Standard Operating Procedure
for Kawasaki cx165l Robot Arm
“Moveit! Planning Execution”

Introduction:

This document describes how to properly initialize the “Moveit Planning Execution” which allows for the manual path planning of the Kawasaki cx165l under the ROS framework.

Procedure:

1. Powering on the robot
    a. Flip the switch on the Kawasaki transformer to the on position as shown in figure 1.

Figure 1

    b. Flip the switch on the Kawasaki controller to the on position as shown in figure 2.

Figure 2

c. Ensure the controller is in REPEAT mode.
d. Leave the room that the robot resides in and shut both the double doors and the single door to the room. Ensure the stack light above the door shown in figure 3 is green. This must be done prior to the following steps, for the p-stop to disable and for safety.

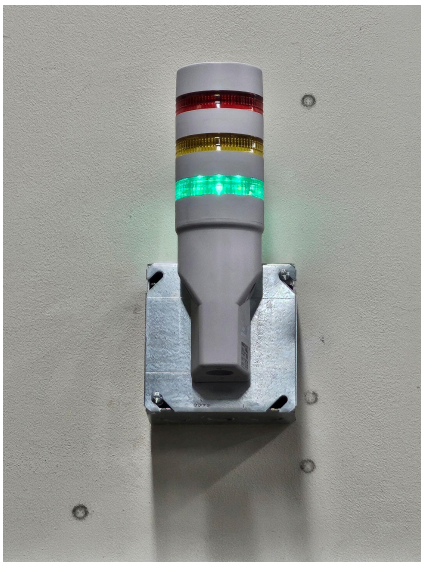

Figure 3

e. Ensure the teach pendant is in REPEAT mode.
f. Log into the linux computer situated nearest the cx165l.
g. Open a terminal window and change the directory to the catkin workspace with the following command:

```
cd ~/wwg_scan_ws
```

h. Source the workspace with the following command:

```
source devel/setup.bash
```

i. Launch Moveit! planning execution with the following command:

```
roslaunch khi_cx165l_moveit_config moveit_planning_execution.launch sim:=false robot_ip:=192.168.0.23
```

j. Alternatively, copy the list of commands and run to perform the steps e-g at the same time with the following commands:

```
cd ~/wwg_scan_ws
source devel/setup.bash
roslaunch khi_cx165l_moveit_config moveit_planning_execution.launch sim:=false robot_ip:=192.168.0.23
```

k. Rviz will launch and a planning scene will initiate. Rotate the scene until you see the robot.
l. Move the robot to the desired location and select the “Plan” button in the “MotionPlanning” pane under the “Plan” tab in the “Commands” frame.
m. Adjust the “Velocity Scaling” and “Accel. Scaling” values in the options menu to reduce the speed of the robot from its maximum.
n. Select the “Execute” button in the “Commands” frame to command the robot to move to the planned location.