ISSUE LOGS

AEROTECH ROBOTIC ARM

ISSUE	STATUS	PROCEDURES TRIED	SOLUTION
PSO not triggering camera when Calibration target reaches desired positions.	resolved	1. Increasing pulse width of PSO signal : no change 2. Check PSO Mask bit : ALL OK 3. **Wiring fault check : RESOLVED**	Fault in wiring corrected. (Loose terminals.)
Z-axis motor : over current fault (when moved upwards)	resolved	1. Resetting the controller : fault still persists 2. Checking connections and daisy chains of FireWire between A3200 controllers: ALL OK 3. Changing Y-axis and Z-axis controller to check for fault in controller : No fault in A3200 controller. 4. **Use a AC/DC converter with a 1A fuse as an external power source for Z-axis motor.: RESOLVED**	Use a AC/DC converter with a 1A fuse as an external power source for Z-axis motor. *(Protection against over-current)*
Z-axis motor : position encoder fault (when moved downwards)	resolved	1. Resetting the controller : fault still persists. 2. Checking connections and daisy chains of FireWire between A3200 controllers: ALL OK 3. Changing Y-axis and Z-axis controller to check for fault in controller : No fault in A3200 controller. 4. **Use a AC/DC converter with a 1A fuse as an external power source for Z-axis motor.: RESOLVED**	Use a AC/DC converter with a 1A fuse as an external power source for Z-axis motor. *(Protection against over-current)*
FireWire card not detected on PCI 6, bus 3; even though its connected	resolved	1. Manually Selecting BUS from A3200 Configuration Manager: NOT RESOLVED 2. Restarting all applications: NOT RESOLVED 3. **Restarting the computer: RESOLVED**	Restart the computer. *(resetting the FireWire port)*
Cable Entanglement of Y-axis when moved along X-axis	resolved	1. 380 degree cable carrier : Play of cable carrier isn't enough. 2. Look into hybrid cable carrier design: Not worth the effort 3. **Place acrylic sheet below the cable carrier, allows for slipping and dragging without much friction from the carpet.: RESOLVED**	Use Acrylic sheet to reduce surface friction.
Y axis doesn't generate PSO trigger pulse.	resolved	1. Search the sample code from the vendor 2. Figure out the function's meaning 3. Contact the vendor for help 4. **Peter was firing the Z-axis instead of the Y, Don't let Peter near the Aerotech codes: RESOLVED**	Limit Peter's access and editing privileges to Aerotech Arm's core programs.
Triple Axes not firing in a single PSO Window.		1. Check controller configuration 2. Check the wiring and daisy chained network. 3. **Enable the auxiliary encoders after enabling the primary encoders for PSO, sequence matters.: RESOLVED**	Enable the auxiliary encoders after enabling the primary encoders for PSO, sequence matters.
License registration failure on iNtime	resolved	1. **Restart the Aerotech Motion Composer and Reset the controller: RESOLVED**	Reset the A3200 controller.

| Team work schedule seems no synchronize with the sponer | resolved | 1. Make a work path and progress schedule and discuss with Sponsor | Communicate with Sponsor |
| The intersection of checkerboard pattern would overlapped because printer | resolved | 1. Add different gaps in the original file to compensate the overlap. And used magnifier to choose the best one with just intersection and less overlapping. | Compensate the overlap with the pre-set gas. |

CAMERA SETUP

ISSUE	STATUS	PROCEDURES TRIED	SOLUTION
Cannot trigger multi-cameras at the same time	resolved	1. We implement EVT API in our code (on visual studio platform) and change it to make multiple camera open, stream and record. However, we found that every time when we stop our program while it was running or it stop itself because of bugs in the program, we would face failure reopening the cameras next time. 2. At first we thought we might be using the API codes wrong. 3. After several tests, we found out that cameras needed to be closed by explicit API commands and since our commands for closing camera is put at the last part of our code, the program wouldn't execute the command if it stop before the command.	Make sure the camera is closed before we test the program from the start There are two ways to do it : 1. Run the close command. 2. Restart the cameras.
Remove the gain FPN	unresolved	1. Get a sequence of images with a marker to indicate the frame shift 2. Try to unify the coefficient before the true value of a specific pixel so that we can get better digital images	
Failure in corner detection of high resolution images	unresolved	1. Harris corner detector failed to detect corners unless we down-sampling the images. 2. We will try enlarge kernel size of the detector or other detection method.	