

## PCB LAYER CONFIGURATION STACK-UPS

Rev A

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	<u>02A</u>	<u>02B</u>	<u>02C</u>								
Layer 1	(Top)	(Top)	(GND)								
Layer 2	(Bottom)	(ĠNĎ)	(Bottom)								
•	04A	04B	04C	04D	04E	04F					
Layer 1	(Top)	(Top)	(PWR)	(GND)	(GND)	(Top)					
-	(TOP) (GND)	(PWR)	` ,	(Signal)	` ,						
Layer 2		` ,	(Signal)	`	(Sig/Pwr)	(Signal)					
Layer 3	(PWR)	(GND)	(Signal)	(Signal)	(Sig/Pwr)	(Signal)					
Layer 4	(Bottom)	(Bottom)	(GND)	(PWR)	(GND)	(Bottom)					
	<u>06A</u>	<u>06B</u>	<u>06C</u>	<u>06D</u>	<u>06E</u>	<u>06F</u>	<u>06G</u>	<u>06H</u>	<u>06J</u>	<u>06K</u>	<u>06L</u>
Layer 1	(Top)	(Top)	(Top)	(Top)	(GND)	(GND)	(Top)	(Top)	(Top)	(Top)	(Top)
Layer 2	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(GND)	(PWR)	(PWR)	(Signal)
Layer 3	(Signal)	(Signal)	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(PWR)	(GND)	(Signal)	(Signal)
Layer 4	(Signal)	(Signal)	(PWR)	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(Signal)	(GND)	(Signal)
Layer 5	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(GND)	(PWR)	(PWR)	(Signal)
Layer 6	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(GND)	(GND)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)
	08A	08B	08C	08D	08E	08F	08G	08H	08J	08K	08L
Layer 1	(Top)	(Top)	(Top)	(Top)	(GND)	(GND)	(PWR)	(GND)	(Top)	(Top)	(Top)
Layer 2	(Signal)	(Signal)	(ĠNĎ)	(GND)	(Signal)	(Signal)	(Signaĺ)	(Signal)	(GND)	(GND)	(ĠNĎ)
Layer 3	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(PWR)	(Sig/Pwr)	(PWR)	(PWR)
Layer 4	(Signal)	(Signal)	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(Signaĺ)	(GND)	(Signaĺ)	(Signaĺ)
Layer 5	(Signal)	(Signal)	(PWR)	(GND)	(PWR)	(GND)	(Signal)	(Signal)	(Sig/Pwr)	(Signal)	(Signal)
Layer 6	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(PWR)	(GND)	(GND)	(PWR)	(GND)
Layer 7	(Signal)	(Signal)	(GND)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(Sig/Pwr)	(GND)	(PWR)
Layer 8	(Bottom)	(Bottom)		(Bottom)	(GND)	(GND)	(GND)	(PWR)	(Bottom)	(Bottom)	(Bottom)
	10A	10B	10C	10D	10E	10F	10G	10H	10J	10K	
Laver 1	10A (Top)	10B (Top)	10C (Top)	10D (Top)	10E (Top)	10F (Top)	10G (GND)	<u>10H</u> (GND)	<u>10J</u> (GND)	10K (GND)	
Layer 1	(Top)	(Top)	(Top)	(Top)	(Top)	(Top)	(GND)	(GND)	(GND)	(GND)	
Layer 2	(Top) (GND)	(Top) (GND)	(Top) (GND)	(Top) (PWR)	(Top) (GND)	(Top) (GND)	(GND) (Signal)	(GND) (Signal)	(GND) (Signal)	(GND) (Signal)	
Layer 2 Layer 3	(Top) (GND) (Signal)	(Top) (GND) (Signal)	(Top) (GND) (Signal)	(Top) (PWR) (Signal)	(Top) (GND) (Signal)	(Top) (GND) (Signal)	(GND) (Signal) (Signal)	(GND) (Signal) (Signal)	(GND) (Signal) (GND)	(GND) (Signal) (PWR)	
Layer 2 Layer 3 Layer 4	(Top) (GND) (Signal) (Signal)	(Top) (GND) (Signal) (Signal)	(Top) (GND) (Signal) (Signal)	(Top) (PWR) (Signal) (Signal)	(Top) (GND) (Signal) (PWR)	(Top) (GND) (Signal) (PWR)	(GND) (Signal) (Signal) (GND)	(GND) (Signal) (Signal) (PWR)	(GND) (Signal) (GND) (PWR)	(GND) (Signal) (PWR) (GND)	
Layer 2 Layer 3 Layer 4 Layer 5	(Top) (GND) (Signal) (Signal) (PWR)	(Top) (GND) (Signal) (Signal) (GND)	(Top) (GND) (Signal) (Signal) (PWR)	(Top) (PWR) (Signal) (Signal) (GND)	(Top) (GND) (Signal) (PWR) (GND)	(Top) (GND) (Signal) (PWR) (Signal)	(GND) (Signal) (Signal) (GND) (Signal)	(GND) (Signal) (Signal) (PWR) (Signal)	(GND) (Signal) (GND) (PWR) (Signal)	(GND) (Signal) (PWR) (GND) (Signal)	
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## Note:

This document is used for the naming convention of the PADS Layout "Start Files", "CAM Files", "2D-Line Below Board Text" items and AutoCAD Lay-up Details.

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## PCB LAYER CONFIGURATION STACK-UPS

Rev A

Layer Configurations.doc 11/26/2004 2:09:00 PM

	<u>14A</u>	<u>14B</u>	<u>14C</u>	<u>14D</u>	<u>14E</u>	<u>14F</u>	<u>14G</u>	
Layer 1	(Top)	(Top)	(GND)	(PWR)	(Top)	(Top)	(Top)	
Layer 2	(GND)	(PWR)	(Signal)	(Signal)	(GND)	(PWR)	(GND)	
Layer 3	(Signal)	(Signal)	(PWR)	(GND)	(Signal)	(Signal)	(PWR)	
Layer 4	(Signal)	(Signal)	(GND)	(PWR)	(Signal)	(GND)	(Signal)	
Layer 5	(PWR)	(GND)	(Signal)	(Signal)	(GND)	(Signal)	(Signal)	
Layer 6	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	
Layer 7	(Signal)	(Signal)	(PWR)	(GND)	(PWR)	(PWR)	(Signal)	
Layer 8	(Signal)	(Signal)	(GND)	(PWR)	(GND)	(GND)	(Signal)	
Layer 9	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	
Layer 10	(GND)	(PWR)	(Signal)	(Signal)	(PWR)	(Signal)	(Signal)	
Layer 11	(Signal)	(Signal)	(PWR)	(GND)	(Signal)	(PWR)	(Signal)	
Layer 12	(Signal)	(Signal)	(GND)	(PWR)	(Signal)	(Signal)	(PWR)	
Layer 13	(PWR)	(GND)	(Signal)	(Signal)	(GND)	(GND)	(GND)	
Layer 14	(Bottom)	(Bottom)	(PWR)	(GND)	(Bottom)	(Bottom)	(Bottom)	
	16A	<u>16B</u>	<u>16C</u>	16D				
Layer 1	(Top)	(Top)	(GND)	(PWR)				
Layer 1 Layer 2	(Top) (GND)	(Top) (PWR)	(GND) (Signal)	(PWR) (Signal)				
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Layer 2	(GND)	(PWR)	(Signal)	(Signal)				
Layer 2 Layer 3	(GND) (PWR)	(PWR) (GND)	(Signal) (PWR)	(Signal) (GND)				
Layer 2 Layer 3 Layer 4	(GND) (PWR) (Signal) (Signal) (GND)	(PWR) (GND) (Signal) (Signal) (PWR)	(Signal) (PWR) (Signal) (Signal) (GND)	(Signal) (GND) (Signal) (Signal) (PWR)				
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## Notes:

- Stack-ups with GND & PWR on outer layers are primarily meant for fanout and short trace runs only. For HDI purposes, the second layer is a signal layer to run traces from fine pitch BGA's. In this HDI application, the manufacturer would use laser drills to perform a control depth drilling process to access layer 2.
- Balance of laminate thickness between layers from the centerline of the PCB structure is required for all stack-ups in order to minimize or eliminate warpage. You must determine laminate type and thickness prior to the start of CAD layout.
- It is imperative that analysis of the stack-up be done with the manufacturer to determine copper weights, prepreg and core thickness before CAD layout to insure controlled impedance.
- 1.6mm FR4 material can be used for Stack-ups 2 16 Layers. 1.8mm FR4 is used for the 10 20 Layer, 2.3mm FR4 is used for the 10 - 32 Layer stack-ups.
- Common PC Board thickness' are:
  - A. 0.8mm (.031")
  - B. 1.0mm (.040")
  - C. 1.6mm (.062")

  - D. 1.8mm (.070") E. 2.3mm (.090")
  - F. 3.2mm (.125")

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