



DDi Facilities Overview

December 2011

Operating Locations

- Seven Operating Facilities, net of Toronto integration
 - All ISO 9001:2008 and AS9100 Registered
 - 1 Central Service Center
 - Distributed Sales Resources

Milpitas, CA

High Tech Proto & Pre-Production

- ISO 9001:2008
- 62,000 sq ft
- AS 9100B
- MIL-PRF-55110
- MIL-PRF-31032 (in process)

Anaheim, CA

High Tech Proto

- 76,000 mfg sq ft & Corp offices
- ISO 9001:2008
- AS 9100B
- MIL-PRF-55110
- MIL-PRF-31032

Denver, CO

Mil/Aero/HDC

- 28,000 sq ft
- MIL-PRF-55110
- MIL-PRF-31032
- AS 9100B
- Nadcap

Richardson, TX

- Central Pre-Cam, DFM
- Data Center

Cleveland, OH

Mil/Aero/Rigid Flex, Flex and Rigid

- 40,000 sq ft
- MIL-PRF-55110
- MIL-PRF-31032
- MIL-P-50884
- AS 9100B
- Nadcap

North Jackson, OH

Mil/Aero/HDC

- 77,000 sq ft
- MIL-PRF-55110
- MIL-PRF-31032
- MIL-P-50884
- AS 9100B
- Nadcap

Toronto, Canada

High Tech Proto, QTA & Mid-Volume Production

- 93,000 sq ft
- MIL-PRF-55110
- MIL-PRF-31032
- AS9100B
- ISO13485

Sterling, VA

High Tech Proto & Pre-Production

- 101,000 sq ft
- ISO 9001-2008
- MIL-PRF-55110
- MIL-PRF-31032
- AS 9100B
- Nadcap

DDi AH

Anaheim, California

DDi's AH Facility specializes in High Technology, Prototype and Quick Turn multilayer PCB's. The AH facility is engaged in process development projects with several key customers and suppliers.



Key Statistics:

- 90K sq ft facility
- 4500 cores/wk
- 90 jobs/wk
- 11.2 layer avg.
- 315 people
- 750 panels/wk
- 50 new tools/wk
- 6.3 panels/lot avg.

Certifications & Qualifications:

- ISO 9001:2008
- UL Listed
- MIL-PRF-31032
- Bellcore Compliant
- MIL-PRF-55110
- AS9100B

Key Contact

VP Operations: Ruben Zepeda
Phone: 714-688-7200
Email: rzepeda@ddiglobal.com

Major Market Segments:

- Telecom
- High-End Computing
- Consumer Electronics
- Aerospace
- Medical
- Wireless Data Equipment & Base Stations
- Military

Engineering Services:

- New Product Development
- Product Engineering
- Quality Engineering
- DFM Analysis
- Process Engineering
- Failure Analysis

Key Technical Capabilities:

- Up to 40 layer
- Blind & Buried Vias
- Sequential Lamination
- O/L L&S 0.003"/0.003"
- I/L L&S 0.0025"/0.0025"
- Hybrid Constructions
- Conductive Via Fill
- Thin Core Processing
- Cavity
- 0.005" - 0.325" thick
- FLAT-WRAP™ Technology, Next Gen SMV®
- 0.004" Micro Vias
- Stacked Microvias®
- LDI imaging
- Embedded Resistors / Capacitance
- LPI Legend
- Flat pad (via in pad)
- Edge Castellation

Surface Finishes:

- HASL
- Immersion Silver
- Immersion Tin
- Full Body Hard Gold
- OSP (Entek HT)
- Immersion Gold
- Electroless Gold (bondable)
- Selective Hard Gold

Materials:

- >27 material types, Polyimide, Ceramic, Teflon, BT, etc.
- High temperature (FR4) – Lead Free options
- High Frequency (GETEK, Isola 408, Nelco 4000-13, RO4350B)
- STABLCOR® (Epoxy and Polyimide versions)
- Halogen Free
- Copper Core



DDi's Cleveland facility specializes in Rigid-Flex, Flex and Rigid product with specific focus on Military / Aerospace markets, and has Value Add Connector Assembly capabilities.



Key Statistics:

40k sq ft facility	65 people
750 cores / wk	150 panels / month
8 layer average	20 new tools / month
8 panel lot average	

Certifications & Qualifications:

MIL-PRF-31032, /1,/2,/3,/4; MIL-PRF-55110;
MIL-P-50884, ISO 9001, AS9100B; UL94V-0 for
Rigid-Flex/Flex; NADCAP

Key Contact

VP Operations: Mike Frank
Phone: 330-538-3900
Email: mfrank@ddiglobal.com

Major Market Segments:

- Military
- High Reliability Commercial
- Aerospace
- Medical (Emerging)

Engineering Services:

- New Product Development
- Product Engineering
- Quality Engineering
- DFM Analysis
- Process Engineering
- Failure Analysis

Key Technical Capabilities:

Up to 30 layers	0.010" – 0.175" thick
Rigid	Rigid-flex
Flex	Mixed Material Constructions
Metal Core Boards	Bonded Heat Sinks
O/L LWS 0.0035"/0.004"	I/L LWS 0.003"/0.003"
Value Add Connector Assembly	
Heavy Copper Layers up to 3 oz.	

Surface Finishes:

HASL, Full Body Hard Gold, Selective Hard Gold, Edge Plating,
ENIG, VDG Vapor Deposited Gold

Materials:

DuPont Pyralux, Espanex, High temperature FR4, Polyimide,
Kapton, Rogers, Teflon, Thermagon, Lead Free & RoHS
Compliant

DDi CO

Denver, Colorado

DDi's Denver facility specializes in high reliability / high mix prototype, quick turn and low volume production with a deep military / aerospace heritage.



Key Statistics:

28k sq ft facility	100 people
550 cores / wk	750 panels / month
8 layer average	125 new tools / month
2 panel lot average	

Certifications & Qualifications:

MIL-PRF-31032, MIL-PRF-55110, ISO 9001:2008;
AS9100B, NADCAP

Key Contact

VP Operations: Craig Barrett
Phone: 303-904-6148
Email: cbarrett@ddiglobal.com

Major Market Segments:

- Military
- High Reliability / High Mix
- Industrial
- Aerospace
- Medical
- Commercial QTA

Engineering Services:

- New Product Development
- Product Engineering
- Quality Engineering
- DFM Analysis
- Process Engineering
- Failure Analysis

Key Technical Capabilities:

Up to 32 layers	0.005" – 0.250" thick
Rigid	IPC 6012 Class 3
Sequential Lamination	Via Fill
Copper Core Boards up to 6 oz	ITAR Compliant
O/L LWS 0.0035"/0.004"	I/L LWS 0.003"/0.003"

Surface Finishes:

HASL, Full Body Hard Gold, Wire Bond Gold, Edge Plating,
ENIG, Immersion Silver, Immersion Tin, Reflow Sn/Pb

Materials:

Polyimide, 370HR, Rogers, Arlon, Taconic, Nelco 4000-13, BT,
Thermagon, ZBC, Lead Free & RoHS Compliant

DDi SV

Milpitas, California

Our Silicon Valley (SV) Facility is a High Technology Multilayer Printed Circuit Board Fabricator focused on Quality and Engineering for Quick Turn Prototypes & Production Requirements.



Key Statistics:

- 62K sq ft facility
- 189 people
- 7200 cores/wk
- 1500 panels/wk
- 175 jobs/wk
- 75 new tools/wk
- 9.2 avg. layer
- 8 panel avg. lot

Certifications & Qualifications:

ISO 9001:2008, Mil-PRF-55110, UL Listed, Telcordia GR-78-CORE, MIL-PRF-31032 in process , AS-9100B

Key Contact:

VP Operations: Victor Hemingway
Phone: 408-719-4042
Email: vhemingway@ddiglobal.com

Major Market Segments:

- Telecom
- Medical
- High-End Computing
- Wireless Data Equipment & Base Stations
- Consumer Electronics
- Military
- Semiconductor (ATE & Burn-In)
- Aerospace

Engineering Services:

- New Product Development
- Product Engineering
- Quality Engineering
- DFM Analysis
- Process Engineering
- Failure Analysis

Key Technical Capabilities:

- Up to 60 layers
- Blind & Buried Vias
- Sequential Lamination
- O/L LWS 0.002" / 0.003"
- I/L LWS 0.002" / 0.002"
- Mixed Material Constructions
- 0.012" - 0.250" thick
- Buried Capacitance
- 0.004" Micro Vias
- Thick Backpanels
- Thick Copper Layers
- Optical drilling/Routing

Surface Finishes:

HASL, OSP (Entek HT), Immersion Silver, Immersion Gold, Full Body Hard Gold, Selective Hard Gold, Edge Plating, Lead Free HASL

Materials:

>27 material types, Polyimide, Ceramic, Teflon etc.
High temperature (FR4)
High Frequency (GETEK, Isola 408, Nelco 4000-13 & 13EP, RO4350B)
CAF Resistant
Lead Free and RoHS compliant

DDi's Ohio facility (Sovereign Circuits) specializes in the high reliability commercial and very high end military technology markets. Offering medium volume and quick turn prototypes for flex, rigid-flex and rigid constructions, DDi Ohio proudly supports some of our nations most critical defense programs!



Key Statistics:

- 75K sq ft facility
- 143 people
- 2000 cores/wk
- 625 panels/wk
- 100 jobs/wk
- 50 new tools/wk
- 8 layer avg.
- 10 panels/lot avg.

Certifications & Qualifications:

MIL-PRF-31032, /1, /2, /3, /4; MIL-PRF-55110; MIL-P-50884
ISO 9001:2008; Weapons Spec; NASA Flight; UL Listed
AS9100B, NADCAP

Key Contact

VP Operations: Mike Frank
Phone: 330-538-3900
Email: mfrank@ddiglobal.com

Major Market Segments:

- Military
- High Reliability Commercial
- Aerospace

Engineering Services:

- New Product Development
- Product Engineering
- Quality Engineering
- DFM Analysis
- Process Engineering
- Failure Analysis

Key Technical Capabilities:

- Up to 30 layers
- 0.010" - 0.250" thick
- Rigid
- Rigid-flex
- Flex
- Mixed Material Constructions
- Metal Core Boards
- Bonded heat sinks
- O/L LWS 0.003.5"/0.004"
- Thick Backpanels
- I/L LWS 0.003"/0.003"
- Heavy Copper Layers

Surface Finishes:

HASL; Tin Lead Fuse; Immersion Silver; Immersion Gold; Full Body
Hard Gold; Nickel/ Palladium / Gold; Selective Hard Gold; Edge
Plating

Materials:

High temperature FR4, Polyimide, Rogers, Teflon, Thermagon,
Lead Free & RoHS Compliant

DDi VA

Sterling, Virginia

DDi's VA Facility specializes in Quick Turn manufacturing of high technology multilayer PCB's, with a specific focus on military hybrid constructions, via fill, and high performance materials. VA's technologically advanced equipment set is well suited for high complexity, high layer count production in quantities from one to one million.



Key Statistics:

- 101K sq ft facility
- 20,000 cores/wk
- 150 jobs/wk
- 12.5 avg. layer count
- 273 people
- 5000 panels/wk
- 25 new tools/wk
- 15 panel avg. lot

Certifications & Qualifications:

- MIL-PRF-31032
- ISO 9001:2008
- UL Listed
- AS 9100B
- Telcordia GR-78-CORE Complaint
- TL 9000
- MIL-PRF-55110

Key Contact:

VP Operations: John Chelberg
Phone: 703-652-2265
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Major Market Segments:

- Telecom and Test
- High-End Computing
- Wireless Data Equipment
- Military / Aerospace
- Medical
- Automotive
- Base Stations
- Homeland Security

Engineering Services:

- New Product Development
- Product Engineering
- Quality Engineering
- DFM Analysis
- Process Engineering
- Failure Analysis

Key Technical Capabilities:

- Up to 50 layers
- Blind & Buried Vias
- Sequential Lamination
- O/L LWS 0.003"/0.004"
- I/L LWS 0.0025"/0.0025"
- Embedded Resistors
- Laser Drilling
- Stacked Micro Vias (SMV®)
- 0.012" - 0.250" panel thickness
- Buried Capacitance
- 0.004" Micro Vias
- Back panels / Back Drilling
- Heavy Copper Wt. Layers
- Mixed Material Constructions
- Via Fill and Planarization
- FLAT-WRAP™ Technology

Surface Finishes:

HASL, OSP (Entek HT), Immersion Silver, Immersion Gold, Full Body Hard Gold, Selective Hard Gold, Wire Bondable Gold, Edge Plating

Materials:

- > 27 material types
- High Temperature
- High Frequency
- CAF Resistant
- Hybrid combinations
- Lead Free and RoHS compliant

DDi's Toronto facility specializes in prototype, quick turn and mid volume production with specific focus on high mix / low volume.



Key Statistics:

93k sq ft facility	450 people
7,500 cores / wk	9500 panels / month
8 layer average	160 new tools / month
8 panel lot average	

Certifications & Qualifications:

MIL-PRF-31032, MIL-PRF-55110, ISO 9001, AS9100B, ISO 13485, CGP, UL

Key Contact

VP Operations: Jon Pereira
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Major Market Segments:

- Aerospace
- Consumer Electronics
- Instrumentation
- Military
- Communications
- Industrial Electronics
- Medical

Engineering Services:

- New Product Development
- Product Engineering
- Quality Engineering
- DFM Analysis
- Process Engineering
- Failure Analysis

Key Technical Capabilities:

Up to 36 layers	0.010" – 0.250" thick
HDI/Microvia	Max Panel size 21" x 24"
Via in Pad	Via Fill
IPC 6012 Class 2 and 3	Buried & Blind vias
O/L LWS 0.0035"/ 0.0035"	I/L LWS 0.003"/ 0.003"

Surface Finishes:

HASL, ENEPIG, ENIG, Immersion Sn, Hard & Wire bondable Gold, OSP

Materials:

Polyimide, 370HR, Rogers, Taconic, Nelco 4000-13, BT, Arlon
Lead Free assembly compatible, RoHS & Reach Compliant