

The Ultimate Secure Solution for Multiple isolated Networks

HSL's Micro-Blade is a new patented concept developed specifically for organizations having computer users who needs access to multiple isolated networks. This unique concept allows easy control and secured isolation between multiple classified and unclassified computers, thin-clients and video sources.

This solution is highly modular and scalable with up to 18 Micro-Blades in a single 3U rack. Each Micro-Blade may be switched through internal KVM to one or even two connected users. A range of matching Micro-Blades offered by HSL including: PC blades, Thin-client blades, Aux blades (to connect external PCs) and more.

This unique combination of clients and KVM minimizes cabling and reduces security concerns of leakages between isolated networks.

Single or dual users

The rack built-in KVM design is capable of splitting the rack between two users statically allocating up to 9 Micro-lades to each user. This split mode enables maximum usage of blade racks if needed number of isolated channels is less than 10 per user. With split mode a 42U rack may host up to 20 users each with 9 clients including all necessary LAN switches.

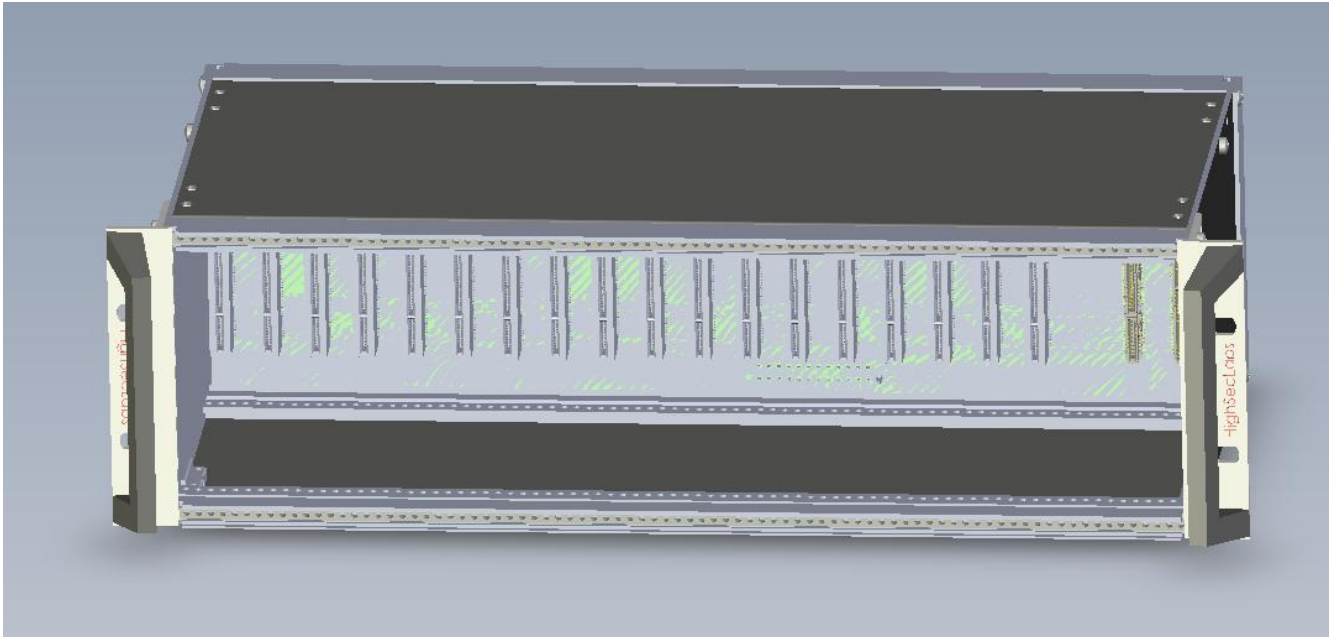
Local and remote installations

HSL offers several installation architectures with matching user control consoles and CAT5 / Fiber extender. Rack can be located at the user's desktop with network cabling extended to the desktop. Another possible installation is to assemble the Blade client system at the server room or data-center and extend only the video, console and USB cables to the user's desktop.

Product Highlights

- **Highest density isolated clients** • Up to 18 isolated Micro-blades connected to isolated networks packed together with power supply and high performance KVM.
- **Range of available Micro-Blades** • From Auxiliary input micro-blades to Linux based Thin Client, CE based Thin Clients, x86 with Intel Core 2 Duo PC Micro Blades. All Micro-Blades are hot-swappable and Plug & Play.
- **Aux Micro-Blades** • Enables connection of external PC or video source through DVI USB and Audio I/O.
- **Operates between Highest Security Level Gaps** Designed for secured isolation between *national security* and the *internet*.
- **Flexible Micro-Blades allocation** • Enable allocation of up to 18 blades to a single user or rack split of up to 9 blades to each one of two users.
- **Switching of DVI USB an Audio** • High resolution Digital Video (DVI) switching. Full USB isolation and protection. High quality 18 channels stereo audio mixer.
- **Enables remote location in servers room** • Video USB and Audio can be extended over fiber or CAT-5 cables to the user's desktop. Remote channel selector panel enables remote user control.
- **Modular 600W Power Supply** • TEMPEST certified modular power supply to support any combination of Micro-Blades.
- **Operate in extreme conditions** • Airborne and ship-borne versions available. TEMPEST variant with fiber Micro-Blades available.

BL2000 3U Micro-Blade rack



A special 3U blade rack design to accommodate up to 18 Micro-Blades. This half depth 19" rack mount enclosure enables maximum flexibility and scalability. The rack is equipped with one or two 600W power supplies and on-demand cooling system. It is thermally monitored to provide efficient and quiet cooling. Very low noise level enables desktop installation or server room remote installation. Backplane designed for hot-swapping and support asset management through Plug & Play function. Backplane can support full channels isolation as well as secured split to support two users having different security levels.

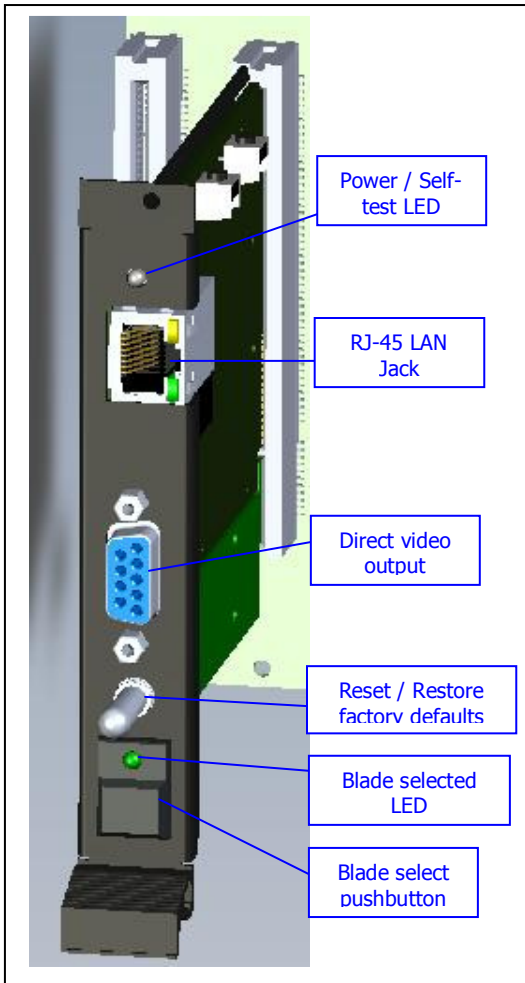
BL2000 3U Micro-Blade Rack Chassis Specification

Form Factor	Standard rack mounted 3U, 27 cm deep.
Backplane supports	<ul style="list-style-type: none"> ▪ 18 Standard Micro-Blades ▪ 3 Management Micro-blades ▪ 1 or 2 Modular 600W power supplies ▪ Optional TPM and Anti-tampering modules ▪ Support for thermal sensors and Micro-Blades Plug & Play ▪ Hot-swapping
Supported Micro-Blades (should be ordered separately)	<ul style="list-style-type: none"> ▪ MBL000 – Blank panel Micro-Blade ▪ MBL110 – Linux based thin-client Micro-Blade ▪ MBL110f – Linux based thin-client Micro-Blade with Giga Fiber LAN interface (SFP) ▪ MBL120 – Windows CE based thin-client Micro-Blade ▪ MBL120f – Windows CE based thin-client with 100BaseFL Fiber LAN Micro-Blade ▪ MBL140 – 1.6 GHz Intel Atom with LAN RJ45 10/100/1000 Mbit/s Micro-Blade ▪ MBL140f – 1.6 GHz Intel Atom with 1000BaseX SFP Fiber Micro-Blade ▪ MBL150 – Intel core 2 duo with RJ45 10/100/1000 Mbit/s Micro-Blade ▪ MBL150f – Intel core 2 duo with RJ45 1000BaseX SFP Fiber Micro-Blade ▪ MBL180 – AUX Micro-Blade with DVI, USB and stereo audio inputs

	<ul style="list-style-type: none"> ▪ MBL200 – 18 Channels Dual DVI ports video switch management Micro-Blade ▪ MBL210 – 18 Channels single user USB switch management Micro-Blade ▪ MBL220 – 2x9 Channels dual users USB switch management Micro-Blade
Cooling	<ul style="list-style-type: none"> ▪ No forced air cooling required under normal environmental conditions
Color	<ul style="list-style-type: none"> ▪ Black
Power Supply	<ul style="list-style-type: none"> ▪ EMI enhanced 600W AC power supply with 3 power modules ▪ Input voltage 85 -264VAC or 120 - 270VDC ▪ Power cable included ▪ TEMPEST Power filter [optional]
Physical Characteristics	<ul style="list-style-type: none"> ▪ Width 425 mm (16.7”), Height 133 mm , Depth 205 mm (8”) ▪ Weight (empty) 8 kg
Environmental	<ul style="list-style-type: none"> ▪ Temperature range: Operating - 20°C to 40°C (-4°F to 104°F); Storage - -20°C to 85°C (-4°F to 140°F) ▪ Humidity: Operating - 10 to 90% non condensing; Storage – 10 to 90% non condensing ▪ Altitude: 0 to 10,000 ft
Regulatory Compliance	<ul style="list-style-type: none"> ▪ Safety: UL/cUL60950,EN60 950 ▪ EMI/EMC: FCC Class B, CE Mark, EN55022B, VCCI, ROHS
Security Accreditations	<ul style="list-style-type: none"> ▪ TEMPEST - NSTISSAM 1-92 Level I [Optional] ▪ TEMPEST - AMSG 720B [Optional] ▪ Common Criteria EAL6 (pending)
Warranty	3 years

- Specifications are subjected to change without prior notice
- Multiple patents pending

MBL110 Thin-client Micro-Blade



The MBL110 is one of the most powerful thin-clients in the market today. This thin-client blade is based on Chip PC's NG-L Linux based newest products line featuring:

- Superior local video performance through hardware video decoding acceleration.
- Superior session (ICA and RDP) performance through hardware acceleration.
- Optimized to Virtual Clients integration with connection broker and VmWare VDM support.
- Secured Linux based kernel augmented and modified to achieve Common-Criteria level 6 (existing XP embedded thin-clients would not achieve EAL-5)
- Strong USB ports filtering.
- Support for high resolution displays.
- Managed by Chip PC's newest management solution – Xcalibur Global 1.2. This management suite enables Linux based clients to be fully managed by AD and Group policies.
- Strong crypto, device and user authentications (exceeding TPM standards).
- Local Firefox browser (optional).
- Very low power consumption (4W) and static design to assure product reliability (MTBF is more than 10 years of continuous operation).

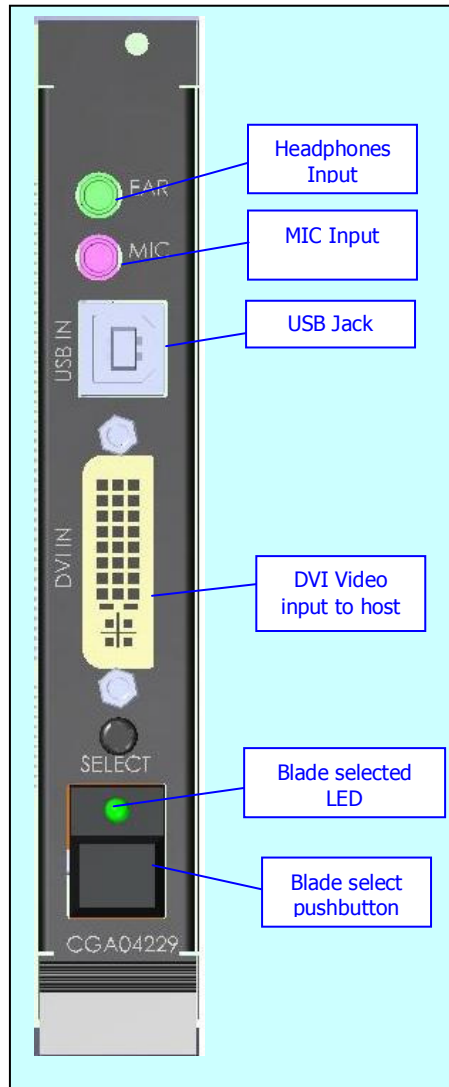
This thin-client module can complement secured and non-secured networks to provide safe access to local or remote resources combining great user experience with superior security. In many IT systems, PCs (external or Micro-blades) will be eliminated or reduced to minimum to improve security

MBL110/f – Linux based thin-client Micro-Blade Specification

CPU	<ul style="list-style-type: none"> • RMI Au 1250, 600 MHz RISC (equivalent to 1.4 GHz x86 processor)
Memory	<ul style="list-style-type: none"> • 256 MB DDR2
Mass Storage	<ul style="list-style-type: none"> • 256 MB Sandisk Disk-On-Chip with FFS • 10 years data retention
Display Support	<ul style="list-style-type: none"> • Analog DB-15HD VGA panel mounted • DVI connected to backplane
Resolutions	<ul style="list-style-type: none"> • 1280x1024 Pixels @ 16M (24 bit) true color • 1368x768 Pixels @ 16M (24 bit) true color • 1600x1200 Pixels @ 16M (24 bit) true color
Video Player	<ul style="list-style-type: none"> • DivX HD CODEC hardware accelerated • MPEG4/WMV hardware accelerated

	<ul style="list-style-type: none"> • MPEG2 • Adobe flash player • H.264 (under development)
Audio Support	<ul style="list-style-type: none"> • High Definition Audio • Stereo Audio Output 16-bit stereo connected to backplane • Microphone Input connected to backplane • Software volume / mute control
Operating System	<ul style="list-style-type: none"> • Linux-based kernel • Security enhanced kernel and drivers
Local applications	<ul style="list-style-type: none"> • ICA 10 client • RDP (RDesktop 1.5) • Media Player • Firefox 2.0.12 Browser • X-Windows 7.2 server
Network	<ul style="list-style-type: none"> • 10/100 Fast Ethernet, twisted pair (RJ-45) with Auto-negotiate TCP/IP with DNS and DHCP • Link and activity LEDs
Power	<ul style="list-style-type: none"> • 4W maximum • Isolated TEMEPST power supply (optional)
Peripheral interfaces	<ul style="list-style-type: none"> • 4 USB 2.0 Ports connected to the backplane • Support for smart-card readers (CAC certified) • Support for USB secured management with key-loggers detection • Support for TEMEPST keyboards
Reliability	<ul style="list-style-type: none"> • MTBF 12 year continuous operation
Monitoring and control	<ul style="list-style-type: none"> • Digital thermal sensor • Plug & Play EEPROM • Reset / Restore factory defaults secured toggle switch • Power (green) / Self test fail (red) status LED
Management	<p>Managed by Xcalibur Global management suite</p> <ul style="list-style-type: none"> • Manages users and devices through Active Directory • Users & Groups • Policy Based Management • Does not change AD schema • VDI management • VMware Virtual Center VDI Brokering and Management • Session desk monitoring and management • Microsoft SMS Asset Management Troubleshooting & Monitoring <p>For more information see www.chippc.com/management/</p>
MBL110f differences	<p>Same as MBL110 above, except for:</p> <ul style="list-style-type: none"> • SFP based Giga LAN interface (SFP module should be ordered separately) • RJ-45 Ethernet port removed • Internal managed 2 ports LAN switch • LAN Link / Activity LED

MBL180 AUX DVI Micro-Blade



The AUX DVI Micro-Blade enables DVI equipped computer to become a user selectable KVM channel. Using various cables an external PC, thin-client or laptop computer may be connected through video, USB and analog audio ports.

Manual Blade Select push-button enabling quick selection of the blade as an active channel. Green LED indicating that blade was selected (either locally or by remote controller).

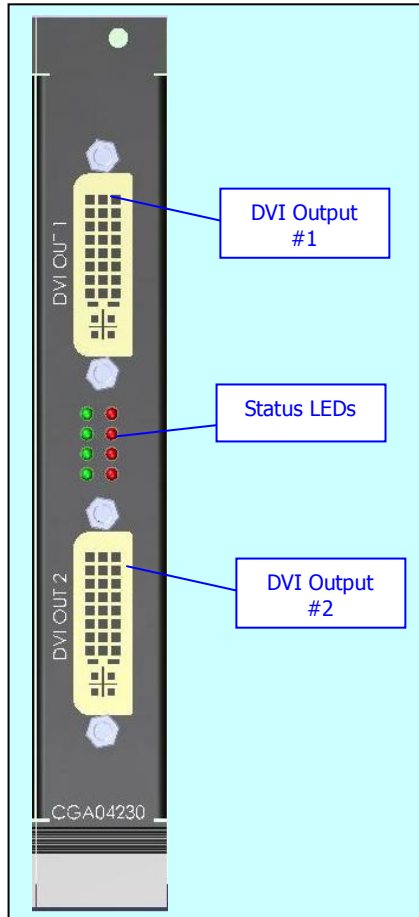
This blade can be hot-swapped and feature automatic Plug & Play detection circuitry.

HSL can provide this blade with various electrical isolation and TEMPEST certification base on customer specific needs. Isolated ground and floating signals with optical isolators are optional to support strong galvanic isolation between connected hosts.

MBL180 AUX DVI Micro-Blade Specification

Host Ports	<ul style="list-style-type: none"> ▪ DVI-D connector to attached host ▪ USB Type-B jack attached to host. USB 2.0 Compatible. ▪ 3.5 mm stereo jack - Microphone input attached to host microphone jack ▪ 3.5 mm stereo jack – Audio out attached to host video out
User controls	<ul style="list-style-type: none"> ▪ Blade select (manual) push-button ▪ Blade selected LED
Other features	<ul style="list-style-type: none"> ▪ Plug & Play EEPROM ▪ TEMPEST isolated power supply, ground and signals (Optional) ▪ Supports host DDC (identifies as standard Dell display)
Optional accessories	<ul style="list-style-type: none"> ▪ 1m DVI-D to DVI-D shielded cable ▪ 1m USB Type-B to USB Type-A cable ▪ 1m Audio cable with 3.5 mm pink color stereo plugs ▪ 1m Audio cable with 3.5 mm green color stereo plugs

MBL200 DVI MUX Micro-Blade



The DVI Multiplexer Micro-Blade is an essential component of the Micro-Blade KVM performing digital video switching.

This Micro-Blade enables highest quality video output from up to 18 high-definition sources.

Having 2 separate DVI outputs this Micro-Blade is essentially two KVMs capable of driving two displays while independently selecting 2 active channels.

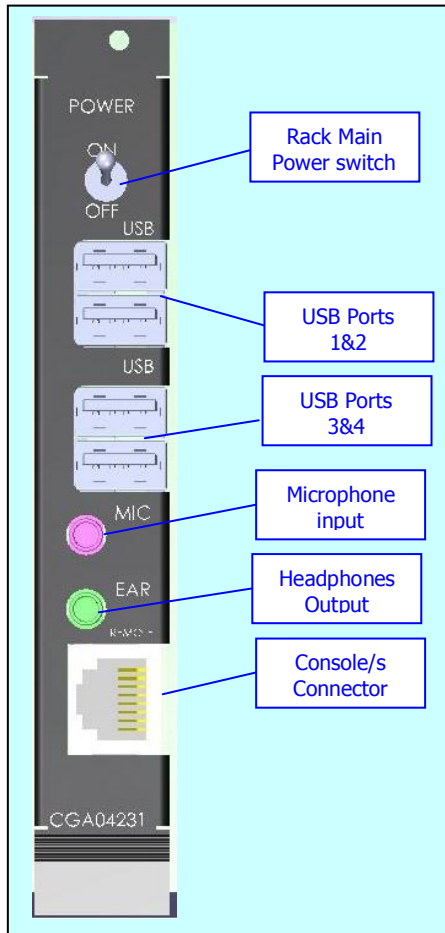
Unlike other KVMs this Micro-Blade designed for administrative tasks. This KVM designed for loss-less video delivery having computer users in mind. The video output of this Micro-Blade is at the same quality of video input even through full optical isolation (optional).

HSL can provide this blade with fully isolated split between the two outputs to enable rack split between 2 users (even having 2 different security levels). Split rack statically allocates 9 Micro-Blades to each user on the same rack thus providing additional degree of flexibility.

MBL200 DVI MUX Micro-Blade Specification

Video MUX	<ul style="list-style-type: none"> 18 to 2 Channels or 2 x 9 to 1 statically allocated (1-9 and 10-18) Digital Video (DVI) single link Supports up to 1920 x 1600 input / output Symbol generator for OSD (optional)
Outputs	<ul style="list-style-type: none"> 2 x DVI-D connectors Display DDC detection
Control	<ul style="list-style-type: none"> Plug & Play EEPROM 8 Status LEDs

MBL200 USB MUX Micro-Blade



The USB / Audio Multiplexer Micro-Blade is an essential component of the Micro-Blade KVM performing digital USB and analog audio switching.

This Micro-Blade is the main controller of the rack system and includes a microprocessor and multiplexer circuitry. It can switch between up to 18 USB 2.0 sources as well as audio sources.

Having 2 separate dual USB ports to connect user peripherals this Micro-Blade is essentially two KVMs capable of driving two sets of keyboards and mice while independently selecting 2 active channels.

Digitally controlled analog multiplexer enable the user to listen simultaneously to all channels or have selected channel volume automatically increased.

The USB and audio multiplexer circuitry designed to isolate power and ground planes of sources to eliminate electrical leakages between channels.

Power switch enables power control from the front panel for the whole blade.

RJ-45 connector enables connection of 1 or 2 remote control consoles to enable user selection of active channel.

MBL210/220 USB MUX Micro-Blade Specification

USB Multiplexer	<ul style="list-style-type: none"> 18 to 4 or 2 x 9 to 2 with static allocation USB 2.0 compatible 4 USB 2.0 ports with 2 internal USB Hubs Can be used in split mode - USB 1&2 for first user and 3&4 for second user
Audio Multiplexer	<ul style="list-style-type: none"> 18 to 1 or 2 x 9 to 2 with static allocation stereo audio out Programmable gain increase for selected channel/s 18 to 1 or 2 x 9 to 2 with static allocation stereo microphone input (optional) Headphones amplifier (optional) 3.5 mm stereo microphone jack 3.5 mm stereo audio output (line out) jack
Control	<ul style="list-style-type: none"> Plug & Play EEPROM Main rack power switch (guarded)

Additional Micro-Blades (Under Development)

MBL140/f – Intel Atom Solid-State PC	<ul style="list-style-type: none"> ▪ Operation System : XP, XP embedded ,CE 6 , Vista Ultimate ,Red Hat Linux ▪ Processor : Intel Atom 1.6GHz ▪ DDR: 1GB DDR ▪ SSD: 8- 32GB ▪ Network : RJ45 10/100/1000 Mbit/s. MRL140f - 1000BaseX SFP FIBER
B150/f – Core™ 2 Duo Solid-State PC	<ul style="list-style-type: none"> ▪ Operation System : XP, XP embedded ,CE 6 , Vista Ultimate ,Red Hat Linux ▪ Processor : SU930 1.2 GHz Core™ 2 Duo processor / 3MB Cache /800MHz FSB/10W ▪ DDR: upto 4 GB DDR3 ▪ SSD: 8- 32GB ▪ Network : : RJ45 10/100/1000 Mbit/s. MBL150f - 1000BaseX SFP FIBER