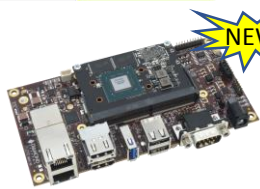


Diamond Systems has been delivering embedded computing products with innovative features, rugged performance, high feature density, and increased value to customers all over the world in all major industries. This guide presents a sample of our current standard product offerings. We welcome the opportunity to serve you with one of these products or a custom solution based on our vast library of technologies and our worldwide design and manufacturing resources

Let's build a better tomorrow!



NVIDIA Solutions



FLOYD

ZIGGY

JETHRO

STEVIE

ELTON

	FLOYD	ZIGGY	JETHRO	STEVIE	ELTON
Jetson module	Nano & Xavier NX	TX2/TX2i	TX2/TX2i	AGX Xavier	AGX Xavier
Camera	3x CSI-2 4-lane ports	N/A	2x CSI 4-lane	Camera module socket supports 8x CSI 2-lane	Camera module socket supports 8x CSI 2-lane
Display	2x HDMI	HDMI	HDMI	2x HDMI	HDMI, LVDS
Mass storage	mPCIe, M.2 NVMe 2280, Micro SD	Micro SD	M.2 SATA 2242, Micro SD	M.2 PCIe x4 NVMe 2280	M.2 PCIe x4 NVMe 2242
Serial ports	2x RS-232/422/485	2x RS-232	2x RS-232	2x RS-232	2x RS-232
USB ports	1x 3.0, 2x 2.0	1x USB 3.0, 1x USB 2.0		1x USB 3.0/2.0, 2x USB 2.0	2x USB 3.1, 2x USB 2.0
Ethernet	2x Gbe PoE+, RJ-45	1x Gbe	1x Gbe	2x Gbe, RJ-45	2x Gbe
CAN	1 CAN 2.0 wth NX module			2	2
Integrated GPIO	8	13	13	13	13
Integrated DAQ		6x 12-16-bit A/D 2x 12-bit D/A	6x 12-16-bit A/D 2x 12-bit D/A	6x 12-16-bit A/D 2x 12-bit D/A	6x 12-16-bit A/D 2x 12-bit D/A
Expansion	1x PCIe/USB MiniCard	N/A	1x PCIe/USB MiniCard SkyWire modem socket	1x PCIe/USB MiniCard	1x PCIe/USB MiniCard SkyWire modem socket PCI/104-Express with 1x PCIe x8, 4x PCIe x1 and PCI bus links
Size	143x76mm / 5.8x3.0"	63x67x96mm / 2.5x2.6x3.8"	76x107mm / 3.0x4.2"	100x87mm / 3.9x3.4"	102x152mm / 4.0x6.0"



ZiggyBox



JETBOX-floyd



JETBOX-nano

Diamond Systems is a proud member of the NVIDIA partner ecosystem delivering NVIDIA's advanced computing technologies to the embedded market in rugged, reliable, and I/O-rich carrier board and system solutions.

	ZIGGYBOX	JETBOX-floyd	JETBOX-nano
Jetson module	TX2/TX2i	Nano & Xavier NX	Nano
Size	63x67x96mm / 2.5x2.6x3.8"	171x89x57mm / 6.7x3.5x2.2"	125x95x34mm / 4.9x3.7x1.3"
Description	ZiggyBox provides the smallest industrial grade Jetson-based computer system. It offers all the features of the Jetson TX2 / TX2i modules plus the Ziggy baseboard. Integrated analog and digital I/O make ZiggyBox perfect for real world I/O applications.	JETBOX-Floyd, based on our Floyd carrier board, provides a compact, camera-centric system for AI at the edge applications using the Nano and Xavier NX modules. Dual PoE+ RJ-45 camera ports, USB 3.0, dual HDMI, and dual serial ports provide vital connectivity for a broad range of applications.	JETBOX-nano is an all-steel enclosure designed for the Nvidia Jetson Nano development kit. Simply insert the dev kit board set into the case, attach the top, and you have a professional, commercial quality Jetson system ready for deployment. Table-top and DIN rail mounting included.

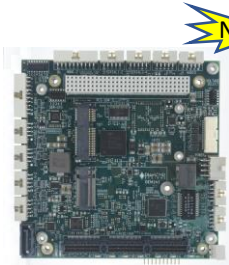
Our ELTON board is the first in the world to combine the power and performance of NVIDIA AGX Xavier with the ruggedness and reliability of PCIe/104 I/O expansion.

Our FLOYD board provides a camera-centric solution with multiple camera ports and the flexibility to be combined with the Jetson Nano or Xavier NX modules.

Single Board Computers

Diamond's SBCs feature wide temperature performance, rugged design with thicker PCBs and latching connectors, integrated data acquisition, and board support packages for Linux and Windows operating systems.

True "single-board" computers offer low profile, lighter weight, and lower cost. COM-based SBCs use a COM Express module mounted on a baseboard. These products offer performance scalability and longer lifecycle, due to the ability to change out the COM for a newer one.



GEMINI (WL)



ZETA (BT/AL)



VENUS (SL/KL)



ARIES (BT)



ATHENA IV (BT)



4th generation of our top selling SBC helps extend product lifecycles!

	GEMINI	ZETA	VENUS	ARIES	ATHENA IV	HELIX	HELIOS
SBC FEATURES							
Architecture	COM-based SBC	COM-based SBC	Single-Board	Single-Board	COM-based SBC	Single-Board	Single-Board
Form Factor	PCI/104-Express	COM Express Mini	3.5 inch	PC/104-Plus	COM Express Mini	PC/104	PC/104
Processor	Whiskey Lake Gen8 i7 8665UE 1.7GHz 4C	Bay Trail: E3845 1.91GHz 4C Apollo Lake: E3940 1.6GHz 4C N4200 1.1GHz 4C	Skylake Gen6 Core i7-6600U 2.6GHz 2C Kaby Lake Gen7 Core i7-7600U 2.8GHz 2C	Bay Trail E3845 1.91GHz 4C Bay Trail E3826 1.46GHz 2C	Bay Trail E3845 1.91GHz 4C	DMP Vortex86DX3 1GHz	DMP Vortex86DX 800MHz / 1GHz
RAM	16GB / 32GB DDR4 SODIMM	E3845 4GB down E3940 4GB down N4200 8GB down	4GB down + 4-16GB DDR4 SODIMM	E3826 2GB down E3845 4GB down	E3845 4 GB down	1-2GB down	256MB down
Expansion Interface	PCI/104-Express (PCIe + PCI) PCIe MiniCard	PCIe + SATA expansion connector	PCI/104-Express (PCIe + PCI) 2x PCIe MiniCard	PC/104-Plus (ISA & PCI) PCIe MiniCard	PC/104 ISA	PC/104 ISA	PC/104 ISA
Display Support	2x HDMI 1x Dual-channel 24-bit LVDS	LVDS single-channel VGA	LVDS dual-channel HDMI VGA	LVDS dual-channel HDMI, VGA DisplayPort	VGA, single-channel 24-bit LVDS	VGA, single-channel 24-bit LVDS	VGA, single-channel 24-bit LVDS
USB Ports	4x USB 2.0 2x USB 3.0	4x USB 2.0 1x USB 3.0	2x USB2.0 4x USB3.0/USB2.0	3x USB 2.0 1x USB 3.0	4x USB 2.0 1x USB 3.0	3x or 6x USB 2.0	4x USB 2.0
Serial Ports	4x RS-232/422/485	4x RS-232/422/485	4x RS-232/422/485	4x RS-232/422/485	4x RS-232/422/485	2x RS-232 + 2x RS-232/422/485	2x RS-232 + 2x RS-232/422/485
Network	2x Gigabit Ethernet	2x Gigabit Ethernet	2x Gigabit Ethernet	2x Gigabit Ethernet	2x Gigabit Ethernet	1x 10/100 Ethernet 1x Gigabit Ethernet	1x 10/100 Ethernet
Mass Storage	1x PCIe Minitcard 1x M.2 2242 SATA 1x SATA 7-pin	1x mSATA 1x Micro SD	1x SATA 7-pin 1x SATA-DOM 1x mSATA	1x SATA-DOM 1x mSATA	1x M.2 2230 SATA 1x SATA 7-pin	1x SATA 7-pin mSATA flashdisk	IDE 2mm connector
Audio	HDA audio	HDA audio via Daughterboard	HDA audio with Line in, Line out, Mic in	HDA audio with Line in, Line out, Mic in	HDA audio	HDA audio with Line in, Line out, Mic in	Line in, Line out, and Mic in
Power In	16-34VDC	6-36VDC	9-18VDC	5VDC	5VDC	5VDC	5VDC
Operating Temp	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Dimensions	4.0" x 4.0" 102 x 102mm	3.30" x 2.16" 84 x 55mm	5.75" x 4.0" 146 x 102mm	4.5" x 4.0" 114mm x 102mm	4.2 x 4.5" 106 x 114mm	3.550" x 3.775" 90mm x 96mm	3.550" x 3.775" 90mm x 96mm
Weight	4.26 oz (121g)	1.3 oz (37.8)	12.4 oz (352g)	10.4oz (296g)	4.4oz (125g)	2.5oz (71g)	2.5oz (71g)

DATA ACQUISITION FEATURES							
Analog In		16 single-ended / 8 differential 16-bit resolution		16 single-ended / 8 differential 16-bit resolution	16 single-ended / 8 differential 16-bit resolution	16 single-ended / 8 differential 16-bit resolution	16 single-ended / 8 differential 16-bit resolution
Max Rate		100KHz		250KHz	100KHz	100KHz	250KHz
Input Ranges		10V, ±5V, 0-10V, 0-5V		±10V, ±5V, ±2.5V, ±1.25V, 0-10V, 0-5V, 0-2.5V	±10V, ±5V, ±2.5V, ±1.25V, 0-10V, 0-5V, 0-2.5V	±10V, ±5V, 0-10V, 0-5V	±10V, ±5V, ±2.5V, ±1.25V, 0-10V, 0-5V, 0-2.5V
Accuracy		< ±28LSB		< ±2LSB	< ±3LSB	< ±28LSB	< ±28LSB
A/D FIFO		2048 samples with programmable threshold		2048 samples with programmable threshold	2048 samples	2048 samples with programmable threshold	2048 samples with programmable threshold
Analog Out		4 16-bit		4 16-bit	4 12-bit	4 16-bit	4 16-bit
Output Ranges		0-5V, 0-2.5V		±5V, ±10V, 0-5V, 0-10V	±10V, ±5V, 0-10V, 0-5V, 0-2.5V	0-5V, 0-2.5V	±5V, ±10V, 0-5V, 0-10V
Digital I/O	8 GPIO, 3.3V logic	27 GPIO 3.3V/5V	16 GPIO 3.3V/5V	22 GPIO 3.3V/5V	24 GPIO 3.3V & 5V	19-27 GPIO 3.3V/5V	24-40 GPIO 3.3V/5V
Direction		Programmable	Programmable	Programmable	Programmable	Programmable	Programmable
Pull-up		Prog. up/down	Prog. up/down	Prog. up/down	Prog. up / down	Prog. up/down	Prog. up/down
Counters		8 32-bit up/down		8 32-bit up/down	8 32-bit up/down		1 24-bit, 1 16-bit

Ethernet Switches

Diamond's EPSILON Ethernet switches feature 1 to 10Gbps speeds, Layer 2+ / Layer 3 operation, IEEE-1588 PTP, latching connectors, thicker PCBs, and -40 to +85°C operating temperature. These products are ideal for Ethernet backbones in vehicles.



EPSM-10GX4

EPS-24G4X

EPS-24026

EPS-12G2

EPS-12000-CM

EPS-8100

Model	Copper Ports	Fiber Ports	Form Factor	Dimensions	Notes
EPSM-10GX4	24x 1G	4x 10G	COM Express Mini	84 x 55mm / 3.3 x 2.2in	Switch module for custom solutions; Layer 3 and IEEE-1588 capability
EPS-24G4X	24x 1G	4x 10G	3.5 inch	146 x 102mm / 5.75 x 4.00in	Full featured switch, 10G Layer 3 and IEEE-1588 capability
EPS-24026-104	24x 1G	2x 1G/2.5G	PC/104	90 x 96mm / 3.55 x 3.775in	High port density, rugged design
EPS-24016-104	16x 1G		PC/104	90 x 96mm / 3.55 x 3.775in	High port density, rugged design
EPS-12G2	12x 1G	2x 1G/2.5G	COM Express	125 x 95mm / 4.9 x 3.7in	Economical 12 port rugged switch with dual fiber backbone capability
EPS-12G1	12x 1G	1x 1G/2.5G	COM Express	125 x 95mm / 4.9 x 3.7in	Economical 12 port rugged switch with fiber uplink
EPS-12G0	12x 1G		COM Express	125 x 95mm / 4.9 x 3.7in	Economical 12-port rugged switch
EPS-12000	12x 1G		COM Express Mini	84 x 55mm / 3.3 x 2.2in	Ultra-compact, rugged, IEEE-1588 capable
EPS-8100	8x 1G		PC/104	90 x 96mm / 3.55 x 3.775in	Industry-leading rugged compact switch for vehicle applications

Rugged Systems

The SABRE family offers rugged mission computers and Ethernet switches for use in the most challenging vehicle environments. MIL-STD-461, 704, and 1275 compliance is available. Systems have been tested to MIL-STD-810G specifications up to 75G shock.

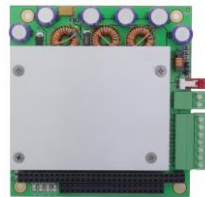


ETHERNET SWITCHES	SabreNet 12000	SabreNet 24000	SabreNet 24G2X
Copper ports	12x 1G	24x 1G	24x 1G
Fiber ports			2x 10G
Input voltage	6-34VDC	5-34VDC	5-34VDC
PTP option	Yes	Yes	Yes
Dimensions in	6.4Wx5.4Dx2.6H	7.8Wx6.9Dx2.6H	7.8Wx6.9Dx2.6H
Dimensions mm	162Wx137Dx66H	198Wx175Dx66H	198Wx175Dx66H

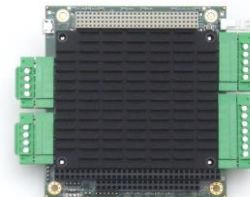
COMPUTERS	SabreCom VNS	SabreCom ARS	SabreCom ZTA
Processor	Skylake 6 th Gen Core i7 i7-6600U 2C 2.6GHz	Bay Trail E3845 2C 1.91GHz	Bay Trail E3845 Apollo Lake E3940/N4200
RAM	4-20GB	4GB	4-8GB
Mass storage	32-256GB SSD	32-256GB SSD	32-256GB SSD
Serial ports	4x RS-232/422/485	4x RS-232/422/485	4x RS-232/422/485
USB ports	4x USB 2.0, 2x USB 3.0	2x USB 2.0	4x USB 2.0, 1x USB 3.0
Ethernet	2x 10/100/1000	2x 10/100/1000	2x 10/100/1000
Integrated GPIO	16	16-24	16-24
Integrated data acquisition		16x 16-bit A/D 4x 16-bit D/A	16x 16-bit A/D 4x 16-bit D/A
Expansion	PCIe/104, PCI-104, and MiniCard sockets	PC/104-Plus: ISA & PCI 1x MiniCard	1x PCIe/USB MiniCard 1x M.2 SATA socket
Standard enclosure size	7.8W x 6.9D x 2.6H in. 198W x 175D x 66H mm	7.8W x 6.9D x 2.6H in. 198W x 175D x 66H mm	6.4W x 5.4D x 2.6H in. 162W x 137D x 66H mm
Operating system support	Windows 10 IOT LTSC; Linux Ubuntu 16.04 LTS; 64-bit support	Windows 7/10; Linux Ubuntu 16.04 LTS; 32/64-bit support	Windows 7/10; Linux Ubuntu 16.04 LTS; 32/64-bit support

Power Supplies

These PC/104 size power supplies offer -40/+85°C operation and rugged design. They are ideal for vehicle and industrial PC/104 systems. JMM-73xx models offer MIL spec compliance.



JMM-512



JMM-5000



JMM-7000

Model	JMM-512-V512	JMM-512	JMM-LP	JMM-5000	JMM-5012	JMM-5312	JMM-7005	JMM-7012	JMM-7305	JMM-7312
Input voltage	7-34VDC	7-34VDC	7-30VDC	7-34VDC	7-34VDC	7-34VDC	9-35VDC	9-35VDC	9-35VDC	9-35VDC
Max power	50W	50W	25W	100W	196W	218W	40W	40W	40W	40W
+5V	10A	10A	5A	20A	20A	20A	8A		8A	
+12V	2A	2A			8A	8A		3.3A		3.3A
+3.3V						5A				
PC/104	Y	Y	Y	Y	Y	Y				
PC/104-Plus				Y	Y	Y				
Smarts						Y				
Isolation option							Y	Y	Y	Y
UPS option							Y	Y	Y	Y
MIL 461/704/1275									Y	Y
Heat spreader	Y	Y	Not Req	Y	Y	Y	Y	Y	Y	Y
Heat sink			Not Req	Y	Y	Y				

I/O Expansion Modules

Diamond Systems offers a wide range of I/O modules in PC/104 and PCIe MiniCard form factors. Our analog and digital I/O modules are supported by our industry-leading Universal Driver software, consisting of a C language programming library along with example programs and GUI demos that provide instant verification of system operation. All products meet -40 to +85°C operating temperature.

ANALOG I/O														
Product	Form Factor	# A/D	Res	Max	Min	Gain	Max	Autocal	FIFO	# D/A	Res	Max	Min	GPIO
DMM-32DX-AT	PC/104	32 SE, 16 DI	16	±10V	0-.625V	Program	250K	Auto	1024	4	16	±10V	0-5V	24 I/O
DMM-32X-AT	PC/104	32 SE, 16 DI	16	±10V	0-.625V	Program	250K	Yes	1024	4	12	±10V	0-5V	24 I/O
DMM-16R-AT	PC/104	16SE, 8 DI	16	±10V	0-1.25V	Program	100K	Yes	512	4	12	±10V	0-5V	8 In, 8 Out
DMM-16RP-AT	PC/104-Plus	16SE, 8 DI	16	±10V	0-1.25V	Program	100K	Yes	512	4	12	±10V	0-5V	8 In, 8 Out
DMM-AT	PC/104	16SE, 8 DI	12	±10V	0-1.25V	Program	100K	Yes	512	2	12	±10V	0-5V	8 In, 8 Out
DMM-XT	PC/104	16SE, 8 DI	12	±10V	0-1.25V	Jumper	100K			2	12	0-5V	0-5V	8 In, 8 Out
DS-MPE-DAQ0804	MiniCard	8SE, 4 DI	16	±10V	0-5V	Program	100K		2048	4	16	0-5V	0-2.5V	14 I/O
RMM-1616A-XT	PC/104									16	16	Voltage ranges: ±10V, ±5V, 0-10V, 0-5V		48 I/O
RMM-816A-XT	PC/104								8	16	48 I/O			
RMM-416A-XT	PC/104								4	16	48 I/O			
RMM-1616AP-XT	PC/104-Plus									16	16	Current ranges: 0-20mA, 0-24mA, 4-20mA		48 I/O
RMM-816AP-XT	PC/104-Plus								8	16	48 I/O			
RMM-416AP-XT	PC/104-Plus								4	16	48 I/O			



DMM-32DX-AT



DMM-16RP-AT



RMM-1616AP-XT



GPIO-MM-XT



DS-MPE-DAQ0804



DS-MPE-GPIO



DS-MPE-GE210 Ethernet Minicard



DS-MPE-CAN2L Ethernet Minicard

Visit website for more information!

DIGITAL I/O											
Product	Form Factor	# GPIO	Voltage	Buffered	Direction	Opto	Relays	Load	Counters	Ctr Bits	Max Rate
OMM-XT	PC/104	48	5V		Programmable				3	16	10MHz
OMM-DIO-XT	PC/104	48	5V		Programmable						
GPIO-MM-XT	PC/104	100	5V	Yes	Programmable				10	16	10MHz
DS-MPE-GPIO	MiniCard	36	5V/3.3V	Yes	Programmable				8	32	50MHz
PMM-P	PC/104						16 SPDT	30VDC/2A			
OPMM-1616-XT	PC/104					16 In 3-30VDC	16 SPDT	30VDC/2A			
IR104-PBF	PC/104					20 In 3-24V	20 SPST	30VDC/5A			



EMM-8EL-XT



EMM-8P-XT



EMM-8PLUS-XT



EMM-4M-XT



EMM-OPT4-XT



DS-MPE-SER4M



DS-MPE-OPT4232

SERIAL I/O												
Product	Form Factor	# RS-232	Max Rate	# RS-422	Max Rate	# RS-485	Max Rate	Isolated	Protocol	Address	GPIO	
EMM-8EL/4EL-XT	PCIe/104	8/4	1Mbps	8/4	1Mbps	8/4	1Mbps	Yes	Program	Program	8	
EMM-8E/4E-XT	PCIe/104	8/4	1Mbps	8/4	20Mbps	8/4	20Mbps		Program	Program	8	
EMM-8P-XT	PC/104	8	480Kbps	8	1.5Mbps	8	1.5Mbps		Program	Program	8	
EMM-4M-XT	PC/104	4	1Mbps	4	1.5Mbps	4	1.5Mbps		Jumper	Jumper		
EMM-OPT4-XT	PC/104	4	230Kbps	4	6.25Mbps	4	6.25Mbps	Yes	Jumper	Jumper	24	
EMM-8PLUS-XT	PC/104-Plus	8	480Kbps	8	6.25Mbps	8	6.25Mbps		Jumper	Program	8	
DS-MPE-SER4M	MiniCard	4	1Mbps	4	10Mbps	4	10Mbps		Software	Auto		
DS-MPE-OPT4232	Minicard	4	1Mbps	0		0		Yes	N/A	Auto		
DS-MPE-OPT4485	Minicard	0		0		4	1Mbps	Yes	N/A	Auto		