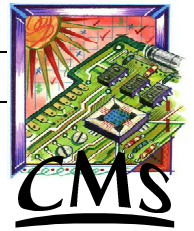


CUSTOM MANUFACTURING SERVICES



Appendix 1 Board Criteria

EQUIPEMENT	Standard Size PWB	Optional Size PWB	PWB Thickness	Component Height	Component Size Range	Component Lead Pitch	Notes
Stencil Printing	Semi-auto 18" x 18"	Manual 24" x 36" (1)	.031" (2)				(1) Larger Sizes possible – may be a special stencil order. (2) Thinner thickness may require special support (cavity) fixturing.
Pick and Place MYDATA MY12	22.1" x 20"		.02" - .157"(1)	0.5"(2)	0201 thru 56mm X 56mm (3)	Gull wing - 004" BGA - .0064"	(1) Thinner thickness may require special support (cavity) fixturing. Greater thickness will require special holding fixture. (2) Larger component height will require special holding fixture (3) Custom heads available for virtually any component
Pick and Place MYDATA TP9-UFP	Single Pass 20.5" x 22"	Dual Pass 20.5" x 36"	.031" - .125"(1)	0.5"(2)	0402 thru 51.9mm X 51.9mm QFP	Gull wing - .015" BGA - 030"	(1) Thinner thickness may require special support (cavity) fixturing. Greater thickness will require special holding fixture. (2) Larger component height will require special holding fixture
Forced Convection Reflow Oven Conceptronics HVN102	On belt 24" x 36"(1)	On Rail 18" x 36"(1)	.031" - .125"(2)	On Belt 2.5" On Rail 1.25"			(1) Longer board length possible but will require additional process approval. (2) Thinner thickness may require special support (cavity) fixturing. Greater thickness possible but will require additional process approval.
Aqueous Cleaning Electrovert Ultraclean II H2O	18" x 36"	20.5" x 36" (1)	.031" (2)	2" Standard Size 1" Optional Size			(1) Larger sizes may be hand cleaned (2) Thinner thickness may require special support fixturing.

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Wenesco (Nozzle based selective soldering)	34" x 24"	34" x 48"	0.31" - .125" (1) (2)		Up to 14" long connectors (3)		(1) Greater thickness possible but will require additional process approval. (2) Thinner thickness may require special support fixturing. (3) Various standard nozzles available. Larger sizes possible, may require special nozzle order.
Dover Soltec Wave Soldering Machine (Dual wave)	16" x 36" (1)		0.31" - .125" (1) (2)		SMT and Thru Hole		(1) Longer board length and greater thickness possible but will require additional process approval. (2) Thinner thickness may require special support fixturing.
Asymtek 618C Adhesive Dispenser	18" x 18"				0402 and up		
LEAD FREE Electrovert EPK Plus Wave Soldering Machine (Dual wave)	16" x 36" (1)		0.31" - .125" (1) (2)		SMT and Thru Hole		(1) Longer board length and greater thickness possible but will require additional process approval. (2) Thinner thickness may require special support fixturing.

Preferred PWB size 12" x 12" thickness .031 - .093 for Surface Mount Assembly
 Standard PWB size 20.5" x 36" Thickness .031 - .125 for Surface Mount Assembly
 Preferred PWB size 12" x 12" thickness .062 - .093 for Wave Soldered Assembly
 Standard PWB size 16" x 36" Thickness .031 - .125 for Wave Soldered Assembly