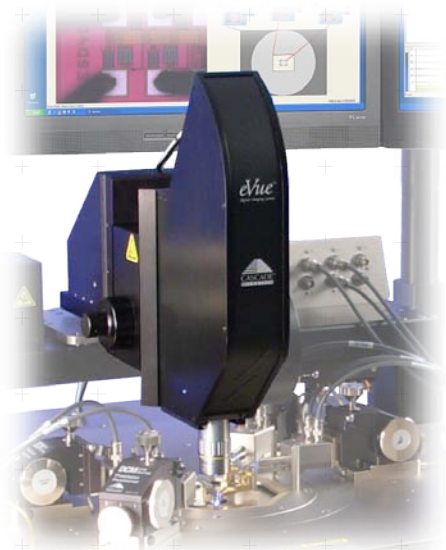


Cascade Microtech, Inc.

SPECIFICATION SHEET



Revolutionary digital imaging system for live-motion video microscopy – increase productivity in wafer test and set-up

eVue™-III

Digital Imaging System

The eVue-III digital imaging system is the original digital imaging system optimized for on-wafer test with Cascade Microtech's probe stations. The revolutionary multi-optical path, multi-camera design of eVue offers the perfect balance of optical resolution, digital zoom and live-motion video. The eVue-III utilizes 3MP cameras to enhance optical visualization and increased color frame rate to ensure efficient wafer and in-die navigation. With the VueTrack™ on-site probe-to-pad alignment technology, eVue-III continues the tradition of innovation to increase productivity with fast navigation, set-up and unattended thermal test functionality.



SYSTEM SPECIFICATIONS

OPTICAL PERFORMANCE

| Objective: Mitutoyo M Plan APO | Optical* path+camera | Optical path magnification | FOV X (mm) | FOV Y (mm) | Maximum image density** |
|-----------------------------------|----------------------|----------------------------|------------|------------|-------------------------|
| 2X | 1 | 0.5 | 13.10 | 9.84 | 2.440 |
| | 2 | 2.0 | 3.28 | 2.46 | |
| | 3 | 5.0 | 1.31 | 0.98 | |
| 5X | 1 | 0.5 | 5.24 | 3.94 | 15.252 |
| | 2 | 2.0 | 1.31 | 0.98 | |
| | 3 | 5.0 | 0.52 | 0.39 | |
| 10X | 1 | 0.5 | 2.62 | 1.97 | 61.009 |
| | 2 | 2.0 | 0.66 | 0.49 | |
| | 3 | 5.0 | 0.26 | 0.20 | |
| 20X | 1 | 0.5 | 1.31 | 0.98 | 244.036 |
| | 2 | 2.0 | 0.33 | 0.25 | |
| | 3 | 5.0 | 0.13 | 0.10 | |
| 50X | 1 | 0.5 | 0.52 | 0.39 | 1525.228 |
| | 2 | 2.0 | 0.13 | 0.10 | |
| | 3 | 5.0 | 0.05 | 0.04 | |

* Maximum zoom ratio path 1 = 3.8, path 2 = 9.8, path 3 = 40

** Maximum image density is the ratio of camera array size to FOV @ 2048x1536 using optical path 3

OPTICAL APPLICATIONS

| | N.A | Resolving power* | Working distance | Depth of focus | FOV Max eVue-III 40X and 10X | FOV Min eVue-III 40X only ** | Application | | |
|---------------------|-------|------------------|------------------|----------------|------------------------------|------------------------------|---------------|----|-------------|
| Mitutoyo M Plan APO | | µm | mm | µm | X,Y mm @ 0.5X mag | X,Y mm @ 20.0X mag | DC/CV, FA, DD | RF | Z Profiling |
| 2X | 0.055 | 5.0 | 34 | 91.00 | 13.10 x 9.84 | 0.33 x 0.25 | | ● | ⊗ |
| 5X | 0.14 | 2.0 | 34 | 14.00 | 5.24 x 3.94 | 0.13 x 0.09 | ● | ● | ⊗ |
| 10X | 0.28 | 1.0 | 33.5 | 3.50 | 2.62 x 1.97 | 0.07 x 0.05 | ● | ● | ● |
| 20X | 0.42 | 0.7 | 20 | 1.60 | 1.31 x 0.98 | 0.03 x 0.02 | ● | ● | ● |
| 50X | 0.55 | 0.5 | 13 | 0.90 | 0.52 x 0.39 | 0.01 x 0.01 | ● | | ● |

● = Best, ● = Good, ⊗ = Not supported

* Resolving power and focal depth based on reference wavelength of 550 nm

** Minimum FOV listed is for eVue-III 40X models. For eVue-III 10X models, the minimum FOV is approximately 1/10 of the maximum FOV shown.

SOFTWARE

| BASE PACKAGE | eVue-III 10X and 10X PRO | eVue-III 40X and 40X PRO | PRO PACKAGE | eVue-III 10X PRO | eVue-III 40X PRO |
|--|--------------------------|--------------------------|---|------------------|------------------|
| Standard Software Features | | | Multi-Z Features | | |
| Single view (1024x768) | ● | ● | Auto focus | ● | ● |
| Color mode | ● | ● | Automatic Z-profile (with eVue-III) | ● | ● |
| Monochrome mode | ● | ● | Multiple Z-profiles (load / save) | ● | ● |
| Measuring tape tool | ● | ● | Z-profile setup / guide | ● | ● |
| Cross-hair tool | ● | ● | Profile using die locations | ● | ● |
| Image annotations, text overlays, scale indicators* | ● | ● | Real-time auto Z-height | ● | ● |
| Video capture with recording controls (AVI export)* | ● | ● | Fast auto contact/separate focus tracking | ● | ● |
| Image capture (BMP, JPG, TIFF), email option | ● | ● | Multi-View Mode | | |
| Automatic pixel-to-micron video calibration (semi-auto stations) | ● | ● | Probe card alignment tool | ● | ● |
| Quick zoom toolbar, user defined presets | ● | ● | High-resolution video (1280x1024) | ● | ● |
| Manual Z-profile (with stage) | ● | ● | Camera select (1, 2) | ● | |
| Single Z-profile map | ● | ● | Camera select (1, 2, 3) | | ● |
| Profile using wafer ring pattern | ● | ● | Single view | ● | ● |
| Fast auto-gain control* | ● | ● | Multi-window views | ● | ● |
| Remote focus with range indicator* | ● | ● | Primary + 3, 5, 6, 7, 16, 28 sub views* | ● | ● |
| | | | Multi-Cam Mode | | |
| | | | Single view | ● | ● |
| | | | Single view with magnifier | ● | ● |
| | | | Picture-in-Picture view (PIP) | ● | ● |
| | | | Dual view | ● | ● |
| | | | Quadview -3 Camera Visualizer with pan and zoom | | ● |
| | | | Vertical / horizontal setup | ● | ● |

*Requires Nucleus 4.1 or later

HARDWARE

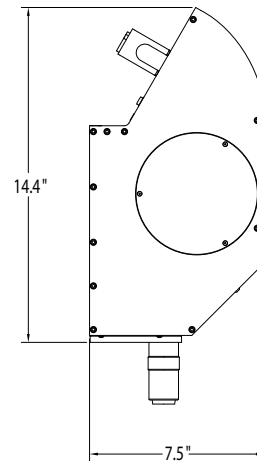
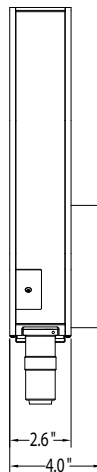
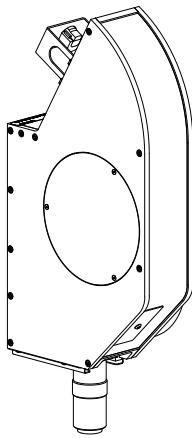
| | eVue-III 10X | eVue-III 40X | eVue-III 10X PRO | eVue-III 40X PRO |
|---|---|-------------------|-------------------|-------------------|
| Zoom range | 0.5 - 5.0 | 0.5 - 20.0 | 0.5 - 5.0 | 0.5 - 20.0 |
| Zoom resolution | 0.1X through zoom range | | | |
| Zoom features | Par focal, Par centric, and Par theta throughout zoom range | | | |
| Remote focus resolution | 0.2 μm | 0.2 μm | 0.2 μm | 0.2 μm |
| Remote focus range | 2 mm | 2 mm | 2 mm | 2 mm |
| Auto focus | | | Yes | Yes |
| Optical path+camera | Two cameras | Three cameras | Two cameras | Three cameras |
| Imaging technology | Color imaging | | | |
| Illumination system | LED (solid state, long life) illumination system | | | |
| Standard video frame rates (1024x768) | | | | |
| Color / Monochrome | 45.5 fps | 45.5 fps | 45.5 fps | 45.5 fps |
| High-resolution video frame rates (2048x1536) | | | | |
| Color / Monochrome | | | 13.1 fps | 13.1 fps |
| Auto objective identification | Yes, when using intelligent objective mount | | | |

*Frame rates are typical values in frames per second (fps) and are effected by the scene being viewed, zoom ratio and camera exposure settings in the eVue-III system software.

HARDWARE / REQUIREMENTS

| | |
|---|--|
| Weight | 3.72 kg (8.2 lbs) without focus block |
| LED lamp life | 5000 hours average (3-4 years typical usage @25°C) |
| Operating conditions | |
| Voltage | 50/60 Hz 100-240 VAC (CE, UL, ETL) |
| Temperature | +20°C to +50°C (+68°F to 122°F) |
| Humidity | 20 to 85%, non condensing |
| MTBF (mean time before failure of non-consumable parts) | 30,000 (10 year useful life) |
| Recommended objective lenses | Mitutoyo 2X, 5X, 10X, 20X, 50X (M Plan APO, SL) |
| Computer requirements | Compatible with Cascade Microtech's eVue-III "certified" computer only |

DIMENSIONS



COMPONENTS INCLUDED IN ALL MODELS

| |
|--|
| Multi-CCD microscope/imager |
| Sub-micron programmable remote focus stage |
| Integrated LED illumination system |
| USB remote control box |
| Intelligent objective lens mount |
| Digital video PC interface card |
| Video processing software |
| Nucleus prober software integration module |

AVAILABLE MODELS

| | PRE-CONFIGURED PACKAGES BY PROBE STATION TYPE | | |
|--|---|--------------------|----------------------|
| | Elite300™ | Summit™ semi-auto | Manual or standalone |
| eVue-III 10X | P/N 151-521 | P/N 151-522 | P/N 151-523 |
| 10X standard zoom range (two cameras) | Included | Included | Included |
| 2" heavy duty focus block | Not required | Included | Included |
| High-performance computer with 20" LCD monitor | Not required | Not required | Included |
| eVue-III 40X | P/N 151-541 | P/N 151-542 | P/N 141-543 |
| 40X extended zoom range (three cameras) | Included | Included | Included |
| 2" heavy duty focus block | Not required | Included | Included |
| High-performance computer with 20" LCD monitor | Not required | Not required | Included |
| eVue-III 10X PRO | P/N 151-531 | P/N 151-532 | P/N 151-533 |
| PRO package containing three software toolkits Multi-Z (Optical Z-contact system, autofocus) Multi-Cam (Wafer-probe navigation, Picture-in-Picture) Multi-View (Hi-res video, probe card alignment, probe zoom views) | Included | Included | Included |
| 10X standard zoom range (two cameras) | Included | Included | Included |
| 2" heavy duty focus block | Not required | Included | Included |
| High-performance computer with 20" LCD monitor | Not required | Not required | Included |
| eVue-III 40X PRO | P/N 151-551 | P/N 151-552 | P/N 151-553 |
| PRO package containing three software toolkits Multi-Z (Optical Z-contact system, autofocus) Multi-Cam (Wafer-probe navigation, Picture-in-Picture) Multi-View (Hi-res video, probe card alignment, probe zoom views) | Included | Included | Included |
| 40X extended zoom range (three cameras) | Included | Included | Included |
| 2" heavy duty focus block | Not required | Included | Included |
| High-performance computer with 20" LCD monitor | Not required | Not required | Included |

ACCESSORIES AND UPGRADES

P/N 131-954 INTELLIGENT OBJECTIVE LENS MOUNT

The intelligent objective lens mount is used with eVue-III digital imaging systems, and includes a programmable memory device for storing microscope objective lens information (magnification, N.A. (Numerical Aperture), brand, serial number, pixel-to- μm ratio). This information is read from the Intelligent Mount when inserted into the eVue-III digital imaging system, and is used to automatically configure and optimize performance.

P/N 131-964 UPGRADE, PRO PKG

High-performance "PRO package" upgrade for eVue-III digital imaging systems

This will upgrade a basic eVue-III system to include all the features of the PRO package eVue-III versions.

The eVue-III PRO package upgrade includes the following:

Software toolkits

Multi-Z (Optical Z-contact system, autofocus)

Multi-Cam (Wafer-probe navigation, Picture-in-Picture)

Multi-View (High-resolution video, probe card alignment, multi-needle views)

On-site installation

OBJECTIVES

P/N 102-516 Mitutoyo M Plan APO 2X Objective ●

P/N 106-762 Mitutoyo M Plan APO 5X Objective ●

P/N 102-517 Mitutoyo M Plan APO 10X Objective ●

P/N 102-518 Mitutoyo M Plan APO 20X Objective* ●

P/N 102-293 Mitutoyo M Plan APO 50X Objective* ●

● = Recommended, ○ = Available *Not compatible with Celadon VersaTile probe cards due to the high profile of the probe card.

VUETRACK TECHNOLOGY

The VueTrack technology provides a novel method to track probe tips and correct for drift, allowing a customer to run a probe station unattended at multiple temperatures with no operator intervention. The VueTrack technology significantly increases test productivity and test cell efficiency by eliminating the idle time between temperature transitions and automatically generating parametric and reliability data.

The VueTrack technology is compatible with Cascade Microtech's Elite300, Summit 12000B and S300 series of probe stations.

| | Elite300 | Summit 12000B | S300 |
|--|-----------|---------------|-----------|
| VueTrack technology* | 151-359 | 151-359 | 151-359 |
| VueTrack 30-day demo license * | 151-243** | 151-243** | 151-243** |
| eVue-III 40X PRO | 151-551 | 151-552 | 151-552 |
| eVue-III 10X PRO | 151-531 | 151-532 | |
| eVue PRO upgrade for any non-PRO model | 131-964 | 131-964 | 131-964 |
| Nucleus 4.1 upgrade*** | 125-812 | 125-812 | 125-812 |
| VueTrack technology upgrade bundle: VueTrack technology eVue-III 40X PRO Nucleus 4.1 Software | 151-242 | 151-360 | 151-360 |

*Nucleus 4.1 or later and eVue PRO model required

**Nucleus 4.1.2 and Cascade Microtech's on-site application training required

***Elite300 and Summit 12000B probe stations ordered or installed after July 5, 2010 are equipped with Nucleus 4.1

ACCESSORIES AND UPGRADES

HTS ENHANCEMENTS

High Thermal Stability (HTS) enhancements minimize the thermal drift of the probe supporting components. They are made of high temperature stable materials such as Invar. Using HTS enhancements, transition and die soak time can be minimized to optimize the probe station's productivity.

| | Probe | Elite300 | Summit 12000B | S300 |
|--|----------------|-----------|--|---------|
| Thermally-isolated platen | All | Standard* | 151-337 | 151-338 |
| Thermally-stable probe card holder | Probe cards | 151-293 | 151-293 | 151-293 |
| Thermally-stable probe arms for probes | DCP or DCP-HTR | | 151-288 (for DCM positioners, coax)** 151-287 (for DCM positioners, triax)** 151-286 (for MS-1 positioners, triax)** | |
| | PTT needles | | 151-289 (for DCM positioners) 151-290 (for MS-1 positioners) | |
| HTS probe tips for DCP-HTR | DCP-HTR | | 154-007 (Replaceable probe tips, box of 10, flat tip, 19 µm diameter) 154-009 (Replaceable probe tips, box of 10, flat tip, 13 µm diameter) 154-011 (Replaceable probe tips, box of 10, flat tip, 7.5 µm diameter) 154-001 (Replaceable probe tips, box of 10, radius tip, 19 µm diameter) 154-003 (Replaceable probe tips, box of 10, radius tip, 10 µm diameter) | |

*Elite300 stations ordered before March 31, 2010 require HTS Platen Retrofit Kit p/n 151-284

**DCP-HTR probe holders must be ordered separately

© Copyright 2011 Cascade Microtech, Inc.
All rights reserved. Cascade Microtech is a registered trademark, and Elite300, eVue, Nucleus, Summit and VueTrack are trademarks of Cascade Microtech, Inc. All other trademarks are the property of their respective owners.

Data subject to change without notice

EVUE-SS-1011

Cascade Microtech, Inc.
toll free: +1-800-550-3279
phone: +1-503-601-1000
email: cmi_sales@cmicro.com

Germany
phone: +49-89-9090195-0
email: cmg_sales@cmicro.com

Japan
phone: +81-3-5615-5150
email: cmj_sales@cmicro.com

China
phone: +86-21-3330-3188
email: cmc_sales@cmicro.com

Singapore
phone: +65-6873-7482
email: cms_sales@cmicro.com

Taiwan
phone: +886-3-5722810
email: cmt_sales@cmicro.com