800H</th>
<th>HD1600M</th>
<th>PICTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>channel</td>
<td>4ch</td>
<td>8ch</td>
<td>16ch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>recording</td>
<td>60@720p</td>
<td>120@720p</td>
<td>240@720p</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30@1080p</td>
<td>60@1080p</td>
<td>120@1080p</td>
<td></td>
<td></td>
</tr>
<tr>
<td>output</td>
<td></td>
<td>1 HDMI/1 VGA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>internal storage</td>
<td>2 HDD + DVD</td>
<td>4 HDD + DVDRW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>external storage</td>
<td>e-SATA</td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>NVS04R(up to 64Tb)</td>
</tr>
</tbody>
</table>
| features      | • Multi streaming – 1080p, 720p, D1 and CIF  
                • Dual resolution support – 1080p, 720p auto recognized  
                • Full frame playback @ 1080p, 720p each  
                • Smart phone connect : iPhone, Android apps.  
                • ATM/POS recording & text search  
                • Windows, Mac. Linux browser connect available |         |         |         |
4. HD-CCTV products

- **HD series – HD-SDI camera**

<table>
<thead>
<tr>
<th></th>
<th>C1080BM</th>
<th>C1080B</th>
<th>C1080D</th>
<th>C1080VD</th>
<th>C1080PTZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>picture</td>
<td><img src="image1" alt="Box" /></td>
<td><img src="image2" alt="Box" /></td>
<td><img src="image3" alt="Dome(IR)" /></td>
<td><img src="image4" alt="Vandal(IR)" /></td>
<td><img src="image5" alt="Speed Dome" /></td>
</tr>
<tr>
<td>type</td>
<td>Box</td>
<td>Box</td>
<td>Dome(IR)</td>
<td>Vandal(IR)</td>
<td>Speed Dome</td>
</tr>
</tbody>
</table>
| features       | • superior resolution/ low light condition  
• SDI performance up to 150m over  
• True Day & Night | • WDR/ lens shading  
• privacy zone  
• low power consumption : 2W (low temperature) |
| resolution     | 1080p 30fps | | 1080p 30/60fps | | |
| lux(Color)     | 0.5     | | | 1.7    |
| lux(BW)        | 0.0005  | | | 0.3    |
| output         | Strobe for external light | N/A | | |
| dynamic range  | TDN & WDR | | TDN & DWDR | | |
| IR             | N/A     | | option | | N/A |
| housing        | N/A     | | IP66 | vandal/waterproof |
| Certificate    | #CC20110211-1 | | | | N/A |
4. HD-CCTV products

- HD series – HD-SDI accessories
  - HD-SDI camera
  - 1080p 60Hz monitor
  - HD-SDI DVR
  - HDMI
  - SDI to HDMI
  - Dvix player
  - SDI to OPTIC
  - HD-SDI Repeater
  - HD-SDI 1 to 2 distributor
  - Approx. 150m@RG59
  - max 1km using 7EA
  - HD-SDI Converter
  - HDMI 1 input
  - HD-SDI 2 output (distributor)
  - Video FRC & Scaler
  - HD-SDI Fiber Optic converter
  - Fiber Optic 1 input
  - HD-SDI 1 output
  - Up to 30kms at 3Gbps
  - HD-SDI 1 input
  - HDMI 1 output
  - Video FRC & Scaler
## 5. Why? – HD-SDI DVR

### Comparison table

<table>
<thead>
<tr>
<th>PERFORMANCE</th>
<th>HD400H</th>
<th>Competitor</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>video encoding/decoding</td>
<td>1920x1080/1280x720</td>
<td>1280x1024</td>
<td></td>
</tr>
<tr>
<td>output</td>
<td>1920x1080/1280x720</td>
<td>1920x1080</td>
<td></td>
</tr>
<tr>
<td>frame</td>
<td>full frame playback</td>
<td>loss frame playback</td>
<td></td>
</tr>
<tr>
<td>digital zoom</td>
<td>16x</td>
<td>5x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1200 TVL</td>
<td>580TVL</td>
<td></td>
</tr>
<tr>
<td>resolution</td>
<td>Progressive(1080p)</td>
<td>Interlace(1080i)</td>
<td></td>
</tr>
</tbody>
</table>

"N“ / "C“ KR maker based on Hi3520

"E“ in TW maker

Main Features:
- HD(1080p) camera
- 1st streaming
- 2nd streaming
- 3rd streaming

Main Features:
- lightening protect design
- SNS(Twitter) supports
- multi Ch. POS/ATM supports
- UPnP supports
- RADIUS protocol supports
- disk mirroring
- eSATA storage
- email trans.
- IntelliJ protocol
- 1920*1080
- D1/CIF
- JPEG
- Pinch to zoom
- UPS supports
- RADIUS protocol supports
- disk mirroring

Main Features:
- mega storage for HD DVR
- disk mirroring
- 1st streaming
- 2nd streaming
- 3rd streaming
- iPhone
- Android Apps.
- JAVA viewer
- Mac OS
- Linux
- Full SDK (VC++, C#, Java)
- Main Display
- Alarm Pop-up
- E-Map View
- Smart Search
- Schedule Backup
- Playback
- Control Center
## 5. Why? – HD-SDI camera

### Comparison table

<table>
<thead>
<tr>
<th>PERFORMANCE</th>
<th>C1080B</th>
<th>Competitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>specification</td>
<td>HD-SDI 1080p</td>
<td>HD-SDI 1080p</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2M pixel IP</td>
</tr>
<tr>
<td>resolution(TV Line)</td>
<td>over 1,200</td>
<td>800</td>
</tr>
<tr>
<td></td>
<td></td>
<td>950</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>700</td>
</tr>
<tr>
<td>white balance</td>
<td>excellent</td>
<td>good</td>
</tr>
<tr>
<td></td>
<td></td>
<td>good</td>
</tr>
<tr>
<td></td>
<td></td>
<td>good</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>middle</td>
</tr>
<tr>
<td>low lux Color(lux)</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>B/W(lux)</td>
<td>0.0005</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>company initial</td>
<td>WEBGATE</td>
<td>“S”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“C”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“W”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“L” LW</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“S” VCC</td>
</tr>
</tbody>
</table>

- **Resolution – 1080p**
  - it produces clear picture quality by supporting the better resolution than 1280 x 720p camera which having the best resolution quality in the world.

![WGI HD-SDI Camera(C1080B)](image)

over 1,200 TV lines

- **Resolution**
  - it produces clear picture quality by supporting the better resolution than other 2M HD-SDI camera.

![WGI HD-SDI Camera(C1080B)](image1)

![“S” Camera(SCB)](image2)

- WGI HD-SDI Camera(C1080B) over 1,200 TV lines
- “S” Camera(SCB) 800 TV lines

- **Resolution**
  - it produces clear picture quality by supporting the better resolution than 2M IP camera.

![Images showing resolution comparison between WGI HD-SDI Camera (C1080B), LG 2M IP Camera (LW345-FN), and SANYO 2M IP Camera (VCC-HD2300).](#)

- Over 1,200 TV lines
- 600 TV lines
- 700 TV lines

- **White Balance**
  - WGI’s HD-SDI camera has good white balance performance than other company’s.

[Test environment: 5 Lux Color mode - F1.4, 3100K]

- **High Sensitivity at Low light conditions**
  - B/W(0.0005Lux), Color(0.2Lux) when 50IRE, 3100K, DSS off
  - When B/W mode, very high-sensitivity through TDN function.

![Test environment: 0.08 Lux color mode - F1.2, Flourescent]

![Test environment: 0.005 Lux Color mode - F1.2, Flourescent]

- **3DNR – 3D Noise Reduction**
- With 3D Noise Reduction (3DNR) embedded, it produces extremely clear picture quality even under low light condition

- **WDR – Wide Dynamic Range**
  - it produces clear picture quality even under back light condition when there are both very bright and dark area simultaneously.

* NOTE : WDR preforemnace may occur ghost effect while moving object of the short distance (within 5~6m)

- **BLC – BackLight Compensation**
  - it produces clear picture quality by increasing the exposure by a predetermined amount according to area selected in the picture.

- **Smart Exposure at IR-LED**
  - it produces clear picture quality by adjusting the exposure based on area selected in the picture.

- **DSS – Digital Slow Shutter (Sense-up)**
  - it produces clear picture quality by accumulate enough light to operate in conditions the human eye would perceive as complete darkness.

![Images showing light conditions with and without DSS](image-url)

- **TDN – True Day & Night**
  - it produces clear picture quality by removing a physical Infra-Red filter that is removed when night mode, is used when day mode.