



## Interfacing an Analog Camera with a DOMINO Board

# Hitachi KP-F30x

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## Characteristics

<b>Imager</b>	Area-scan, monochrome
<b>Image size</b>	644 (H) x 493 (V) Pixel
<b>Pixel frequency</b>	24545400Hz
<b>Line rate</b>	1000 Line per second
<b>Frame rate</b>	70 frame per second
<b>Last update</b>	03 sep 2010

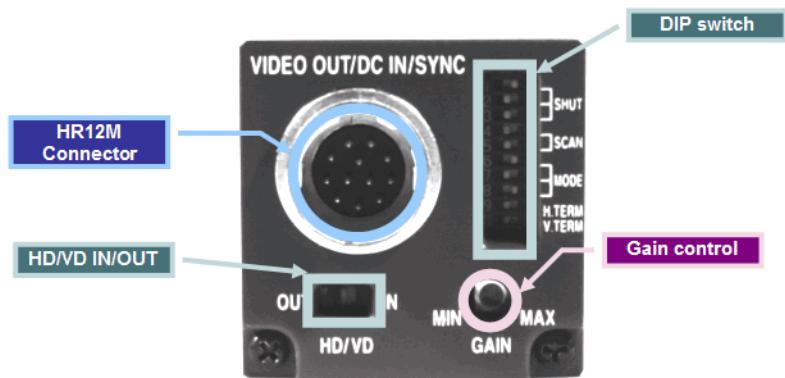
## Configurations

Configuration	CAM file	Description
P70RM	KP-F30x_P70RM.cam	Asynchronous reset, Grabber controls exposure, Master/Analog synchronization.
P70SA	KP-F30x_P70SA.cam	Progressive Free-Run Scanning, Analog synchronization.
P70SM	KP-F30x_P70SM.cam	Progressive Free-Run Scanning, Master synchronization.

## Compatible Cables

Configuration	Cable name	Designator	Usage
<b>P70SA P70SM P70RM</b>	Dual Channel RG	A15-C05-XX	Synchronous mode Single HR12M connector

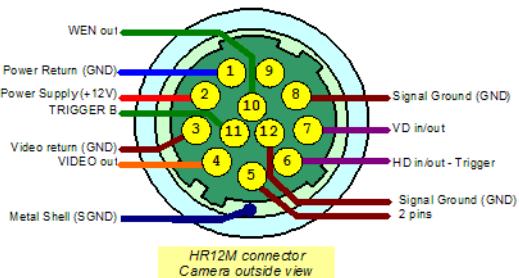
## Locating Items



Camera rear view

## Connection Information

### HR12M Pin-out



Valid for all configurations

### Signal Mapping

#### Cable "Dual Channel RG"

Signal @ Camera	Signal @ Board	Configuration			Usage
		P70SA	P70SM	P70RM	
Vout	V1+	✓	✓	✓	
VIDEO return GND (Vout)	V1-	✓	✓	✓	Analog channel
Power Supply +12 V	+12 V	✓	✓	✓	Power supply
Power return GND	PGND	✓	✓	✓	
HD in/out	HIO	-	✓	✓	Horizontal synchronization
VD in/out	VIO	-	✓	-	Vertical synchronization
TRIGGER	VIO	-	-	✓	Asynchronous reset
Signal Return GND	GND	✓	✓	✓	Signal return
Metal Shell SGND	Metal Shell SGND	✓	✓	✓	EMC shield

Refer to the camera cable A15-C05-xx for additional useful manufacturing information.

## Camera Setup

### Gain Adjust

#### Valid for all configurations

As required by the application.

### HD/VD IN/OUT

#### Valid for configuration P70SA

Look	Setting	Effect
	OUT	Internal HD/VD output

#### Valid for configurations P70SM and P70RM

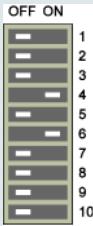
Look	Setting	Effect
	IN	External HD/VD input

### DIP Switch

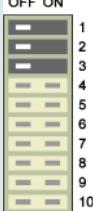
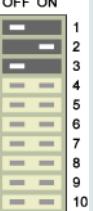
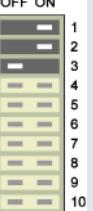
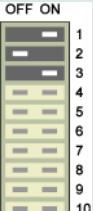
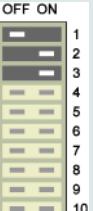
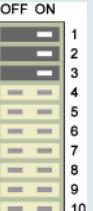
#### Valid for configurations P70SA, P70SM

Look	Switch	Setting	Effect
	1	ON/OFF	See "Establishing exposure time"
	2	ON/OFF	
	3	ON/OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
	9	OFF	High input impedance for external HD/VD
	10	OFF	

Valid for configuration P70RM

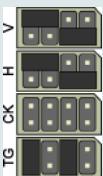
Look	Switch	Setting	Effect
	1	OFF	Exposure controlled by reset pulse width
	2	OFF	
	3	OFF	
	4	ON	
	5	OFF	
	6	ON	
	7	OFF	
	8	OFF	
	9	OFF	
	10	OFF	High input impedance for external HD/VD

### Establishing exposure time for P70SA, P70SM

			
Normal Factory-setting	1 / 290 s 3.45 ms	1 / 580 s 1.72 ms	1 / 1200 s 833 µs
			
1 / 2300 s 435 µs	1 / 4700 s 213 µs	1 / 12 000 s 83 µs	1 / 58 000 s 17 µs

## Board Jumpers Setup

The Domino Iota and Domino Alpha 2 jumper blocks should be configured as follows (valid for all configurations). Settings for the jumper block facing the connector the camera is linked to

Jumper block	MultiCam parameter	Value	Meaning
	JumperV	TTL	The pin 4 (VIO) and pin 5 (EXP) of the connector feeding the channel can be used as input or output in TTL format.
	JumperH	TTL	The pin 14 (HIO) and pin 15 (GATE) of the connector feeding the channel can be used as input or output in TTL format.
	JumperCK	EMPTY	Camera clock: None. Pin 9 and pin 10 of the channel connector are unused.
	JumperL1	DT	The video lane 1 is sensed as a differential 75 W terminated analog signal applied at pin 1 (V1+) and pin 2 (V1-).
	JumperL2	DT	The video lane 2 is sensed as a differential 75 W terminated analog signal applied at pin 11 (V2+) and pin 12 (V2-).