

## Atik Cameras Specification Tables

### Atik Cameras Astronomy Cameras

|                             | 420                      | Atik 314L+               | Infinity    | 414EX                   | 428EX                    | 460EX                    | 490EX                    | 4120EX                   |
|-----------------------------|--------------------------|--------------------------|-------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>Image sensor</b>         | Sony ICX274              | Sony ICX285              | Sony ICX825 | Sony ICX825             | Sony ICX674              | Sony ICX694              | Sony ICX814/5            | Sony ICX834AQG           |
| <b>Resolution</b>           | 1619x1219                | 1391x1039                | 1392x1040   | 1391x1039               | 1931x1451                | 2749x2199                | 3379x2703                | 4241x2829                |
| <b>Pixel size (µm)</b>      | 4,4x4,4                  | 6,45x6,45                | 6,45x6,45   | 6,45x6,45               | 4,54x4,54                | 4,54x4,54                | 3,69x3,69                | 3,1x3,1                  |
| <b>ADC</b>                  | 16 bit                   | 16 bit                   | 16bit       | 16bit                   | 16 bit                   | 16 bit                   | 16bit                    | 16bit                    |
| <b>Readout noise (Typ.)</b> | 3e-                      | 4e-                      | 6e-         | 4e-                     | 5e-                      | 5e-                      | 5e-                      | 5e-                      |
| <b>Cooling Delta</b>        | -30                      | -27                      | Passive     | -30                     | -25                      | -25                      | -25                      | -25                      |
| <b>Regulated cooler</b>     | Yes                      | Yes                      | No          | Yes                     | Yes                      | Yes                      | Yes                      | Yes                      |
| <b>Water assist</b>         | No                       | No                       | No          | No                      | No                       | No                       | No                       | No                       |
| <b>Maximum exposure</b>     | Unlimited                | Unlimited                | 120s        | Unlimited               | Unlimited                | Unlimited                | Unlimited                | Unlimited                |
| <b>Minimum exposure</b>     | 0,001s                   | 0,001s                   | 0,001s      | 0,001s                  | 0,001s                   | 0,001s                   | 0,001s                   | 0,001s                   |
| <b>Maximum Frame Rate</b>   | n/a                      | n/a                      | 3fps        | n/a                     | n/a                      | n/a                      | n/a                      | n/a                      |
| <b>Gain Factor</b>          | 0.13e-/ ADU              | 0.3e-/ADU                | 0.37e-/ADU  | 0.28e-/ ADU             | 0.27e-/ ADU              | 0.27e-/ADU               | 0.19e-/ ADU              | 0.14e-/ ADU              |
| <b>Full Well Capacity</b>   | ~9,000e-                 | ~19,500 e-               | ~24,000e-   | ~18,000e-               | ~17,500e-                | ~18,000 e-               | ~12,500e-                | ~9,000 e-                |
| <b>Dark Current</b>         | ~0.0001 e-/ s<br>at -10° | ~0.0002 e-/ s<br>at -10° | n/a         | ~0.001 e-/ s<br>at -10° | ~0.0002 e-/ s<br>at -10° | ~0.0004 e-/ s<br>at -10° | ~0.0003 e-/ s<br>at -10° | ~0.0003 e-/ s<br>at -10° |
| <b>PC Interface</b>         | USB2                     | USB2                     | USB2        | USB2                    | USB2                     | USB2                     | USB2                     | USB2                     |
| <b>Power requirements</b>   | 12VDC, 0.9A              | 12VDC 0.8A               | 12VDC, 1A   | 12VDC, 1A               | 12VDC, 0.9A              | 12VDC, 0.9A              | 12VDC, 0.9A              | 12VDC, 1A                |
| <b>Backfocus distance</b>   | 13mm ±0.5                | 13mm ±0.5                | 13mm ±0.5   | 13mm ±0.5               | 13mm ±0.5                | 13mm ±0.5                | 13mm ±0.5                | 13mm ±0.5                |
| <b>Thread on front</b>      | M42x0,75                 | M54x0,75                 | M42x0,75    | M42x0,75                | M42x0,75                 | M42x0,75                 | M42x0,75                 | M42x0,75                 |
| <b>Weight</b>               | 400g                     | 400g                     | 340g        | 400g                    | 400g                     | 400g                     | 400g                     | 400g                     |
| <b>Mono or OSC</b>          | Either                   | Either                   | Either      | Either                  | Either                   | Either                   | Either                   | OSC                      |

## Atik Cameras Specification Tables

|                             | GP          | Titan        | One 6.0                  | One 9.0                  | 383L+                    | 4000                    | 16200              | 11000                   |
|-----------------------------|-------------|--------------|--------------------------|--------------------------|--------------------------|-------------------------|--------------------|-------------------------|
| <b>Image sensor</b>         | Sony ICX445 | Sony ICX424  | Sony ICX694/5            | Sony ICX814/5            | KAF-8300                 | KAI4022                 | KAF-16200          | KAI11002                |
| <b>Resolution</b>           | 1296x964    | 658x492      | 2749x2199                | 3379x2703                | 3354x2529                | 2047x2047               | 4499x3599          | 4007x2671               |
| <b>Pixel size (µm)</b>      | 3,75x3,75   | 7,4x7,4      | 4,54x4,54                | 3,69x3,69                | 5,4x5,4                  | 7,4x7,4                 | 6 x 6              | 9x9                     |
| <b>ADC</b>                  | 12bit       | 16 bit       | 16bit                    | 16bit                    | 16 bit                   | 16 bit                  | 16 bit             | 16 bit                  |
| <b>Readout noise (Typ.)</b> | 7e-         | 7e-          | 4e-                      | 4e-                      | 7e-                      | 11e-                    | 9e-                | 13e-                    |
| <b>Cooling Delta</b>        | Passive     | -20          | -38                      | -38                      | -40                      | -40                     | -45                | -38                     |
| <b>Regulated cooler</b>     | No          | No           | Yes                      | Yes                      | Yes                      | Yes                     | Yes                | Yes                     |
| <b>Water assist</b>         | No          | No           | No                       | No                       | No                       | Yes                     | No                 | Yes                     |
| <b>Maximum exposure</b>     | 5s          | Unlimited    | Unlimited                | Unlimited                | Unlimited                | Unlimited               | Unlimited          | Unlimited               |
| <b>Minimum exposure</b>     | 0,001s      | 0,001s       | 0,001s                   | 0,001s                   | 0,2s                     | 0,001s                  | 0,2s               | 0,001s                  |
| <b>Maximum Frame Rate</b>   | 30 fps      | 15 fps       | n/a                      | n/a                      | n/a                      | n/a                     | n/a                | n/a                     |
| <b>Gain Factor</b>          | n/a         | 0.34e-/ADU   | 0.27e-/ ADU              | 0.19e-/ADU               | 0.41e-/ ADU              | 0.61e-/ADU              | 0.6e-/ADU          | 0.92e-/ ADU             |
| <b>Full Well Capacity</b>   | n/a         | ~22,500 e-   | ~18,000e-                | ~12,000e-                | ~26,000 e-               | ~40,000 e-              | ~40,000 e-         | ~60,000 e-              |
| <b>Dark Current</b>         | n/a         | n/a          | ~0.0005 e-/ s<br>at -10° | ~0.0002 e-/ s<br>at -10° | ~0.1000 e-/ s<br>at -10° | ~0.0100 e-/s<br>at -20° | ~ <0.25 e-/s at 0° | ~0.0300 e-/s<br>at -20° |
| <b>PC Interface</b>         | USB2        | USB2         | USB2                     | USB2                     | USB2                     | USB2                    | USB2               | USB2                    |
| <b>Power requirements</b>   | USB powered | 12VDC, 0.55A | 12VDC, 2A                | 12VDC, 2A                | 12VDC, 2A                | 12VDC, 2A               | 12VDC, 2.5A        | 12VDC, 2A               |
| <b>Backfocus distance</b>   | 7mm ±0.5    | 12mm ±0.5    | 27mm ±0.5                | 27mm ±0.5                | 17mm ±0.5                | 16mm ±0.5               | 19.5mm ±0.5        | 15mm ±0.5               |
| <b>Thread on front</b>      | M42x0,75    | M42x0,75     | M42x0,75                 | M42x0,75                 | M42x0,75                 | M42x0,75                | M54x0,75           | M54x0,75                |
| <b>Weight</b>               | 80g         | 350g         | 900g                     | 900g                     | 700g                     | 990g                    | 1.3kg              | 990g                    |
| <b>Mono or OSC</b>          | Either      | Either       | Mono                     | Mono                     | Mono                     | Either                  | Either             | Either                  |

## Atik Cameras Specification Tables

### VS Series for Scientific Applications

| Model | Sony Sensor | Diag. mm | Format (Type) | Resolution HxV /Total | Pixel size $\mu\text{m}$ |
|-------|-------------|----------|---------------|-----------------------|--------------------------|
| VS14  | ICX-285     | 11       | 42769         | 1392 x 1040 / 1.4M    | 6.45                     |
| VS20  | ICX-274     | 8.923    | 1/1.8         | 1620 x 1220 / 2M      | 4.4                      |
| VS28  | ICX-674     | 10.972   | 42769         | 1932 x 1452 / 2.8M    | 4.54                     |
| VS50  | ICX-655     | 7.705    | 1/2.3         | 2448 x 2050 / 5M      | 3.45                     |
| VS60  | ICX-694     | 15.99    | 42736         | 2750 x 2200 / 6M      | 4.54                     |
| VS92  | ICX-814     | 15.972   | 42736         | 3450 x 2704 / 9.2M    | 3.69                     |

### Common features for all VS models:

|                                 |   |
|---------------------------------|---|
| Image acquisition speed         | 6MPixels/s  |
| Regulated cooling delta T (amb) | -35°C   |
| Total system noise 6e typical   | 6e typical  |
| Weight                          | 800g (950g with optional integrated filter wheel) |
| Back focus                      | 13mm  |

## Atik Cameras Specification Tables

### OEM Solutions

| Manf. | p/n     | Diag. mm | Sens. Type | Horiz. Res. | Vert. Res. | Total MP | Pixel size $\mu\text{m}$ |
|-------|---------|----------|------------|-------------|------------|----------|--------------------------|
| Sony  | ICX-285 | 11       | 2/3        | 1392        | 1040       | 1.4      | 6.45                     |
| Sony  | ICX-274 | 8.923    | 1/1.8      | 1620        | 1220       | 2.0      | 4.4                      |
| Sony  | ICX-674 | 10.972   | 2/3        | 1932        | 1452       | 2.8      | 4.54                     |
| Sony  | ICX-694 | 15.99    | 1/1        | 2750        | 2200       | 6.0      | 4.54                     |
| Sony  | ICX-814 | 15.972   | 1/1        | 3388        | 2712       | 9.19     | 3.69                     |

### QS14

|                               |   |
|-------------------------------|---|
| <b>Sensor Type:</b>           | CCD - Sony ICX-285AL  |
| <b>Horizontal Resolution:</b> | 1392 pixels   |
| <b>Vertical Resolution:</b>   | 1040 pixels   |
| <b>Pixel Size:</b>            | 6.45 $\mu\text{M}$ x 6.45 $\mu\text{M}$                               |
| <b>ADC:</b>                   | 16 bit  |
| <b>Readout Noise:</b>         | 6 e- typical value  |
| <b>Interface:</b>             | USB 2.0 High Speed  |
| <b>Power:</b>                 | 12v DC 0.8A   |
| <b>Max. Exposure:</b>         | Unlimited   |
| <b>Min. Exposure:</b>         | 1/1000 s  |
| <b>Guide Port:</b>            | ST-4 compatible   |
| <b>Cooling:</b>               | Thermoelectric set point with<br>max $\Delta T = -20^{\circ}\text{C}$ |
| <b>Weight:</b>                | approx. 400 gr  |

For the Osiris Camera, please visit our partners at [www.opusinstruments.com](http://www.opusinstruments.com) or email [hello@opusinstruments.com](mailto:hello@opusinstruments.com)