

# Product Specifications

**DLP™ SXGA+ Display Engine**

 **70 Seventy Series:**

**Model: VS-PH70U**

Information in this document is subject to change without notice.

**Mitsubishi Electric Corporation  
Kyoto Works**

Date: February 03, 2011

## VS-PH70U Specifications

### (1) Features

#### Smart 7 Concept

Intelligence:	Advanced smart lamp
Flexibility:	Selectable input boards
Internal Processing:	Built-in processor
Auto-balancing:	Dynamic color balancing
Easy Set-up:	Auto-tune
Durability:	Advanced smart color wheel
Redundancy:	Smart switch

### (2) Image panel

Type	DLP™ technology (0.95" DLP™ 1 chip) DarkChip3™, BrilliantColor™
Resolution	1400 x 1050 pixels

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### (3) Electric specification

Power consumption (with 1 input board)	260W (typ.) @ Bright mode 240W (typ.) @ Normal mode
Thermal dissipation	223.6kcal/h (887BTU/h)
Voltage range	AC 100 – 240V +/-10% , 50/ 60Hz +/-1Hz
Operating current (100/240V)	3.0/1.5 Amp. 450VA max. (During the auto-lamp exchange)
Inrush current (100/240V)	30/60 Amp.
Lamp power	150W @ Bright mode 132W @ Normal mode
Lamp switching time	1.0sec.
Control signal input	RS-232C: D-Sub 9 pins
	LAN: RJ45 x1 (10BASE-T/100BASE-TX)
	D-Sub 9 pins x 2 (input, output) Mitsubishi original control link
	Wire remote: F3.5Jack
	IR Receiver
Input board slot	Input board slot for optional input board x 3
Input signal specification	Refer to (10) Optional input board specification
Overlay function	Up to 6 windows per each screen.

#### (4) Optical specification

	SXGA+ Mode	SXGA Mode
Light output (typ.) (Bright mode / Normal mode)	860ANSI Lumen / 760ANSI Lumen	770ANSI Lumen / 680ANSI Lumen
Diagonal image size	50" – 84"	50" – 78.7"
Throwing distance (Lens unit top - Screen)	50": 743.5 +/- 22.3mm 60": 899.4 +/- 27.0mm 67": 1008.6 +/- 30.3mm 84": 1273.6 +/- 38.2mm	50": 796.5 +/- 24.0mm 60": 962.9 +/- 28.9mm 67": 1079.5 +/- 32.4mm 78.7": 1274.2 +/- 38.2mm
Throw ratio (Exit pupil – Screen) / Screen width	0.770 (Nominal)	0.843 (Nominal)
Exit pupil – Lens unit top	40.3mm (Nominal)	
Contrast ratio	2400:1 (typ.)	
Brightness uniformity	95% at 90% image height (typ.)	
Geometry distortion	0.2% (typ.)	
Lateral color shift Red(610nm) – Green(546.1nm) Blue(470nm) – Green(546.1nm)	0.5pixel (typ.)	

#### (5) Mechanical specification (Refer to attached Fig.)

Dimensions	Width	720mm / 28.3"
	Height	388mm / 15.3"
	Depth	345mm / 13.6"
Weight	30kg / 66lbs	
Audio noise	42dBA (typ.) (at 1m distance from the engine unit)	
Packing dimensions	Width	910mm / 35.8"
	Height	500mm / 19.7"
	Depth	530mm / 20.9"
Packing Weight	36kg / 79lbs	
Accessories	User's manual Cube connection control cable	

### (6) Environment

Temperature and humidity Condition at operation	10°C – 35°C (50°F – 95°F), 20% – 80% non condensing
Temperature and humidity Condition at storage	-20°C – 50°C (-4°F – 122°F), 20% – 80% non condensing

### (7) Safety approval

Safety approval	UL60950-1, CSAC22.2No.60950-1, EN60950-1 K60950-1, AS60950-1, GB4943
EMC	FCC part15 Subpart B Class A ICES-003 Issue No.4 Class A EN55022 Class A, EN55024 EN61000-3-2, EN61000-3-3 K00022 Class A, K00024 AS/NZS CISPR 22 Class A GB9254 Class A, GB17625.1

### (8) Parts reliability (Average lifetime)

Color wheel	100,000hours
Cooling fan	100,000hours

### (9) Options

Remote control unit	R-XL50TX
Analog RGB input board	VC-B70G2
Digital RGB input board	VC-B70D2
Video input board	VC-B70V2
Daisy chain board	VC-B70DC
SDI input board	VC-B70SD1
Spare lamp unit	S-70LA
Spare color wheel unit	3 segments: S-703CW 4 segments: S-704CW
Power cord (North America)	JC-PC3MA
Power cord (Europe)	JC-PC3ME
Power cord (China)	JC-PC3MC
Motorized adjustment tool	S-A70E
Motor units for screen/mirror	S-MA70E

## (10) Optional input board specification

### Analog RGB input board: VC-B70G2

Signal input terminal (Analog RGB)		5BNC x1 HD Dsub15 x1
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Pixel clock rate		25MHz – 162MHz
Functions		Scaling: shrink and zoom. Frame rate conversion.

### Digital RGB input board: VC-B70D2

Signal input terminal (Digital RGB)		DVI-D (with HDCP) x2
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Pixel clock rate		25MHz – 162MHz
Signal format		TMDS
Functions		Scaling: shrink and zoom. Frame rate conversion.

### Video input board: VC-B70V2

Signal input terminal (Analog Video)		3BNC x2
Video input signals		NTSC, NTSC4.43 PAL, PAL-M, PAL-N, PAL-60, SECAM
Functions		Scaling: shrink and zoom. Frame rate conversion.

**Daisy chain board: VC-B70DC**

Signal input terminal		Analog RGB: HD Dsub15 x1 Digital RGB: DVI-D (with HDCP) x1 Analog Video: 3BNC x1
Signal output terminal		Digital RGB: DVI-D x1 (Daisy chain use only. Can not output HDCP signals.)
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Video input signals		NTSC, NTSC4.43 PAL, PAL-M, PAL-N, PAL-60, SECAM
Pixel clock rate		25MHz – 162MHz
Functions		Scaling: shrink and zoom. Frame rate conversion. Daisy chain function (Up to 16 cubes)

**SDI input board: VC-B70SD1**

Signal input terminal		BNC x 1
Signal output terminal		BNC x 1 (for through output)
Input signals		3G-SDI (SMPTE424M): 1080p@50/59.94/60Hz HD-SDI (SMPTE292M): 1080i@50/59.94/60Hz 720p@50/59.94/60Hz SD-SDI (SMPTE259M-C): 480i@59.94Hz, 576i@50Hz
Gen lock input		Terminal: BNC x 1 Format: NTSC/PAL Black burst
Functions		Scaling: shrink and zoom. Frame rate conversion. Through output: (Up to 16 cubes @ HD-SDI, SD-SDI Up to 9 cubes @ 3G-SDI)

## Supported signals list

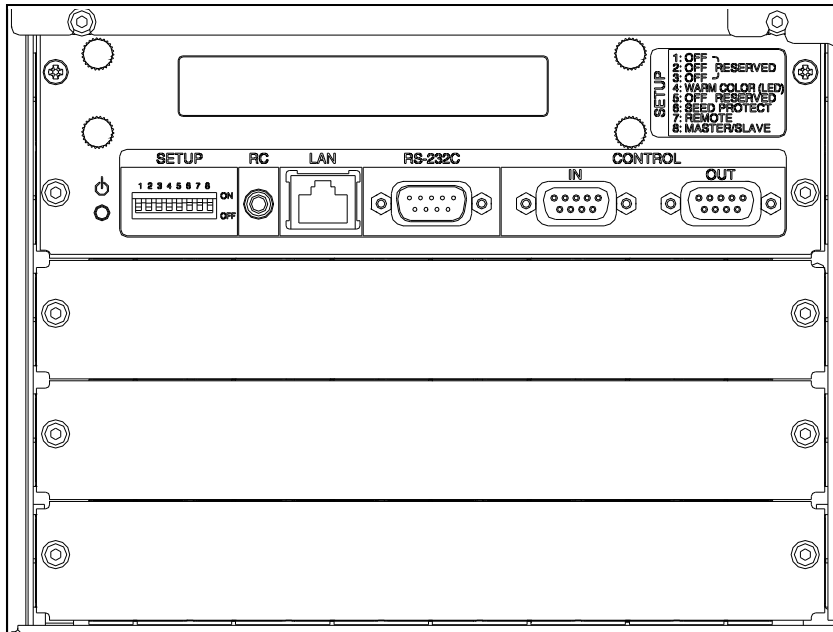
### RGB signals

Signal	Resolution	Line rate (KHz)	Frame rate (Hz)
VESA	640 x 350	37.9	85.1
	640 x 400	37.9	85.1
	640 x 480	31.5	59.9
	640 x 480	37.9	72.8
	640 x 480	37.5	75.0
	640 x 480	43.3	85.0
	720 x 400	37.9	85.0
	800 x 600	35.2	56.3
	800 x 600	37.9	60.3
	800 x 600	48.1	72.2
	800 x 600	46.9	75.0
	800 x 600	53.7	85.1
	848 x 480	31.0	60.0
	1024 x 768	48.4	60.0
	1024 x 768	56.5	70.1
	1024 x 768	60.0	75.0
	1024 x 768	68.7	85.0
	1152 x 864	67.5	75.0
	1280 x 720	45.0	60.0
	1280 x 768	47.8	59.9
	1280 x 800	49.7	59.8
	1280 x 960	60.0	60.0
	1280 x 1024	64.0	60.0
	1280 x 1024	80.0	75.0
	1280 x 1024	91.1	85.0
	1360 x 768	47.7	60.0
	1366 x 768	47.7	59.8
	1400 x 1050	64.7	59.9
	1400 x 1050	65.3	60.0
	1400 x 1050	82.3	74.9
	1440 x 900	55.9	59.9
	1600 x 1200	75.0	60.0
1680 x 1050	65.3	60.0	
1920 x 1080	67.5	60.0	
1920 x 1200	74.0	60.0	
PC	640 x 400	31.5	70.1
	640 x 400	37.9	84.1
	1152 x 864	63.9	70.0
	1152 x 864	77.5	85.1
	1280 x 960	75.0	75.0
	1280 x 1024	63.4	60.0
	1400 x 1050	64.0	60.0
Mac	640 x 480	35.0	66.7
	832 x 624	49.7	74.5
	1024 x 768	60.2	74.9
	1152 x 870	68.6	75.0
Unix	1280 x 1024	64.6	59.9
	1280 x 1024	75.1	71.2
	1280 x 1024	78.1	72.0
	1280 x 1024	81.1	76.1
HDTV	1280 x 720	37.5	50.0
	1280 x 720	45.0	59.9
	1920 x 1080	28.1	50.0
	1920 x 1080	33.7	59.9

Y/Cb/Cr ( Y/Pb/Pr ) signals

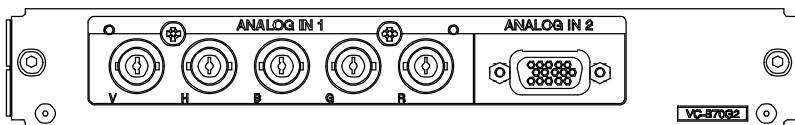
Signal	Resolution	Line rate (KHz)	Frame rate (Hz)
1125p/1080p	1920 x 1080	56.3	50.0
	1920 x 1080	67.4	59.9
1125i/1080i	1920 x 1080	28.1	50.0
	1920 x 1080	33.7	59.9
750p/720p	1280 x 720	37.5	50.0
	1280 x 720	45.0	59.9
625p/576p	720 x 576	31.3	50.0
525p/480p	720 x 480	31.5	59.9

**Terminal panel**

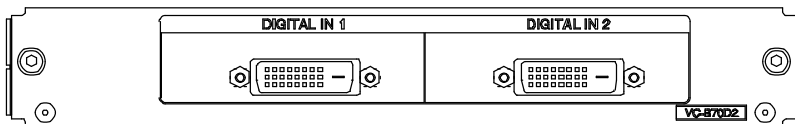


**Optional input board appearance**

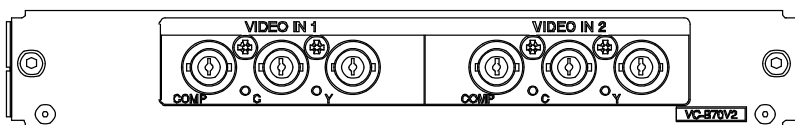
VC-B70G2



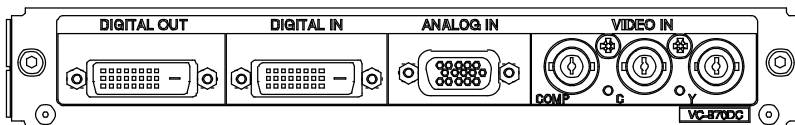
VC-B70D2



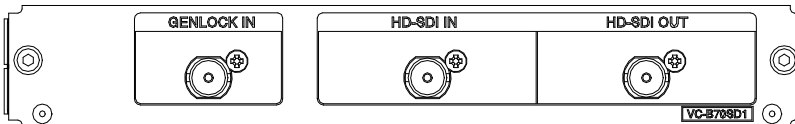
VC-B70V2



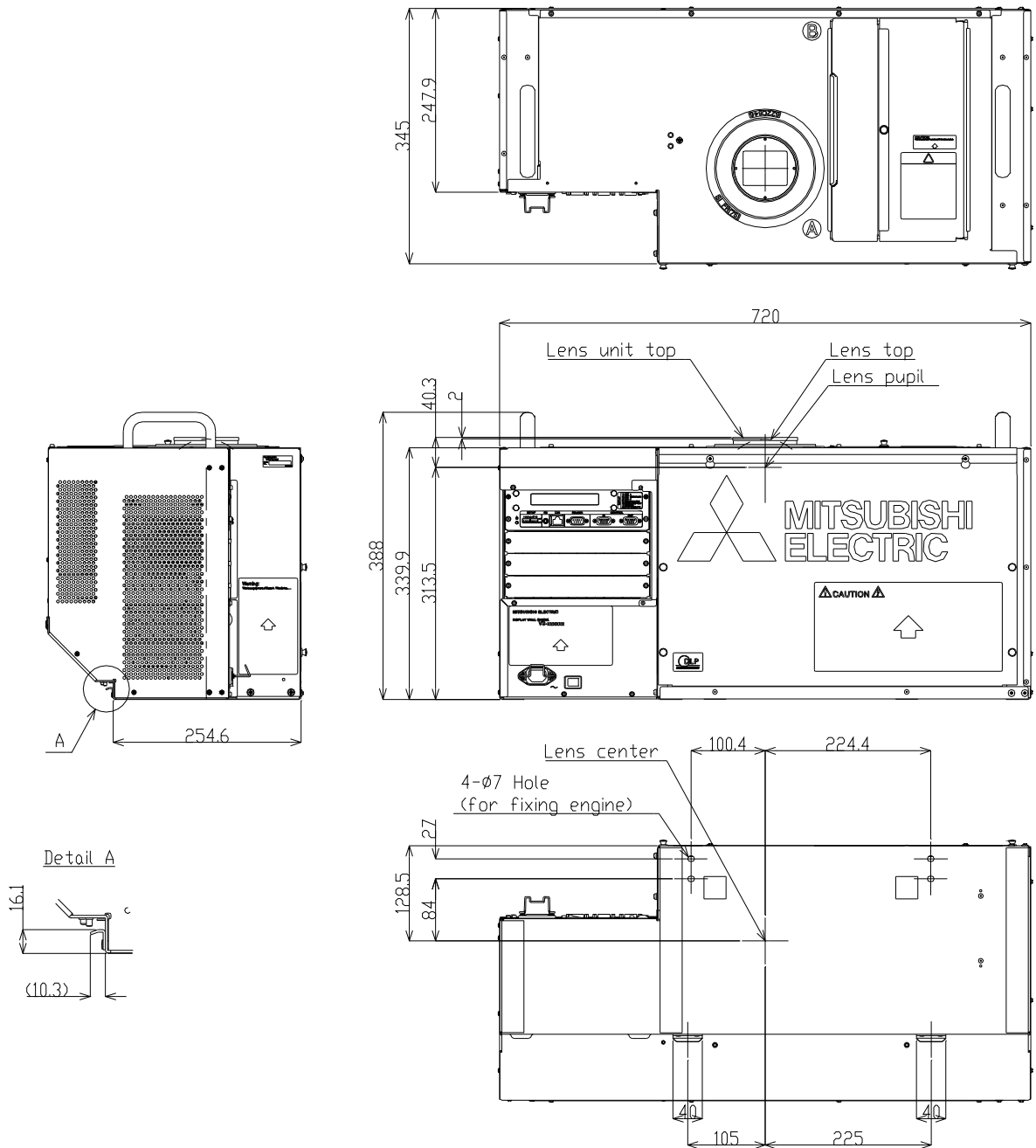
VC-B70DC



VC-B70SD1



**External dimensions**



## Packing specification

