



Embedded Computing

Rugged Platforms for Commercial and Industrial Applications







Lanner's Fast Growing Selection of Embedded PCs

Over the last 10 years, Lanner has shipped more than 1 million network appliances. The strong preference demonstrated for our products is our reward for having committed ourselves to designing the highest quality hardware in the industry.

But although we have become the leading in network appliance hardware, it is in our embedded computing product division that we are experiencing our fastest growth. Building on our expertise in networking and reliable computing for telecom systems, our small form factor industrial PCs have quickly gained a good reputation in their field.

Over the last year we have grown the product selection extensively to meet the specific requirements of several vertical markets. You can now find products suited for digital signage, machine vision, industrial automation, and many more.

With our strong growth in our embedded computing product division, we are looking forward to adding 1 million industrial PCs to the 1 million network appliances in the near future.

Daniel Hsu

Senior Manager, Embedded Computing Product Division

Why Lanner?

Wide Selection of Embedded Systems

Lanner engineers have used their wealth of experience in creating a broad line of embedded systems that can be stand alone products in harsh industrial as well as commercial settings. The clever chassis design gives enough heat dissipation to cool most Lanner embedded systems, while the hinged bottom chassis and externally accessible CF sockets are often praised by our customers. With a wide selection of embedded systems, we have products for many niche applications, including: in-vehicle computing, surveillance gateway control, self-service ticket machine, industrial automation, machine vision, digital signage, DVRs, and many more.

Strong Allies

Intel



Lanner Electronics is an Associate Member of the Intel Internet of Things Solutions Alliance. This alliance is committed to developing modular standard driven solutions based on technologies, processors, products, and services from Intel. Intel provides standard Intel-based industry building blocks to help create better quality systems. These modular blocks allow members of the Alliance to produce products with enhanced performance, greater scalability, and maximum flexibility.

Microsoft



As a Windows Embedded Partner, Lanner is given early access to product plans, Microsoft information events and the latest embedded developments. In 2011 and 2012, Lanner was awarded the Windows Embedded Partner of the Year.

FreescalTM Semiconductor



Lanner is a member of the FreescalTM Alliance, taking advantage of FreescalTM network processors for better performance in IPS, DPI and cryptographic acceleration.

Powerful and Flexible Control of On-screen Graphics in Live Video

Introduction

ChyTV/DigIt Signage Technologies, a leading US-based provider of digital signage solutions, needed a reliable and customizable embedded system for their latest project, Logolt! By allowing their customers to place dynamic graphics over live television feeds, Logolt! offers a great way for content providers to customize their product offerings and maximize revenue.

The Challenge

To integrate a Windows®-based embedded system with a demanding level of service for live video editing use. The solution needed to be flexible enough to accommodate a variety of interfaces and media, with reserved potential for future upgrades. ChyTV/DigIt Signage Technologies' customers have differing demands including High Definition and Standard Definition video, and interoperability concerns with a wide array of video devices. This solution needed to integrate these demands into a compact and powerful unit while remaining cost-effective.

The Solution

Lanner's LEC-2270P2 meets or exceeds all the requirements laid out by ChyTV/DigIt Signage Technologies, and offers the requested performance and flexibility. The LEC-2270P2 has a variety of video and LAN interfaces as standard, and the two PCI expansion slots allowed ChyTV/DigIt Signage Technologies to integrate third-party PCI modules and increase the video output options available. The key to the suitability of this product is the coupling of a powerful core computer with video interfaces including both digital and analog connectors, for Standard Definition, High Definition, and 2K resolutions.

By allowing control through either a Windows®-based graphical user interface or a dedicated control panel, the LEC-2270P2 offers a fast and easy way for the operator to control onscreen graphics. Tickers can be automated to update onscreen text, or previewed on an attached VGA display before committing to output.

A Platform for Reliable Digital Signage Systems

Introduction

Before X2O grew to where it is today, they knew that they would not get involved with manufacturing their own hardware for the media players. They would instead focus on creating the best digital signage software in the industry. So a search for a partner with expertise in media player hardware was necessary.

The Challenge

X2O media players are often installed in harsh environments, so with some of the first hardware they tested, failing hard drives and power supplies created up to 20% failure rates. This added significant replacement expenses to the network operation, and also seriously affected the network uptime. The new hardware had to be rugged enough to withstand the harsh environments, giving the lowest possible failure rates, and had to be contained in a very small form factor.

X2O's player technology interacts with any 3rd party hardware or software systems. The 3rd party system triggers can be taken into the X2O Platform or the X2O Platform can send commands to 3rd Party Hardware or Software Systems from credit card readers, Microsoft Kinect cameras, infrared, RFID, Crestron, AMX, RS232, and more. A good example of how this is used is with the Intel Audience Impression Metrics Suite (AIM), which adds powerful data collection and audience measurement tools to digital signage networks.

The Solution

Working with Lanner's Toronto office, X2O have used the LEC-7000 series to improve the reliability of their digital signage platform and to improve the media performance of their demanding software.

The LEC-7000 series features fanless design, industrial memory and hard drives that can thrive in environments that would be considered unbearable for normal commercial computing platforms. This managed to reduce the failure rates X2O were having in the operator network. The compact design allowed placement right behind screens, saving time during installation and money since they could avoid lengthy wiring and mounting. With an easily opened chassis, maintenance is also quick and convenient.

The Result

Since Lanner's office can offer drop shipments directly to X2O customers, X2O could execute their strategy of focusing on creating the best digital signage platform software. Systems are customized with X2O branding and sent straight from the Lanner warehouse to the customer, which make for quicker and less expensive installation and integration costs. The devices arrive ready for the network and are so reliable that they can stay there for many years.

Introduction LEC-2 & LEC-7 Series

LEC-2 Series

The LEC-2 Series embedded computers have rich expansion capability and are designed for wide deployment in application specific environments, such as industrial automation, vision control and other related applications. Our fanless or smart-fan embedded systems emphasize stability and longevity, and deliver an extremely reliable solution for your most remote locations.

LEC-7 Series

The LEC-7 Series embedded computers have multiple display output capability and are designed for wide deployment in video specific environments, such as digital content playback, physical security, video surveillance and other related applications. Our fanless embedded systems emphasize stability and longevity, and deliver an extremely reliable solution for most applications. These systems provide the perfect balance of size, price, performance and power consumption.

Features

Easily Opened Chassis with No Tool Required

The bottom covering can be simply opened by removing 4 screws- often found in the product's footpads. This allows for easy installation or replacement of the internal CF, HDD, Memory and Mini-PCIe devices.



Powered by New Intel Bay Trail CPU

Using Intel leading-edge 22 nm process technology, the Intel Celeron processor N2900 Series offer quad-core, SoC, double the performance and five times the energy efficiency of the previous generation.



Multi-Screen Support

Some platforms with multiple video output ports, like the LEC-7105, are able to support separate video streams, clone or extension modes on dual screens.



Various Mounting Options

The LEC-2 and LEC-7 Series provide various mounting options, including VESA mounting, wall mounting, rack mounting and DIN-rail mounting options.

4K Resolution Support

The LEC-7388S is a 4K-ready digital signage IPC powered by the Intel Haswell processor and the Intel HD Graphic 4600 GPU. Its hardware specifications include native support for 4K content delivery, supporting hardware-based 4K decoders via both the DisplayPort and the HDMI ports.

Wide Temperature Support

The LEC-2 Series is ruggedized to support a wider than usual range of temperatures. Outfitted with industrial components (HDD/SSD, CF, Memory) this appliance can thrive in harsh conditions.

Features of LEC-2 & LEC-7 Series

Compact Form Factor Design

Engineered for applications with limited space, the LEC-2 and LEC-7 Series has dimensions that permit deployment in small cabinets, machinery, and almost any place necessary.

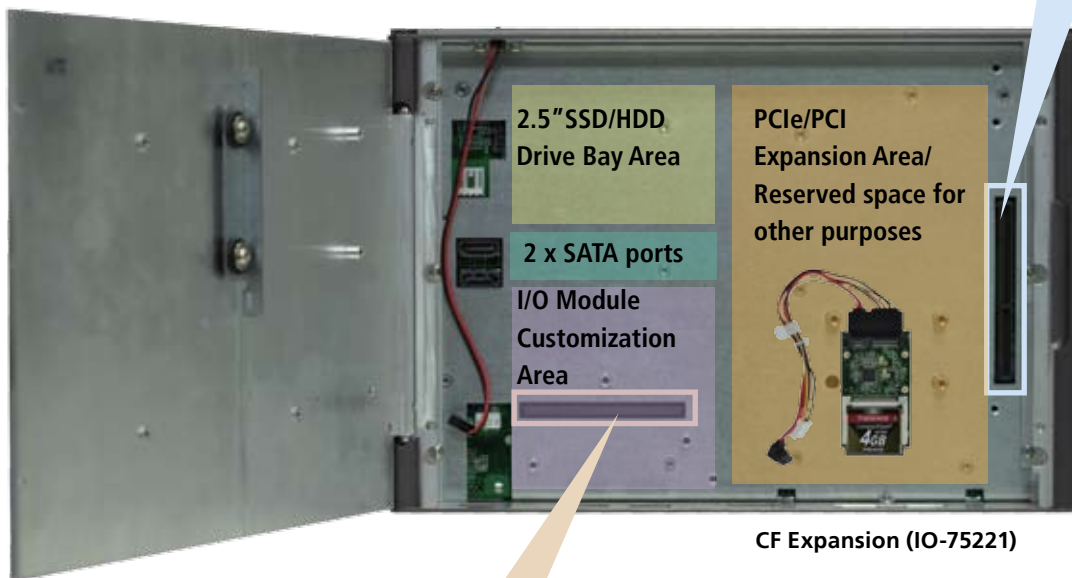
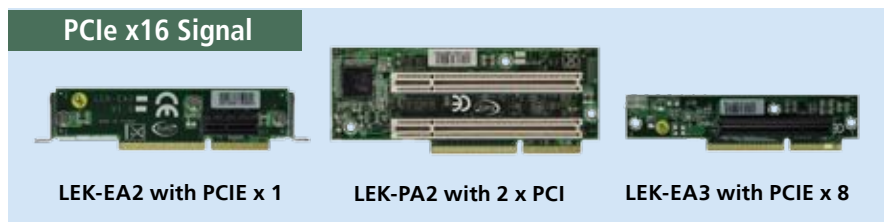
Fanless Design with Corrugated Aluminum

The corrugated aluminum casing allow heat to dissipate off the top of the platform allowing for a fanless design.

Multi I/O Expansion Layer

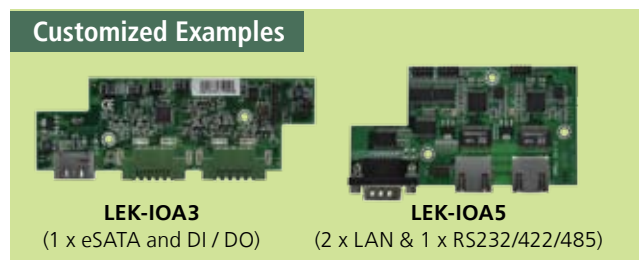
LEC-2270 has an unique Multi I/O (MIO) Expansion Layer that makes it easier to get the I/O configuration you need. The main board has a PCIe x16 port that via standard riser cards can be turned into a PCIe x1 or PCIe x8 port. And from the main board there is also an I/O connector that fits with a plug-in I/O card so you can together with Lanner create a custom unit with the required audio, DI/DO, serial, USB, LAN, and eSATA ports. There is also a drive bay area with SATA connectors for a 2.5" HDD or SSD. This connection can also be used to create an external CompactFlash socket.

Multi I/O Expansion Layer



MIO Signals

- 2 x PCIe 1x
- 1 x SATA 2.0
- 4 x Serial
- 2 x USB
- 1 x Audio Codec
- DC +3.3/+5/+12V



Multi-Purpose Embedded PCs



Low power with Expansion



Industrial Gateway Controller



Industrial Gateway Controller



Industrial Gateway Controller

LEC 2 Series		LEC-2110	LEC-2250 NEW	LEC-2260 NEW	LEC-2530 NEW
Dimension (WxHxD)		268 x 64 x 190 mm (10.55"x2.52"x7.48")	273.8 x 60 x 144 mm (10.78"x2.36"x5.67")	277.65 x 59 x 175 mm (10.93"x2.32"x6.89")	273.8 x 60 x 144 mm (10.78"x2.36"x5.67")
Processor		Intel® Atom™ D525 1.8 GHz	Intel® Dual Core Atom™ D2550 1.86 GHz	Intel® Celeron® 807UE 1.0 GHz	Intel® Atom™ E3825 1.33 GHz
Fanless		Yes	Yes	Yes	Yes
Chipset		Intel® ICH8M	Intel® NM10	Intel® HM65	N/A
System Memory	Technology	DDR3 SODIMM x1	DDR3 SODIMM x1	DDR3 SODIMM x2	DDR3/DDR3L SODIMM x1
	Max. Capacity	Up to 4GB	Up to 4GB	Up to 4GB	Up to 4GB
Storage	IDE	CF socket Type I/II x1	CF socket Type I/II x1	CF socket Type I/II x1	CF socket Type I/II x1
	SATA	2.5" HDD/SSD drive bay x1	2.5" HDD/SSD drive bay x1	2.5" SSD/HDD drive bay x1	2.5" HDD/SSD drive bay x1
Ethernet Controller		Realtek RTL8111 x2	Intel® 82583V x2	Intel® 82583V x2	Intel® i210 x2
Graphic Controller		Intel® GMA3150	Intel® GMA3650	Intel® GMA HD Graphics	Intel® HD Graphics
Audio Controller		Realtek ALC886	Realtek ALC886	N/A	Realtek ALC886
IO	LAN	GbE RJ45 x2	GbE RJ45 x2	GbE RJ45 x2	GbE RJ45 x2
	Display	VGA x1, DVI-D x1	VGA x1, DVI-D x1	VGA x1, DVI-D x1	VGA x1, HDMI x1
	Audio	Phone Jack x2 for Mic-in and Line-out	Phone Jack x2 for Mic-in and Line-out	None	Phone Jack x2 for Mic-in and Line-out
	Serial I/O	RS232 x4, RS232/422/485 x2	RS232 x2, RS232/422/485 x2	RS-232 x2, RS232/422/485x2	RS232 x2, RS232/422/485 x2
	Digital I/O	DB9 Female x1 for DI x4 (5V TTL) and DO x4	None	DB9 Female x1 for DI x4 (5V TTL) and DO x4	6-pin Terminal block for DI x2 (5V TTL) and DO x2
	USB 2.0	Type A x6	Type A x6	Type A x4	USB 2.0 Type A x 4, USB 3.0 x 1
	Power Input	2-pin terminal block	2-pin terminal block	2-pin terminal block	2-pin terminal block
	Expansion	Mini-PCIe x1, PCI x1 or PCIe x1	Mini-PCIex2: a half-sized socket and the other with SIM card reader (USB signal only).	Mini-PCIex2: a half-sized socket and the other full length socket w/ SIM card reader	Mini-PCIex2: a full-sized socket and the other with SIM card reader
	Others	External: power-on button, reset, power-on switch, 3x SMA antenna holes	External: 2x SMA antenna holes, reset, power-on switch	External: 2x SMA antenna holes, reset, power-on switch	External: 2x SMA antenna holes, reset
	Power Input		+9~30Vdc, ATX Mode	+18~36Vdc, ATX Mode	+18~36Vdc, ATX Mode
AC Adapter		75W +19V @ 3.95A	Ordering option	Ordering option	Ordering option
Hardware Monitor		Fintek F81865 integrated watchdog timer 1~255 level	Fintek F81865 integrated watchdog timer 1~255 level	Fintek F81865 integrated watchdog timer 1~255 level	Fintek F81865 integrated watchdog timer 1~255 level
OS Support		Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded (32bit OS only)	Linux, Windows 7/7 Embedded/XP/XP Embedded	Windows 8
Certifications		CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS
Operating Temperature Range with Industrial Components		-10~55°C / 14~131°F	-20~55°C/-4~131°F	-20~55°C/-4~131°F	-20~55°C/-4~131°F
Operating Temperature Range with Commercial Components		-5~45°C / 23~113°F	-5~45°C / 23~113°F	-20~45°C /-4~113°F	-5~45°C / 23~113°F
Ordering Information		LEC-2110P, LEC-2110E	LEC-2250	LEC-2260	LEC-2530



Machine Vision



Machine Vision



Performance with Expansion



Performance with Expansion



Performance with Expansion

LEC-2136	LEC-2280-7BN8	LEC-2220	LEC-2270	LEC-2280
198 x 42 x 145 mm (7.80"x1.65"x5.71")	277 x 67 x 194 mm 10.91" x 2.64"x 7.64"	277 x (67/89) x 194 mm 10.91"x(2.64/3.50)"x7.64"	277 x (67/89) x 194 mm 10.91"x(2.64/3.50)"x7.64"	277 x (67/89) x 194 mm 10.91"x(2.64/3.50)"x7.64"
Intel® Atom™ D525 1.8 GHz	3rd Gen Intel® Core™ i7-3612QE	1st Gen Intel® Core i7/i5/Celeron	2nd Gen Intel® Core™ i5/i7, Celeron	3rd Gen Intel® Core™ i7/i5/i3
Yes	Yes	Smart Fan	Yes	Yes
Intel® ICH8M	Intel® HM65	Intel® HM55	Intel® HM65	Intel® HM65
DDR3 SODIMM x1	DDR3 SO-DIMM x2	DDR3 SODIMM x2	DDR3 SO-DIMM x2	DDR3 SO-DIMM x2
Up to 4GB	Up to 16GB	Up to 8GB	Up to 16GB	Up to 16GB
CF socket Type I/II x1	None	None	None	None
2.5" HDD/SSD drive bay x1	2.5" SSD/HDD drive bay x1	2.5" HDD/SSD drive bay x1	2.5" SSD/HDD drive bay x1	2.5" SSD/HDD drive bay x1
Intel® 82574L x1, Intel® 82583V x5	Intel® 82574L x8	Intel® 82574L x2	Intel® 82574L x2	Intel® 82574L x2
Intel® GMA3150	Intel® HD Graphics 4000	Intel® GMA HD Graphics	Intel® HD Graphics 3000	Intel® HD Graphics 4000
None	Realtek ALC886	Realtek ALC886	Realtek ALC886	Realtek ALC886
GbE RJ45 x6	GbE RJ45 x4 + 4-port GbE Card	GbE RJ45 x2	GbE RJ45 x2	GbE RJ45 x2
VGA x1	HDMI x1 , DVI-D x1 , VGA x1	DVI-I x1, DVI-D x1	HDMI x1 , DVI-D x1 , VGA x1	HDMI x1 , DVI-D x1 , VGA x1
None	None	Phone Jack x2 for Mic-in and Line-out	Phone Jack x2 for Mic-In and Line-Out	Phone Jack x2 for Mic-In and Line-Out
RS232 x1	RS232 x1	RS232 x4, RS232/422/485 x2	RS232/422/485 x2	RS232/422/485 x2
None	None	DB9 Female x1 for DI x4 (5V TTL) and DO x4	None	None
Type A x4	Type A x6	Type A x4	Type A x6	Type A x6
2-pin terminal block	2-pin terminal block	2-pin terminal block	2-pin terminal block	2-pin terminal block
Mini-PClex1(USB signal only) with SIM card reader	Mini-PCIe x2: one with SIM card reader	Mini-PClex1 with SIM card reader ; LEC-2220P: PCI x1 or PCIe x1 ; LEC-2220P2: PCI x2	Mini-PCIe x2: one with SIM card reader; LEC-2270E: PCIe x1; LEC-2270P2: PCI x2	Mini-PCIe x2: one with SIM card reader; LEC-2280E: PCIe x1; LEC-2280P2: PCI x2
External: Power-on button, 1x SMA antenna hole, reset	External: Power-on button, reset	External: Power-on button, Power-on switch, reset	External: Power-on button, reset	External: Power-on button, reset
+18~36Vdc, ATX mode	+9~30Vdc, ATX Mode	+9~30Vdc, ATX Mode	+9~30Vdc, ATX Mode	+9~30Vdc, ATX Mode
Ordering option	75W + 19V @ 3.95A	75W +19V @ 3.95A	75W + 19V @ 3.95A	75W + 19V @ 3.95A
Winbond W83627DHG integrated watchdog timer 1~255 level	Fintek F81865 integrated Watchdog Timer 1~255 level	Fintek F81865 integrated watchdog timer 1~255 level	Fintek F81865 integrated Watchdog Timer 1~255 level	Fintek F81865 integrated Watchdog Timer 1~255 level
Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded
CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS
0~40°C / 32~104°F	-10~55°C / 14~131°F	-10~55°C / 14~131°F	-10~55°C / 14~131°F	-10~55°C / 14~131°F
0~40°C / 32~104°F	-5~45°C / 23~113°F	-5~45°C / 23~113°F	-5~45°C / 23~113°F	-5~45°C / 23~113°F
LEC-2136	LEC-2280-7BN4, LEC-2280-7BN8	LEC-2220P, LEC-2220P2	LEC-2270E-5A/CA/7A, LEC-2270P2-5A/CA/7A	LEC-2280E-3A/5A/7A/7B, LEC-2280P2-3A/5A/7A/7B

Video Driven Embedded PCs



Low power SFF



Low power SFF



Low power SFF



Low power SFF



LEC 7 Series		LEC-7000	LEC-7020	LEC-7050	LEC-7070
Dimension (WxHxD)		190 x 36 x 140 mm (7.48"x1.42"x5.51")	198 x 42 x 145 mm (7.80"x1.65"x5.71")	198 x 42 x 145 mm (7.80"x1.65"x5.71")	198 x 42 x 145 mm (7.80"x1.65"x5.71")
Processor		Intel Atom N270 1.6GHz	Intel Atom N270 1.6GHz	Intel Atom N2800 1.8GHz	Intel Celeron 807UE (1.0 GHz)
Fanless		Yes	Yes	Yes	Yes
Chipset		Intel 945GSE + ICH7M	Intel 945GSE + ICH7M	Intel NM10	Intel HM65
System Memory	Technology	512MB DDR2 on board, DDR2 SODIMM x1	DDR2 SODIMM x1	DDR3 SODIMM x1	DDR3 SODIMM x1
	Max. Capacity	Up to 2GB	Up to 2GB	Up to 4GB	Up to 4GB
Storage	IDE	CF socket Type III x1	CF socket Type III x1	CF socket Type III x1	CFast socket x1
	SATA	2.5" HDD/SSD drive bay x1	2.5" HDD/SSD drive bay x1	2.5" SSD/HDD drive bay x1	2.5" SSD/HDD drive bay x1
Ethernet Controller		Realtek RTL8111 x2	Realtek RTL8111 x2	Intel 82583V x2	Intel 82583V x2
Graphic Controller		Intel GMA950	Intel GMA950	Intel GMA 3650	Intel integrated GMA
Audio Controller		Realtek ALC886	Realtek ALC886	Realtek ALC886	Realtek ALC886
IO	LAN	GbE RJ45 x2	GbE RJ45 x2	GbE RJ45 x2	GbE RJ45 x2
	Display	VGA x1, DVI-D x1	VGA x1, DVI-D x1	VGA x1, DVI-D x1	VGA x1, HDMI x1
	Audio	Phone jack x2 for Mic-in and Line-out	Phone jack x2 for Mic-in and Line-out	Phone Jack x2 for Mic-in and Line-out	Phone Jack x2 for Mic-in and Line-out
	Serial I/O	RS232 x 1, RS232/422/485 x 1	RS232 x1	RS232/422/485 x2	RS232/422/485 x2
	Digital I/O	N/A	1 x female DB9 for DI x4 and DO x4 (5V TTL)	N/A	6-pin terminal block for D/I/O x4
	USB 2.0	Type A x4	Type A x4	Type A x4	Type A x4
	Expansion	Mini-PCI x1	Mini-PCIe x1 with SIM card reader	Mini-PCIe x2: a half-sized socket and the other with SIM card reader(USB signal only).	Mini-PCIe x2: one with SIM card reader
Power Input		+12Vdc +/- 5%, ATX mode	+12Vdc +/- 5%, ATX mode	+24Vdc +/-5%, ATX Mode	12 Vdc +/-5%, ATX Mode
AC Adapter		60W +12V @ 5A	60W +12V @ 5A	60W +24V @ 2.5A	60W 12V @ 5A
OS Support		Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded (32 bit OS only)	Window 7/7 Embedded/XP/XP Embedded, Linux
Certifications		CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS
Operating Temperature Range with Industrial Components		-10~55°C / 14~131°F	-10~55°C / 14~131°F	-20~55°C/-4~131°F	-20~55°C/-4~131°F
Operating Temperature Range with Commercial Components		-5~45°C / 23~113°F	-5~45°C / 23~113°F	-5~45°C / 23~113°F	-5~45°C / 23~113°F
Ordering Information		LEC-7000	LEC-7020D	LEC-7050B	LEC-7070



Low power SFF



Performance Platform



Value Platform



Value Platform

LEC-7230 	LEC-7388S 	LEC-7105	LEC-7106 
198 x 42 x 145 mm (7.80"x1.65"x5.71")	220 x 46 x 172 mm (8.66" x 1.81" x 6.77")	268 x 44 x 174 mm (10.55"x1.73"x6.85")	268 x 44 x 174 mm (10.55"x1.73"x6.85")
Intel Celeron N2930 2.16G, J1900 2.42G, Atom E3845 1.91 GHz or Atom E3825 1.33 GHz	Intel® Core™ i5-4400E, i3 4102E Intel® Celeron® 2000E	Intel Atom D525 1.8GHz	Intel Atom D525 1.8GHz
Yes	Yes	Yes	Yes
N/A	Intel QM87	Intel ICH8M	Intel ICH8M
DDR3L SODIMM x1	DDR3L SODIMM x2	DDR3 SODIMM x1	DDR3 SODIMM x1
Up to 4GB	Up to 16 GB	Up to 4GB	Up to 4GB
CF socket Type I/II x1	N/A	CF socket Type I/II x1	CF socket Type I/II x1
2.5" SSD/HDD drive bay x1	2.5" SSD drive bay x1	2.5" HDD/SSD drive bay x1 eSATA with USB combo x1	2.5" HDD/SSD drive bay x1
Intel i210 x2	Intel i217 x1	Realtek RTL8111 x2	Intel i210 x1
Intel HD Graphics	Intel HD Graphics 4600 or HD Graphics	Intel GMA3150	Intel GMA3150
Realtek ALC886	Realtek ALC886	Realtek ALC886	Realtek ALC886
GbE RJ45 x2	GbE RJ45 x1	GbE RJ45 x2	GbE RJ45 x 1
VGA x1, HDMI x1	HDMI x 2, DP x 1	VGA x1, DVI-D x1	VGA x1
Phone Jack x2 for Mic-in and Line-out	Phone Jack x 2 for Mic-in, Line-out Jack x 2	RCA x2 for right/left Line-out channels	Phone Jack x2 for Mic-in and Line-out
RS232/422/485 x2	RS232 x1	RS232 x1, RS232/422/485 x1	RS232 x4, with DC power output 5V/12V
6-pin terminal block for DI x2 (5V TTL) and DO x2	2x5 terminal block include Power_On, Power_DECT, Power_Status, UART, FAN	2 x 5-pin terminal block for DI x4 (5V TTL) and DO x4	N/A
Type A x 2 / USB 3.0 Type A x 1	USB 3.0 Type A x 3, USB 2.0 Type A x 2	Type A x4	Type A x4
Mini-PCIe x1 with SIM card reader	1x mini-PCI express socket for mini-card module	Mini-PCIe x2: one with SIM card reader	Mini-PCIe x2: one with SIM card reader
+12 V DC	+12 V	+12Vdc +/- 5%, ATX mode	+12Vdc +/- 5%, ATX mode
60W, 12 V / 5 A	60W +12V/5A with lock	60W +12V @ 5A	60W +12V @ 5A
Microsoft Windows 8	Microsoft Window 7, Windows 8 Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded
CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS
-20~-55°C/-4~-131°F	-5~-45°C / 23~113°F	-20~-55°C / -4~-131°F	-20~-55°C / -4~-131°F
-5~-45°C / 23~113°F	-5~-45°C / 23~113°F	-5~-45°C / 23~113°F	-5~-45°C / 23~113°F
LEC-7230-J11A/N11A/E51A/E21A	LEC-7388S-3A/5A/CA	LEC-7105	LEC-7106

Video Driven Embedded PCs



Machine Vision



Value Platform



Performance Platform



Performance Platform

LEC 7 Series		LEC-7220 NEW	LEC-7110	LEC-7920	LEC-7950 NEW
Dimension (WxHxD)	198x42x145mm (7.80"x1.65"x5.71")	268x44x174mm (10.55"x1.73"x6.85")	277x67x190mm (10.91"x2.64"x7.49")	277.65x59x175mm (10.93"x2.32"x6.89")	
Processor	Intel® Atom N2800 (1.86 GHz)	Intel Atom D2550 1.86GHz	1st Gen Intel i7/i5/Celeron	2nd Gen Intel Core i3,i5, Celeron	
Fanless	Yes	Yes	Yes	Yes	
Chipset	Intel NM10	Intel NM10	HM55	HM65	
System Memory	Technology	DDR3 SODIMM x1	DDR3 SODIMM x1	DDR3 SODIMM x2	DDR3 SODIMM x2
	Max. Capacity	Up to 4GB	Up to 4GB	Up to 8GB	Up to 16GB
Storage	IDE	CF socket Type I/II x1	None	None	CF socket Type I/II x1
	SATA	2.5" SSD/HDD drive bay x1 (Reserved)	2.5" SSD/HDD drive bay x1	2.5" HDD/SSD drive bay x1	2.5" HDD/SSD drive bay x1
Ethernet Controller	Intel 82583V x4, ASIX AX88179 x2	Intel 82583V x2	Intel 82574L x2	Intel 82583V x2	
Graphic Controller	Intel GMA 3650	Intel GMA3150	Intel® GMA HD Graphics	Intel® HD Graphics	
Audio Controller	N/A	Realtek ALC886	Realtek ALC886	Realtek ALC886	
IO	LAN	GbE RJ45 x4 or x6	GbE RJ45 x2	GbE RJ45 x2	GbE RJ45 x2
	Display	VGA x1	HDMI x1, VGA x1	DVI-I x1, DVI-D x1	HDMI x1, DVI-D x1, VGA x1
	Audio	N/A	Phone Jack x2 for Line-out and Mic-in	Phone jack x2 for Mic-in and Line-out	RCA x4 for right/left Line-in / Line-out channels
	Serial I/O	RS232 x2	RS232 x1	RS232 x2	RS232/422/485 x2
	Digital I/O	N/A	2x5 pin terminal block connector for DI x4 and DO x4 (5V TTL)	1 x female DB9 for DI x4 (5V TTL) and DO x4	1 x female DB9 for DI x4 and DO x4 (5V TTL)
	USB 2.0	Type A x4	Type A x4	Type A x4	Type A x4
	Expansion	Mini-PCIe socket x1 with SIM card reader	Mini-PCIe socket x1 with SIM card reader	Mini-PCIe x1 with SIM card reader	Mini-PCIex2: a half-sized socket and the other one full length socket with SIM card reader
Power Input	+12Vdc +/-5%, ATX Mode	+12Vdc +/-5%, ATX Mode	+12Vdc +/-5%, ATX mode	+24Vdc +/-5%, ATX mode	
AC Adapter	60W +12V @ 5A	60W +12V @ 5A	75W +12V @ 6.2A	60W +24V@2.5A	
OS Support	Linux, Windows 7/7 Embedded/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	Linux, Windows 7/7 Embedded/XP/XP Embedded	
Certifications	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	CE, FCC Class A, RoHS	
Operating Temperature Range with Industrial Components	-20~55°C/-4~131°F	-10~55°C/14~131°F	0~45°C / 32~113°F	LEC-7950A:-20~55°C, LEC-7950B:-20~45°C	
Operating Temperature Range with Commercial Components	-20~55°C/-4~131°F	-5~45°C / 23~113°F	None	LEC-7950A:-5~45°C, LEC-7950B:-5~40°C	
Ordering Information	LEC-7220N4, LEC-7220N6 (By Request)	LEC-7110	LEC-7920	LEC-7950A, LEC-7950B	

Accessories

3G Modules

OTAWHE910DZ01



Telit HE910-D

Telit Wireless HE910-D PCI Express Mini Card offers high performance to the user on 3G and Quad-band GSM/GPRS/EDGE/UMTS/HSPA networks.

- Coverage: 800/850, 900, AWS1700, 1900, 2100 MHz
- Interface: PCI Express
- Form Factor: Mini PCIe Card Full Size

OTAW0ZU202Z01



ublox ZU202

The ublox Wireless ZU202 PCI Express Mini Card with Integrated SIM holder slot offers high performance to the user on 3.75G and Quad-band GSM/GPRS/EDGE/UMTS/HSPA/WCDMA(UMTS) networks.

- Coverage: 800/850/900/1700/1900/2100 MHz
- Interface: PCI Express
- Form Factor: Mini PCIe Card Full Size

OTAWMC8090Z01



Sierra MC8090

SIERRA AirPrime MC8090 PCI Express Mini Card offers high performance to the user on 3.75G and Quad-band GSM/EDGE/UMTS/HSDPA networks.

- Coverage: 850/1900/2100 MHz
- Interface: PCI Express
- Form Factor: Mini PCIe Card Full Size

WiFi Modules

OTAWWPEA25Z01



Atheros AR9287 802.11b/g/n Half Mini Card

Single band 802.11b/g/n Half Mini Card, Atheros AR9287, 2T2R with HMCE-101 (Mini PCIe half card extender)

OTAWWPER11Z01



Ralink RT3090 802.11b/g/n Half Mini Card

Single band, 802.11b/g/n Half Mini Card, Ralink RT3090, 1T1R with HMCE-101 (Mini PCIe Half card extender)

External Antennas

OTZW000000039



WiFi External Antenna

For both Mini-PCIe and Mini-PCI interface WiFi modules:
External Antenna: RP-SMA Female Body Female Inner Contact, Passive

OTZW000000072



3G External Antenna

RP-SMA Female Body Male Inner Contact, Passive

OTZW000000108



GSM External Antenna, Length: 300 cm

SMA Female Body Male Inner Contact, IP67 Rated, Active

Mounting Kits

Wall Mount Bracket 3

SE9ESA8740100

Wall Mount 3 (143 x 27 mm)



Place the brackets on the back of the chassis. One bracket should align with the holes at the right, and the other should align with the holes at the left. Fasten the brackets to the system with 4 screws.

Compatible Lanner Applied Computers:

LEC-2010, LEC-2050, LEC-2110

Wall Mount Bracket 4

SE9ESA900R100

Wall Mount 4 (136 x 42 mm)



Place the brackets on the back of the chassis. One bracket should align with the holes at the right, and the other should align with the holes at the left. Fasten the brackets to the system with 4 screws.

Compatible Lanner Applied Computers:

LEC-2026, LEC-2126, LEC-2126N, LEC-2136, LEC-2055, LEC-2220, LEC-2260, LEC-2270, LEC-2280, LEC-7000, LEC-7020, LEC-7050, LEC-7070, LEC-7100, LEC-7105, LEC-7110, LEC-7920, LEC-7950, LEC-2250, LEC-7106, LEC-7230, LEC-2530, LEC-7220

Rack Mount

SE9ESA831R100

Rack Mount (483 x 195 x 44 mm)



This 1U Rack Mount Bracket has reserved mounting holes for the LEC Series IPCs. There is also space for the platform's AC Adapter in this mount.

Compatible Lanner Applied Computers:

LEC-2010, LEC-2050, LEC-2055, LEC-2026, LEC-2136, LEC-2250, LEC-7000, LEC-7020D, LEC-7050, LEC-7100, LEC-7105, LEC-7110, LEC-7070, LEC-7106, LEC-7230, LEC-2530

VESA Mount

PE9ESA8300100

VESA Mount (130 x 132 mm)



PC Side Bracket Display Side Bracket



Compatible Lanner Applied Computers:

LEC-2010, LEC-2050, LEC-2055, LEC-2026, LEC-2110, LEC-2126, LEC-2136, LEC-2250, LEC-7000, LEC-7020D, LEC-7050, LEC-7100, LEC-7105, LEC-7110, LEC-7070, LEC-7900, LEC-7106, LEC-7230, LEC-2530

DIN Rail Mount

090W40500001

DIN Rail Mount Bracket



Leverage VESA mounting holes to fix the DIN Rail Bracket. Slide the system into the DIN Rail Mounting Track.

The DIN rail Mount Bracket can also put it on the monitor VESA mounting holes, then slide the monitor into the DIN Rail Mounting Track.

Compatible Lanner Applied Computers:

LEC-2010, LEC-2050, LEC-2055, LEC-2026, LEC-2110, LEC-2126, LEC-2136, LEC-2250, LEC-7020, LEC-7050, LEC-7100, LEC-7105, LEC-7110, LEC-7070



Put DIN rail Mount Bracket on rear of the monitor VESA hole.



Slide the monitor into the DIN rail Mounting Track.

S09OAL7460010

DIN Rail Mount Accessory kit



All wall mount kits have these three holes reserved for a DIN rail mount.



Compatible Models:

Wall Mount Bracket 3 & 4



Lanner is an Associate Member of the Intel® Internet of Things Solutions Alliance, a community of communications and embedded developers and solution providers committed to the development of modular, standards-based solutions on Intel technologies.

Intel® Internet of Things Solutions Alliance members provide original equipment manufacturers (OEMs) and developers with the advanced hardware, software, firmware, tools and systems integration they need to help get their designs to market faster. Alliance members get early access to roadmaps, test platforms, and design support. This helps us innovate with the latest technologies to give you first-in-market solutions you can use to stay ahead of your competition.

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