# Mentor to Adiva Interface (Quick-Start User Guide)

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Adiva Version 9.5

# Notice

Representations in this User Guide are meant as an overview and quick reference. Full details can be found in the On-Line manuals located at the *ADIVA Corporation* website - www.adiva.com



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# Preparing Mentor Boardstation

- Make sure the Mentor design directory is located such that it **DOES NOT** contain a space in the path or in any filename.

- Mentor's Geometry ***artwork_order*** is the key definition of the artwork stackup used by the interface. The ***artwork_order*** must be created such that the circuit layer order is the same as the board stackup.

  This means that the circuit layers are to be in the same order in which they are to be assembled. Circuit layers are defined as layers containing either *SIGNAL_x* or *POWER_x*.

  The layer order number does not need to be sequential. In the following chart, the first circuit layer in the *artwork_order* geometry (sorted by layer order number) is **assumed** to be the top layer of the board, the second circuit layer entry is the second layer of the board, etc., etc..

  **Note:** In the following chart, layer order numbers 2, 7, 9, 11, and 15 are missing from the geometry as well as non-circuit layers are mixed with the circuit layers. This is not a problem.

  To reiterate, the critical item is that the circuit layers are in the **SAME SEQUENCE** (sorted by layer order number) as the artwork stackup.

# Preparing Mentor Boardstation

Example 'artwork_order' geometry…

| Layer Order Number | Physical Layer | Logical Layer |
|---|---|---|
| 1 | 1 | SIGNAL_1, PAD_1 |
| 3 | 2 | SIGNAL_3 |
| 4 | N/A | SOLDER_MASK_1 |
| 5 | 3 | POWER_1 |
| 6 | 4 | POWER_2 |
| 8 | N/A | SILKSCREEN_1 |
| 10 | N/A | SOLDER_MASK_2 |
| 12 | 5 | SIGNAL_4 |
| 13 | N/A | PASTE_MASK_1 |
| 14 | 6 | SIGNAL_2, PAD_2 |
| 16 | N/A | SILKSCREEN_2 |

# Running the Mentor Interface

- After an initial menu selection, usually no more than two to three button clicks are needed to extract Gerber & Drill to build the ADIVA database and run Netlist Compare providing connectivity analysis.

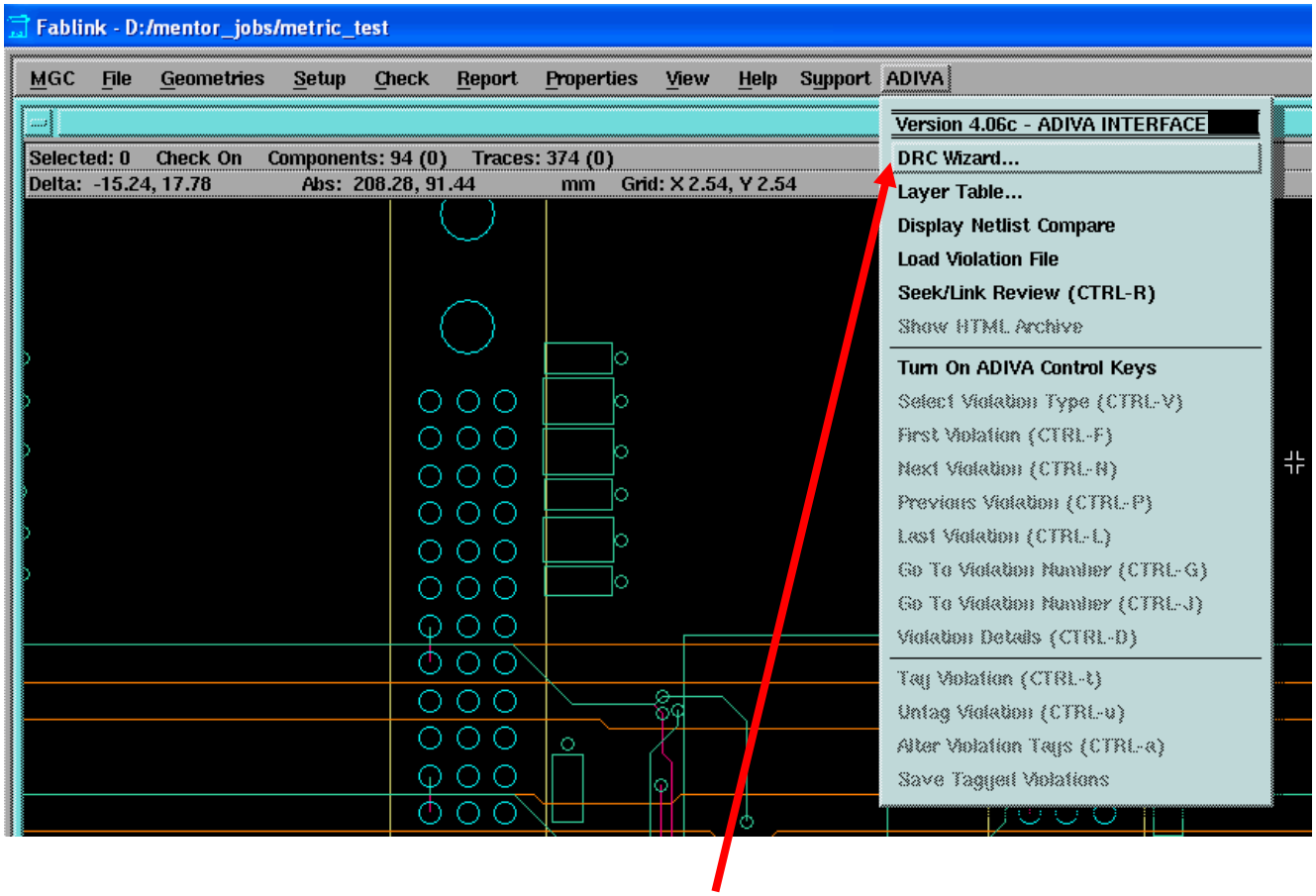
- Depending on board size and layer count, this process could take a few seconds to a few minutes to complete.

- Gerber and Drill files are placed into a newly created directory called **~mfg/DRC_jobname**
  where: “jobname” is the Mentor design directory name.

- Basic flow of the interface is….

  Start Interface
  **>>>** Adjust artwork naming, layer assignment or declare Fiducial assignment
  **>>>** Choose data output type for Gerber
  **>>>** Choose data output type for Drill
  **>>>** Watch Adiva appear on screen and produce Net Compare results when conversion completes.

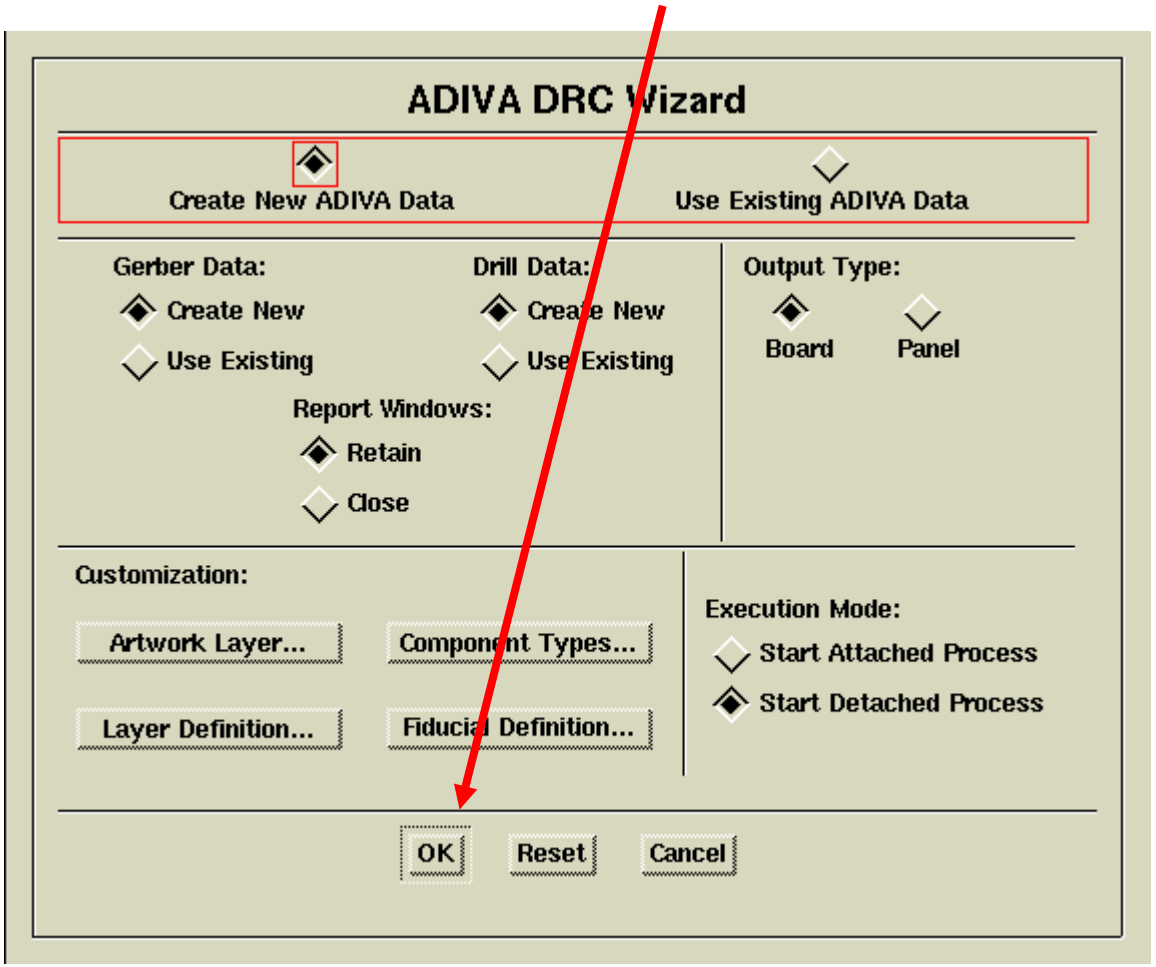
# Running the Mentor Interface




Open Mentor Fablink and select DRC Wizard to start the conversion process

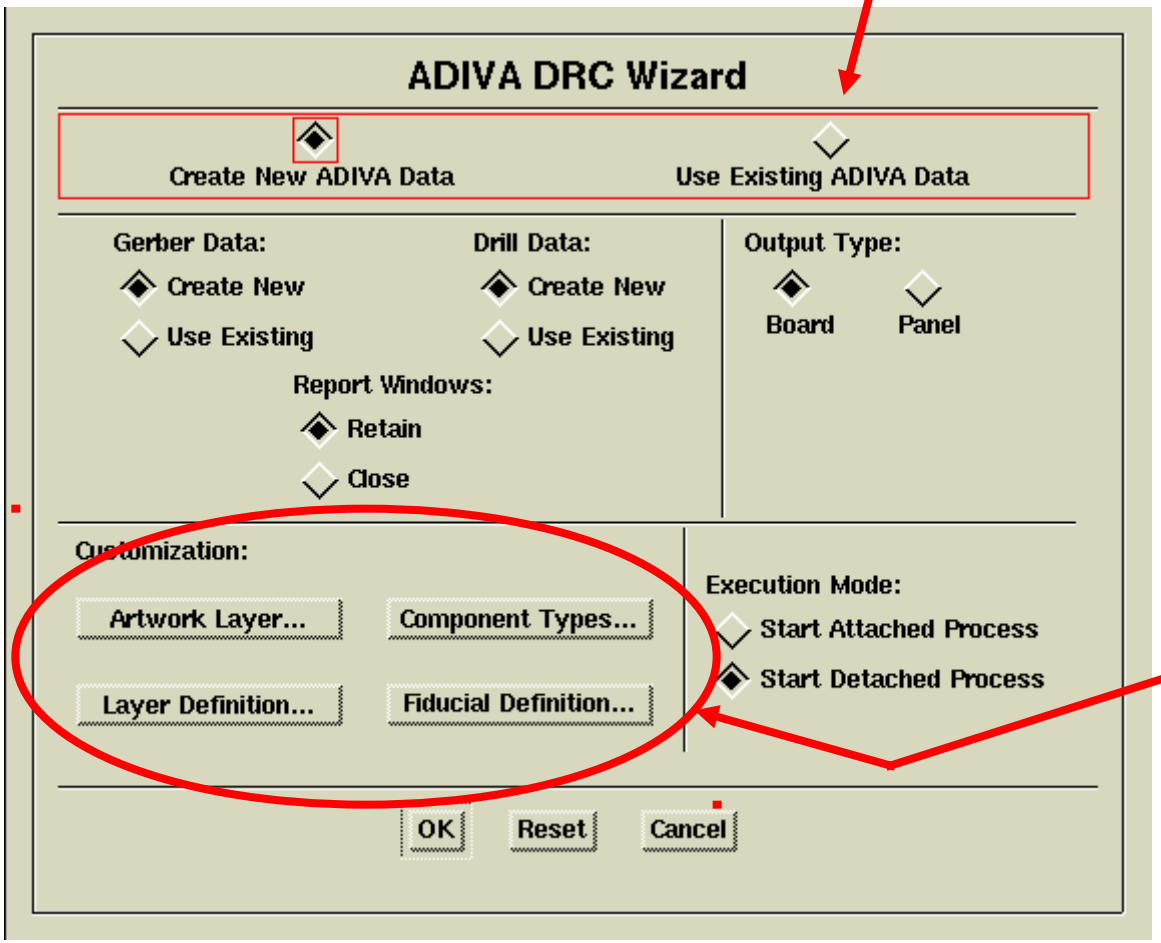
# Running the Mentor Interface

This is the typical (and default) processing scheme for the Mentor to ADIVA Interface. This dialog appears right after the menu selection for **DRC Wizard**. In most all cases, no changes need to be made in the default mode, just select OK to continue the process….



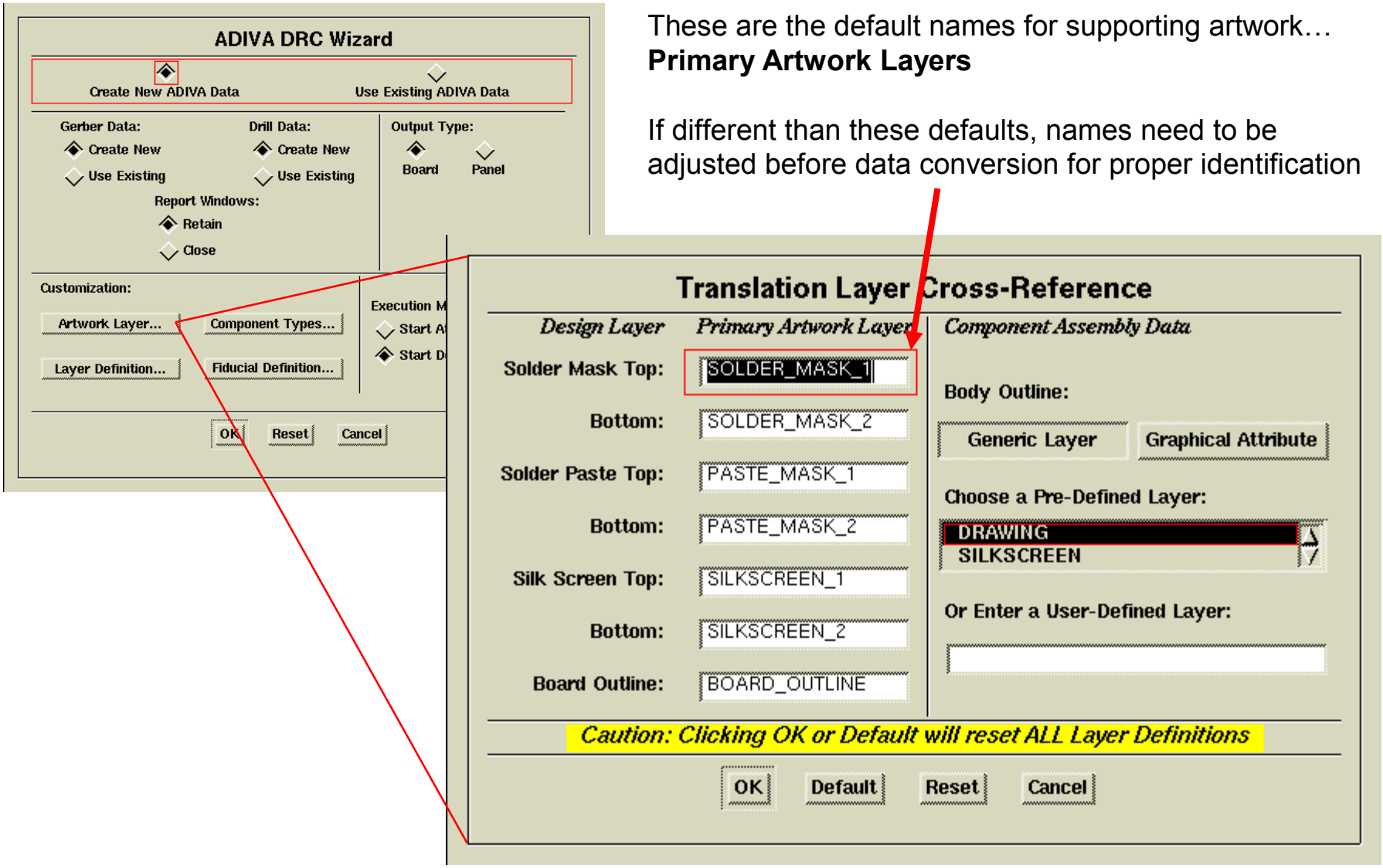
# Running the Mentor Interface

If an ADIVA database has already been created, the Existing ADIVA Data option will allow the user to open the existing data for analysis without having to “re-build” from scratch generating new artwork and drill data




There are a few specific items that may need to be reviewed or adjusted before data conversion begins

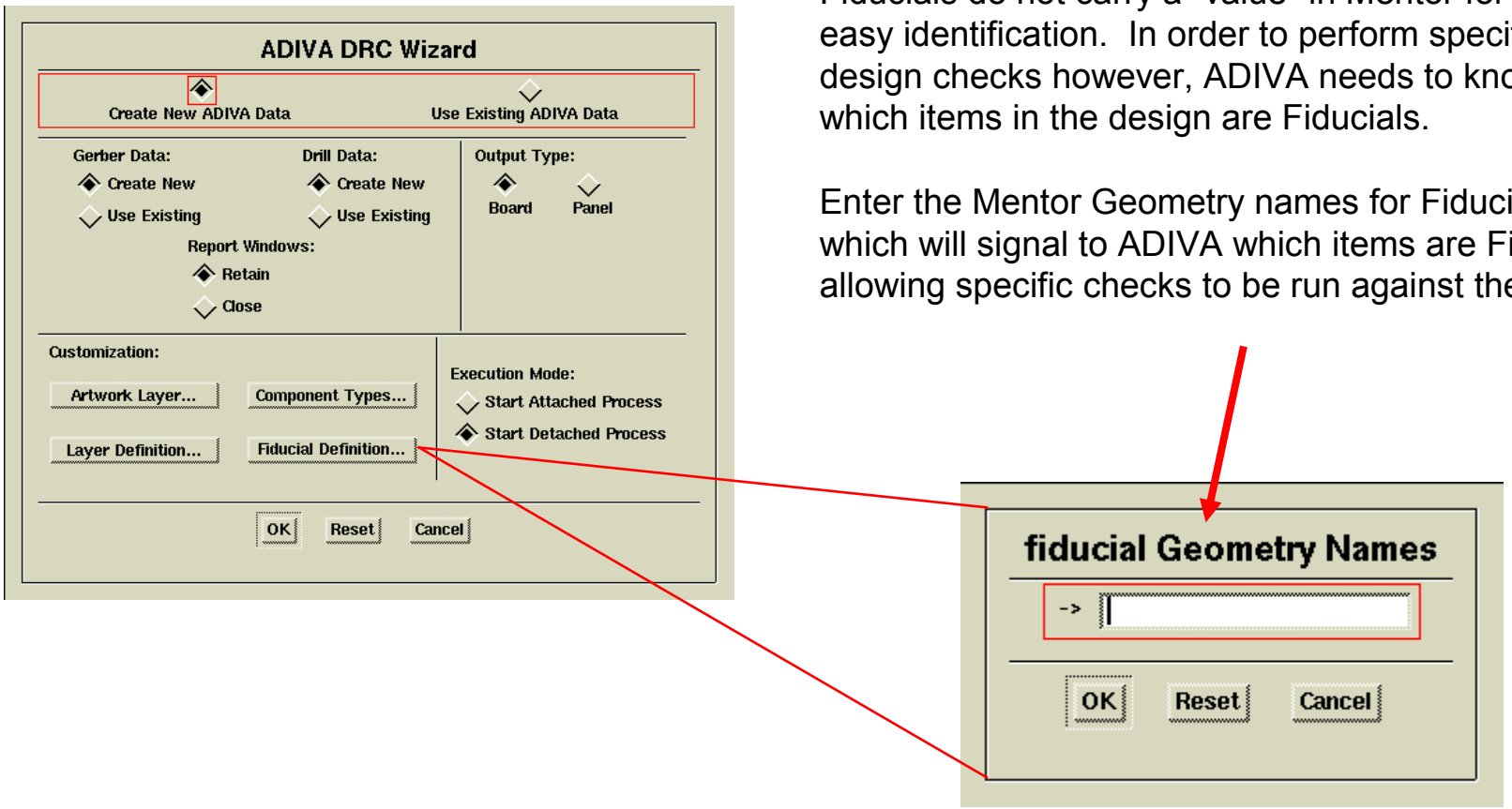
# Running the Mentor Interface




These are the default names for supporting artwork…
**Primary Artwork Layers**

If different than these defaults, names need to be adjusted before data conversion for proper identification

# Running the Mentor Interface



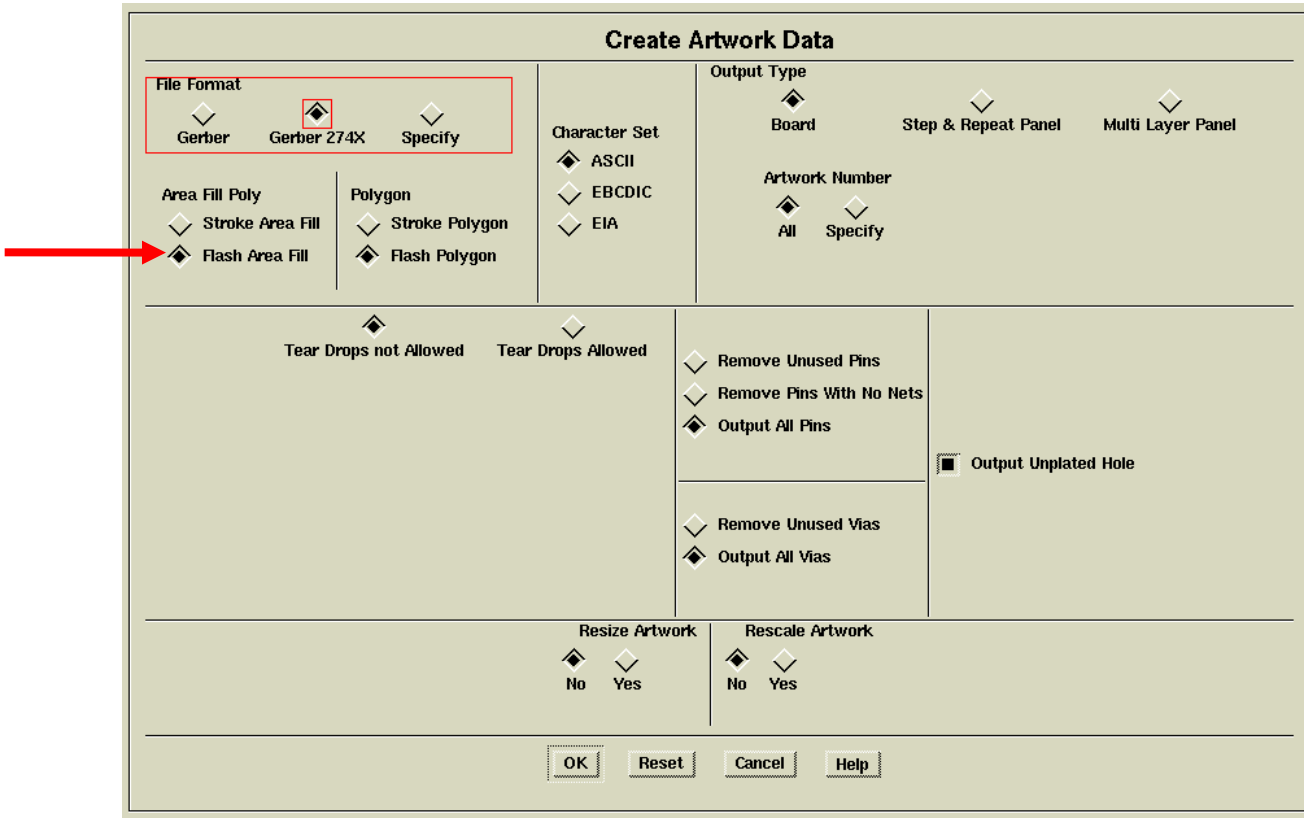

Fiducials do not carry a “value” in Mentor for easy identification. In order to perform specific design checks however, ADIVA needs to know which items in the design are Fiducials.

Enter the Mentor Geometry names for Fiducials which will signal to ADIVA which items are Fiducials allowing specific checks to be run against them.

# Running the Mentor Interface

Next comes the **Artwork Creation** dialog from Mentor. Below is the typical setup for Gerber output.

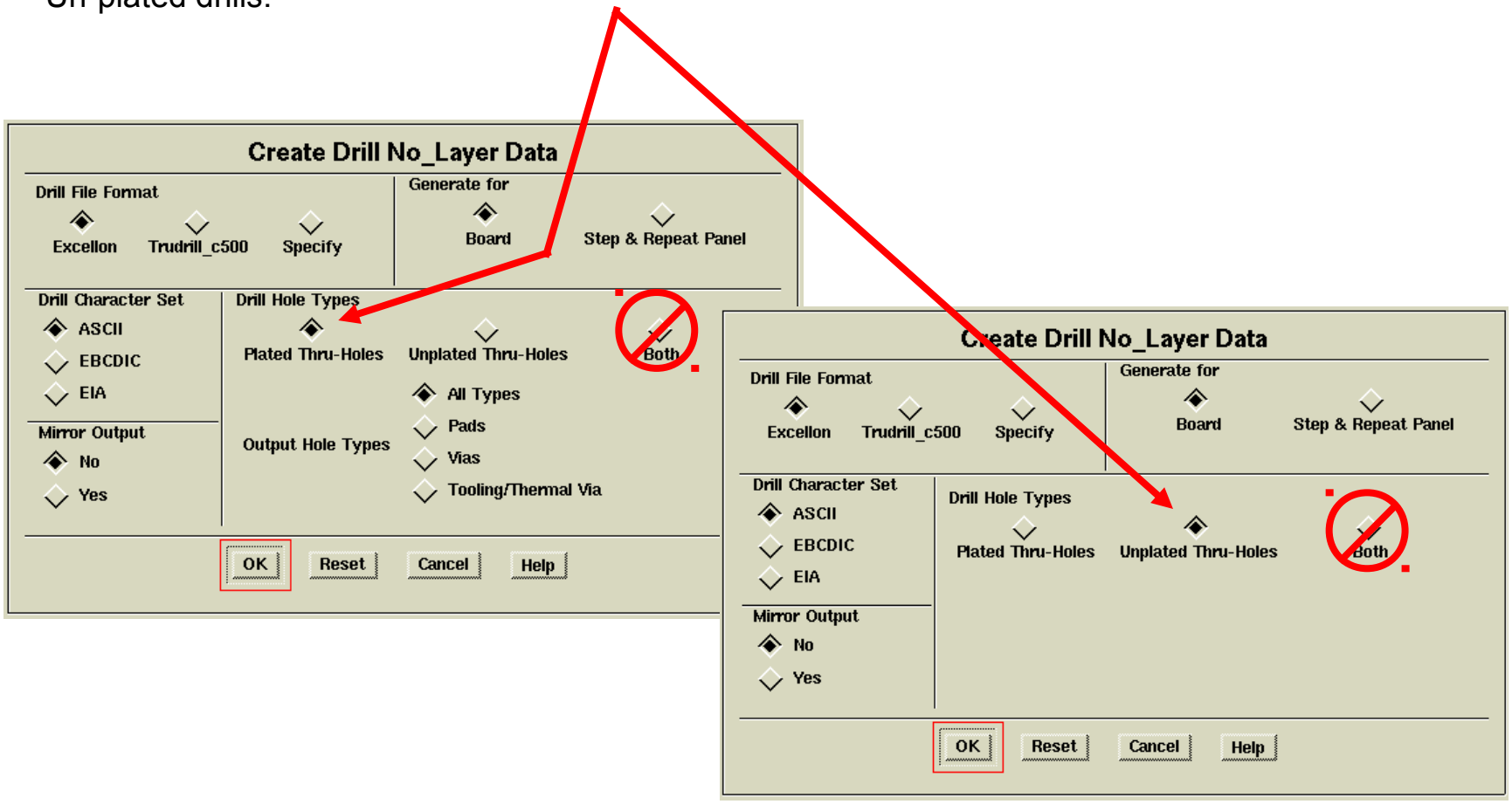
There are two choices for how to construct “Area Fills” and “Polygons” in Mentor output. For best ADIVA performance, construct these items with “Flash” data as shown.



# Running the Mentor Interface

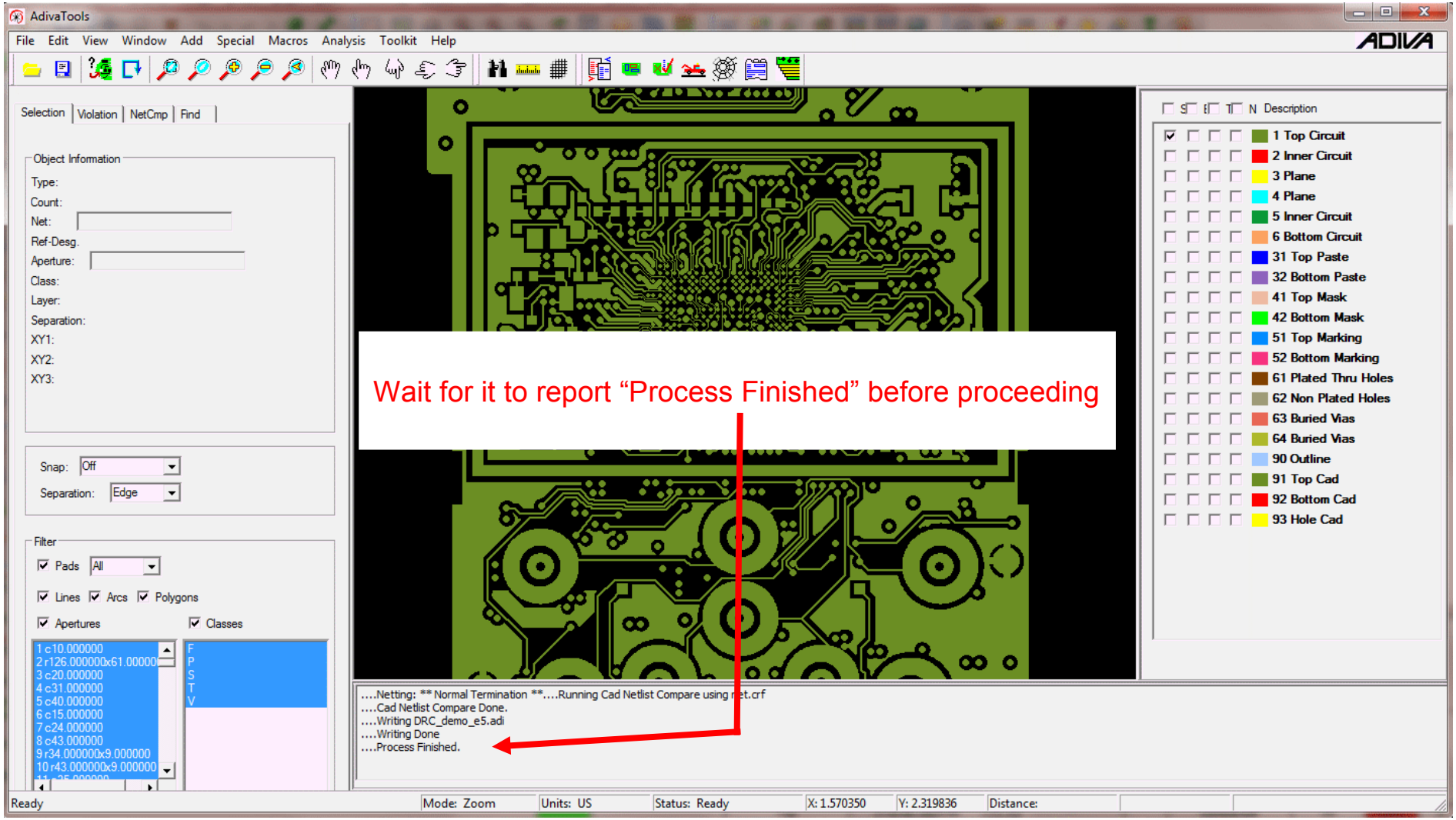
After Artwork Generation, the Mentor Drill Output dialogs appear. The selections shown below are the typical selections for drill data output. These dialogs will appear one after the other.

**Do Not** select the “Both” category for Drill Hole Types – ADIVA needs plated drills separated from Un-plated drills.



# Running the Mentor Interface

When the conversion process completes, the **ADIVA DRC Analysis** tool will appear on the screen



# Running the Mentor Interface

Once the Adiva database has been created, displayed and the “Process Finished” message posted, there are several processes that can be performed:

**CAD Netlist Compare** happened automatically. Select the NetCmp tab in the action display to view results of this function. See the **CAD Netlist Comparison Guide** for further details.

**AdivaView** can read and display this database. It is saved and exists in the DRC_jobname directory created under the Mentor job’s “mfg” directory. Its filename format is “DRC_jobname.adi”

*Where:* “jobname” is the Mentor filename and “.adi” is the ADIVA filename suffix.

DRC Analysis checks can be performed on this data looking for design rule violations. See the **Running DRC Checks Guide** for further details.

Once the Adiva database is created, Mentor Fablink can be closed if desired as there is no required connection needed for Adiva to function if the **detached process** is chosen.

It may be an advantage to open **Mentor Designer** for violation link-back of items found by Adiva into Mentor Boardstation. That way, a designer can repair a violation in real time. See the **Linking Violations Back to Mentor Boardstation Guide** for further details.

This completes the **Mentor to Adiva** Interface.

# END
# Mentor to Adiva Interface
# (Quick-Start User Guide)