

High resolution digital colour camera

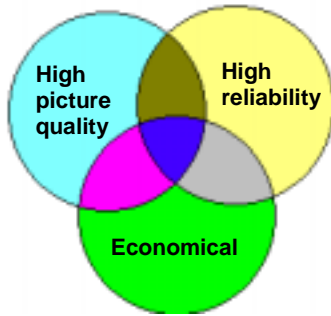
KP F100C

Technical data

1. Outline

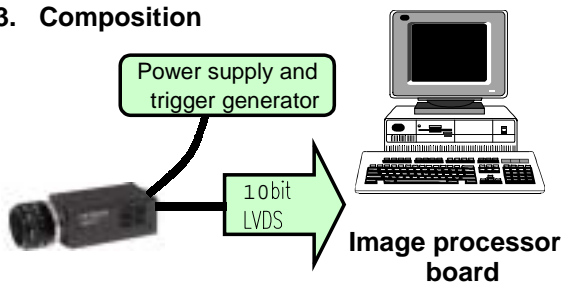
The KP-100C is a high resolution camera utilising a colour CCD with filters for the RGB primary colours. Colour is obtained when the camera is combined with a personal computer (frame grabber board and software).

2. Features



- 1 Comparison to a 400k pixel 3-CCD camera
Superb picture quality, especially in terms of vertical resolution
Small size and lightweight
- 2 Digital interface offers high noise robustness
- 3 EIA-644 (LVDS)
Low power consumption
Long working distance (compared to RS-422 cable)
- 4 Rich complement of external control functions
- 5 Internal/external synchronization

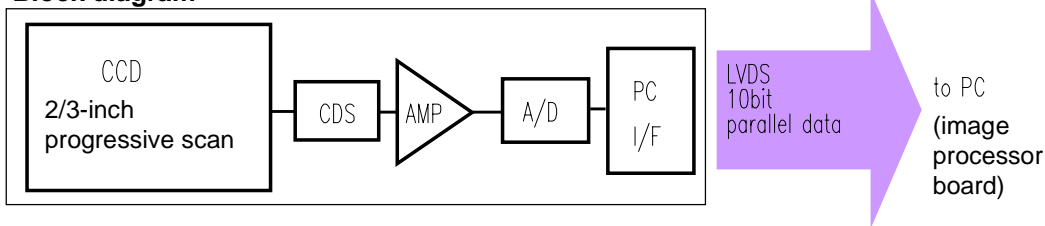
3. Composition



4. Applications

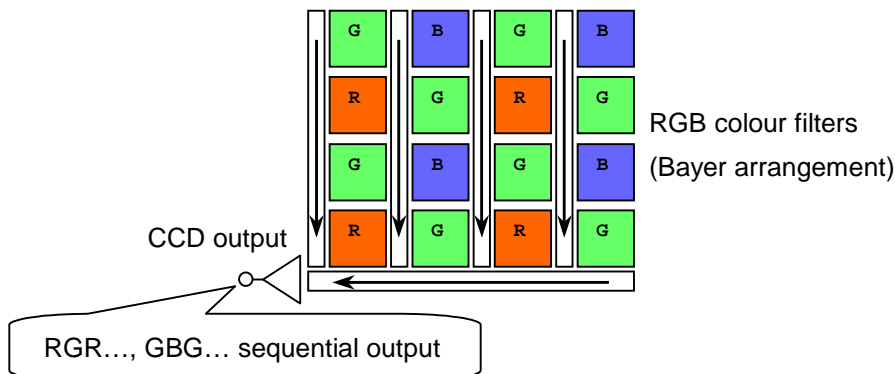
- Industrial automation (color detection)
- Traffic surveillance
- Microscope camera
- Image measurement

5. Block diagram

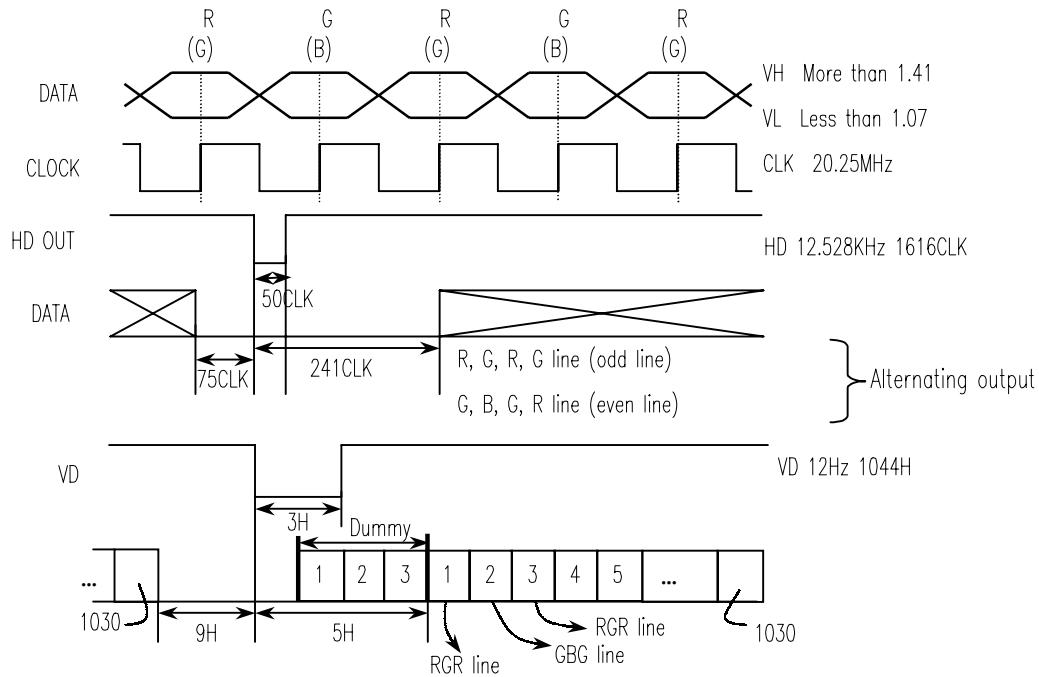


6. CCD pixel arrangement and output configuration

The KP-F100C digital output is RGB obtained directly from the CCD pixel filter arrangement. The pixel data are interpolated by the computer and image processor board to compose a colour image.



7. Digital output (10 bit parallel data): EIA-644 (LVDS)



8. Pixel interpolation example

Each pixel of the camera output is interpolated by the personal computer image software to obtain colour.

The following interpolation method is recommended. For example, the G33 pixel image component is as follows.

R: AV (R23, R43) G: G33 B: AV (B32, B34)

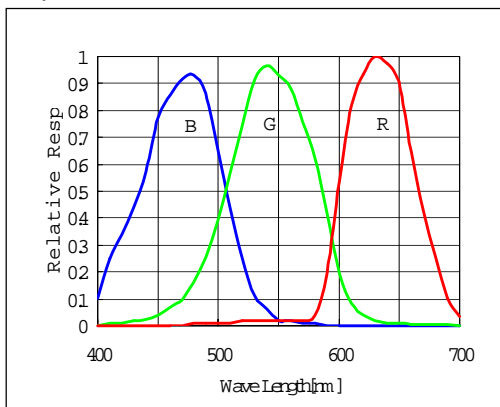
Likewise, the B34 pixel image component is as follows.

R: AV (R23, R25, R43, R45) G: AV (G24, G33, G44, G35) B: B34

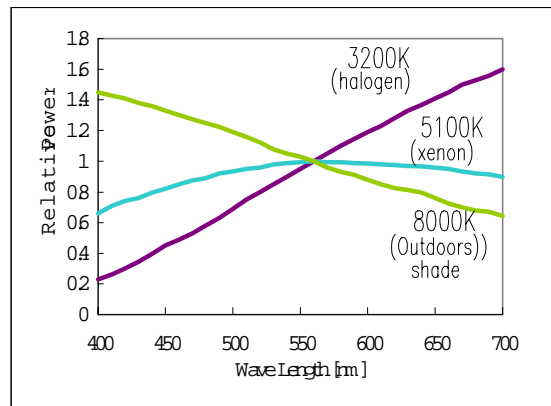
G22	R23	G24	R25
B32	G33	B34	G35
G42	R43	G44	R45
B52	G53	B54	G55

9. RGB gain

The RGB gain proportion is determined by the CCD spectral sensitivity and light source colour temperature.



CCD spectral sensitivity



Light source colour temperature