

ARGUS-20 with C2400-75i

SPECIFICATIONS

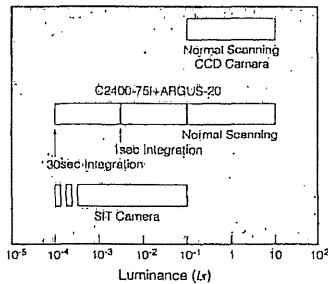
ARGUS-20

Sync. method		EIA (USA)	CCIR (Europe)	
Input signal	H-scanning frequency	15.734 kHz	15.625 kHz	
	V-scanning frequency	59.94 Hz	50.00 Hz	
	Total number of scanning lines	525	625	
	Number of effective scanning lines	483	509	
	Interface ratio	2:1		
Aspect ratio of pixel	Signals	Composite 1.0Vp-p/75		
		2:3 (High-resolution mode) 1:1 (Normal-resolution mode)		
Output signal	For monitor	Composite 1.0Vp-p/75		
	For VTR or VCR	Composite 1.0Vp-p/75		
RGB output	RGB signal	0.7Vp-p/75 positive		
	HD, VD, Sync signal	2.0Vp-p/75 negative		
A/D, D/A converter		8 bit approx. 20MHz sampling		
Image memory	Main memory	High-resolution mode	1024 (H) x 483 (V) x 18 bit	1024 (H) x 509 (V) x 18 bit
		Normal-resolution mode	640 (H) x 483 (V) x 16 bit	640 (H) x 509 (V) x 18 bit
	Sub memory	High-resolution mode	1024 (H) x 483 (V) x 16 bit	1024 (H) x 509 (V) x 18 bit
		Normal-resolution mode	640 (H) x 483 (V) x 16 bit	640 (H) x 509 (V) x 18 bit
	Graphic memory	High-resolution mode	1024 (H) x 483 (V) x 4 planes	1024 (H) x 509 (V) x 4 planes
		Normal-resolution mode	640 (H) x 483 (V) x 4 planes	640 (H) x 509 (V) x 4 planes
Operating temperature		0°C to +40°C		
Storage temperature		-10°C to +50°C		
Operating and storage humidity		90% or less (non-condensation)		
Line voltage		100V/117/220/240 VAC 50/60Hz		
Power consumption		Approx. 200 VA		

C2400-75i

Sync. method	EIA (USA)	CCIR (Europe)
Device	1/2" Interline transfer CCD	
Number of pixels: (H) x (V)	788 x 494	756 x 581
Cell Size: (H) x (V) μ m	8.4 x 9.8	8.6 x 8.3
Effective Number of Pixels	756 x 485	739 x 575
Resolution: (H) x (V) TV lines	570 x 485	590 x 575
Lens Mount (F, B)	C mount (17.528 mm)	
Sync System	525 lines 59.94Hz	625 lines 50Hz
Gamma	1	
Power Consumption	1.6W	
S/N Ratio	58dB/54dB	

SENSITIVITY COMPARISON



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Real-time microscope image pro

ARGUS-20 with



The ARGUS-20 Image Processor represents a major advance in performance and value in real time digital image processing. Its 1024-pixel horizontal resolution memory supports the latest high-resolution CCD cameras. The SCSI computer interface allows you to easily transfer data and monitor the measurements. The ARGUS-20 even has a built-in CCD camera driver for Hamamatsu CCD cameras.

The new C2400-75i with on-chip integration has been specially designed for use with the ARGUS-20. It is sensitive enough to be used to view fluorescence images, while the system's high resolution and contrast enhancement enable you to view single microtubules in DIC images. You can even superimpose DIC and fluorescence images or two fluorescence images.

FEATURES

- High Sensitivity**
 CCD on-chip integration image processor and integration method allow low light level fluorescence images to be captured.
- Simple Control**
 The C2400-75i camera levels from faint fluorescence images, no longer necessary to use a camera.
- High Quality**
 High-quality DIC and fluorescence images can be displayed simultaneously.
- High Resolution**
 Since the ARGUS-20 has a high resolution of the CCD camera, the resolution is not lost in a microscope image.

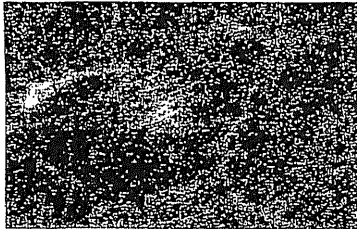
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ARGUS-20 with C2400-75i

HIGH SENSITIVITY (by on-chip integration)

CCD on-chip integration is possible by combining the ARGUS-20 and the C2400-75i. This integration method allows low-light-level images (for example, fluorescence images) to be observed.

Normal scanning (256 frames accumulation on frame memory)



▲ *f*-Actin of MDCK cell, fluorescence stained with fluorescein-phalloidin.

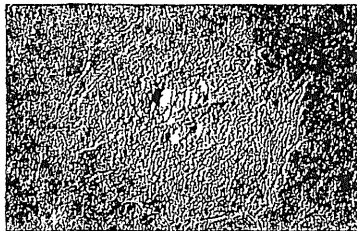
On-chip integration (10 sec integration)



SIMPLE CONFIGURATION

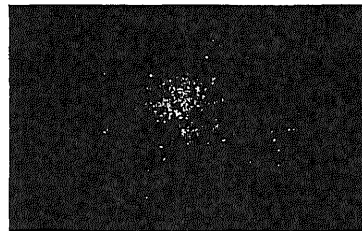
The C2400-75i camera can obtain images over a wide range of light levels from faint fluorescence images to well-lit DIC images. It is no longer necessary to mount separate cameras for fluorescence and DIC imaging.

DIC Image



▲ DIC image of animal cell culture

Fluorescence Image



▲ Microtubule from animal cell culture, stained by fluorescent antibody technique.

HIGH QUALITY IMAGES

- Image Improvement by VEC (Video Enhanced Contrast) method



▲ Original image (Sample: Neuronal cell line NG108-15 Normarski differential interference image)



▲ With background subtraction and averaging, Cytoskeleton is now clearly visible.

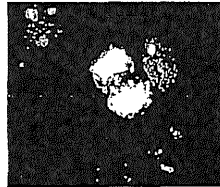
- Superimposition of two fluorescence images

Fluorescence Image



▲ Fluorescence-stained image of animal cell microtubule.

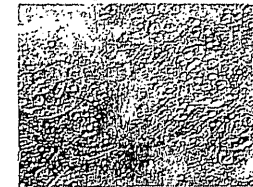
Fluorescence Image



▲ Fluorescence-stained image of nucleus

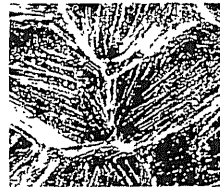
- Superimposition of DIC and fluorescence images

DIC Image



▲ Differential-interference image of MDCK cell.

Fluorescence Image

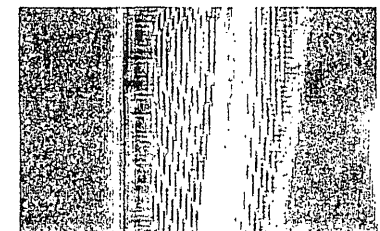


▲ *f*-Actin of MDCK cell, fluorescence stained with fluorescein-phalloidin.

HIGH RESOLUTION

Since the ARGUS-20 also has a high resolution mode (1024pixels), the resolution is not lost while digitizing. Digital image processing using a microscope.

Normal-resolution mode



▲ 640-pixel horizontal resolution, 4 x zoom (Sample: Diatom)

High-resolution mode



▲ 1024-pixel horizontal resolution, 4 x zoom (Sample: Diatom)