

unit : mm (±0.5)

Feature

- High Sensitivity!
- High Performance.
- 1/13" CCIQ II Color
- Ø 3.8 mm only
- 642 x 484 Pixel
- TV OUT

Specification

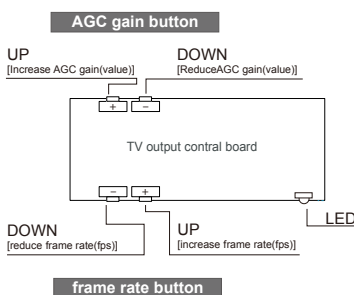
Model	MX-B13R3-90
LED Light illumination	W/O LED
Video system	NTSC / PAL
Pixel size	1.75µm
Number of effective pixels	642 X 484 (NTSC & PAL)
Image sensor	1/13" CCIQ II Color Camera
Resolution(TV Lines)	480 TV Lines
S/N Ratio	34 dB
Dynamic range	66 dB
Shutter Type	Electronic Rolling Shutter (ERS)
Sensitivity	1.2V /Lux.sec
Sensor scan mode	progressive scan
Minimum illumination	5 Lux / F2.8
Frame Rate	30 Field/sec(NTSC) , 25 Field/sec(PAL)
Horizontal sync frequency	NTSC -15.734kHz , PAL - 15.625kHz
Vertical sync frequency	NTSC - 60Hz , PAL - 50Hz
Camera consumption	0.45
Video output	1Vp-p , 75ohm composite
Built - lens	1.2mm/F 2.5
Storage temperature	-30 to 60 Degree C
Working temperature	-10 to 45 Degree C
Power source	Camera input: DC 3.3V~5V
Power current	160 mA(max)



MX-B13R3-90

Order information

MODEL	Dimension	LED Light
MX-B13R3-90	(D)3.8 x 10.3 mm(sensor board) + 800+16 x 40mm(TV Output Control Board)	N/A



function	LED indicator	7	6	5	4	3	2	1
AGC gain (value)		200	150	100	80	60	40	20

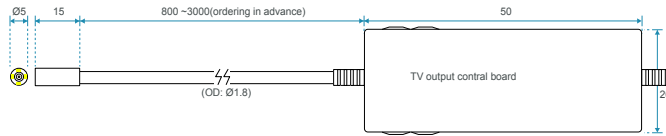
function	LED indicator	7	6	5	4	3	2	1
Frame rate (fps)		1 fps	2 fps	4 fps	6 fps	10 fps	15 fps	30 fps(NTSC) 25 fps(PAL)

◎ How to adjust "frame rate" and "AGC gain" :

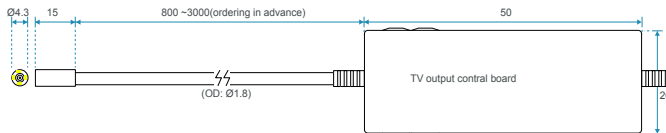
1. Press the "Up" or "Down" button to select function , according to the chart.
2. The LED indicator blinks , according to the number of time user presses the button.
3. Every function adjustment takes 5 sec.
4. AGC gain: 20 , Frame rate: 30fps(NTSC) , 25fps(PAL) is for normal endoscopy application.

- Frame rate is "1fps" , "2fps" , "4fps" , "6fps" , "10fps" , "15fps" , "30fps(NTSC) , 25fps(PAL)" , AGC gain should be set at "20" first.
- When AGC gain is at 200 , 150 , 100 , 80 , 60 , 40 , frame rate value will be different according to external environment.

MO-T13R3L-90



MO-T13R3L-50



Feature

- High Sensitivity!
- High Performance.
- 1/13" CCIQ II Color
- Ø 4.3 mm only
- 642 x 484 Pixel

Specification

unit : mm (±0.5)

Model	MO-T13R3L-90	MO-T13R3L-50
LED Light illumination	white LED x 4	
Video system	NTSC / PAL	
Pixel size	1.75µm	
Number of effective pixels	642 X 484 (NTSC & PAL)	
Image sensor	1/13" CCIQ II Color Camera	
Resolution(TV Lines)	480 TV Lines	
S/N Ratio	34 dB	
Dynamic range	66 dB	
Shutter Type	Electronic Rolling Shutter (ERS)	
Sensitivity	1.2V /Lux.sec	
Sensor scan mode	progressive scan	
Minimum illumination	5 Lux / F2.8	
Frame Rate	30 Field/sec(NTSC) , 25 Field/sec(PAL)	
Horizontal sync frequency	NTSC -15.734kHz , PAL - 15.625kHz	
Vertical sync frequency	NTSC - 60Hz , PAL - 50Hz	
Camera consumption	0.45	
Video output	1Vp-p , 75ohm composite	
Built - lens	1.2mm/F 2.5	1.498mm/F 5.0
Storage temperature	-30 to 60 Degree C	
Working temperature	-10 to 45 Degree C	
Power source	Camera input: DC 3.3V~5V	
Power current	160 mA(max)	
Dimension(mm)	Ø5 x 15	Ø4.3 x 15



MO-T13R3L-90



MO-T13R3L-50

Order information

AGC gain button

UP [Increase AGC gain(value)] DOWN [ReduceAGC gain(value)]

frame rate button

DOWN [reduce frame rate(fps)] UP [increase frame rate(fps)]

LED indicator	7	6	5	4	3	2	1	
function	AGC gain (value)	200	150	100	80	60	40	20

LED indicator	7	6	5	4	3	2	1	
function	Frame rate (fps)	1 fps	2 fps	4 fps	6 fps	10 fps	15 fps	30 fps(NTSC) 25 fps(PAL)

◎ How to adjust "frame rate" and "AGC gain" :

1. Press the "Up" or "Down" button to select function ,according to the chart.
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⚠ Frame rate is "1fps" ,"2fps" ,"4fps" ,"6fps" ,"10fps" , "15fps" ,"30fps(NTSC), 25fps(PAL)" ,AGC gain should be set at "20" first.

● When AGC gain is at 200 , 150 , 100 , 80 , 60 , 40 , frame rate value will be different according to external environment.