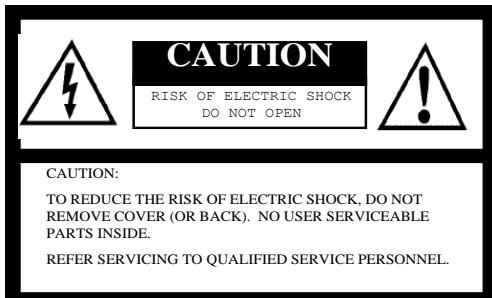




STC-AF134DV
Product Specification

**16:9 Format 1.3 MegaPixel
18x Zoom Auto Focus Camera**

Safety Precautions



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For U.S.A.

Warning:

This equipment generates and uses radio frequency energy and if not installed and used properly, I.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

For Canada

Warning:

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Product Precautions

- Handle the camera with care. Do not abuse the camera. Avoid striking or shaking it. Improper handling or storage could damage the camera.
- Do not pull or damage the camera cable.
- During camera use, do not wrap the unit in any material. This will cause the internal temperature of the unit to increase.
- Do not expose the camera to moisture, or do not try to operate it in wet areas.
- Do not operate the camera beyond its temperature, humidity and power source ratings.
- While the camera is not being used, keep the lens or lens cap on the camera to prevent dust or contamination from getting in the CCD or filter area and scratching or damaging this area.
- Do not keep the camera under the following conditions:
 - In wet, moist, and high humidity areas
 - Under hot direct sunlight
 - In high temperature areas
 - Near an object that releases a strong magnetic or electric field
 - Areas with strong vibrations
- Use a soft cloth to clean the camera. Use pressured air spray to clean the surface of the glass. DO not scratch the surface of the glass.

Copyright & Disclaimer

Sensor Technologies America, Inc. (DBA Sentech America) believes the contents and specifications of its website, catalog, documentation and ads are correct; however, Sentech America provides no representation or warranty regarding such information or product(s) contained therein. It is requested that Sentech America be given appropriate acknowledgement in any subsequent use of such work by a third party.

While every effort has been made to ensure that the details contained in Sentech America's website and all documentation are correct and up-to-date, Sentech America assumes no liability, legal or otherwise for any errors in listings, specifications, part numbers, process, software or model applications. Sentech America reserves the right to change specifications, product descriptions, product quality, pricing and application at any time without prior written or oral notice. Any party using such information assumes all risk for any and all damage caused to themselves, a third party and/or property by virtue of incorrect information and/or failure of these products. By installing and/or using a Sentech America software development kit or other similar product and/or information obtained from Sentech America's website, catalog, documentation or ads, you hereby accept and understand these stated terms and conditions.

Content

I. Specifications.....	5-10
A. Electronic Specifications / Mechanical Specifications / Environmental Specifications	5
B. Connector Specifications	6
1. Mechanical Drawings.....	6
2. Connector-A: Video Output (DVI)	6
3. Connector-B: Video Output (DVI, CN207).....	7
4. Connector-C: Video Output (LVDS, CN204)	7
5. Connector-D: HD/VD signal output (CN206).....	8
6. Connector-E (CN303): Power Input	8
7. Connector-F (CN305): External Switch Connection.....	9
8. Connector-G (CN304): UART Communication	9
C. Output timing.....	10
II. Camera Operations	11-16
A. ALC Operations	11
B. Shutter Settings.....	11
C. External Switch Assignable Functions.....	12
D. User Configurable Functions.....	13-16
III. Dimensions	17

I. Specifications

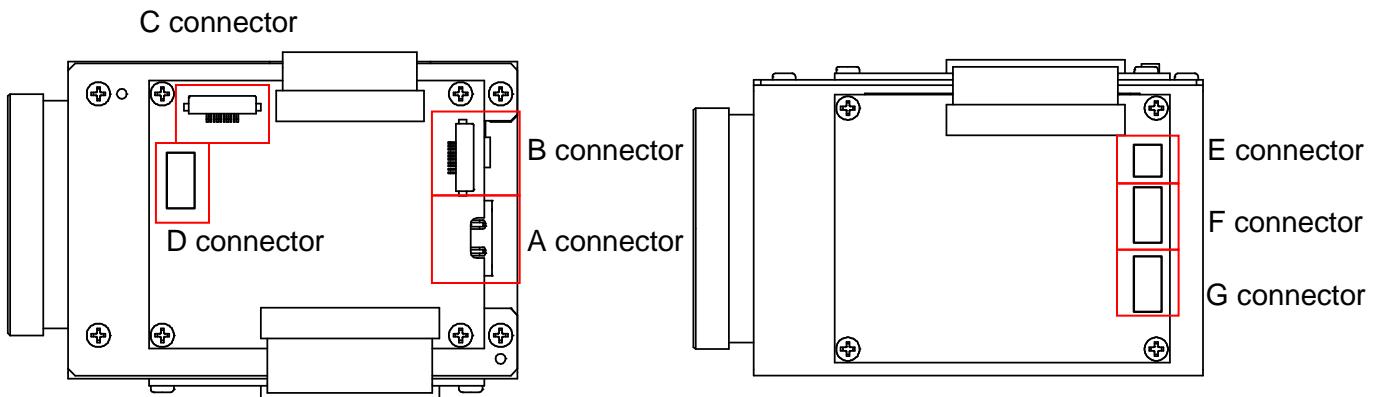
A. Electronic Specifications / Mechanical Specifications / Environmental Specifications

Product		STC-AF134DV
Electronic Specifications	Imager	1/4" SXGA CMOS: IMX076 (SONY)
	Effective Picture Elements	1392 (H) x 1076 (V)
	Active Picture Elements	1280 (H) x 720 (V)
	Chip Size	6.05 (H) x 5.4 (V) mm
	Cell Size	2.8 (H) x 2.8 (V) μ m
	Minimum Scene Illumination	13.0 Lux at F1.6 (at zoom out position) at 50% IRE, AGC ON and 1/60 seconds shutter speed with IR cut filter
	Sync System	Internal
	Video Output	DVI 1.0 Conformity RGB, 1280 (H) x 720 (V), 60 Hz / 50 Hz
	Camera Functions	Can be configured via the UART communication With optical iris, auto electronic shutter and AGC
		Adjustable shutter speed via the UART communication
Mechanical Specifications	Shutter Speed	Extended Available up to 0.5 seconds High Speed Up to 1/100,000 seconds at 60 Hz or up to 1/83,333 seconds at 50Hz
	Gain	AGC 0 to 24 dB Fixed Gain 0 to 24 dB
	Digital Gain	Up to 12.0242 dB
	Gamma	1.0, 0.9, 0.8, 0.7, 0.6, 0.5, 0.45, 0.3 or manual gamma Selectable gamma via the UART communication
	White Balance	Auto white balance / manual white balance / push-to-set white balance White balance selectable via the UART communication
	Mirror Image	Horizontal and vertical flip are selectable via UART communication
	Picture Modes	3 picture modes: Picture, Bright and Pseudo Color (includes 30 pseudo colors) Picture mode selectable via the UART communication
	Line Generator	Both horizontal and vertical with all available colors Thickness adjustable via the UART communication
	Shadow Mask Generator	Horizontal and vertical w/ shading level adjustment via the UART communication
	Motion Detection	ON/OFF selectable via the UART communication
	Digital Zoom	x1 to x 128 digital zoom Digital pan and tilt is available on still images
	Freeze Image	Live or freeze image is selectable via UART communication Digital pan and tilt is available on still images
	Communication	UART communication via C304 (S4B-ZR-SM4A, JST) connector
	Character Generator	Built-in character generation function via the UART communication
Environmental Specifications	Lens Control Functions	Optical Zoom Manual zoom position control via UART communication Focus Auto focus / manual focus / push set focus Iris Auto iris / manual iris / push-set iris Selectable iris control mode via the UART communication
	Power	Input Voltage 8Vdc to 15Vdc (Typically: 12Vdc) Consumption < 4.5 W
	Dimensions	55.5 (W) x 48.5 (H) x 76 (D) mm
	Auto Focus Lens	11x auto focus zoom lens (Tamron) Optical zoom range: from 5.2 mm to 58.8 mm Aperture: F1.6 at f = 5.2 mm to F3.0 at f = 58.8 mm
	Close-up Lens	Does not include close-up lens
Interface Connector	Optical Filter	IR cut filter ON; IR cut filter ON/OFF selectable via the UART communication
	Video Output (DVI)	Mini-HDMI connector / CN207, SSL00-10L3 (KEL)
	Power Input (LVDS)	CN204, SSL00-10L3 (KEL)
	HD/VD signal output	CN206, SM05B-SRSS (JST)
	Power input	CN303, S2B-ZR-SM4A (JST)
	External Control	CN305, SM06B-SRSS (JST) 6-pin connector header for connectivity of up to nine external switches
	Communication	CN304, S4B-ZR-SM4A (JST)
	Weight	Approximately 150 g
RoHS	Temperature	0 to 45°C
	Storage	-30 to 65°C
		RoHS Compliant

B. Connector Specifications

1. Mechanical Drawings

The camera is equipped with the following four connectors (Connector-A through G).



2. Connector-A: Video Output (DVI)

The connector type: Mini-HDMI Connector

Pin Assignment:

No.	Signal Type
1	TMDS Data2 Shield
2	TMDS Data2+
3	TMDS Data2-
4	TMDS Data1 Shield
5	TMDS Data1+
6	TMDS Data1-
7	TMDS Data0 Shield
8	TMDS Data0+
9	TMDS Data0-
10	TMDS CLK Shield
11	TMDS CLK+
12	TMDS CLK-
13	DDC/CEC Ground
14	CEC
15	SCL
16	SDA
17	Reserved
18	+5V Power
19	Hot Plug Detect

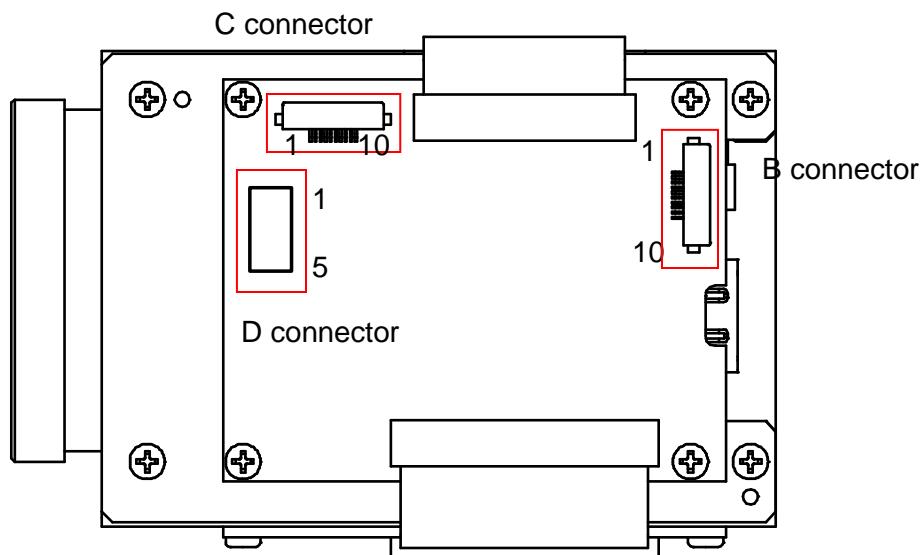
The cable requirements:

The camera connects to the HDMI port on the monitor:

1. Mini-HDMI – HDMI cable
2. HDMI cable with the Mini-HDMI to HDMI adaptor

The camera connects to the DVI port on the monitor:

1. Mini-HDMI – HDMI cable with a HDMI to DVI adaptor
2. HDMI cable with a Mini-HDMI to HDMI adaptor and a HDMI to DVI adaptor



3. Connector-B: Video output (DVI, CN207)

The connector type: SSL00-10L3 (KEL)

Pin Assignment:

No.	Signal types
1	TMDS_TxOUT2+
2	TMDS_TxOUT2-
3	TMDS_TxOUT1+
4	TMDS_TxOUT1-
5	TMDS_TxOUT0+
6	TMDS_TxOUT0-
7	TMDS_TxCLK+
8	TMDS_TxCLK-
9	N.C.
10	+5V

4. Connector-C: Video output (LVDS, CN204)

The connector type: SSL00-10L3 (KEL)

Pin Assignment:

No.	Signal types
1	LVDS_TxOUT0-
2	LVDS_TxOUT0+
3	LVDS_TxOUT1-
4	LVDS_TxOUT1+
5	LVDS_TxOUT2-
6	LVDS_TxOUT2+
7	LVDS_TxCLK-
8	LVDS_TxCLK+
9	LVDS_TxOUT3-
10	LVDS_TxOUT3+

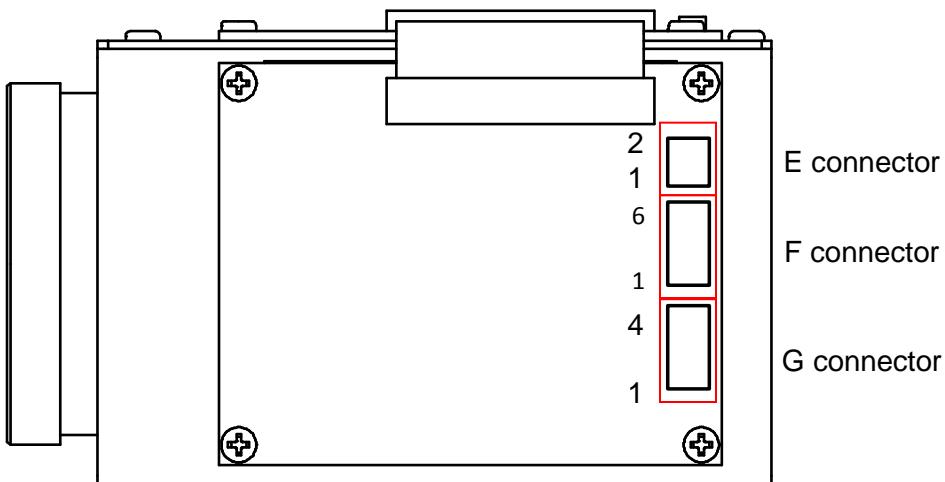
5. Connector-D: HD/VD signal output (CN206)

The connector type: SM05B-SRSS (JST)

Note: Mating connector housing: ZHR-05 manufactured by JST

Pin Assignment:

No.	Signal Type	Voltage
1	TBD	
2	TBD	
3	TBD	
4	TBD	
5	GND	



6. Connector-E (CN303): Power input

The connector type: S2B-Zr-SM4A (Right angle connector, JST)

Note: Mating connector housing: ZHR-02 manufactured by JST

Pin Assignment

No.	Signal types
1	Power In
2	GND

7. Connector F (CN305): External switch connection

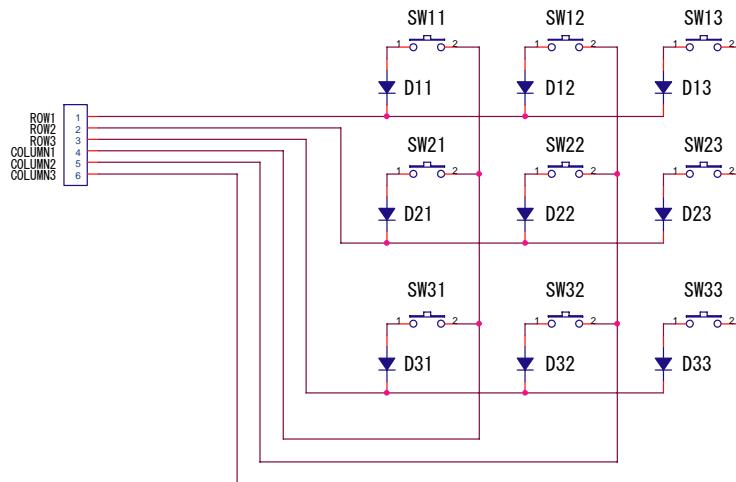
The connector type: SM06B-SRSS (right angle connector, JST)

Note: Mating connector housing: SHR-06 manufactured by JST

Pin Assignment

No.	Signal types
1	ROW1
2	ROW2
3	ROW3
4	COLUMN1
5	COLUMN2
6	COLUMN3

According to the diagram below, a total of 9 switches can be connected to connector CN305. The switches are arranged as row/column matrix and this enables the user to connect 9 switches on 6 conductors.



8. Connector G (CN304): UART communication

The connector type: S4B-ZR-SM4A (Right angle connector, JST)

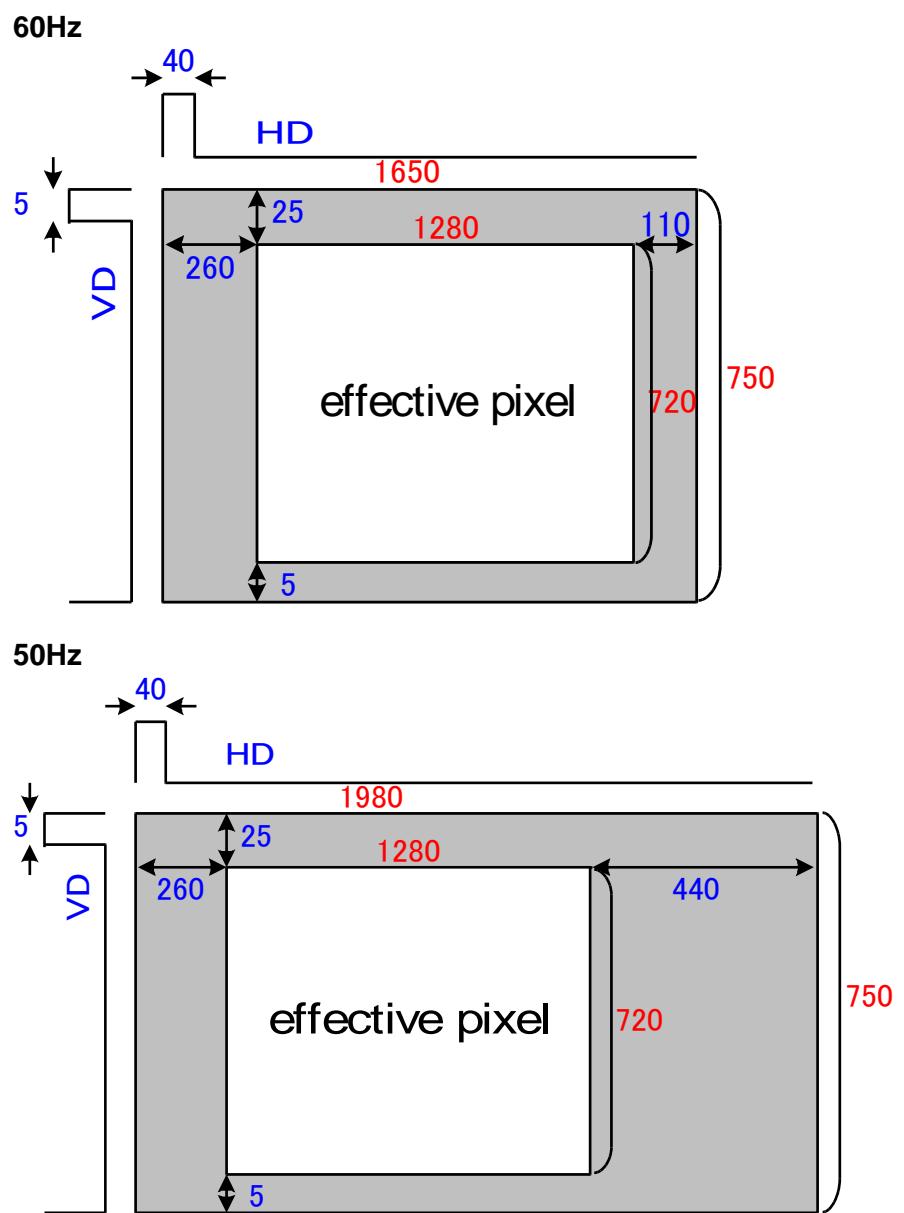
Note: Mating connector housing: ZHR-04 manufactured by JST

Pin Assignment

No.	Signal types	Voltage
1	+3.3V Out	3.3V
2	TX	3.3V
3	GND	
4	RX	3.3V

C. Output Signal Timing

		720P	720P
		60Hz	50Hz
Parameter	Unit		
H-Resolution	Pixels	1280	1280
V-Resolution	Lines	720	720
H Frequency	kHz	45.00	37.50
V Frequency	Hz	60.00	50.00
Scan Type	-	NI	NI
Pixel Frequency	MHz	74.25	74.25
Pixel Time	nsec	13.5	13.5
Line time	usec	22.2	26.7
Frame Time	msec	16.7	20.0
H Addressable	Pixels	1280	1280
H Front Porch	Pixels	110	440
H Sync	Pixels	40	40
H Back Porch	Pixels	220	220
H Total	Pixels	1650	1980
V Addressable	Lines	720	720
V Front Porch	Lines	5	5
V Sync	Lines	5	5
V Back Porch	Lines	20	20
V Total	Lines	750	750
H Addressable	usec	17.239	17.239
H Front Porch	usec	1.485	5.926
H Sync	usec	0.539	0.539
H Back Porch	usec	2.963	2.963
V Addressable	msec	16.000	19.200
V Front Porch	msec	0.111	0.133
V Sync	msec	0.111	0.133
V Back Porch	msec	0.444	0.533



Note: These timings are the output signal timing before converting to the DVI signal.

II. Camera Operations

A. ALC Operations

ALC (Automatic Light Compensation) is configured by the user by enabling or disabling the optical iris, auto electronic shutter and/or the AGC (Automatic Gain Control). The camera provides flexible priority settings as described below. The setting parameters in the table are defined in the protocol document and the Sentech control software.

Scene Illumination	Electronic Shutter Parameters	Optical Iris Parameters	AGC Parameters	
Bright	AEE minimum exposure time	Auto minimum open ratio	AGC Minimum Gain	
	Change			
	AEE middle exposure time (minimum side)	Change		
	Change			
	AEE middle exposure time (maximum side)	Auto maximum open ratio		
	Change			
	AEE maximum exposure time			
Dark			AGC Middle Gain	
			Change	
			AGC Maximum Gain	

B. Shutter Settings

The camera offers both high-speed shutter and extended shutter settings as described below:

720P – 60Hz Operations:

Value	High speed shutter	Value	Extended shutter
0	16.7ms	1/60s	-64
375	8.3ms	1/120.1s	-128
562	4.2ms	1/239.7s	-192
656	2.1ms	1/480.3s	-256
703	1.0ms	1/963.6s	-320
726	526.7us	1/1,898.7s	-384
738	260.0us	1/3,846.2s	-448
744	126.7us	1/7,894.7s	-512
749	15.6us	1/64,283.9s	-576
			-640
			17.1s
			256/15s

The extended shutter can be set up to 17.1 seconds. Therefore, when it is set to be more than 0.5 seconds, noise will appear on the image. Please check the image when the extended shutter is set greater than 0.5 seconds.

720P – 50Hz Operations:

Value	High speed shutter	Value	Extended shutter
0	20.0ms	1/50s	-64
375	10.0ms	1/100.1s	-128
562	5.01ms	1/199.8s	-192
656	2.50ms	1/400.2s	-256
703	1.25ms	1/803.0s	-320
726	625.0us	1/1,582.3s	-384
738	312.0us	1/3,205.1s	-448
744	152.0us	1/6,578.9s	-512
749	18.67us	1/53,570.5s	-576
			-640
			20.5s
			512/25s

The extended shutter can be set up to 20.5 seconds. Therefore, when it is set to be more than 0.5 seconds, noise will appear on the image. Please check the image when the extended shutter is set greater than 0.5 seconds.

C. External Switch Assignable Functions

The external control switches (up to nine switches) can be connected on the CN305 connectors. The functions below can be assigned on each switch independently and this enables the external switch controls without UART communication.

	Function	Function	
1	Display Menu	34	Horizontal line maker size (+)
2	Zoom (TELE)	35	Horizontal line maker size (-)
3	Zoom (WIDE)	36	Horizontal line maker position (+)
4	Focus (NEAR)	37	Horizontal line maker position (-)
5	Focus (FAR)	38	Vertical line maker color (+)
6	Push to set focus	39	Vertical line maker color (-)
7	Auto focus OFF	40	Vertical line maker size (+)
8	Auto focus ON	41	Vertical line maker size (-)
9	Push to set iris	42	Vertical line maker position (+)
10	Auto iris OFF	43	Vertical line maker position (-)
11	Auto iris ON	44	Mirror OFF
12	Iris (Open)	45	Horizontal mirror
13	Iris (Close)	46	Upside down
14	Picture mode (+)	47	Rotation 180 degree
15	Picture mode(-)	48	Still image OFF
16	Contrast (+)	49	Still image ON
17	Contrast (-)	50	Manual white balance
18	Shadow mask shading level (+)	51	Auto white balance
19	Shadow mask shading level (-)	52	Push to set white balance
20	Shadow mask top (+)	53	Auto focus OFF/ON
21	Shadow mask top (-)	54	Auto iris OFF/ON
22	Shadow mask bottom (+)	55	Mirror OFF / Horizontal mirror
23	Shadow mask bottom (-)	56	Mirror OFF / Upside down
24	Shadow mask top / bottom (+)	57	Mirror OFF / Rotation 180 degree
25	Shadow mask top / bottom (-)	58	Horizontal mirror / Upside down
26	Shadow mask left (+)	59	Horizontal mirror / Rotation 180 degree
27	Shadow mask left (-)	60	Upside down / Rotation 180 degree
28	Shadow mask right (+)	61	Still image OFF / ON
29	Shadow mask right (-)	62	Manual white balance / Auto white balance
30	Shadow mask left / right (+)		
31	Shadow mask left / right (-)		
32	Horizontal line maker color (+)		
33	Horizontal line maker color (-)		

D. User Configurable Functions

The functions in the table below are available through the UART communication for users. The communication is done through the CN304 connector.

	Function
Zoom	Master zoom control
	Optical zoom out limiter
	Optical zoom in limiter
	Digital zoom link
	Fixed digital zoom
	Digital zoom tilt
	Digital zoom pan
	Digital zoom start position
	Digital zoom end position
	Minimum digital zoom
	Maximum digital zoom
	Digital zoom speed
Focus	Focus mode
	Push to set focus
	Focus distance
	Motion detection
Iris	Iris mode
	Push to set iris
	Iris open ratio
	Auto iris Min. open ratio
	Auto iris Max. open ratio
	Auto iris tolerance
	Auto iris threshold
	Auto iris step (MUL)
	Auto iris step (DIV)
	Auto iris max. step
Push button	Push button
	Push button initial function SW11
	Push button initial function SW12
	Push button initial function SW13
	Push button initial function SW21
	Push button initial function SW22
	Push button initial function SW23
	Push button initial function SW31
	Push button initial function SW32
	Push button initial function SW33
	Push button polarity SW11
	Push button polarity SW12
	Push button polarity SW13
	Push button polarity SW21
	Push button polarity SW22
	Push button polarity SW23
	Push button polarity SW31
	Push button polarity SW32
	Push button polarity SW33
	Min number of color modes
	Max number of color modes
	Contrast Min. limiter
	Contrast Max. limiter
	Shadow mask Min. shading level
	Shadow mask Max. shading level
	Marker horizontal Min. position
	Marker horizontal Max. position
	Marker horizontal Min. size
	Marker horizontal Max. size
	Marker vertical Min. position
	Marker vertical Max. position
	Marker vertical Min. size
	Marker vertical Max. size
Color mode	Picture mode
	Pseudo00 back color
	Pseudo00 front color
	Pseudo01 back color
	Pseudo01 front color
	Pseudo02 back color
	Pseudo02 front color
	Pseudo03 back color
	Pseudo03 front color
	Pseudo04 back color
	Pseudo04 front color
	Pseudo05 back color
	Pseudo05 front color
	Pseudo06 back color
	Pseudo06 front color
	Pseudo07 back color
	Pseudo07 front color
	Pseudo08 back color
	Pseudo08 front color
	Pseudo09 back color
	Pseudo09 front color
	Pseudo10 back color
	Pseudo10 front color
	Pseudo11 back color
	Pseudo11 front color
	Pseudo12 back color
	Pseudo12 front color
	Pseudo13 back color
	Pseudo13 front color
	Pseudo14 back color
	Pseudo14 front color
	Pseudo15 back color
	Pseudo15 front color
	Pseudo16 back color
	Pseudo16 front color
	Pseudo17 back color
	Pseudo17 front color
	Pseudo18 back color
	Pseudo18 front color
	Pseudo19 back color
	Pseudo19 front color
	Pseudo20 back color
	Pseudo20 front color
	Pseudo21 back color
	Pseudo21 front color
	Pseudo22 back color
	Pseudo22 front color
	Pseudo23 back color
	Pseudo23 front color
	Pseudo24 back color
	Pseudo24 front color
	Pseudo25 back color
	Pseudo25 front color
	Pseudo26 back color
	Pseudo26 front color
	Pseudo27 back color
	Pseudo27 front color
	Pseudo28 back color
	Pseudo28 front color
	Pseudo29 back color
	Pseudo29 front color
	Pesudo color threshold
	Pesudo color slope

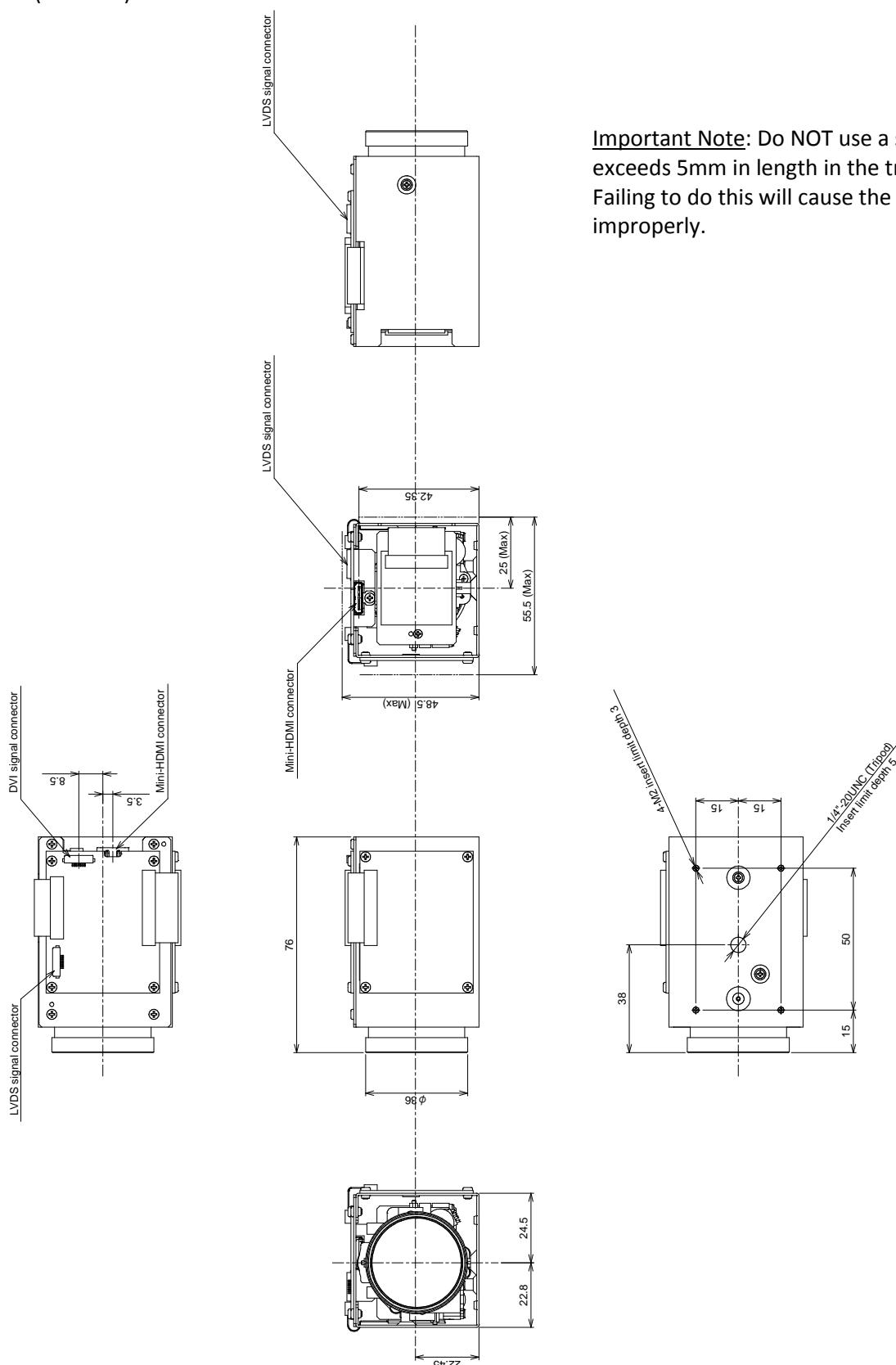
	Function
Shadow mask	Shadow mask shading level
	Horizontal shadow mask top position
	Horizontal shadow mask bottom position
	Vertical shadow mask left position
	Vertical shadow mask right position
Line marker	Horizontal line marker color
	Horizontal line marker position
	Horizontal line marker thickness
	Vertical line marker color
	Vertical line marker position
	Vertical line marker thickness
User color	User defined color 0 R
	User defined color 0 G
	User defined color 0 B
	User defined color 1 R
	User defined color 1 G
	User defined color 1 B
	User defined color 2 R
	User defined color 2 G
	User defined color 2 B
	User defined color 3 R
	User defined color 3 G
	User defined color 3 B
	User defined color 4 R
	User defined color 4 G
	User defined color 4 B
	User defined color 5 R
	User defined color 5 G
	User defined color 5 B
	User defined color 6 R
	User defined color 6 G
	User defined color 6 B
	User defined color 7 R
	User defined color 7 G
	User defined color 7 B
UART	UART baud rate
	UART short reply for write
	UART check sum

	Function
Blemish pixel	Blemish pixel correction
	Display blemish pixel correction
	White blemish pixel threshold
	Black blemish pixel threshold
	Blemish pixel 00 horizontal position
	Blemish pixel 00 vertical position
	Blemish pixel 01 horizontal position
	Blemish pixel 01 vertical position
	Blemish pixel 02 horizontal position
	Blemish pixel 02 vertical position
	Blemish pixel 03 horizontal position
	Blemish pixel 03 vertical position
	Blemish pixel 04 horizontal position
	Blemish pixel 04 vertical position
	Blemish pixel 05 horizontal position
	Blemish pixel 05 vertical position
	Blemish pixel 06 horizontal position
	Blemish pixel 06 vertical position
	Blemish pixel 07 horizontal position
	Blemish pixel 07 vertical position
	Blemish pixel 08 horizontal position
	Blemish pixel 08 vertical position
	Blemish pixel 09 horizontal position
	Blemish pixel 09 vertical position
	Blemish pixel 10 horizontal position
	Blemish pixel 10 vertical position
	Blemish pixel 11 horizontal position
	Blemish pixel 11 vertical position
	Blemish pixel 12 horizontal position
	Blemish pixel 12 vertical position
	Blemish pixel 13 horizontal position
	Blemish pixel 13 vertical position
	Blemish pixel 14 horizontal position
	Blemish pixel 14 vertical position
	Blemish pixel 15 horizontal position
	Blemish pixel 15 vertical position
	Blemish pixel 16 horizontal position
	Blemish pixel 16 vertical position
	Blemish pixel 17 horizontal position
	Blemish pixel 17 vertical position
	Blemish pixel 18 horizontal position
	Blemish pixel 18 vertical position
	Blemish pixel 19 horizontal position
	Blemish pixel 19 vertical position
	Blemish pixel 20 horizontal position
	Blemish pixel 20 vertical position
	Blemish pixel 21 horizontal position
	Blemish pixel 21 vertical position
	Blemish pixel 22 horizontal position
	Blemish pixel 22 vertical position
	Blemish pixel 23 horizontal position
	Blemish pixel 23 vertical position
	Blemish pixel 24 horizontal position
	Blemish pixel 24 vertical position
	Blemish pixel 25 horizontal position
	Blemish pixel 25 vertical position
	Blemish pixel 26 horizontal position
	Blemish pixel 26 vertical position
	Blemish pixel 27 horizontal position
	Blemish pixel 27 vertical position
	Blemish pixel 28 horizontal position
	Blemish pixel 28 vertical position
	Blemish pixel 29 horizontal position
	Blemish pixel 29 vertical position
	Blemish pixel 30 horizontal position
	Blemish pixel 30 vertical position

	Function
Blemish pixel	Blemish pixel 31 horizontal position Blemish pixel 31 vertical position Blemish pixel 32 horizontal position Blemish pixel 32 vertical position Blemish pixel 33 horizontal position Blemish pixel 33 vertical position Blemish pixel 34 horizontal position Blemish pixel 34 vertical position Blemish pixel 35 horizontal position Blemish pixel 35 vertical position Blemish pixel 36 horizontal position Blemish pixel 36 vertical position Blemish pixel 37 horizontal position Blemish pixel 37 vertical position Blemish pixel 38 horizontal position Blemish pixel 38 vertical position Blemish pixel 39 horizontal position Blemish pixel 39 vertical position Blemish pixel 40 horizontal position Blemish pixel 40 vertical position Blemish pixel 41 horizontal position Blemish pixel 41 vertical position Blemish pixel 42 horizontal position Blemish pixel 42 vertical position Blemish pixel 43 horizontal position Blemish pixel 43 vertical position Blemish pixel 44 horizontal position Blemish pixel 44 vertical position Blemish pixel 45 horizontal position Blemish pixel 45 vertical position Blemish pixel 46 horizontal position Blemish pixel 46 vertical position Blemish pixel 47 horizontal position Blemish pixel 47 vertical position Blemish pixel 48 horizontal position Blemish pixel 48 vertical position Blemish pixel 49 horizontal position Blemish pixel 49 vertical position Blemish pixel 50 horizontal position Blemish pixel 50 vertical position Blemish pixel 51 horizontal position Blemish pixel 51 vertical position Blemish pixel 52 horizontal position Blemish pixel 52 vertical position Blemish pixel 53 horizontal position Blemish pixel 53 vertical position Blemish pixel 54 horizontal position Blemish pixel 54 vertical position Blemish pixel 55 horizontal position Blemish pixel 55 vertical position Blemish pixel 56 horizontal position Blemish pixel 56 vertical position Blemish pixel 57 horizontal position Blemish pixel 57 vertical position Blemish pixel 58 horizontal position Blemish pixel 58 vertical position Blemish pixel 59 horizontal position Blemish pixel 59 vertical position Blemish pixel 60 horizontal position Blemish pixel 60 vertical position Blemish pixel 61 horizontal position Blemish pixel 61 vertical position Blemish pixel 62 horizontal position Blemish pixel 62 vertical position Blemish pixel 63 horizontal position Blemish pixel 63 vertical position
OSD	OSD character size OSD H position OSD V position
Still image	Still image
60 / 50 fps	60/50FPS
Test pattern	Test pattern (Gray scale)
ALC	ALC target level Edge ALC weight Center ALC weight ALC peak ALC average integration frames ALC single-frame quantity
Shutter	Exposure control Exposure time AEE minimum exposure time AEE middle exposure time (minimum side) AEE middle exposure time (maximum side) AEE maximum exposure time AEE tolerance AEE threshold AEE speed
Gain	Gain control Gain AGC minimum gain AGC middle gain AGC maximum gain AGC tolerance AGC threshold AGC speed Gain value for disabling motion detection Digital gain
White balance	White balance mode Push to set white balance White balance R gain White balance G gain White balance B gain Auto white balance tolerance Auto white balance threshold Auto white balance average integration frames Auto white balance singl-frame process quantity Auto white balance R change limit Auto white balance B change limit
Gamma	Gamma mode Preset gamma Manual gamma control point 0 Manual gamma control point 1 Manual gamma control point 2 Manual gamma control point 3 Manual gamma control point 4 Manual gamma control point 5 Manual gamma control point 6 Manual gamma control point 7 Manual gamma control point 8 Manual gamma control point 9
Color	Color correction matrix RR Color correction matrix RG Color correction matrix RB Color correction matrix GR Color correction matrix GG Color correction matrix GB Color correction matrix BR Color correction matrix BG Color correction matrix BB

	Function
YUV	B-Y gain
	B-Y hue
	R-Y gain
	R-Y hue
	High luminance chrome suppress threshold
High luminance chrome suppress	High luminance chrome suppress slope
Aperture	Front aperture control horizontal gain
	Front aperture control vertical gain
	Front aperture control coring
	Back aperture control horizontal gain
	Back aperture control vertical gain
Other	Back aperture control coring
	Horizontal flip
	Vertical flip
	Contrast
OSD command	RGB offset
Field table	

III. Dimensions (unit mm)



Important Note: Do NOT use a screw that exceeds 5mm in length in the tripod screw hole. Failing to do this will cause the camera to work improperly.

Revisions

Rev	Date	Changes	Note
0.01	2011/11/22	New document	

Sensor Technologies America, Inc.
1345 Valwood Pkwy, Suite 320
Carrollton, Texas 75006-6891
TEL (972) 481-9223 FAX (972) 481-9209
URL <http://www.sentechamerica.com/>

Sensor Technology Co., Ltd.
7F, Harada Center Building
9-17, Naka cho 4chome
Atsugi-city, Kanagawa
243-0018 Japan
TEL +81-46-295-7061 FAX +81-46-295-7066
URL <http://www.sentech.co.jp/>

Taiwan Sensor Technology, Inc.
3F-6, No. 9, Aiguo W, Rd., Jhong Jheng District
Taipei City 100, Taiwan, R.O.C.
TEL 886-2-2383-2331 FAX 886-2-2370-8775
EMAIL: sentech0501@yahoo.com.tw