



Avnet Avenue Service Provider Program

Avnet Design Services has teamed up with the top design service companies in North America to provide you with superior component, board and system level solutions. In cooperation with Avnet Design Services, you can access these pre-screened and certified design service providers.

WHAT is the Avnet Avenue Service Provider Program?

- A geographically dispersed and technical diverse network of design service providers available to fulfill your design service needs
- Avnet's seven partners are the top design service companies in North America
- The program compliments Avnet Design Services' ASIC and FPGA design service offerings by providing additional component, board and system-level design services

WHY use an Avnet Avenue Service Provider?

- **Time to Market** The program provides additional technical resources to assist you in meeting your time to market requirements
- **Value** All Providers are selected based on their ability to provide cost competitive solutions
- **Experience** All Providers have proven experience completing a wide array of projects on time and within budget
- **Less Risk** All Providers are pre-screened and certified to ensure your success
- **Technology** The program provides you with single source access to a broad range of services and technical expertise
- **Scale** All Providers are capable of supporting the full range of design service requirements from very large to small

HOW do I access the Avnet Avenue Service Provider Program?

- Contact your local Avnet Representative or call 1-800-585-1602 so that we may connect you with the Avnet Avenue Service Provider that will best fit your design requirement

Design Services Offered

- Development of product specifications
- Board and system design
- Component engineering
- Software and firmware design
- PCB layout and fabrication
- Mechanical and industrial design
- Testing and validation
- Packaging
- Design for manufacturability/maintainability
- Complete system design
- Project management
- User interface design
- Algorithm development

Areas of Technical Expertise

- Embedded control
- Analog
- Programmable logic
- DSP
- Communications/networking
- Multimedia
- Industrial control
- Instrumentation/test equipment
- I/O interfaces
- Software/OS
- Power
- ASIC
- RF
- Storage
- Image processing
- Motor control



Formation

- **Embedded Systems:** Processors: Motorola 68xxx and PowerPC, Intel x86 to PIII, AMD29K Buses: 360, PCI, cPCI, PMC, VME, ISA, MicroChannel
- **Communications, Protocols & Interfaces:** Physical interfaces: Ethernet, FDDI, E1, T1, ARINC-429; Protocols: TCP/IP, SS7, X.25, QAM; I/O; Interfaces: SCSI-II, ESCON, FIPS/60
- **Multimedia:** MPEG-II, Oracle video servers
- **Storage:** RAID 0, 1, 3 & 5
- **Operating Systems:** Microsoft Windows 9x/NT/2K, UNIX, AIX & Solaris, Embedded OS-9000, pSOS, VxWorks

Logic PD

- **Embedded Systems:** Micro-code: 4, 8, 16-bit, 16Cxx, 8051, 68xx, SH3, SH\$, x86, StrongARM, Power PC; Firmware, embedded communications, real-time control loop design, portable system design: Win CE, Palm OS, Pocket PC
- **Analog & Digital Hardware Design:** Programmable logic design (FPGAs, CPLDs, PLDs), audio & video, analog & digital filters, analog & digital circuit simulation
- **DSP Design:** Software & algorithms, signal reconstructions, FIR & IIR filters, multi-rate DSP design, compression/decompression, real-time signal processing
- **Micro-power Battery Operated Design:** Power supply design, low power architecture layout, hot-swappable power systems, battery recharging, gas gauging, bridge battery design
- **Networks & Communications:** TCP/IP, UDP, PPP, Ethernet, telephony, embedded protocols, LAN/WAN, RF LAN, IrDA, encryption/compression
- **Electro-Optic & Display Systems:** CCD & CMOS Imaging, uncooled IR imaging, displays (LCD, EL, LED, CRT)

Paragon Innovations

- **Embedded Systems:** Processors: Motorola 68xxx and PowerPC, Intel x86 to P4, Intel XScale, ServerWorks, Geode, MIPS, StrongARM, Sparc, PIC, Micro-code, 8051, Network and Security Processors (IXP, HiFn, SiByte, C-Port) Buses: cPCI, PCI, PCI-X2.0, PCI-Xpress, AGP4X, VME, ISA, I2C, SCSI, PC104
- **Communications, Protocols & Interfaces:** Ethernet, GigE, 10GigE, FibreChannel, FC/IP, iSCSI, FDDI, E1/T1, T3, Sonet/SDH to OC-192, STS, InfiniBand, HyperTransport, RapidIO, TCP/IP, UDP, SS7, X.25, SPI4.2
- **Firmware & Operating Systems:** Linux, BSD, QNX, VxWorks, WRS-Tina, Ecos, Tornado, Phoenix, WinNT, WinCE

Set Engineering

- **Embedded Systems:** Processors: Motorola 68xxx and PowerPC, Intel x86 to P4, Intel XScale, ServerWorks, Geode, MIPS, StrongARM, Sparc, PIC, Micro-code, 8051, Network and Security Processors (IXP, HiFn, SiByte, C-Port) Buses: cPCI, PCI, PCI-X2.0, PCI-Xpress, AGP4X, VME, ISA, I2C, SCSI, PC104
- **Communications, Protocols & Interfaces:** Ethernet, GigE, 10GigE, FibreChannel, FC/IP, iSCSI, FDDI, E1/T1, T3, Sonet/SDH to OC-192, STS, InfiniBand, HyperTransport, RapidIO, TCP/IP, UDP, SS7, X.25, SPI4.2
- **Firmware & Operating Systems:** Linux, BSD, QNX, VxWorks, WRS-Tina, Ecos, Tornado, Phoenix, WinNT, WinCE, General, PalmOS, Unix, AIX, Solaris, HPUX
- **Devices:** Blade Servers, Embedded Motherboards, IO Cards, TOE, Network Search Engines, line cards, optical devices, switch fabrics, DSL modems, hub/routers, home networks, handhelds devices

SMTc Design

- **Embedded Systems:** 8/16-Bit MCU, 16/32/64-Bit MPU, CISC, RISC. Mot 68K, Mot PowerPC, Intel x86, ARM, StrongARM, MIPS. RTOS: pSOS, QNX, ThreadX, CMX. Buses: PCI, cPCI, ISA, VME
- **DSP:** TI C2000, C5000 & C6000. Algorithm development. optical networking, digital telephony, image processing, audio, motor control
- **Power Electronics:** AC/DC, DC/DC, inverters, BLDC & induction motor controls
- **Networking & Communications:** TCP/IP, UDP, PPP, Ethernet, xDSL, Utopia, LonTalk, CAN, DeviceNet, emWare
- **EMC Testing:** FCC Part 15, CISPR-11, CISPR-22, EN61000-x

Sunrise Labs, Inc.

- **Embedded Systems:** Processors: Motorola 68xx, 68xxx and PowerPC, Intel x86 to P4, Intel Xscale, StrongARM, Sparc, PIC, Micro-code, 8051, SHARC DSP, TI DSP; Buses: cPCI, PCI, PCI-X2.0, PCI-Xpress, AGP4X, VME/VXI, ISA, I2C, SCSI, PC104, Palm
- **Analog & Digital Hardware Design:** Programmable logic design (FPGAs, CPLDs, PLDs), audio & video, analog & digital filters, analog & digital circuit simulation, high-speed sampling
- **DSP Design:** Algorithm development, signal reconstructions, FIR & IIR filters, PID control, signal linearization, multi-rate DSP design, compression/decompression, real-time signal processing, image processing, motor control
- **Networks & Communications:** Ethernet/IP, AS-i, CANopen, DeviceNet, HART, LonWorks, Modbus/Modbus+, Profibus, YEBus/MemoBus, 1553, IrDA, RF, USB
- **Firmware & Operating Systems:** Linux, QNX, VxWorks, AMX86, ThreadX, pSOS, WinCE, WinNT, MacOS, PalmOS, Custom

Videon Central, Inc.

- **Applications:** Embedded, system and product level solutions for DVD, Home-Theatre-In-A-Box, Streaming Audio/Video over Ethernet, HDTV, digital cinema and security
- **Digital Video:** MPEG Encoding, MPEG Decoding, MPEG Codecs, JPEG Codecs, video encoders/decoders, embedded processors, front panel controls & displays
- **Digital Audio:** DSPs that support MP3, Dolby Digital, MPEG, DTS, Bass Management, speaker correction as well as audio amplification, front panel control/displays
- **Communications:** Ethernet, Wi-Fi(802.11a and 802.11b), Firewire (IEEE1394), homeplug, homeRF, QAM, QPSK, VSB
- **Operating Systems:** MS Windows 9x/2K/ME/XP, Linux, uCLinux, eCos, pSOS, VxWorks, Nucleus running on Motorola PowerPC, Motorola Coldfire, Hitachi SH2, MIPS R3000/R4000, microSparc, Trimedia, 8051