CCD COLOR VIDEO CAMERA SPECIFICATIONS

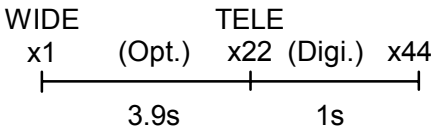
VK-S274 : NTSC (w/DSS)

A. GENERAL SPECIFICATIONS

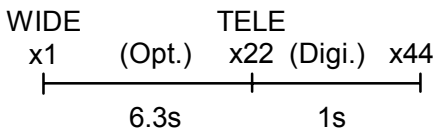
" * " mark: default mode

(1) Signal Format	NTSC	
(2) Scanning System	2 : 1 interlacing	
(3) Scanning Frequency	Horizontal	: 15.734 kHz
	Vertical	: 59.94 Hz
(4) Image Sensor	1/4 type solid state interline CCD	
	Effective Pixels: 768(H) x 494(V) 380k	
	Total Pixels	: 811(H) x 508(V) 410k
(5) Lens	F1.6~3.8, f=4~88mm, X22 Zoom, Video Auto Focus	
	Angle of View H : 47°(wide) , 2.2°(tele)	
	High Durability Zoom Lens	
a) Zoom Durability	More than 500k Cycles at room temperature (See Page 6.)	
b) Focus Durability	More than 500k Cycles at room temperature (See Page 6.)	
c) Iris Durability	More than 500k Cycles at room temperature (See Page 6.)	
(6) Focus Length	∞~1.0m(tele)~0.01m(wide)*	
(7) Signal Process	Digital Signal Processor DSP-5 system	
(8) Sync System	Internal* / External Sync (Line Lock: AC-Line Pulse Signal)	
(9) Camera Function	Control through RS-232C Signal	
a) Optical Zoom	TELE~WIDE* (Zoom Speed: 3.9s* / 6.3s)	
b) Digital Zoom	OFF* / ON (max. 12* times)	

[1] 3.9s Zoom Mode : AF



[2] 6.3s Zoom Mode : AF



c) Video Focus	Auto* / Man (NEAR~FAR)
d) White Balance	Auto* / Man (R Gain/B Gain, Level: UP~DOWN)

e) Shutter Speed — Auto: (Seamless) Pro AE (1/60~1/4k s) / Pro AE+* (1/2~1/4*~1/4k s)

Man: Shutter Priority (1/2~1/30k s)

f) Iris Control — Auto*: (Auto Iris Control Level: UP~DOWN)

Man: Exposure Priority (F1.6~F34)

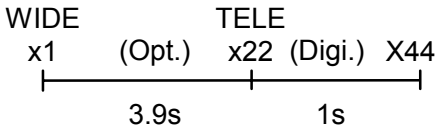
g) Gain Control — Auto*: (Maximum Auto Gain Control Level: UP~DOWN)

Man: AGC Priority (0dB~30dB)

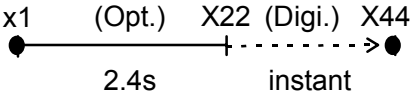
h) Position Preset

[1] Zoom Trace Preset Mode: MF, Trace

• in case of memory
(Ex. Memory Point: ●)

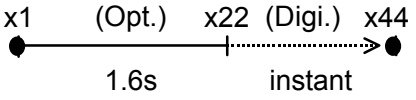


• in case of preset



[2] Preset Mode: MF, No-Trace

• in case of preset



(10) Video Output Level

Video level	0.714±0.07 V (100±10 IRE)
Sync level	0.286±0.035 V (40± 5 IRE)
Burst level	0.286±0.035 V (40± 5 IRE)

(11) Color Reproduction

	Red	Yellow	Cyan	Burst
Phase	108±20°	155±20°	280±20°	180° (Base)
Level	240±25%	130±35%	190±35%	100% (Base)

(12) Horizontal Resolution — More than 470 TVL

(13) Luminance S/N — More than 50 dB

(14) Sensitivity — 1 lx (typ.) [Pro-AE :1/60s , F1.6(wide) , AGC-Gain:27 dB*]

0.06 lx (typ.) [Pro-AE+:1/4s* , F1.6(wide) , AGC-Gain:27 dB*]

…at signal level : 40 IRE

(15) Supplied Voltage	9.0 V±0.5 V (See Page 7 for restrictions)
(16) Supplied Current	280 mA (steady-state)
	380 mA (max.) …under the zooming and focusing operation
(17) Power Consumption	3.3 W (max.)
(18) Dimensions	50(W) x 60(H) x 89.5(D) mm (excluding connector)
(19) Weight	225 g (approx.)
(20) Appearance/Dimensions	See file: **Out_S274.pdf**
(21) Body Color	Black
(22) Packing Ass'ys	See file: **Pac_S274.pdf**
(23) Labeling	See file: **Lab_S274.pdf**
(24) Optional Accessories	704CNCT118B (118mm length flat-flex cable)
	704CNCT200B (200mm length flat-flex cable)

B. MEASUREMENT SPECIFICATIONS

• Standard measurement condition and measurement procedure
See file: **Ms_S274.doc**

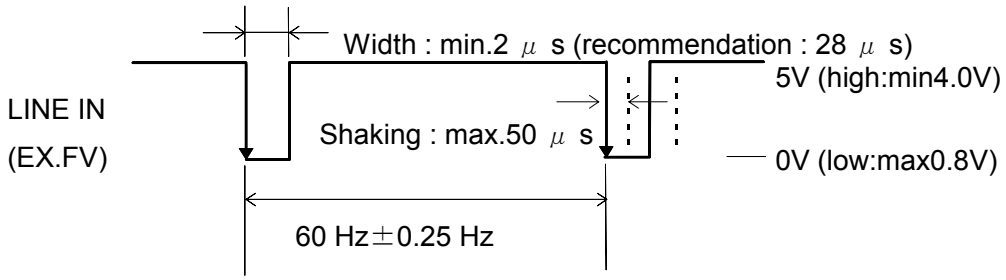
C. EXTERNAL CONTROL SPECIFICATIONS

• External control using RS-232C (command list)
See file: **com_274_e_vxx.doc**

D. INTERFACE

• 9pin-FPC (ELCO : PG-FPC9SM-T) Connecting Condition

Pin No.	Name	I/O	Level
1	RD (for RS-232C)	input	CMOS 5V (low: max 0.8V , high: min 2.0V)
2	SD (for RS-232C)	output	CMOS 5V (low: max 0.1V , high: min 4.4V)
3	GND (for RD&SD)		
4	DC IN	input	9.0 V±0.5 V
5	GND (for power)		
6	VIDEO OUT	output	1.0 V±0.2 V
7	GND (for video)		
8	LINE IN	input	External V-sync (EX.FV : Negative , 5Vp-p)
9	GND (for line)		



Signal Spec. of AC-Line Pulse (EX.FV)

E. ENVIRONMENT CONDITION AND TEST

(1) Operating condition	Temperature	0 ~ 60 °C (recommendation : 0 ~ 40 °C)
	Humidity	10 ~ 90 %
(2) Storage condition	Temperature	-10 ~ 60 °C
	Humidity	0 ~ 95 %

[Note] Condensation should not occur.

(3) High temperature storage test

Leaving the packed sample at temperature of 60 °C for 72 hours, and then after leaving it at normal temperature for 8 hours, there should be no problem in performance.

(4) Low temperature storage test

Leaving the packed sample at temperature of -10 °C for 72 hours, and then after moving it at normal temperature for 8 hours, there should be no problem in performance.

[Note] Condensation should not occur.

(5) Temperature characteristics test

When it is operated at temperature of 0~60 °C, there should be no problem in performance.

F. INDUSTRIAL PROPERTY

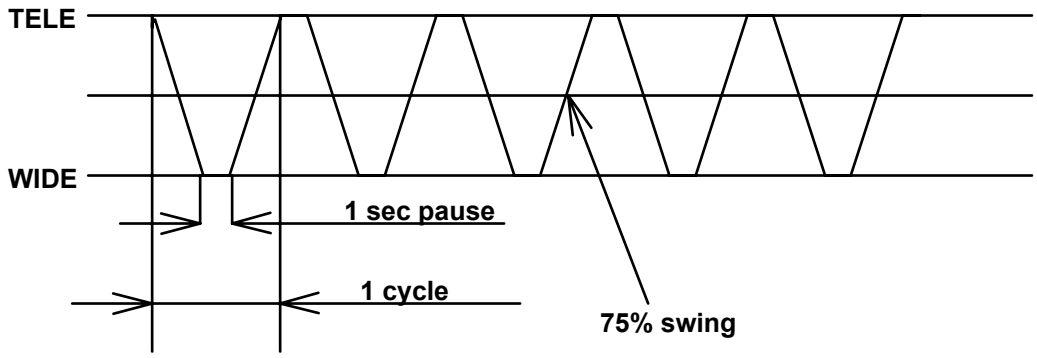
Hitachi Ltd. should be responsible for the problem of industrial property.

Hitachi is not responsible for the unit which is modified.

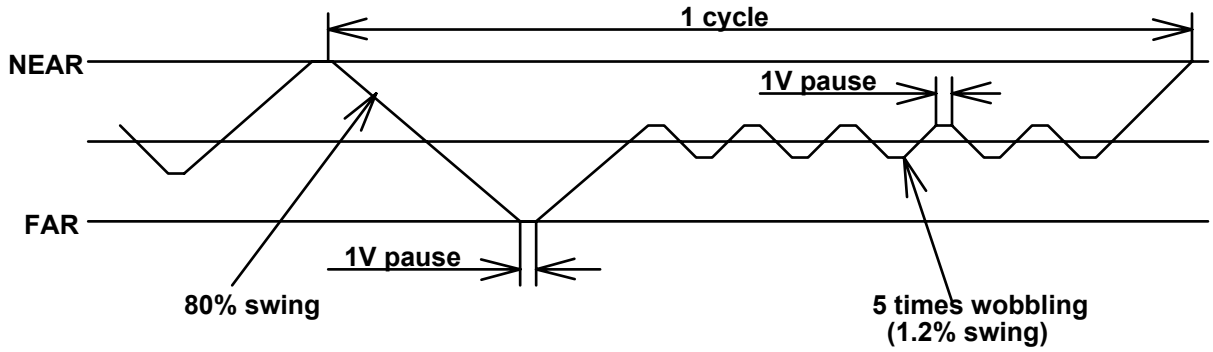
Hitachi's responsibility is limited to product itself, not to the system installed.

DURABILITY TEST PATTERN

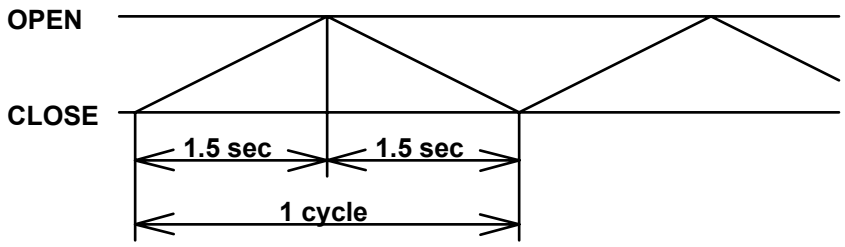
1.ZOOM :



2.FOCUS : **(V=1/60sec)**

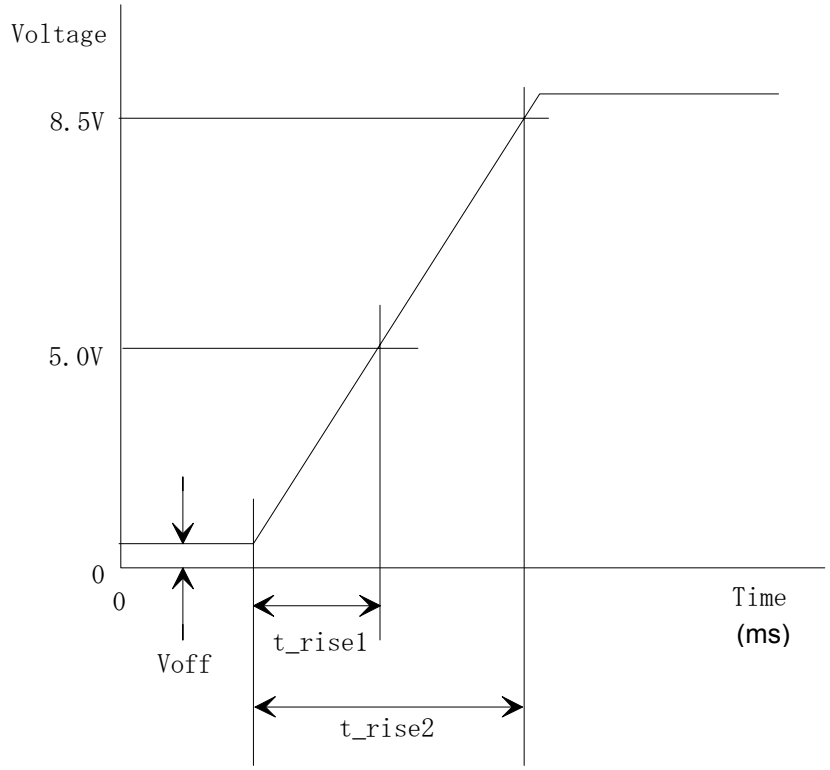


3.IRIS :



POWER SUPPLY RISE-UP CONDITION

The rise-up of power supply to camera should be under following condition.



Voff ≤ 0.2V
t_rise1 ≤ 65ms
t_rise2 ≤ 115ms