# USB TO USB Data Transfer Without Connecting To PC

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## Abstract:

***Abstract*—Electronics plays a vital role in our daily life. It is a key in making this world a small and making everything happen at our finger tips. In the present world of electronics there are various ways are present for storage of any type of data electronically, today's most used and flexible is pen drives but data transfer between them related with computer, and we are not able to share files between two USB flash drives when user is away from computer. So we wanted do a project which is complete blend of hardware and software. This project is used to direct data transfer between USB flash drive to USB flash drive without connecting to computer. we have also added wireless bluetooth Technology to this module by which we can send/receive data to USB flash drive with bluetooth enabled devices like PDAs,laptops etc.**

**Under normal circumstances, if we want to copy or move data from one mass storage device to another, we use the computer as an intermediate device. When copying data is your only requirement, it is overkill to use a full-fledged computer to do something so mundane as to transfer data.**

**The popularity of Universal Serial Bus (USB) storage devices is an indication of the modern user's need for a fast, large capacity and easily accessible system for data storage. This USB to USB Data Transfer Device is a gadget that can be used to do 'data communication' (i.e. data transfer) between two USB mass storage devices. This means you can also transfer data between digicams, phones, mass memories and other similar devices.**

## I. INTRODUCTION

Under normal circumstances, if we want to copy or move data from one mass storage device to another, we use the computer as an intermediate device. When copying data is your only requirement, it is overkill to use a fully fledged computer to do something so ordinary as to transfer data.

These USB devices are shrinking in sizes day by day but not the equipment which is required to access them. However to operate these devices most of the times an operating system is required which calls for the hosts to be extremely complicated system hence accessing these devices requires complicated hardware.

The disadvantage of using USB Flash Drives is that it requires a PC to initiate file transfers between one another and it has not any wireless facility. As a solution of the USB pen drive disadvantage, a research project aims to develop a device that allows the file transfers between two USB BOMS (bulk only mass storage) devices without use of personal computer.

## II.LITERATURE SURVEY

In the present world of electronics there are various ways are present for storage of any type of data electronically, today's most used and flexible is pen drives , but data transfer between them related with computer, and we are not able to share files between two USB flash drives when user is away from computer. So we wanted do a project which is complete blend of hardware and software.

There is a need to develop a project which will directly transfer the data between USB flash drive to USB flash drive without connecting to computer.

This innovation was done which allows a user to transfer data without the need to fire up a PC. The innovative device is capable of transferring data.

If we need to transfer some data from one pen drive to another. Since we don't have access to a PC at that moment of time, it may take long time to actually get the work done. So there must be an affordable portable device that can do this easily without using a PC

The popularity of Universal Serial Bus (USB) storage devices is an indication of the modern user's need for a fast, large capacity and easily accessible system for data storage. USB to USB Data Transfer Device is a gadget that can be used to do 'data communication' (i.e. data transfer) between two USB mass storage devices. This means you can also transfer data between digicams, phone mass memory and other similar devices.

The popularity of Universal Serial Bus (USB) storage devices is an indication of the computer user's need for a fast, large capacity and easily accessible system for data storage. As the development of USB enabled peripherals increases, the Universal Serial Bus (USB) has rapidly become a de facto standard in communication with the Personal Computer (PC) and has lead to new technologies for interfacing memory devices. These memory/storage devices connect to the

USB ports and appear as removable storage device in personal computers, the most popular of which is the USB Flash Drive (pen drives).

By taking this idea we are also adding wireless Bluetooth Technology to this module by which we can send/receive data to USB flash drive with Bluetooth enabled devices like PDAs,laptops etc.

Bluetooth technology's intended basic purpose is to be a wire replacement technology in order to rapidly transfer voice and data. 'Bluetooth' is a proprietary open wireless technology standard for exchanging data over short distances (using short length radio waves) from fixed and mobile devices, creating personal area networks (PANs) with high levels of security.

## III. USB to USB

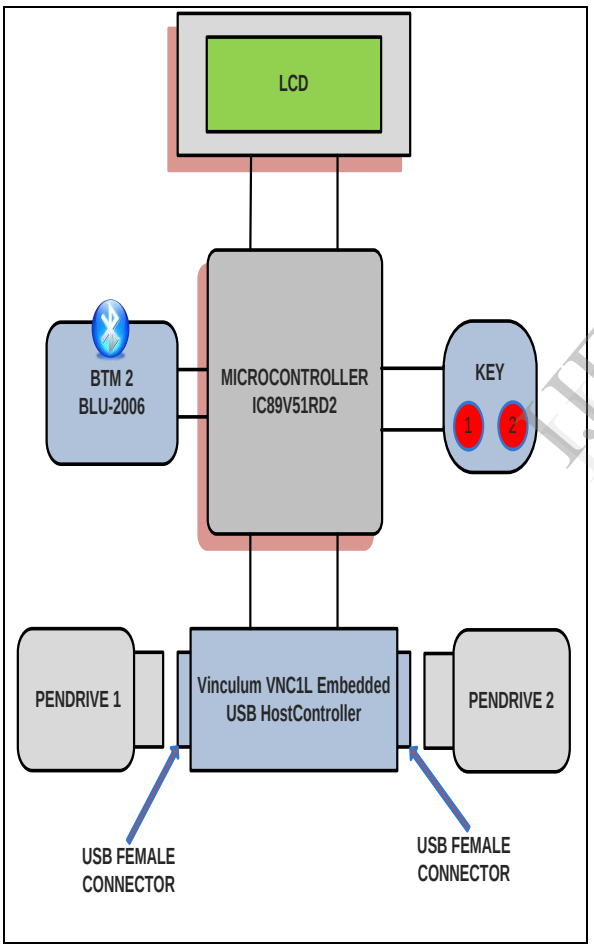


Fig. 1 SYSTEM ARCHITECTURE

## IV. HARDWARE REQUIREMENTS

➢ **VNC1L**


Fig. 2 Vinculum Chip

The Vinculum VNC1L-1A is the first of F.T.D.I.'s Vinculum family of Embedded USB host controller integrated circuit devices. Not only is it able to handle the USB Host Interface, and data transfer functions but owing to the inbuilt MCU and embedded Flash memory; Vinculum can encapsulate the USB device classes as well. When interfacing to mass storage devices such as USB Flash drives, Vinculum also transparently handles the FAT File structure communicating via UART, SPI or parallel FIFO interfaces via a simple to implement command set. Vinculum provides a new cost effective solution for providing USB Host capability into products that previously did not have the hardware resources available.

➢ **USB to serial convertor RS232**

In computing, a serial port is a serial communication physical interface through which information transfers in or out one bit at a time (in contrast to a parallel port). Throughout most of the history of personal computers, data transfer through serial ports connected the computer to devices such as terminals and various peripherals. While such interfaces as Ethernet, FireWire, and USB all send data as a serial stream, the term "serial port" usually identifies hardware more or less compliant to the RS-232 standard, intended to interface with a modem or with a similar communication device. Modern computers without serial ports may require serial-to-USB converters to allow compatibility with RS 232 serial devices. Serial ports are still used in applications such as industrial automation systems, scientific instruments, shop till systems and some industrial and consumer products. Server computers may use a serial port as a control console for diagnostics. Network equipment (such as routers and switches) often use serial console for configuration. Serial ports are still used in these areas as they are simple, cheap and their console functions are highly standardized and widespread. A serial port requires very little supporting software from the host system.

- **ARM7**

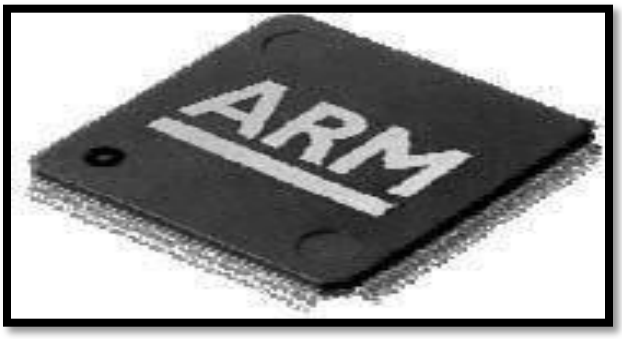


Fig. 3 ARM Processor

Originally Acorn RISC Machines, but now called as **A**dvanced **R**ISC **M**achines.

32 bit RISC*processor.

High Code density.( Less memory)

Hardware Debug Technology.

Load store architecture.

Variable cycle execution for certain instructions.

Inline barrel shifter.

Thumb 16 bit instruction set.

Conditional execution: An instruction is only executed when specific condition has been satisfied.

- **LCD interface**

Fig. 4 Graphic Module

- Displays sign on image
- Menu
- 128 x 64 graphics module

- **Keyboard interface**

Handles the operations
Select keys.

- **USB**

Universal Serial Bus (USB) — an external-connectivity communications technology for linking peripherals such as mice, keyboards, modems, joysticks, video, etc. to Macintosh and PC computers. It has gained favor commercially and privately since 1996.
It is included with nearly all new PC's, it is quickly replacing PC serial ports, and it's driven by some of the largest manufacturers in the electronics industry, it's inevitable that USB will become a factor in the industrial, retail and data collection worlds too.

## V. SOFTWARE REQUIREMENTS

**Flash magic**

Flash Magic is an application developed by Embedded Systems Academy to allow you to easily access the features of a microcontroller device. With this program you can erase individual blocks or the entire Flash memory of the microcontroller.

**Windows XP**

It is an Operating System which will help to run "keil" and "flash magic" software.

**Embedded C**

As time progressed, use of microprocessor-specific assembly-only as the programming language reduced and embedded systems moved onto C as the embedded programming language of choice. C is the most widely used programming language for embedded processors/controllers. Assembly is also used but mainly to implement those portions of the code where very high timing accuracy, code size efficiency, etc. are prime requirements.

- **Keil vision 4 software**
- The µVision IDE from Keil combines project management, make facilities, source code editing, program debugging, and complete simulation in one powerful environment. The µVision development platform is easy-to-use and helping you quickly create embedded programs that work. The µVision editor and debugger are integrated in a single application that provides a seamless embedded project development environment.

## VI. ALGORITHM

1 .Initialize I/O Ports
2. Initialize Timer, Keypad and Serial Port
3. Initialize LCD Module and Display Sign on Image
4. Initialize VNC1L
5. Check for Drive A
    i) If not inserted jump to 5
6. Check for Drive B
    i) If not inserted jump to 6
7. Display Directory of A and B
8. If any Key pressed
    i) If no jump to 8
    ii) If yes
        a) Delete from Drive A
        b) Delete from Drive B
        c) Copy-Paste
        d) Copy all
    iii) go to step 8.

9. Wait for keyboard hit from user (numeric keys)
    i) if no jump to step 9
    ii) if yes accordingly perform operations and jump to 7.

## VII. APPLICATIONS

- Digital cameras to USB flash drive or other USB mass storage device interface.
- MP3 Player to USB Flash drive or other USB device interface.
- USB MP3 player to USB MP3 player.
- Mobile phones to USB flash drive or other USB device interface.

## VIII. CONCLUSION

USB to USB data transfer without connecting to PC is a project that allows a user to transfer data between two USB's when there is no PC available. It is user friendly and handy device. This portable kit consumes less power. It also allows the data transfer between Bluetooth enabled device and USB device.

## REFERENCES

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