



Technology Resource Center: Panelization Guideline

The following guideline has been provided as a means of assisting you to understand and optimize the layout of your circuit boards on Westak's manufacturing panels. This guideline should be used as advisory only and we recommend that you confirm panelization with your Westak Sales Representative.

This guideline applies to commercial boards with IPC Class II requirements and does not apply to IPC Class III boards nor boards requiring Mil-Spec.

Panel Sizes:

The following table will provide you with the commonly used panel sizes at each of our two manufacturing facilities. If the board requires controlled impedance or coupons, please contact your Westak sales representative for more information.

~All units are inches~

Panel Size	For D/S Boards	For Multilayer Boards	Facility
	Usable Area	Usable area	
12 by 18	10.50 by 16.50	10.50 by 16.50	California & Oregon
14 by 18	12.50 by 16.50	12.50 by 16.50	Oregon
14 by 26	12.50 by 24.50	12.50 by 24.50	California
16 by 18	14.50 by 16.50	14.50 by 16.50	California & Oregon
16 by 21	14.50 by 19.50	14 by 19	Oregon
12 by 24	10.50 by 22.50	10.50 by 22.50	California
18 by 24	16.50 by 22.50	16.50 by 22.50	California & Oregon
21 by 24	-	19 by 22.50	California & Oregon
18 by 26	-	16.50 by 24	Oregon

Individual Boards:

No gold edge connectors:

- Allow minimum of .100 spacing between boards.

With gold edge connectors:

- Gold edge connectors must lay to outside edges of the panel or be layed up with the boards "butterflied" as long as:
 1. .100 in. spacing is allowed between the boards;
 2. There is a minimum of 7 inches from edge connector to edge connector; and
 3. You allow .500 inch spacing from facing edge connector to facing edge connector.

Tab Route & Retain Arrays:

It is advisable to contact your assembly department or contract manufacturer for maximum array sizes and product orientation within the array.

**No gold edge
connectors:**

- Spacing between boards within the array must be a minimum of .093 up to .125 with Westak's preference being .100 spacing.
- If rails are required, use the same spacing between the rails and the boards as was used between the boards within the array. Rails can be any size.
- Use the same spacing between arrays as was used within the array.
- Board spacing on arrays may differ when right-angled connectors are used.

**With gold edge
connectors:**

- Please contact your Westak sales representative for assistance with lay up for boards with gold edge connectors and/or selective gold requirements.

Scored Panel Arrays:

It is advisable to contact your assembly department or contract manufacturer for maximum array sizes and product orientation within the array.

**No gold edge
connectors:**

- No spacing is required between boards within the array.
- If rails are required, no spacing is required between the rails and the boards. Rails can be any size.
- Use .100 spacing between arrays to allow for route.
- Board spacing on arrays may differ when right-angled connectors are used.

**With gold edge
connectors:**

- Please contact your Westak sales representative for assistance with lay up for boards with gold edge connectors and/or selective gold requirements.