Xtended Camera Support Inc. is proud to introduce the next generation of level sensor display technology.
*The new **HD Programmable Digital Level Plus.***

Over 17 years ago, XCS Inc. designed and engineered the first Programmable Digital Level. Introduced in 1997, it quickly became "the industry standard" by which all other levels were, and still are, judged. With unmatched performance, reliability and ease of use the PDL stood alone - until now.

XCS has redesigned and engineered a new level sensing technology for new SMPTE HD video standards that have evolved in the video and film industry.

The **HD Programmable Digital Level Plus** accepts 3G 4:2:2, 2K, HD, SDI and Analog video signals all in NTSC and PAL. The PDL outputs the same incoming video format with your user selectable level display. Now, for the first time you will have higher than 480 SDI resolution on your HD compatible monitor or full HD on a FHD monitor and be able to see both your video signal and the level information in its native resolution.

For flexible video signal management, 2 video outputs with your user programmable display information on or off and with our up/down signal converter, you will always have 3 video signals out in multiple formats at all times.

All functions are controlled by a 5 pushbutton, phosphorus silicone rubber, backlit keypad for dependability, weather resistance and a very comfortable consistent feel. Although the HD PDL is not waterproof, it is a water resistant design.

Like all XCS designs the software is very intuitive. If you are familiar with any of our products, this PDL will be very easy to use. You will have "On Screen" display of Menu pages with text reinforcement for all current settings for each individual page.

There are four user programmable Menu pages: **Level, Frame liner, Crosshair and System**. Each Menu controls different aspects of the PDL's visual display.

We have greatly increased the user features of this HD PDL. We have added and finely tuned the sensitivity range and reaction times over our original design. We have also added two additional level sensor modes for a total of three unique modes. **Standard mode**, **Gyro Stabilized mode** and **2D Gyro Stabilized mode**. All modes have more than 30 combinations of user selectable level settings for a precise feel designed for your style of operating. Settings which you have come to expect from XCS.

Standard mode: for a clean visual reaction to your every movement. A refined version of the original PDL design, perfect for your every day "walk and talks".

Gyro Stabilized mode: Selectable on/off, with additional controls to adjust the amount of *visual level* gyro stabilization you visually want for the shot. Specifically written algorithms ensure precise level readings in your selected target range. This mode is perfect for your high speed, fast or whip pans, high intensity moving shots.

2D Gyro Stabilized mode: We offer you two, 2D visual displays that show both your horizontal and tilt axis and are completely scalable for Reaction times and Range setting for both axis. 2D display can be stabilized or unstabilized.

WHY offer over 30 combinations of mode settings? Because when you need that true and accurate visual reference to level on a slow push in stabilized mode, *the last thing you want is* for a gyro stabilized level not to be sensitive enough to register that slight rocking off level which can happen with other units. Only one device offers you this precise control. The XCS HD PDL. Proven dependability, durability, product longevity, with the user programmable sensor controls only we are known for.

HD PROGRAMMABLE DIGITAL LEVEL FEATURES: *A list of some of the features but not all.*

- Multi format video signal inputs. **3G 4:2:2, 2K, HD, SDI, Psf** and **Analog** all in **NTSC/PAL**
- Video signal conversion from **3G, 2K, HD, SDI** input signal to *HMDI & **Analog**
- Video signal conversion from **Analog** inputs to **SDI** and *HDMI**
- Video loop through of your **3G, 2K, HD, SDI** input signal
- 5 pushbutton backlit rubber keypad with carbon pill contacts for smooth feel & predictable control
- Can attach to any sled or system that can provide power and video. Sleds, cranes, handheld cameras
- Can be mounted vertically, horizontally, forward or rear facing
- Vertical and Horizontal image sweep control for the cameras and monitors that can't
- Only level sensor system with three user selectable sensor modes. **Standard, Gyro** and **2D** with selectable reaction times
- Nonlinear scaling gives you the most accurate visual feedback, emphasizing a center weighted visual display
- Three user selectable visual displays in single axis mode. Two visual displays in 2D mode (Horizon and Tilt)
- Level is positional-able over the video field, with 5 image size controls
- Built in frame line generator with options of Black, White, Red, Green, Blue or Zebra bar frame lines
- Frame liner has adjustable frame line thickness control and is positional-able over the video image area - no presets
- Border shading control outside the frame line
- Position-able center Dot or center Cross Hair with RGB or B &W color control and zebra bar option (no zebra bar on the Dot)
- HD video test pattern output to test your rig for video cabling issues
- Expanded usable target range of degree settings. **+/- 1, 1.5, 2, 4, 6, 8 degrees** on visual scale, +/- 180 total range
- Video signal enhancement (re-clocking) of all input video signals due to improper wiring, low signal amplitude, worn connections
- User selects which and how many video outputs send your level information. Options are: HD/SDI, Analog outputs
- On screen warning of loss of video with automatic pop up of SMPTE test pattern,
- Rear time battery voltage indicator, low battery indicator with selectable OFF, ON, Automatic modes
- On screen text reinforcements of user settings. All settings saved in nonvolatile memory
- Correct reading/reporting of incoming data packs on screen (Incoming signal resolutions and rate)
- Complete system RESET, brings all settings back to factory defaults
- Serial number embedded in the microprocessor so it can't be removed without disabling the PDL
- Reverse polarity protected which is standard in all our products
- Thermal compensation of the sensors ensures accurate readings over large temperature range
- Our standard .375" hole pattern for mounting

Case size: 2.8" x 3.5" x 0.87" / 71.1mm x 88.9mm x 22.1mm
Weight: 5.5 ounces / 156 grams
Power consumption: 0.18 Amps @ 14.4 volts DC
Voltage input range: 11.0 -34.0 Vdc via the 1B 308 connector, standard XCS 8 pin wiring
Voltage output: Loop through of the input voltage
Case material: .063 Aluminum housing
Keypad: Backlit, phosphorus rubber silicone, carbon pill
Power/Video input connectors: 1 power, 2 video inputs
Composite analog video and power input on the 1B 308 connector labeled Pwr/video in
3G 4:2:2, 2K, HD, SDI, NTSC and PAL on the BNC labeled HD/SDI in.

Power/Video out connectors: 3 total
Composite video and power out on the 1B 308 connector labeled Pwr/video out. *User selectable on/off of PDL display available.*
3G 4:2:2, 2K, HD, SDI, NTSC and PAL on the BNC labeled HD/SDI out. *User selectable on/off of PDL display available.*
3G, 2K, HD, SDI Loop through of incoming video signals in their native resolution. *No PDL overlays available here.*
*Micro *HDMI may or may not be implemented at time of release. 4 total video outs if activated.*
Sensor readout accuracy and displayable resolutions:
Test parameters: Measured with the lowest video SDI signal input resolution (SDI resolution @ 480 pixels SMPTE standard). With an SDI input, measured at a 1 degree setting on the HD PDL;
> Static sensor resolution is greater than 1/200th of a degree
> This equals a +/- 0.004 degree of *displayable resolution* on your monitor with an SDI signal input
The higher the signal resolution, the higher the visual accuracy with our HD PDL design
Temperature range: -20C to 65C with internal thermal compensation

*Displayable resolution: means visual movement.
*HDMI version output 1.0- 1.3. HDMI may or may not be implemented at time of product release.

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Full Feature list:

LEVEL MENU

LEVEL	ON/OFF
RANGE	+/- 1, 1.5, 2, 4, 6, 8 DEGREES
REACTION	SNAIL, SLOW, MEDIUM, FAST, HYPER
STABLIZATION:	OFF, 1, 2, 3, 4, 5
V POSITION	ADJ UP/DOWN (moves level display up/down)
STYLE	GOAL POSTS, MESHED BARS, SLIDERS, 2D TARGET, 2D SLIDERS
COLOR	BLACK, WHITE, RED, GREEN, BLUE
SIZE	SMALL, MEDIUM, LARGE, XLARGE
LEVEL FLIP	NONE, HORIZONTAL, VERTICAL, BOTH
INTENSITY	20-100% (In 20% increments)
BACKGROUND	0-100% (10% increments shades the level box in single axis mode only)
LEVEL MOUNTING	VERTICAL, HORIZONTAL

FRAMELINE MENU

FRAMELINE	ON/OFF
TOP EDGE	ADJ UP/DOWN (up/down pushbuttons moves the frameline)
LEFT EDGE	ADJ UP/DOWN (up/down pushbuttons moves the frameline)
RIGHT EDGE	ADJ UP/DOWN (up/down pushbuttons moves the frameline)
BOTTOM EDGE	ADJ UP/DOWN (up/down pushbuttons moves the frameline)
LINE STYLE	BLACK, WHITE, RED, GREEN, BLUE, ZEBRA BAR WHITE & BLACK, W/RED, W/GREEN, W/BLUE
LINE WIDTH	1, 2, 3, 4, 5
INTENSITY	20-110% (20% increments of frameline intensity)
BORDER SHADING	0-100% (10% increments area outside the frame line)

CENTER MARK MENU

CENTER MARK	ON/OFF
STYLE	CROSSHAIR OR DOT
V POSITION	ADJ UP/DOWN (up/down pushbuttons moves the frameline)
H POSITION	ADJ UP/DOWN (up/down pushbuttons moves the frameline)
COLOR	BLACK, WHITE, RED, GREEN, BLUE, ZEBRA BAR WHITE & BLACK, W/RED, W/GREEN, W/BLUE
SIZE	SMALL, MEDIUM, LARGE, XLARGE, XXL
INTENSITY	20-100% (20% increments of the center mark intensity)

SYSTEM MENU

VOLTAGE DISPLAY	ON/OFF
VOLTAGE THRESHOLD	ADJ UP/DOWN 10.5- 28.V (adjusts low voltage indicator)
VOLTAGE CALIBRATE	ADJ UP/DOWN 10.5- 28.V (adjust to voltage input)
OUTPUT MENUS to	SDL/HD, ANALOG
ANALOG OUTPUT	NTSC-B/W or COLOR, PAL- B/W or COLOR
SWEEP	NONE, HORIZONTAL, VERTICAL, BOTH
MENU TIMEOUT	OFF, 4, 6, 8, 10 seconds
RESET MEMORY	NO, FACTORY
KEYPAD LIGHT	ON, OFF, AUTOMATIC (time out with the on screen text)
FIRMWARE VERSION	PDL v.XXX
SERIAL NUMBER	XXXXXX

Two different software packages available.

Option A: **$12,000. USD** Full featured software package

Option B: **$9,500.USD**   All features listed above minus the gyro stabilization of the level display in 1 and 2 dimensions and image SWEEP control. SWEEP control flips your video image vertically, horizontally or both.

Complete with HD PDL, Power cable from sled to PDL, shipping case.

*Connector style and wiring options are available for your power/video cable needs.

**Menu items and user adjustments may change prior to final release.