Lanner

Vehicle Computers

Rugged Platforms for Transportation




Lanner's Expertise in Vehicle Computing

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 leader in network appliance hardware, it is in our applied computing business unit 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.

We have invested heavily in one of the fastest growing fields of embedded computing; vehicle computing. After several successful vehicle computing projects in USA, Australia, and Europe, we have managed to gain the experience and insight that is required to create a better industrial PC for these applications. These industrial PCs will save you time during your system development and enable the wide range of the features that are demanded by vehicle computing systems today and many years ahead.

Eric Chiu

Director, Vehicle Computing Division

Who is Lanner?

Lanner Electronics Inc. (TAIEX 6245) is a world-leading provider of design, engineering and manufacturing services for advanced network appliances and rugged applied computing platforms used by system integrators, service providers and application developers.

Founded in 1986, Lanner is an ISO 9001 and ISO 14001 accredited organization with over 500 staff that is headquartered in Taipei, Taiwan and has offices in the US, Canada and China.

With over 26 years of experience in system and board hardware engineering, Lanner provides reliable and cost-effective computing platforms with high performance.

Manufacturing Locations:

Taipei, Taiwan
Area 30,000m²
Production space: 16,100m²
4 x SMT, DIP, Assembly and AOI
Production Capacity: 40,000 system units/month

Beijing and Dongguang, China
Area 8,500m²
Production space: 3,500m²
Assembly lines
Production Capacity: 8,000 system units/month

Manufacturing Capability
- Low to high volume production
- ODM/OEM Projects
- Board, chassis and system design, production

Certifications
- ISO 9001-2008 Certification
- ISO 14001-2004 Certification
- IECQ QC080000
- RoHS Directive Compliance
- OHSAS 18001-2007

Contents

Why Lanner?

Industrial Computers Specifically Engineered for Use in Vehicles

With the many unique system integration challenges associated with vehicle computing, Lanner has created a product line specifically for this usage. By working closely with our customers, we have been able to develop a number of features that address specific issues encountered in vehicle system integration projects. Vibration resistance, easier I/O access, ignition control, E-Mark certifications and support for remote control via 3G networks are some of the many features our customers have requested, and that we now deliver in the LEC-5 and LVC-5 Series. Customers choose Lanner vehicle PCs to ease their system integration effort and get faster time to market.

Strong Allies

Axis

Lanner is a member of Axis Technology Partner Program, a community of video surveillance developers, embedded developers and solution providers committed to the development of video surveillance solutions from Axis Communications.

Intel

Lanner Electronics is an Associate Member of the Intel Intelligent Systems 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.

Milestone Systems

Lanner is a member of the Milestone Solution Partner Program, a community of video surveillance developers, embedded developers and solution providers committed to the development of video surveillance solutions on Milestone technologies.

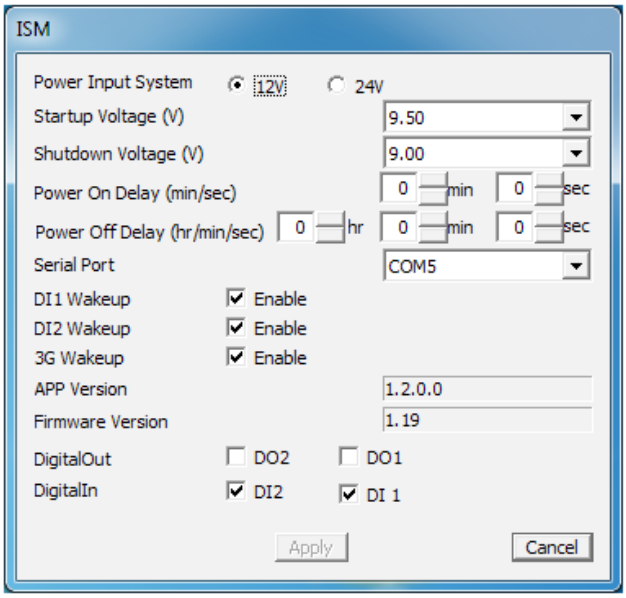
Stretch

Lanner is a member of the Stretch Partner Program, creating alliances with industry leaders to bring customers an ecosystem of development platforms, software products, and design services. Lanner brings years of experience in compute-intensive applications and is an expert in delivering Stretch-based solutions to market quickly.

Features of LVC-5 Series

Power Ignition Control

A must-have for vehicle computing, the Power Ignition Control feature plays a key role in controlling the computer's power function. This feature detects the ignition signal status and allows users to control the on/off delay time setting through the Ignition System Manager (ISM) software utility.



With the delay time setting, users can turn the PC on or off within a certain timeframe, making this feature relevant to any application.

The Power Ignition Control feature can also detect the voltage level from the vehicle power source. With low voltage protection, the vehicle PC will automatically shut down if it detects a low voltage output, preventing the risk of losing data from an improper computer shutdown and further consumption of the power source.

Vehicle Standards Certified

All the LVC-5 series vehicle computers are designed to meet the requirements of the E-Mark Certification (E13).

E13

MIL-STD-810G Vibration, Shock Test and Wider Temperature Support

The LVC-5 series is compliant with MIL-STD-810G and has passed vibration and shock tests. A suspension kit is also included to assist in vibration resistance. These computers are ruggedized and outfitted with industrial components (HDD/SSD, CF, Memory) to support a wide range of environmental conditions.

Suspension kit

Vibration testing

Fanless Design with Corrugated Aluminium

The lifespan of these PCs has been extended by removing the most easily damaged component, the fan. The corrugated aluminium casing allows heat to dissipate off the top of the platform allowing for a fanless design.

System Power On by 3G Ring/SMS

The LVC-5550S can be powered on remotely for data download via 3G Ring call or SMS.

3G Voice Communications (Optional)

The LVC-5550S and LVC-5570 support 3G voice communication that allows users to communicate with an operating center through voice directly.

Convenient DC Output

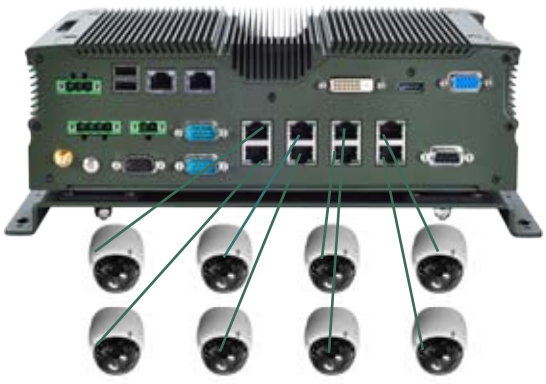
The LVC-5570 features a 9~36 V DC (max. 10 A) output range for external devices, while the LVC-5550S has a 12 V, 1 A output.

LVC-5570 DC relay bypass

12V DC_out (MIO port)

Multiple PoE Ports to Support IP Video Surveillance and Recording

Both the LVC-5000N4 and LVC-5770 are mobile NVRs and come with 4 or 8 PoE ports (IEEE 802.3af, 15.4W each port). They are suitable for IP video surveillance and real-time recording applications.



The LVC-5770 supports up to 8 PoE Cameras

On-board GPS Module and a Backup Battery for GPS

The LVC-5 series offers an on-board GPS receiver with a backup battery to support warm start, allowing a faster positional fix than from a cold start.

Supports Multiple SIM Card Readers

The LVC-5570 supports multiple SIM card readers, allowing users to connect different carriers for flexibility. The system provides one or two external SIM card readers and one internal SIM card reader on the mainboard. The LVC-5550S supports one external SIM card reader, allowing end-users to change or install a SIM card without opening the case.

External SIM Card reader

Removable HDD/SSD drive bays

The LVC-5 Series supports removable HDD/SSD drive bay for field-site fast swaps and flexible expansion capability.

Removable HDD Bay

Digital Input/Output and Relay Support

The LVC-5550S and LVC-5570 support two Digital Inputs (DI) from the MCU, and can connect with sensors to gather data from the environment. Certain events can trigger the LVC-5550S and LVC-5570 to power on/off automatically. In addition, the DI/DO supports 12 V level for easy usage with vehicle parts. The LVC-5550S also has one relay (2A, 12V/24V) for larger drive capability.

Fanless Vehicle Computers

LEC 5 Series		LEC-5510	LEC-5510V	LVC-5550S
Dimension (W x H x D)		268 x 64 x 190 mm (10.55" x 2.52" x 7.48")	268 x 64 x 190 mm (10.55" x 2.52" x 7.48")	268 x 56 x188.2 mm (10.55" x 2.2" x 7.4")
Processor		Intel Atom D510 1.66 GHz	Intel Atom D510 1.66 GHz	Intel Atom D2550 1.8 GHz
Chipset		Intel ICH8M	Intel ICH8M	Intel NM10
System	Technology	DDR2 SODIMM x 1	DDR2 SODIMM x 1	DDR3 SO-DIMM x 1
Memory	Max. Capacity	Up to 2 GB	Up to 2 GB	Up to 4 GB
Storage	CF/ Onboard SSD	CF socket type I/II x 1	CF socket type I/II x 1	CF socket Type I/II x 1
	HDD/SSD	2.5" drive bay x 1	2.5" drive bay x 1	Removable 2.5" drive bay x 1
Ethernet Controller		Intel 82583V x 2	Intel 82583V x 2	Intel 82583V x 2
Graphic Controller		Intel GMA3150	Intel GMA3150	Intel GMA3650
Audio Controller		Realtek ALC888 HD codec	Realtek ALC888 HD codec	Realtek ALC886 HD codec
I/O	LAN	GbE RJ45 x 2	GbE RJ45 x 2	GbE RJ45 x 2
	PoE	N/A	N/A	N/A
	Display	DB15 x 1 for VGA	DB15 x 1 for VGA	DB15 x 1 for VGA, DVI-D x 1
	Video Grabber	None	YUAN SC2B0N4PCI104	None
	Audio	DB9 female x 1 for Mic-in and Line-out	DB9 female x 1 for Mic-in and Line-out	1x Mic-in and Line-out (for PC) 1x Mic-in and Line-out (for 3G,optional)
	Serial I/O	2 x DB9 for RS232/422/485 x 1 and RS232 x 1	2 x DB9 for RS232/422/485 x 1 and RS232 x 1	DB9 Male x 2 supports RS-232/485 DB9 Male x 1 supports RS-232
	GPS	Selectable with MiniPCIe module ZU200, HE-910-G with 3G	Selectable with MiniPCIe module ZU200, HE-910-G with 3G	Ublox NEO-6Q GPS receiver module
	G-sensor	ADXL 345	ADXL 345	ADXL 345
	Digital I/O	1 x female DB9 for DI x4 (5V TTL) and D0 x4	2 x female DB9 for DI x4 (5V TTL) and D0 x4	4x DI 12V Level, 3x DO 12V Level, 2x DI (from MCU) 3.3V Level, 1x 12/24V,2A relay
	USB 2.0	Type A x4; Internal x4	Type A x4; Internal x4	Type A x4
	Power Input	3-pin terminal block (+ , - , ignition)	3-pin terminal block (+ , - , ignition)	3-pin terminal block (+,-,ignition)
	Expansion	Mini-PCIex 2 (one with SIM card reader), PCI-104 x 1	Mini-PCIex 2 (one with SIM Card reader)	Mini-PCIe x3 with 2 SIM card readers
	Others	External: Power-on switch, 3x SMA antenna hole, reset Internal: PS/2 keyboard and mouse, +12Vdc output, On-board 3-Axis digital accelerometer	External: Power-on switch, 3x SMA antenna hole, reset Internal: PS/2 keyboard and mouse, +12Vdc output, On-board 3-Axis digital accelerometer	External: 3x SMA antenna hole, 1x external SIM-card reader, 1xInternal SIM Card reader, Reset button, Power button, Remote power switch, 12V/1A DC out
Power Input		DC Input: +9~30VDC input range, ATX mode support ignition delay on/off control	DC Input: +9~30VDC input range, ATX mode support ignition delay on/off control	DC Input: 9~36V for +12V-level and +24V-level car battery with Ignition Control
Hardware Monitor		Fintek F81865 integrated watchdog timer 1~255 level	Fintek F81865 integrated watchdog timer 1~255 level	Winbond W83627UHG integrated hardware monitor
OS Support		Linux , XPE/WES2009, XP Pro FES, WS7E, WS7P, Win 7 Pro FES	Linux , XPE/WES2009, XP Pro FES, WS7E, WS7P, Win 7 Pro FES	XPE/WES2009, XP Pro FES,WS7E,Win 7 Pro FES
Certifications		CE, FCC Class A, E13, RoHS	CE, FCC Class A, E13, RoHS	CE, FCC Class A, RoHS, E13
Compliance		Electronic: ISO-7637-2	Electronic: ISO-7637-2	Vibration: MIL-STD-810G, Method 514.6 Shock:MIL-STD-810G, Method 516.6
Operating Temperature Range with Industrial Components		-20~55°C / -4~131°F	-20~55°C / -4~131°F	-30~60°C/-22~140°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
Net Weight / Gross Weight (Kg)		3.2 / 4.0	3.4 / 4.2	3.0 / 3.8




LVC-5000	LVC-5000N4 / LVC-5000N4-7A	LVC-5570	LVC-5770
273.8 x 64.8 x 188 mm (10.78" x 2.55" x 7.4")	273.8 x 64.8 x 188 mm (10.78" x 2.55" x 7.4")	276.52 x 85.26 x 190 mm (10.86"x 3.35" x 7.48")	276.52 x 85.26 x 190 mm (10.85"x 3.35" x 7.48")
Intel 847E	Intel 847E / Intel i7-2655LE	Intel Core i7-2655LE/Celeron 1020E	Intel Core i7-2655LE
Intel HM65	Intel HM65	Intel HM65	Intel HM65
DDR3 SO-DIMM x 1 (Factory default: 4 GB module pre-installed)	DDR3 SO-DIMM x 1 (Factory default: 4 GB module pre-installed)	DDR3 SO-DIMM x 2	DDR3 SO-DIMM x 2
Up to 8 GB	Up to 8 GB	Up to 16 GB	Up to 16 GB
CF socket Type I/II x 1	CF socket Type I/II x 1	Onboard 8 GB SSD, up to 32 GB	Onboard 8 GB SSD, up to 32 GB
Internal 2.5" drive bay x 1	Removable 2.5" drive bay x 1	Removable 2.5" drive bay x 2	Removable 2.5" drive bay x 2
Intel 82583V x 4	Intel 82583V x 4	Intel 82574L x 2	Intel 82574L x 2 ; Intel 82583V x 8
Intel integrated HD graphic engine	Intel integrated HD graphic engine	Intel integrated HD graphic engine	Intel integrated HD graphic engine
Realtek ALC886 HD codec	Realtek ALC886 HD codec	Realtek ALC886 HD codec	Realtek ALC886 HD codec
GbE RJ45 x 4	N/A	GbE RJ45 x 2	GbE RJ45 x 2
N/A	PoE ports x 4	N/A	PoE ports x 8
DVI-D x 1, VGA x 1, HDMI x 1	DVI-D x 1, VGA x 1, HDMI x 1	DVI-D x 1, VGA x 1, HDMI x 1	DVI-D x 1, VGA x 1, HDMI x 1
None	None	None	None
Mic-in and Line-out with 2 watt by terminal block MIO connector	Mic-in and Line-out with 2 watt by terminal block MIO connector	1x Mic-in and Line-out (for PC) with 2 watt, 1x Mic-in and Line-out (for 3G, optional)	DB9 female x 1 for Mic-in and Line-out with 2 watt
1x RS-232 and 1x RS-232/422/485 both with RI/5V/12V	1x RS-232 and 1x RS-232/422/485 both with RI/5V/12V	2x RS-232/422/485 with RI/5V/12V	2x RS-232/422/485 with RI/5V/12V
Ublox NEO-6Q GPS receiver module	Ublox NEO-6Q GPS receiver module	Ublox NEO-6Q GPS receiver module	Ublox NEO-6Q GPS receiver module
ADXL 345	ADXL 345	ADXL 345	ADXL 345
4x DI and 4xDO with 5V/12V Level by jumper setting 2x DI (from MCU) 3.3V Level 2x DO control relay with contact current @ 2A	4x DI and 4xDO with 5V/12V Level by jumper setting 2x DI (from MCU) 3.3V Level 2x DO control relay with contact current @ 2A	4x DI 12V Level, 3x DO 12V Level, 2x DI (from MCU) 3.3V Level	4x DI 12V Level, 3x DO 12V Level, 2x DI (from MCU) 3.3V Level
Type A x4	Type A x4	Type A x6	Type A x6
3-pin terminal block (+,-,ignition)	3-pin terminal block (+,-,ignition)	3-pin terminal block (+,-,ignition)	3-pin terminal block (+,-,ignition)
Mini-PCIe x 2 (Both with SIM card reader)	Mini-PCIe x 2 (Both with SIM card reader)	Mini-PCIe x4 with 3 SIM card readers	Mini-PCIe x 2 (one with SIM card reader)
External: 4x SMA antenna hole, Remote Power switch Internal: Lanner Proprietary MIO	External: 4x SMA antenna hole, Remote Power switch Internal: Lanner Proprietary MIO	External: 5x SMA antenna hole, reset, Remote Power switch, 9~36VDC(max. 10A) output software On/Off controllable, On-board 3-Axis digital accelerometer	External: 2x SMA antenna hole, reset, Remote Power switch Internal: 9~36VDC(max. 10A)On/Off software controllable, On-board 3-Axis digital accelerometer
+9~36VDC input range, with ignition delay on/off control	+9~36VDC input range, with ignition delay on/off control, PoE power module internal integrated	DC Input: +9~36VDC input range, ATX mode support ignition delay on/off control	DC Input: +9~36VDC input range, ATX mode support ignition delay on/off control
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: Redhat Enterprise 5/ Fedora 14. Linux Kernel 2.6.18 or later Windows: XP embedded ; Win7 Pro FES/Embedded; Win8	Linux: Redhat Enterprise 5/ Fedora 14. Linux Kernel 2.6.18 or later Windows: XP embedded ; Win7 Pro FES/Embedded; Win8	Linux, Windows 7/XP/XP Pro Embedded/7 Embedded	Linux, Windows 7/XP/XP Pro Embedded/7 Embedded
CE, FCC Class A, RoHS, E13	CE, FCC Class A, RoHS, E13	CE, FCC Class A, RoHS, E13	CE, FCC Class A, RoHS, E13
Vibration: MIL-STD-810G, Method 514.6 Shock:MIL-STD-810G, Method 516.6	Vibration: MIL-STD-810G, Method 514.6 Shock:MIL-STD-810G, Method 516.6	Vibration: MIL-STD-810G, Method 514.6 Shock:MIL-STD-810G, Method 516.6	Vibration: MIL-STD-810G, Method 514.6 Shock:MIL-STD-810G, Method 516.6
-20~55°C/-4~131°F	-20~55°C/-4~131°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
3.0 / 4.5	3.5 / 5.0	4.8 / 6.3	5.8 / 7.6

Accessories

3G Modules

0TAWHE910DZ01	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

0TAW0ZU202Z01	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

0TAWMC8090Z01	Sierra MC8090

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

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

WiFi Modules

0TAWWPEA25Z01	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)

0TAWWPER11Z01	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

0TZW000000039	WiFi External Antenna

For both Mini-PCIe and Mini-PCI interface WiFi modules:

External Antenna: RP-SMA Female Body Female Inner Contact, Passive

0TZW000000072	3G External Antenna

RP-SMA Female Body Male Inner Contact, Passive

0TZW000000108	GSM External Antenna, Length: 300 cm

SMA Female Body Male Inner Contact, IP67 Rated, Active

0TZW000000111	GPS External Antenna, Length: 300 cm

SMA Female Body Male Inner Contact, IP67 Rated, Active

Internal Antenna Cables

10, 15, 20, 30, 35cm	3G/GPS/WiFi RP-SMA Antenna Cables

For Mini-PCIe interface WiFi/3G modules:

- P/N: 080W0Q0001001
  3G/GPS INTERNAL ANTENNA CABLE 10CM, RP-SMA Female Body Female Inner Contact
- P/N: 080W0Q0001501
  3G/GPS INTERNAL ANTENNA CABLE 15CM, RP-SMA Female Body Female Inner Contact
- P/N: 080W0Q0002001
  3G/GPS INTERNAL ANTENNA CABLE 20CM, RP-SMA Male Body Female Inner Contact
- P/N: 080W0Q0003001
  3G/GPS INTERNAL ANTENNA CABLE 30CM, RP-SMA Male Body Female Inner Contact
- P/N: 080W1Q0001501
  WiFi INTERNAL ANTENNA CABLE 15CM, RP-SMA Male Body Male Inner Contact
- P/N: 080W1Q0002001
  WiFi INTERNAL ANTENNA CABLE 20CM, RP-SMA Male Body Male Inner Contact
- P/N: 080W1Q0003001
  WiFi INTERNAL ANTENNA CABLE 30CM, RP-SMA Male Body Male Inner Contact
- P/N: 080W1Q0003501
  WiFi INTERNAL ANTENNA CABLE 35CM, RP-SMA Male Body Male Inner Contact

Bus Surveillance Management: In-vehicle Computing

Introduction

The demand for integrated computer systems on today's commuter buses is increasing rapidly. With modern transportation services offering an array of multimedia information and entertainment for passengers, and evolving needs for surveillance and monitoring, the time is right for a powerful and economical integrated computing solution.

The Challenge

Combining all the elements needed for bus surveillance and monitoring while at the same time offering quality display output and performance for digital signage and media is no easy task. Add in the need for robust design and excellent vibration and shock resistance, and few devices can live up to the job. The demands of this application include:

- Multiple display screens for passengers
- Simultaneous recording and storage of feeds from multiple surveillance cameras
- GPS for bus location monitoring
- G-sensor and idling alarm for driver monitoring
- "Panic button" for driver to alert control center to problems
- 3G/4G connectivity to ensure constant communication with control center
- Outstanding shock and vibration resistance

The Solution

Specifically designed as vehicle computers, the LVC-5000 series is Lanner's answer to the demands of modern bus operators. They are fanless devices with a wide temperature tolerance range and conformity to the exacting MIL-STD-810G for both vibration and shock resistance. All devices in the range are equipped with a vehicle ignition interface, which can be programmed to start the computer on engine ignition, and power down when the vehicle engine is switched off.

Lanner's integrated solution works seamlessly with the Surveillance Video Management System provided by Milestone X Protect to offer a comprehensive surveillance package. Coupled with an on-board NAND Flash SSD up to 32 GB in size, the capacity, software, and processing power is now available to manage a network of up to 8 in-vehicle cameras. Recorded footage can be accessed by physically connecting to the Vehicle Computer or using a remote communication link.

The LVC-5000 series can also be deployed in conjunction with external CAN bus devices to provide a complete driver behavior monitoring platform, thanks to the on board GPS and G-sensor. Speed, acceleration, deceleration, vehicle orientation, and vehicle position can all be recorded using this system. Communication with a remote control center is carried out by wireless 3G/4G to ensure constant contact and monitoring.

The LVC-5770-7A is equipped with 8 PoE ports, and functions as a highly capable Mobile NVR in conjunction with remotely-powered IP cameras, while the LVC-5570 series supports analog input to perform handily as a Mobile DVR. With a range of processor options up to and including the latest Intel® Core i7-2655LE, customers can choose which services to operate, and consequently what level of processing power is required.

Featured Products

LVC-5000N4 / LVC-5000N4-7A

Fanless Vehicle NVR with 4 PoE Ports

LVC-5570-7A

Fanless Vehicle DVR

LVC-5770-7A

Fanless Vehicle NVR with 8 PoE Ports

Application Story :

Bus Digital Signage in Brazil

Introduction

The Brazilian government is investing heavily in infrastructure in the run up to the 2014 FIFA World Cup and the Summer Olympic Games (to be held in Rio de Janeiro in 2016). Curitiba, the capital of the southern Brazilian state of Paraná and the 7th largest city in the country, has been selected as a host city for the World Cup. The city has long been at the forefront of bus transport implementation; in fact the world's first Bus Rapid Transit (BRT) system was set up in Curitiba in 1974. It now has the most comprehensive and well-used bus network in Brazil, credited with lowering the per capita fuel consumption of the city to 70% of the national average.

The Challenge

The client is a systems integrator in Ribeirão Preto, São Paulo state, with ten years' experience in in-vehicle computing systems. They needed to roll out a signage, entertainment, and advertising network throughout the BRT system in Curitiba. Each bus required an industrial PC with the capability to handle adverse conditions, including temperature fluctuations and constant vibration while serving multimedia content on the move. There was also the need for real-time unbroken communication with bus control centers over the city-wide 3G network.

The Solution

Lanner's LEC-5510 was identified as the right tool for the job. With processing power and video output tailored to usage needs, the LEC-5510 is extremely price-competitive while offering solid performance and reliability. The customer also cited pre-sales service as a key reason for choosing Lanner, and after-sales service as a major motivation in continuing the relationship to deploy the LEC-5510 throughout the wider bus network.

The Result

The LEC-5510 is now in place and serving a mixture of entertainment, news, and transport information to passengers on the Curitiba BRT system. Because the on-board LEC-5510s are in constant communication with the bus control center via 3G, the latest transit information can be displayed. The BRT operators benefit from expanded commercial channels to generate revenue, while media companies in Curitiba appreciate the opportunity to reach a large number of customers with in-transport advertising.

The success of the project so far can be gauged by a commitment to purchase at least 1,000 more units of the LEC-5510 over the next three years, expanding the deployment to cover the entirety of the Curitiba BRT network. It has also resulted in a broadened interest in other Lanner products, including the new LVC-5550S.

Featured Products

LEC-5510

Fanless Vehicle Computers

LVC-5550S

Fanless Mobile DVR

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

Intel® Intelligent Systems 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.

Lanner

Taiwan

Lanner Electronics Inc.
7F, No.173, Sec.2, Datong Rd.
Xizhi District,
New Taipei City 221, Taiwan
T: +886-2-8692-6060
F: +886-2-8692-6101
E: connect@lannerinc.com
E: marketing@lannerinc.com

China

立华科技
北京市海淀区农大南路33号
厢黄旗东路兴天海园一层
T: +86 010-82795600
F: +86 010-62963250
E: service @ls-china.com.cn

USA

Lanner Electronics Inc.
41920 Christy Street
Fremont, CA 94538
T: +1-510-979-0688
F: +1-510-979-0689
E: sales_us@lannerinc.com

Canada

LEI Technology Canada Ltd
6461 Northam Drive
Mississauga, ON, L4V 1J2
Toll_free: +1 877-813-2132
T: +1 905-362-2364
F: +1 905-362-2369
E: sales_ca@lannerinc.com

www.lannerinc.com

Introductory Video