FREE 24-hour Tech Support: 724-746-5500
blackbox.com

ServSwitch™ Secure (with USB)

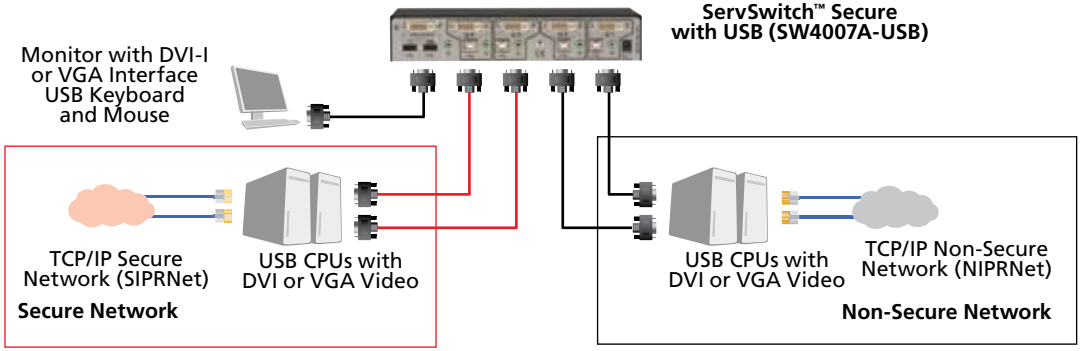
These TEMPEST-certified KVM switches (with USB) enable you to safely switch between secure and unsecure computers.

* *NSA tested and TEMPEST approved for and by the U.S. Air Force. Other agencies under review for approval. For details, call Tech Support at 877-877-2269.*

FEATURES

- TEMPEST approved.
- High levels of port isolation prevent data leakage.
- DVI resolution.
- Secure switching between computers with USB, DVI-I, and audio connections.
- Permanently hard wired. Every circuit is soldered and there is no flash ROM. There is no way to access one CPU from the other or to access one network from the other.
- Diodes also provide very high levels of isolation to swamp any crosstalk signals between connected computer circuits.
- Unidirectional keyboard and mouse signaling thwarts hacking via timing analysis, USB common storage Trojans, keyboard light emissions snooping, and forced malfunctions.
- Heavy-duty metal casing is electrically bonded and ensures low emissions to minimize snooping risks.
- USB keyboard and mouse connections produce substantially less radiated emissions than PS/2® ones do, making it difficult to snoop data transmissions.
- Digital DVI-I video provides even greater security. Its signals are differential, DC balanced, and encoded.
- DVI-I video also provides exact video quality and is backwards compatible with analog VGA equipment.
- True DDC video support. For highly secure installations, DDC data can be bypassed or disabled.
- Clear stereo audio switching circuit for speaker connections eliminates interference and crackle.
- NSA tested and TEMPEST approved for and by the U.S. Air Force. Other agencies under review for approval. For details, call Tech Support at 877-877-2269.

Typical Application.



Technically Speaking

TEMPEST.

TEMPEST is an acronym for Telecommunications Electronics Material Protected from Emanating Spurious Transmissions. It pertains to technical security countermeasures, standards, and instrumentation that prevent or minimize the exploitation of vulnerable data communications equipment by technical surveillance or eavesdropping.

Beware the microchip.

Any device with a microchip generates an electromagnetic field, often called a "compromising emanation" by security experts. With the proper surveillance equipment, these emanations can be intercepted and the signal reconstructed and analyzed. Unprotected equipment can, in fact, emit a signal into the air like a radio station—and nobody wants to risk his or her job and a whole lot more by broadcasting national security or trade secrets to the wrong people.

Some of the most vulnerable devices are speakerphones, printers, fax machines, scanners, external disc drives, and other high-speed, high-bandwidth peripherals. If the snoop is using a high-quality interception device, your equipment's signals can be acquired up to several hundred feet away.

Arguably one of the most vulnerable pieces of equipment is an analog VGA monitor. If a spy were to introduce a Trojan into your system, he or she could monitor and store key presses and passwords used during the day. When the system's not in use at night, the spy could pulse the VGA screen with grayscale images that have a strong signal at particular frequencies. VGA uses single-ended signaling that has a high common-mode emission level not protected by cable shielding, and it's possible to monitor these signals outside the secure zone using a radio receiver. Even without a Trojan, a sophisticated receiver located nearby picks up and views what's on the VGA monitor.

What TEMPEST is and isn't.

It should come as no surprise that the federal government became concerned about signal leakage. In fact, its interest goes back to the days of World War I when the Army was trying to exploit weaknesses of enemy combat phones and radio transmitters. Since then, the scope of the government's interests has broadened beyond battlefield equipment. In the last 40 years, the National Security Agency (NSA) has taken several industry measurement standards and greatly beefed them up. These enhanced criteria are commonly referred to as the TEMPEST standards (although the NSA also calls them EMSEC standards, short for "emissions security").

TEMPEST disciplines involve designing circuits to minimize emanations and the application of appropriate shielding, grounding, and bonding.

SW4007A-USB:
Top: Front panel;
Bottom: Back panel

Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- You wait more than 30 minutes to get through to a vendor's tech support.
- The so-called "tech" can't help you or gives you the wrong answer.
- You don't have a purchase order number and the tech refuses to help you.
- It's 9 p.m. and you need help, but your vendor's tech support line is closed.

According to a survey by *Data Communications* magazine, 90% of network managers surveyed say that getting the technical support they need is extremely important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.

TECH SPECS

Resolutions — 1600 x 1200 and analog up to 1920 x 1024
Connectors —
SW2007A-USB: CPU: (2) DVI-I F, (2) USB Type B F, (2) 3.5-mm audio jacks;
User: (1) DVI-I F, (2) USB Type A F, (1) 3.5-mm audio jacks;
Power: (1) 2.5-mm barrel F;
SW4007A-USB: CPU: (4) DVI-I F, (4) USB Type B F, (4) 3.5-mm audio jacks;
User: (1) DVI-I F, (2) USB Type A F, (1) 3.5-mm audio jacks;
Power: (1) 2.5-mm barrel F
Indicators — LEDs: (1) Power, (1) Error, (1) CPU Selected per port
Power — 115 VAC, 60 Hz
Size — 1.75"H (1U) x 9.1"W x 5.6"D (4.4 x 23.1 x 14.2 cm)

Item	Code
For secure switching between computers with USB, DVI-I, and audio connections, order…	
ServSwitch™ Secure (with USB)	
2-Port	**SW2007A-USB**
4-Port	**SW4007A-USB**
To mount the switch in a rack…	
Rackmount Kit for Secure Switch	**RMK4007**
For connections to a DVI-I CPU, order…	
ServSwitch DVI Cable	
6-ft. (1.8-m)	**EHN900024U-0006**
10-ft. (3.0-m)	**EHN900024U-0010**
For connections to speakers, order…	
3.5-mm Shielded Audio Cable, 24 AWG, Male/Male	
9-ft. (2.7-m)	**EJ4007-0009**