## How a Complete Mantis 3rd Generation System is Built

A Mantis system requires: (1) One Microscope Head (2) One Stand Option (3) At least one Objective Lens

■ **PIXO heads can also add optional imaging components (camera controller, monitor, software).**

### Step 1 — Choose Your Head

| Head Type | Vision SKU | Best Use Cases | Notes |
|---|---|---|---|
| **PIXO** | MPH001<br>MPH003 | IPC-A-610 inspection with documentation, training environments, aerospace/defense QC, any application requiring image capture or reporting | Stereo head with integrated 5MP camera + ViCapture software. Standard (MPH001) or White/UV (MPH003). Works with PIXO/ERGO lenses + optional imaging components. |
| **ERGO** | MRH001<br>MRH002 | Production inspection without documentation needs, conformal coating inspection (UV model), operators who switch magnification frequently | Optical-only stereo head. All PIXO features minus the camera. Standard (MRH001) or White/UV (MRH002). Works with PIXO/ERGO lenses. |
| **IOTA** | MIH001 | Basic rework stations, simple QC, confined workspaces, cost-conscious buyers needing ergonomic comfort | Compact optical-only head. Single lens mount (no turret). No dynamic 3D lighting. Uses IOTA-specific lenses only. |

### Step 2 — Choose a Stand Option

| Stand Type | Vision SKU | Notes |
|---|---|---|
| Stabila Column | MTB210 | Column for Mantis heads — requires MTB211 or MTB212 base |
| Stabila Plain Base | MTB211 | Plain base — requires MTB210 column |
| Stabila Illuminated Base | MTB212 | Illuminated base with sub-stage light (best for translucent subjects) — requires MTB210 column |
| Verso Arm | MTB200A | Flexible repositioning arm — ideal for rework stations; allows head to be pushed aside when not in use |
| Verso Forearm Extension | MTB201A | Extends reach of Verso Arm; note: 10x/15x lenses require movement restrictor when used on Verso without forearm |
| Pilot Stage | MTB220 | Floating XY stage — compatible with MTB211 or MTB212 base |

### Step 3 — Choose Lenses

| Lens Type | SKU | Mag. | Working Dist. | Field of View | Compatibility & Best Use |
|---|---|---|---|---|---|
| PIXO & ERGO Lens | MTO003 | 3.0x | ~100mm (3.9") | ~24mm | PIXO & ERGO only — board-level overview, large assemblies |
| **PIXO & ERGO Lens** | **MTO004** | **4.0x** | **96mm (3.8")** | **~34mm** | **PIXO & ERGO only — MOST COMMON: everyday PCB inspection, assembly verification, IPC-A-610 work** |
| PIXO & ERGO Lens | MTO006 | 6.0x | 68mm (2.7") | 23mm | PIXO & ERGO only — component-level inspection, light rework |
| PIXO & ERGO Lens | MTO008 | 8.0x | 59mm (2.3") | ~17mm | PIXO & ERGO only — fine SMT components, BGAs, small pads |
| PIXO & ERGO Lens | MTO010 | 10x | 54mm (2.1") | 13.5mm | PIXO & ERGO only — high detail, fine pitch; not suited for Verso Arm |
| PIXO & ERGO Lens | MTO015 | 15x | 54mm (1.6") | 8.8mm | PIXO & ERGO only — micro inspection, failure analysis; not suited for Verso Arm |
| PIXO & ERGO SLWD Lens | MTO007 | 6x SLWD | 112mm (4.4") | 20mm | PIXO & ERGO only — active soldering/rework with tool clearance at inspection mag. Requires MTA314. |
| PIXO & ERGO SLWD Lens | MTO009 | 8x SLWD | ~100mm+ | ~17mm | PIXO & ERGO only — fine detail while maintaining tool clearance. Requires MTA314. |
| IOTA Lens | MTO103 | 3.0x | ~100mm | ~24mm | IOTA only — overview inspection |
| IOTA Lens | MTO104 | 4.0x | ~96mm | ~34mm | IOTA only — general inspection (most common IOTA lens) |
| IOTA Lens | MTO106 | 6.0x | ~68mm | ~23mm | IOTA only — component-level inspection |
| IOTA Lens | MTO108 | 8.0x | ~59mm | ~17mm | IOTA only — fine detail work |
| *SLWD Extension* | *MTA314* | — | — | — | Required accessory when using MTO007 or MTO009 SLWD lenses on PIXO or ERGO heads |

### Additional Components — PIXO Only

| Component | Vision SKU | Notes |
|---|---|---|
| Microscope Controller | CAM-040 | PC-based controller for image capture via ViCapture software |
| HD Monitor, 22" | CAM-028 | HDMI input — for live display, training, and sharing inspection views with teams |
| DimensionOne Software | VIS003 | Image capture, annotation, and on-screen measurements — pairs with CAM-040 |

**Most popular electronics manufacturing configuration:** PIXO (MPH001) + Verso Arm (MTB200A) + 4x (MTO004) / 6x SLWD (MTO007) / 10x (MTO010) turret. Covers board overview through fine-pitch inspection; 6x SLWD provides tool clearance for rework. Add CAM-040 + CAM-028 + VIS003 if documentation or training is required.