

## DAD-3240 Dicing Instructions

1. From the Main Menu press “Device Data” – F3.
2. Make your own directory under your PI or adviser’s name. There are several commands that allow you to Create/Delete a Directory, Rename/Delete/Copy files, or List them. The commands are straight forward and should be easy to use.
3. Select your directory from the “Device Data List”. Select the appropriate “Device Data” file. This is the file and the data inside it that will be used to cut your wafer.
  - a. If you are changing the cutting parameter list or adding a device, make a new file, this file should have your name and the current date as the label.
    - i. Use the “Copy” function - F2, to make a new file
    - ii. Select the desired directory as the “Destination Directory”
    - iii. Enter your name and the current date for the file name under “Destination Data” using the software keyboards
    - iv. Press “Enter”
  - b. Select the Device Data file you wish to use and press “Enter”
  - c. Make sure the parameters are correct and match the cuts you want to make
  - d. For a Progressive Depth Cut, see the instructions for modifying your Device Data file.
  - e. Press “Exit” until you return to the Main Menu Screen
4. From the Main Menu screen press “Manual Operation” – F2
5. Press “Auto Cut” – F3
6. Press “Manual Align” – F4
  - a. Adjust the initial light level: Direct – 25%, Oblique – 20%, or as necessary
  - b. Move the wafer under the microscope field of view if necessary.
  - c. Press F9 and hold for 2 seconds, this will autofocus the sample, if not already focused. *If the sample is thick, focus may not occur, use Manual Focus*
    - i. *To use the manual focus option, Press F9 momentarily. This should bring up the Manual Focus Screen.*
    - ii. *Move the microscope over the sample, and Press F3, “AF by Data”. This will look at the sample height in the recipe data and focus at that height. Adjust the manual controls for fine focus control if needed, F2 & F8.*
  - d. Change to the low “Magnification” view – F11, adjust the light levels as necessary.
  - e. Pick a feature on the left side of the wafer and move that to the solid center Hairline on the display. This is your left side Theta alignment point. When finished, Press “Align” – F5, the chuck table should move to the right side of the wafer.
  - f. Pick a similar feature on the right side of the wafer and move that to the solid center Hairline on the display. Once that is done, Press “Align” – F5, this should move to the left side of the wafer and the wafer should be Theta adjusted. Toggle F5 back and forth and adjust as necessary until the alignment is complete. Once complete, make sure the display is on the left side of the wafer.
  - g. (Note 1) Pick a location where a cut is to be made. Align that location of the wafer in the display with the solid horizontal center line of the “Hairlines”, use the width controls to match the width of the location.

- h. Switch to high “Magnification” – F11
  - i. Once this is finished, press “Enter”. This should complete the alignment and cutting location for this pass. The wafer should rotate 90 degrees automatically for the 2<sup>nd</sup> pass alignment.
  - j. Press the up arrow “Y-Axis” button once, press “Enter”.
  - k. Repeat the process (e thru j) for second set of cuts.
  - l. This should complete the wafer alignment in both directions and be ready to cut.
7. Press Start to begin the wafer cutting process.
  8. Upon completion you will get a “Beep” from the tool, press the “Alarm” button to acknowledge & clear this notification. Press Exit until you are returned to the main menu
  9. Remove your sample
    - a. Press C/T vacuum to release the ring/tape/wafer.
    - b. Open the right hand door
    - c. Close the right hand door
  10. Remove the blade
    - a. Press “Blade Maintenance” – F4, then press “Blade Replacement” – F1
    - b. Open the left hand door to gain access to the blade.
    - c. Remove the front spray nozzle
    - d. Remove the outer threaded washer with the round gripper tool
    - e. Remove the blade on the chuck, if you removed the spacer for a Thermocarbon blade, replace it back on the spindle at this time.
    - f. Place the outer threaded washer with the round gripper tool back onto the spindle and lightly tighten (this is for storage of the part not operation)
    - g. Install the front spray nozzle
    - h. Close the left hand door
    - i. Press “Exit” to get back to the main screen.
    - j. Press “System Initial”
  11. Turn off the dicing saw, turn the key to the off position and release
  12. Turn off the compressed air and chiller.
  13. With the wipe, gently wipe off the chuck and discard the wipe.
  14. Disable the tool in Coral.