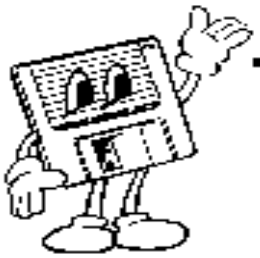


The Newsbyte

THE TRI-COUNTY COMPUTER CLUB

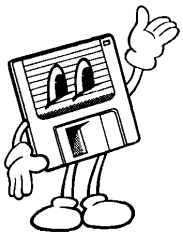
April 1999

Editor: Brian Powell • (330) 828-8365
E-mail: newsbyte@tricountycc.org

Editor's Corner

Finally spring has arrived here northern Ohio. Hopefully, Old Man Winter is gone for the next six months or so, but I don't want to make any predictions like I did last month on winter's demise. In case you did not know, the March meeting ended up being cancelled due to treacherous weather and road conditions.

As you can see in the right-hand column, we have a new program scheduled for this month. We figured that our previous program "Customizing Windows with TweakUI" was causing us bad luck. We had two meeting cancellations, and a computer glitch that prevented us from using it.



Visit TCC Online!
http://www.tricountycc.org

NEXT MEETING
April 13, 1999 – 7:30pm
OSU-ATI Skou Hall Room 101

Program
Demonstration of
Enfish Tracker Pro

Pick From Available
TCC Library Software

Learn to Create A Boot Disk

1999 Club Officers

PRESIDENT
Willis Troyer (330) 669-3925

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Tom Zimmerman (330) 264-5521
zimmerman.4@osu.edu

SECRETARY-TREASURER
Pat Johnston (330) 264-8726

Treasurer's Report

Submitted by Pat Johnston

Balance as of 3/9/99 –	$635.06
Income –	$0.00
Expenditures –	$0.00
Balance as of 4/13/99 –	**$635.06**

Club Membership Report

Current Membership –> **21**

Members Joining in March

None

Members Renewing in March

None

All new 1999 memberships expire on December 31, 1999. Visit TCC Online at http://www.tricountycc.org/joinus/ for more info.

Technology Shows Come to Cleveland

Three technology shows will be visiting Cleveland this month. Combined, the Computer and Technology Showcase, Cleveland Internet Expo, and the Cleveland High Tech Career Fair, have 150 exhibits and 30 free tech seminars.

The shows are being held at the I-X Center, just south of Cleveland Hopkins Airport in Berea. They are on Tuesday, April 13 and Wednesday, April 14, and run from 10am to 5pm. More info is available online at http://www.techshows.com/cleveland.htm .

Secretary's Report

March 9, 1999 Meeting Minutes

Due to treacherous road conditions caused by snow and ice, the March 9, 1999, meeting of the Tri-County Computer Club was cancelled. In the event of a meeting cancellation, visit TCC Online, watch Channel 3, 5, 8, 19, 43, or 21 (we are listed with school closings), or listen to WQKT/WKVX. Closings are also announced on other NE Ohio radio stations.

Orrville Public Library "Wednesday with the Web" Program

The Orrville Public Library will be hosting another special edition of its "Wednesday with the Web" program, focusing on users new to the Internet. Attendees will learn how to explore the Internet with hands-on experience and assistance provided by the staff of the OPL.

The program is on Wednesday, April 21, and runs from 7-8pm at the Orrville High School Computer Lab, on North Ella Street.

To get to OHS from Wooster, head eastbound on US 30. Turn left northbound on OH 57. At the fifth traffic light (past downtown, at Banner Chevrolet), turn left westbound onto W. High Street. Go two traffic lights, and turn right onto N. Ella St. Orrville High School will be ahead on the left, across from the Orrville Area Boys and Girls Club.

Volunteers Needed!

Currently, we have 2 jobs that we need volunteers for. If you are interested in serving, please e-mail Brian Powell at newsbyte@tricountycc.org or speak with him at the April 13 meeting.

Beginner's Corner—

We are looking for a member or members who are interested in helping run our Beginner's Corner program. It is a section of the monthly meeting that teaches the other members how to perform certain computer tasks, particularly those that are easy to moderately hard to do. You may want to write an article for the Newsbyte, as can be found in this issue. You would then give a demonstration at the club meeting.

MS Internet Explorer 5 Review –

We are planning on having a review of Microsoft Internet Explorer 5 in the May issue of the Newsbyte. You need to be running a Windows PC with at least a 486DX-66 processor, access to an Internet connection.

The review would be of either the typical or full version.

Enfish Tracker Pro Discount

Enfish Technology is offering TCC members a special discount rate of $54.90 (normally $79.95) on their award winning Tracker Pro software. The offer expires April 23. If you don't get a flyer at the meeting, e-mail Brian Powell at newsbyte@tricountycc.org.

Web Site of the Month

Microsoft MSDN msdn.microsoft.com

The Microsoft Developer Network is a great new service offered by Microsoft to developers of all types. It was created on March 30, 1999, as a merger of the former Site Builder Network and the old MSDN. Included on the site are thousands of how-to's and reference pages, plus monthly columns, on everything from Visual Basic application development to web site design.

New IBM PCs Infected With Virus

IBM has acknowledged that their Aptiva PCs with the model numbers 240, 301, 52, and 580 that were manufactured between March 5 and March 17, 1999, and sold in the U.S., have been exposed to the CIH computer virus. These systems have a manufacture date code of AM909, AM910, or AM911. CIH is a virus that infects executable files and strikes on April 26 of every year.

It is recommended that affected owners run an antivirus program. More info is at http://www.pc.ibm.com/support/qtechinfo/DETR-46NRJW.html

USB Explained

By Karl Rehak, LVPCUG

The Universal Serial Bus (USB) is now making inroads into computer systems. Devices are being announced and delivered weekly that support this new attachment method. This article will highlight how the USB works, some physical considerations of hooking up USB devices and a summary of which devices are good candidates for USB attachment.

The intent of the USB architecture is to provide a replacement for the aging serial and parallel ports on existing computers. Those ports have not changed much since the original PC design and their use imposes limitations. One limitation is cable length. Cable size and complexity are other limitations. USB uses one IRQ no matter how many devices are in use and it offers instant plug and play for its device set. After loading the device software the computer user can plug the physical device anywhere in the USB network and it springs to life. The unit can be plugged in to a different port each time with no consequence. A USB device can be unplugged from the system at any time as well.

The technology is appropriately named. **"Universal,"** conveys the notion of being for all things. While the port does have speed limitations (discussed later), the 'one plug fits all' design is clearly there. "Serial' describes the flow of information in the bus.

The flow is more like an advanced data network protocol than the traditional PC Serial bus data flow. The traditional serial bus has IRQ, DMA and device limits that dictate its use; USB departs from all of that. It is a "Bus" architecture in that it provides a way to funnel information from many devices into and out of a computer system in an orderly manner.

The connecting cables are made up of four wires. Two of the wires supply voltage and two are data signal wires. The bus operates at either 12 megabits per second or 1.5 megabits per second, depending on the attached device. The devices tell the bus what their speed is through the voltage cables. High speed devices shift the positive voltage lead while slow speed devices shift the negative voltage. Devices that do not need a lot of power, like digital cameras, can draw their power from the bus. That means they operate without a wall plug. Devices like some scanners and printers that have heavy power demands need to be plugged into the wall to operate. A model of the Visioneer scanner uses power supplied by the bus.

USB is a hub architecture. Hubs are what are connected, hubs connect to hubs. The computer has an upstream, “root hub" at the computer that is the signal source, and the input/output devices have a downstream hub to terminate the signal. The hubs do all of the talking. The illustration shown is a connector for an 'A' hub, it is rectangular in shape and is about 3/16 in. by 1/2 in. in size. The plug at the computer is an 'A' plug. The plug at the device, or downstream end, is a 'B' plug. That plug is shaped like a triangle with two of the angle edges flattened. It is about 1/4 by 5/16 in. in size. Cables are designated by their length and types ofplugs they have. A typical cable used is a "6 ft. A B" cable, meaning it is six feet long and is configured with an 'A' plug at one end for the computer and a 'B' plug at the other end for the device. This is a typical device connection cable.

Intermediate hubs can be included in a configuration. A typical distribution hub would have one downstream 'B' plug which comes from the computer, and it provides from four to eight 'A' plugs for distribution to the downstream devices. The maximum cable length is 5 meters, or about 16 feet. Since each hub is a repeater, the signal can be propagated through additional cables for up to six total hubs, that is five connecting cables of up to 15 feet each with the final upstream and downstream hubs at each end. The intermediate distribution hubs can optionally provide additional power to their downstream hubs or simply distribute what is provided by the upstream hub. Most often the use of additional power at the hub is via a power supply transformer plugged into the wall. It can be plugged in to provide additional device power at any time.

Windows 95B (the OEM release) and Windows 98 include USB support. Most systems boards made in the last two years include two USB root hubs. In-stalling the USB on a system requires the installation ofthe software and turning on the USB ports in the BIOS. A connecting cable from the system board to a screw down strip at an available card slot provides the external USB connections. This twin USB plug at the rear of the computer provides the exit "root hub" appearance on the computer. The internal cable with screw down strip cost about $5.00, so the cost of setting up USB on a computer is nominal. For those computers that do not have a built in USB port, there are PCI based USB port cards that cost about $40 to

Continued on Page 5

USB Continued from Page 4

provide the capability. ATX systems boards already have integrated external hubs and no internal cables are necessary.

The USB port extension that was added to my computer had five wires, one more than the basic four needed for use. The fifth wire is a heavy black wire and it was suggested that the wire be clipped before the hub is used. That was done with no problems. That extra wire, is at most, an extra ground wire.

The web site **http://www.usb.org** provides valuable information regarding the USB technology. It also includes a program that tests a computer for USB compliance. This is an easy way to check out a computer before any USB devices are added.

The USB Network

What happens when a device is plugged into a USB port? The wheels are set in motion. The root hub at the computer senses the presence of the new device and initially communicates with the device on "pipe O," the default physical device communications channel. Pipes are the data sub bands of the hub architecture that maintain tile physical connections of devices. Once a device is recognized, the root hub interrogates the device to find out what it is and what it is capable of on pipe 0. All of the devices on the USB ports are then enumerated and each is assigned a unique device number, which also includes a corresponding pipe number for physical device communications. The computer loads the software needed to control the device and handles its information flow. The hubs are then running and information is passed in and out of the computer over the signal leads. The enumeration process is initiated every time a device is plugged into or removed from the network. A maximum of 127 devices can be attached to a hub.

Device Support

The USB architecture is defined as an intermediate speed bus. With its maximum speed of 12 megabits per second, what are a USB port's device limitations and what devices are candidates for attachments?

Clearly, the typical devices attached to serial and parallel ports are excellent candidates for USB attachment. These include most printers, modems, pointing devices, scanners, cameras and like devices. Certainly game paddles, joysticks and steering wheels etc. can be attached to the USB port. In fact special purpose game controllers are a natural since they can be connected and used as needed. Keyboards are now available for USB attachment.

Microsoft just announced a high quality speaker system that supports USB as well as traditional sound board support. The product review indicated that the sounds chopped at times under game conditions on the USB port, indicating a borderline USB attachment candidate. However, under routine computer use USB speakers behaved just fine. USB attached speakers eliminate the need for a sound board in the computer hence they play a perceptively clearer digital sound. Similarly, low end video monitors can be used on USB, while high end graphics will require the use of the internal AGP port and a graphics card. Again, as in speakers, the key to low end or high end graphics is based on the eventual use of the device.

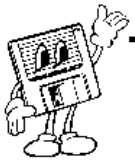
Devices like speakers create a special demand on USB ports in that they are streaming devices. As such, space on the USB port must be reserved for them even when they are quiescent. Such devices are called "isochronous" and are defined as a special class of supported devices in the USB architecture.

Conclusion

In conclusion, in looking at the back of a typical computer, the following devices are better left to dedicated PCI or AGP ports - monitors, speakers and LANs. The devices that are reasonably good candidates for USB connection are printers, scanners, keyboards, pointing devices, game controllers, digital cameras and modems (excluding cable modems). lomega has announced a USB ZIP drive. Other manufacturers will be adapting this technology to their products over time. There are also products available that convert existing serial and parallel devices to USB devices.

The use of USB in a computer system liberates many of the physical constraints of cable length and device location in a Small Office /Home Office (SOHO) environment. It is reasonable to have multiple devices for special purpose applications like sheet feed scanners, flat bed scanners and slide scanners all sharing space on a USB channel. The end user is free to set up a working environment needed for their productive use free of the traditional constraints imposed by COM and LPT ports.

This article appears courtesy of the Las Vegas PCUG and Karl Rehak. Proofreading was done by Chuck Buchheit, Rob Winchell, and Howard Mark of the LVPCUG. Their suggestions are appreciated.



The Newsbyte

THE TRI-COUNTY COMPUTER CLUB

Universal Serial Bus Explained

New Computers Infected with Computer Virus

Next Meeting

Tuesday, April 13
7:30pm

OSU-ATI Skou Hall
Room 101

Demonstration of Enfish Tracker Pro

Brian Powell
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669 West Main
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