

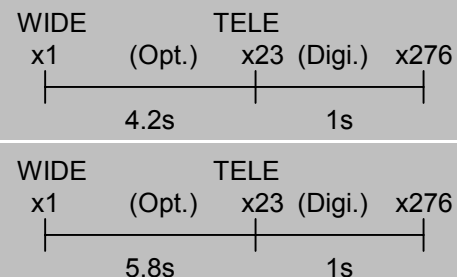
CCD COLOR VIDEO CAMERA SPECIFICATIONS

VK-S454R : NTSC (Lead-Free)

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 Progressive Scan CCD Effective Pixels: 724(H) x 494(V) 360k Total Pixels : 758(H) x 504(V) 380k
(5) Lens	F1.6~3.7, f=3.6~82.8mm, X23 Zoom, Video Auto Focus Angle of View H : 54°(wide) , 2.5°(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.)
d) IR Removeable	More than 50k Cycles at room temperature (See Page 6.)
(6) Focus Length	∞~1.0m(tele)~0.01m(wide)*
(7) Signal Process	Digital Signal Processor DSP-6 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: 4.2s* / 5.8s)
b) Digital Zoom	OFF* / ON (~12* times)
	[1] 4.2s Zoom Mode : AF
	[2] 5.8s Zoom Mode : AF
c) Video Focus	Auto* / Man (NEAR~FAR)

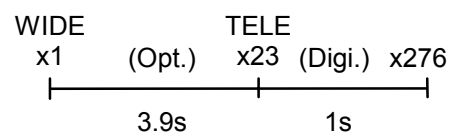


d) White Balance	Auto* / Man (R Gain/B Gain, Level: UP~DOWN)
e) IRcf Control	Auto* / Man (soft)
f) Wide Dynamic Range	OFF* / ON (soft)
g) Shutter Speed	Auto: Pro AE (1/60~1/4k s : Seamless) Pro AE+ (1/2~1/4*~1/4k s : Seamless) Pro AER ([IRcf OFF - ON] + Pro AE) Pro AER+* ([IRcf OFF - ON] + Pro AE+) Man: Shutter Priority (1/2~1/30k s) (w/o WDR)
h) Iris Control	Auto*: (Auto Iris Control Level: UP~DOWN) Man: Exposure Priority (F1.6~F34) (w/o WDR)
i) Gain Control	Auto*: (Maximum Auto Gain Control Level: UP~DOWN) Man: AGC Priority (0dB~30dB) (w/o WDR)
j) Image Mirror	OFF* / ON (w/o WDR) (soft)
k) Image Freeze	OFF* / ON (soft)
l) Privacy Zone Masking	OFF* / ON: 2 positions/movement cont.(soft)
m) Motion Detect	OFF* / ON (soft)

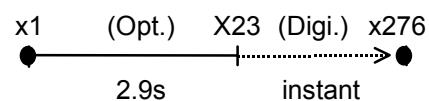
n) Position Preset

[1] Zoom Trace Preset Mode: MF, Trace

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

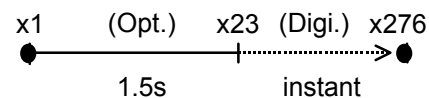


- in case of preset



[2] Preset Mode: MF, No-Trace

- in case of preset



o) Image Reverse OFF* / ON (w/o WDR) (soft)

p) Position Preset store Store max.111

(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±15°	155±18°	280±18°	180° (Base)
Level	240±20%	130±30%	190±35%	100% (Base)

(12) Horizontal Resolution More than 470 TVL

(13) Luminance S/N More than 50 dB

(14) Sensitivity 3.0 lx (typ.) [Pro-AE :1/60s , F1.6(wide) , AGC-Gain:28 dB, IRcf ON]
 0.2 lx (typ.) [Pro-AE+:1/4s* , F1.6(wide) , AGC-Gain:28dB , IRcf ON]
 0.02 lx (typ.) [Pro-AER+:1/4s* , F1.6(wide) , AGC-Gain:28dB , IRcf OFF]
 ...at signal level : 40 IRE

(15) Supplied Voltage 9.0~12.0 VDC±0.5 VDC (Regulated) (See Page 7 for restrictions)

(16) Supplied Current 310 mA (steady-state)
 540 mA (max.) ...under the zooming and focusing operation

(17) Power Consumption 4.7 W (max.)

(18) Dimensions 50(W) x 60(H) x 89.5(D) mm (excluding connector)

(19) Weight 230 g (approx.)

(20) Appearance/Dimensions See file: [Out_S454R.pdf](#)

(21) Body Color Black

(22) Packing Ass'ys See file: [Pac_S454R.pdf](#)(23) Labeling See file: [Lab_S454R.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_S454R.doc](#)

C. EXTERNAL CONTROL SPECIFICATIONS

- External control using RS-232C (command list)

See file: [S454R_Comm_Exx.doc](#)

See file: [S454R_MotDet_Exx.doc](#)

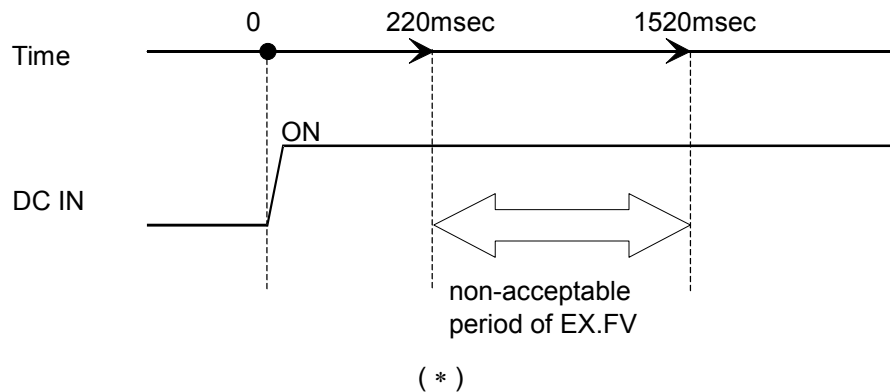
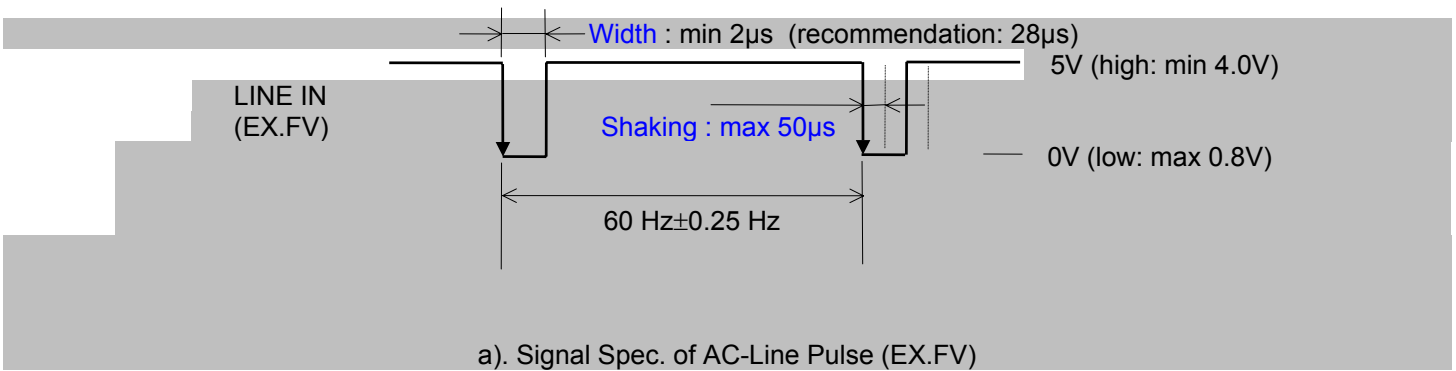
See file: [S454R_PMask_Exx.doc](#)

See file: [S454R_NewComm_Exx.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	9.0~12.0 VDC±0.5 VDC (Regulated)
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)		



[Note] (*) mark: • To prevent camera mis-operation, do not start to apply EX.FV(LINE IN)-signal during period from 220msec to 1520msec after initial DC power-ON.

- It is OK to start to apply EX.FV-signal before 220msec after initial DC power-ON or after 1520msec after initial DC power-ON.

E. ENVIRONMENT CONDITION AND TEST

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

(2) Storage condition	Temperature	-20 ~ 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

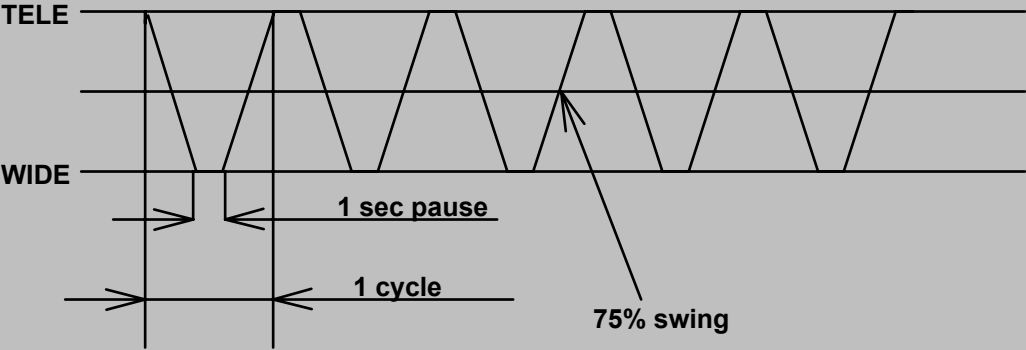
Hitachi Ltd. should be responsible for the problem of industrial property.

Hitachi is not responsible for the unit which is modified.

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

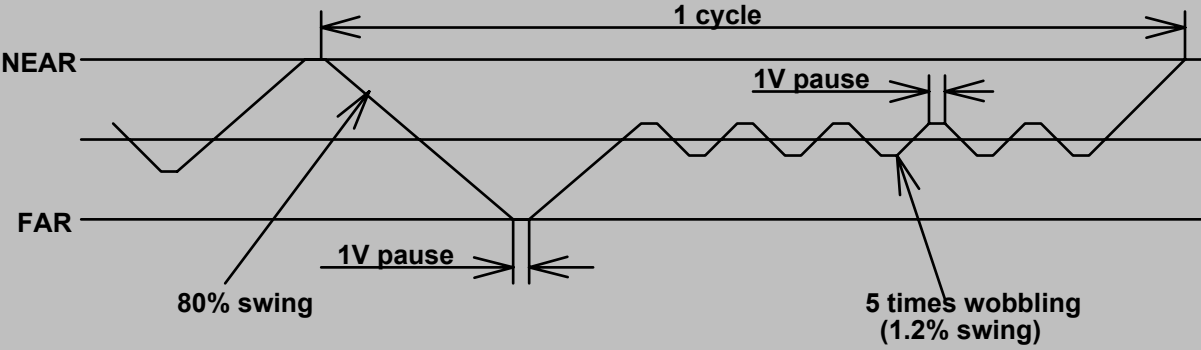
DURABILITY TEST PATTERN

1.ZOOM :

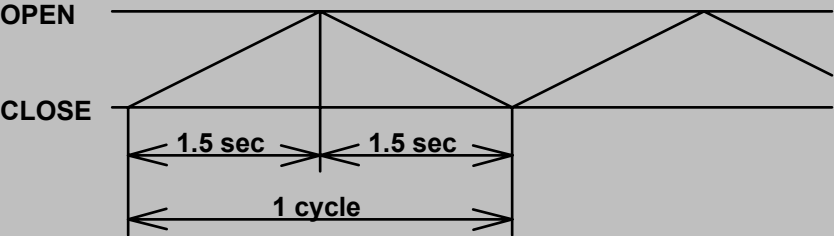


2.FOCUS :

(V=1/60sec)

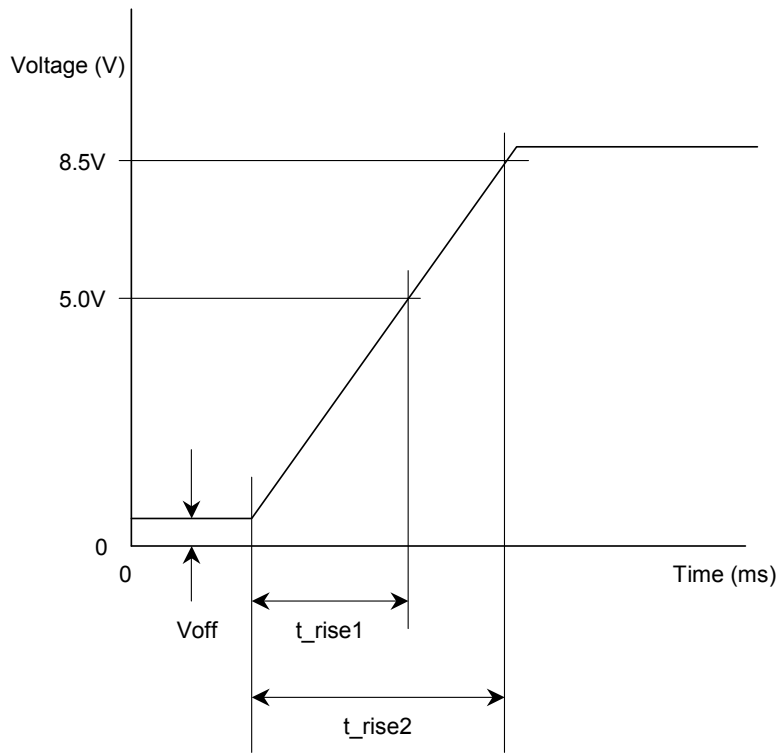


3.IRIS :



POWER SUPPLY RISE-UP CONDITION

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



$$\begin{aligned} V_{off} &\leq 0.2V \\ t_{rise1} &\leq 65ms \\ t_{rise2} &\leq 115ms \end{aligned}$$