

SHOPLINK FLASH 2.0

LOW COST USB 2.0 FLASH MEMORY UPGRADE FOR CNC'S



\$229.00
+ shipping

Overview

Highland DNC, LLC. is the LOW COST leader in CNC RS-232 communication used to distribute and manage NC part programs. Highland provides "ShopLink LOW COST Wireless" the least expensive and most cost effective wireless RS-232 communication system on the market today. Highland now presents "ShopLink FLASH", the LOW COST approach to adding USB 2.0 Flash memory to CNC's without factory provided USB capability. "ShopLink FLASH" provides the connectivity between a USB 2.0 Flash memory drive and your CNC's RS-232 port. "ShopLink FLASH" will send part programs up to 2 Gigabytes long by loading into the CNC memory or by using the spoon\drip feed method. "ShopLink FLASH" can also receive part programs sent from your CNC's program memory. Mazatrol "CMT" conversational program transfer is not supported by "ShopLink FLASH" but is supported by ShopLink LOW COST Wireless and ShopLink wired systems.

Applications

Portable device taken to the CNC to send or receive NC part programs used as a primary DNC system.
Use as a secondary backup system if the primary DNC is not functioning when the network is down.
Use instead of expensive laptops with DNC and other bulky DNC systems for occasional file transfers.
Use for receiving probing data.

Features

- USB 2.0 (Type A) connection for USB flash drive.
- Rugged all metal construction, ShopLink FLASH box dimensions (approx.) 3" L x 2.5" W x 1.5" H.
- 3 LEDs provide operational status. POWER, FILE, TX\RX, LED "on" indicates active\on operation.
- Send (Tx) files to CNC, Receive (Rx) files from CNC.
- Serial communication bauds supported, 110, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 115200.
- Serial communication modes supported, 7 or 8 data bits, Even or None parity, 1 or 2 stop bits.
- Serial communication send Protocols supported, XON\XOFF (no initial XON), DC CODES (initial XON).
- Serial communication receive Protocols supported, NONE, prompt CNC with XON.

Product List (included items with ShopLink FLASH kit) Price: \$229.00 + shipping (see shipping rate)

1 - "ShopLink FLASH" box.

1 - 30" "ShopLink FLASH" to CNC cable (IDC D9 Female to D9 Male to DB25 male adaptor, standard CNC pinout).

1 - 100-240VAC, 12VDC 1Amp power supply (2.1mm, center pin +).

1 - 4GB Flash drive (10MB/s read, 5MB/s write).

Functional description

"ShopLink FLASH" uses the FAT32, 8.3 filename format and a simple pushbutton folder selection which enables "ShopLink FLASH" to be LOW COST, while increasing its ease of use. Thus "ShopLink FLASH" will assume the file desired to be transferred to the CNC is copied into a selected folder named "SEND.TXT". In the absence of "SEND.TXT" another filename ending in a known ".EXT", which could be a long filename, defaults to be automatically renamed to "SEND.TXT" (see [SEND procedure](#) Note:). The "ShopLink FLASH" kit includes an 4GB Flash memory with the following folders "FOLDERx" in its root: FOLDER0, FOLDER1, FOLDER2, FOLDER3, FOLDER4, FOLDER5, FOLDER6, FOLDER7. A respective "FOLDERx" is selected by the pushbutton "Folder Select", Select 0,1,2,3,4,5,6,7 using "+" (count up) or "-" (count down) button. Each "FOLDERx" contains a "CONFIG.INI" which can uniquely set each folder selected to be unique or identical. For example, if FOLDER0 CONFIG.INI has "BAUD=9600" and FOLDER1 CONFIG.INI has "BAUD=4800", when FOLDER0 is selected any CNC configured at 9600 baud could be connected for file transfer. When FOLDER1 is selected any CNC configured at 4800 baud could be connected for file transfer. A respective "FOLDERx" is configured as a "SEND" folder when it's CONFIG.INI "RECEIVE=0" and is configured as a "RECEIVE" folder when it's CONFIG.INI "RECEIVE=1".



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Example of CONFIG.INI file settings found in each FOLDER0- FOLDER7

```
BAUD=9600
MODE=7,E,1
BUFFER=128
WAITFORXON=1
EXT=012
RECEIVE=0
RECEIVESTART=0
RECEIVETIMEOUT=10
```

Definition of CONFIG.INI file settings

BAUD=	110, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 115200
MODE=	Data bits, Parity, Stop bits, "7,E,1" "7,E,2" "8,N,1" "8,N,2"
BUFFER=128	Do not change
WAITFORXON=	=0, send(tx) SEND.TXT file on selection or power up, =1, wait for initial XON from CNC
EXT=	=xxx, If SEND.TXT not present a file with extension matching .xxx is renamed SEND.TXT
RECEIVE=	=0, SEND.TXT is opened and send(tx) to CNC, =1, RECEIVE.TXT is opened for receive
RECEIVESTART=	=0, wait for receive data, =1, send XON (11H) to elicit CNC to send data
RECEIVETIMEOUT=	=1 to 99, wait time in seconds to close file after no data is received

FUNCTION	Send	Receive	Send(Tx) to CNC	Receive(Rx) from CNC
BAUD=			Active - As specified	Active - As specified
MODE=			Active - As specified	Active - As specified
BUFFER=128			Do not change	Do not change
WAITFORXON=			Active - As specified	Inactive – not used
EXT=			Active - As specified	Inactive – not used
RECEIVE=			=0, Send function enabled	=1, Receive function enabled
RECEIVESTART=			Inactive – not used	Active - As specified
RECEIVETIMEOUT=			Inactive – not used	Active - As specified
PROTOCOL XON\XOFF			Active - As specified	Inactive – not used

SEND procedure - send file in FOLDERx named "SEND.TXT" (or opt. filename.EXT) to the CNC.

Power on selected folder, or change to selected folder after power on. File SEND.TXT is ready to send. Press Read\Receive\Input or corresponding dialog to initiate a program load. Ex. for Fanuc press "READ" "EXEC".

FOLDERx settings to SEND file to CNC @ 9600, 7 data bits, EVEN Parity, 1 Stop bit.	
BAUD=9600	Selected baud, match to CNC
MODE=7,E,1	Selected mode, match to CNC, MODE = data bits, parity, stop bits
WAITFORXON=1	ShopLink FLASH waits for CNC to send "XON", typical CNC w\DC CODES
EXT=012	If SEND.TXT file is not present automatic rename of file matching "xxxx.EXT" to SEND.TXT
RECEIVE=0	Designates SEND mode for selected folder

NOTE: option "EXT=" If the native "filename" you wish to copy from a resource is longer than a FAT32 8.3 filename, and it is desired that the long file name of the file being copied to the "ShopLink FLASH" flash drive be preserved, change the "EXT=" option entry to match the extensions used for typical NC programs, i.e. ".NC", ".TAP", ".1", ".12", ".123". The "EXT=" is limited to 1, 2 or 3 character extensions. Once the "filename.EXT" is selected by "ShopLink FLASH" it is renamed "SEND.TXT".

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RECEIVE procedure - receive file from CNC into FOLDERx named "RECEIVE.TXT".

Power on selected folder, or change to selected folder after power on. File RECEIVE.TXT is ready for input. Press Punch\Send\Output or corresponding dialog to initiate a program output. Ex. for Fanuc press "PUNCH" "EXEC". After the output function stops on the CNC and after the RECEIVETIMEOUT expires, the RECEIVE.TXT file will close and the "FILE" LED will be off. Power off the ShopLink FLASH box.

FOLDERx settings to RECEIVE file from CNC @ 9600, 7 data bits, EVEN Parity, 1 Stop bit.	
BAUD=9600	Selected baud, match to CNC
MODE=7,E,1	Selected mode, match to CNC, MODE = data bits, parity, stop bits
RECEIVE=1	Designates RECEIVE mode for selected folder
RECEIVESTART=1	=0, wait for receive data, =1, send XON (11H) to command CNC to send data
RECEIVETIMEOUT=10	=1 to 99, wait time in seconds to close file after no data is received

Pinout of IDC DB9 Female "RS-232" to "CNC"

Pin	Name	Pin	Name
1	NC	6	NC
2	TXD	7	NC
3	RXD	8	NC
4	NC	9	NC
5	GND	-	-

Pinout of DB9 Male to DB25 Male adaptor to "CNC"

DB9 Male Pin	Name	DB25 Male Pin	Name (> output)
2	TXD	3	RXD
3	RXD	2	TXD>
5	GND (PS)	7	GND
		4-5 jumpered	RTS>-CTS
		6-8-20 jumpered	DSR-DCD-DTR>

For **Fadal** and other controls with a male com connector on the CNC ask for a FREE Female\Female gender changer to adapt the standard supplied cable with male DB25 connector.

LED indicators

LED Mark	Color	Status	Description
POWER	Green	ON	Power ON, operational mode
		OFF	No power
FILE	Yellow	ON	USB disk inserted, file open for send\receive
		OFF	USB disk not inserted, SEND.TXT file absent, or RECEIVE file closed by timeout
TX\RX	Red	ON	Active send data, Active receive data
		OFF	No active data send or receive



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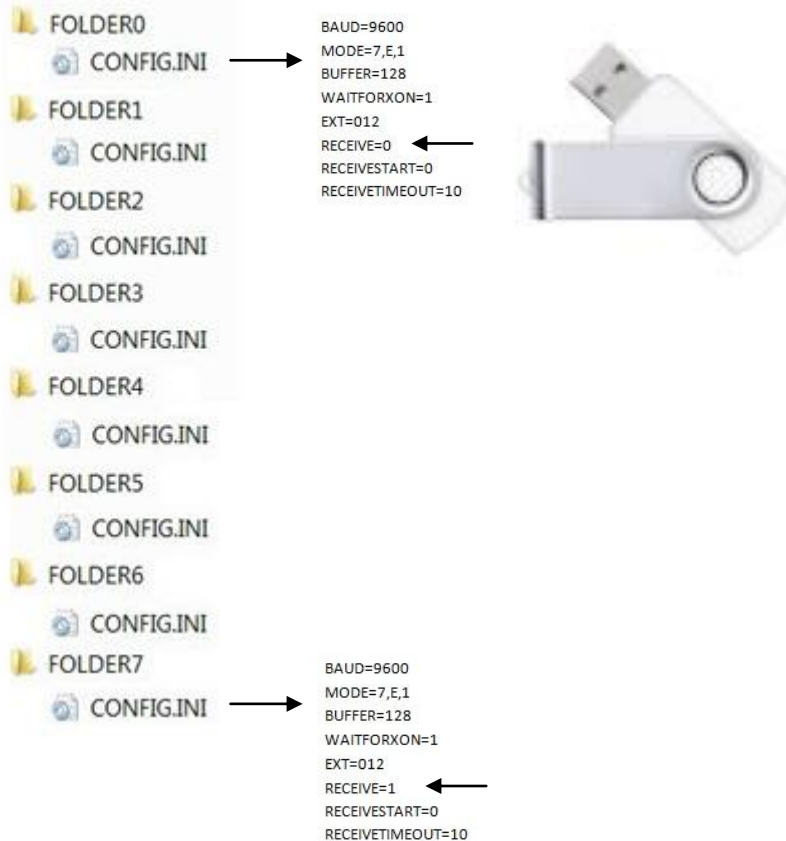
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ShopLink Flash 4GB flash drive folder structure

Removable Disk (E:)



The CONFIG.INI file for FOLDER0-FOLDER6 are typically assigned as SEND folders where RECEIVE=0.

The CONFIG.INI file for FOLDER7 is typically assigned as the RECEIVE folder where RECEIVE=1.

Ease of use is the primary goal of the CONFIG.INI file. It is editable in Notepad, Wordpad and other editors.

Highland provides FREE technical help to assist in making "ShopLink FLASH" the powerful but simple to use tool for your CNC communication needs.

Shipping via UPS (as specified) freight collect (customer UPS account number required) or \$6.00 USPS Priority Mail Small Flat Rate Box.

Terms of payment accepted

Prepay by Visa\MasterCard\AMEX.

Prepay by company check or PayPal.