ITS Plus, Inc.

Technical Product Presentation

- History
  - Founder
- Advanced Cameras
  - "Never Clean" Lens
  - Ultra Green – AC or DC Operation
  - Immune to Traditional Camera Failures
- VIVDS - Single Or Dual Channel Cards
  - Optimized for Adaptive Control
    - Advanced Detection to 1000 ft.
    - Vehicle Counting
    - Stop Bar Detection
  - Ethernet
- Power Line Modem Option
  - Utilizes existing field wires – no coax/power cables to pull

Features Comparison of Various Detection Technologies

	Traditional VIVDS	Radar	FLIR
No Lens Cleaning		X	X
Minimizes/Eliminates Glare		X	X
Ethernet Video to TMC	X		
1000 ft Advanced Detection		X	
Price: 4 Way Intersection	$10K-$20K	$20K	$20K

ITS Plus Combines the Best Features of Radar, FLIR and Video at the Best Price

	Traditional VIVDS	Radar	FLIR	ITS Plus VIVDS
"Never Clean" Lens		X	X	X
Minimizes/Eliminates Glare		X	X	X
Ethernet Video to TMC	X			X
1000 ft Advanced Detection		X		X
Price: 4 Way Intersection	$10K-$20K	$20K	$20K	$6K

- Maintenance
  - Lenses require cleaning
  - Cameras can become misaligned due to wind
  - Mechanical zoom/focus can shift due to vibration
- Reliability
  - Typical field failures include:
    - Connectors
    - Power supplies
    - Water Leak
- Advanced Detection/Vehicle Counting are Limited
- Pulling Coax/Power Cables Thru Old Conduits
  - Sometimes impossible

- ## Ease of Installation
  - Light Weight – 2 lbs.
  - Up to Two Cameras "Slide" on to a Single Astro Bracket
    - No bolts to align – only require a #2 Phillips screw driver
  - No specialized/Sole Source Connectors
    - Two stripped power wires and a coax with BNC
  - Low Density Material Case Stays Cool in the Summer
  - Camera Alignment Takes About 10 Seconds
  - Smaller bundle of wires to pull
  - Interoperability with Improved performance

- ## Ultra Low Maintenance
  - "Never Clean" Lens
    - Small Aperture
    - Wrapped Visor
    - Low Density Material Lens Cover (non glass)
      - No Heater Required
    - Electronics
  - Camera Gimbal is located <u>Inside</u>, not <u>Outside</u>
  - Single Lens Solution
    - Clearer Image Quality

- Reliability
  - Case
    - NEMA 4 enclosure
      - Connectors enter from the bottom
      - Strain reliefs
      - Low Density case material keeps semiconductors cooler
  - Semiconductors
    - Ambient Temperatures 50F lower
    - Sub 1W power consumption
    - Power Supply Over Spec'd by 5x
    - Reduced number of components
      - Fewer components, over spec'd at low power and lower temperature has an <u>exponential</u> effect on MTBF
  - Water Leakage Eliminated
    - No temperature/pressure issues as in traditional sealed cameras

MTBF/Reliability

	ITSP	**Traditional Cameras**
Ambient Temperature	120F	170F
Power	0.8W	10W – 20W
# of Parts/Complexity	Low	High
Semi's Over Spec'ed	Idling at 20%	80% - 100%

LEFT TURN
YIELD
ON GREEN

Camera/VIVDS/PLM Roadmap

Product Release	Original	6/1/2014	2/1/2015	9/1/2015
PLM Hardware/Performance	200 Mbits = 600 ft.	200/500 Mbits = 600 ft.	CMOS IP Cam	CMOS+PLM+VIVDS
PLM Software	MJPEG = 10 FPS	MJPEG = 10 FPS	H264 = 30 FPS	H264 = 30 FPS
Video Output	NTSC	NTSC	Digital Zoom	Digital Zoom
Transmitter Power Consumption	30W Peak, 14.4W Avg	8.8W	3W	3W
Receiver Power Consumption	17W	10W	2.5W	2.5W (- 7W VIVDS)

CCD
Camera

PLM
Transmitter

PLM
Receiver

VIVDS
DSP

VIVDS

Analog

Digital

A/D

D/A

A/D

D/A

CMOS
Camera

PLM
Transmitter

PLM
Receiver

VIVDS
DSP

VIVDS

Analog

Digital

Internal Product Costs

Product Release	Original	6/1/2014	2/1/2015	9/1/2015
PLM Hardware/Performance	200 Mbits = 600 ft.	200/500 Mbits = 900 ft.	CMOS IP Cam	CMOS+PLM+VIVDS
PLM Software	MJPEG = 10 FPS	MJPEG=10 FPS	H264 = 30 FPS	H264 = 30 FPS
Video Output	NTSC	NTSC	Digital Zoom	Digital Zoom
Transmitter Power Consumption	30W Peak, 14.4W Avg	8.8W	3W	3W
Receiver Power Consumption	17W	10W	2.5W	2.5W (- 7W VIVDS)
4 Channels	Hardware/Assy Costs	Hardware/Assy Costs	Hardware/Assy Costs	Hardware/Assy Costs
Cameras + PLM + VIVDS	$1.00	$0.76	$0.58	$0.24

- We make a lot of claims.

  – Prove it to yourself.

- What is our biggest problem?

  – It is not <u>Technology</u>, it is <u>Psychology</u>.

- So answer the following question

  – Wow that really sounds great, but…..

Our <u>corporate name</u> is:
ITS Plus, Inc.

Our <u>logo</u> is:
ITS Plus³
Safety • Sensors • Solutions

Our <u>website</u> is:
www.itsplus3.com

Thank you !