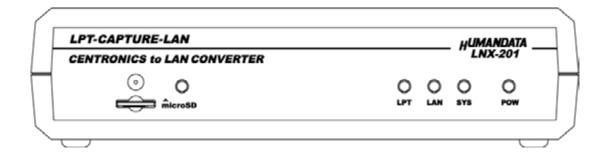


LPT-CAPTURE-LAN Parallel/LAN Converter LNX-201 User's Manual Ver. 1.0



HuMANDATA LTD.

Table of Contents

• Precautions	2
Revision History	1
Introduction	1
1. Product Configuration	1
2. Product Summary	2
3. Overview	3
3.1. Front Side	3
3.2. Rear Side	4
4. Specifications	5
4.1. AC adapter (Japan's specifications)	6
4.2. Optional Accessories	7
4.3. Power Supply	7
5. Connection examples	8
6. Setting Tool	9
6.1. Access Flow of microSD card	10
6.2. Function	.11
6.3. Write Setting Data	16
6.4. Read Setting Data	19
6.5. Write or Read setting data over the network	21
6.6. Setting Example	22
7. Virtual COM Port	24
8. Additional Documentation and User Support	25
9. Warranty and Compensation	25



• Precautions

Do Not	1	This product uses ordinary off-the-shelf electronic components, and is therefore inappropriate for use in applications that require special quality or reliability and are expected to protect human lives or prevent accidents, such as safety mechanisms in fields including space, aeronautics, medicine, and nuclear power.
	2	Do not be used underwater or in high-humidity environments.
	3	Do not be used in the presence of corrosive gases, combustible gases, or other flammable gases.
	4	Do not turn on power when circuit board surface is in contact with other metal.
	5	Do not apply voltage higher than rated voltage.

	6	This manual may be revised in the future without notice owing to
•	0	
		improvements.
	7	All efforts have been made to produce the best manual possible,
Attention		but if users notice an error or other problem, we ask that they
Attention		notify us.
	8	Item 7 notwithstanding, HuMANDATA cannot be held liable for
		the consequences arising from use of this product.
	9	HuMANDATA cannot be held liable for consequences arising from
		using this product in a way different from the uses described
		herein, or from uses not shown herein.
	10	This manual, circuit diagrams, sample circuits, and other content
		may not be copied, reproduced, or distributed without permission.
	11	If the product emits smoke, catches fire, or becomes unusually
		hot, cut the power immediately.
	12	Do not install the control cables or communication cables together
		with the main circuit lines or power cables. In such an
		environment, it may result in malfunction due to noise.
	13	Be careful of static electricity.

Revision History

Date	Revision	Description
January 23, 2019	v1.0	Initial release

• Introduction

Thank you very much for purchasing our product LPT-CAPTURE-LAN, LNX-201. LNX-201 is a parallel signal converter which make it possible to capture parallel signal from a general printer interface via LAN.

1. Product Configuration

The following lists the product configuration of the LNX-201.

LPT-CAPTURE-LAN (LNX-201)	1
microSD card with USB adapter	1
AC adapter (DC5V)	1
Driver & Application CD	1



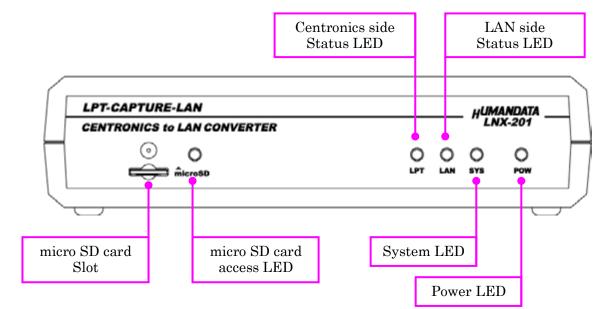
2. Product Summary

LNX-201 can capture print data to your computer from a distant device which has printer interface. For example, LNX-201 can convert HPGL output from an oscilloscope or a measuring instrument to the image file, such as a JPEG format. Please note that LNX-201 does not support parallel output. It is only support parallel input. Any application for capture is not bundled. LNX-201 supports PoE. That makes it possible to be powered via a LAN cable (PoE compatible HUB or other is required). It can also be powered by the AC adapter. Network setting can be saved to and restored from a microSD card. Restoring the setting information from a microSD card is very convenient when replacing LNX-201.



3. Overview

3.1. Front Side

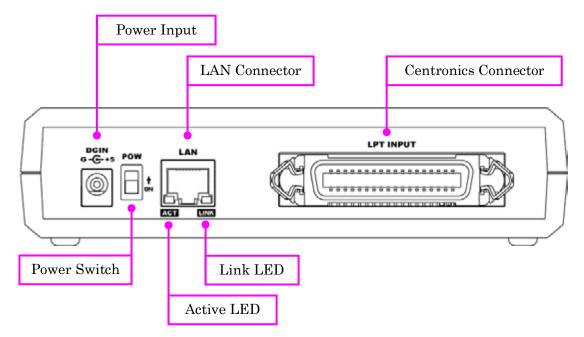


LEDs

	Name (color)	Function
POW	Power LED (red)	Turn on during the power is supplied.
SYS	System LED (red)	Blink few seconds during reading process. Turn on when system is ready.
LAN	LAN side Status LED (red)	Turn on when there is output data to LAN side.
LPT	Centronics side Status LED (red)	Turn on when there is input data from Centronics side
microSD	micro SD card access LED (red)	Turn on during accessing micro SD card. When it turned off, you can extract the card.



3.2. Rear Side



LAN side and Centronics side is isolated.

	Name (color)	Function
ACT	Active LED (green)	Turn on during network port communication.
LINK	Link LED (yellow)	Turn on when the power is supplied and LAN cable is connected normally.



4. Specifications

Item	Description	Remarks
Model	LNX-201	
Demon	5VDC, Supplied by AC adapter	PoE function supports
Power	or LAN connector (PoE function) both mode A and I t Consumption Less than 500mA *k Interface IEEE802.3 (10Base-T) iEEE802.3u (100Base-TX) iEEE802.3u (100Base-TX) half-duplex / full-duplex (auto detected) ESD protection ±1	both mode A and B
Current Consumption	Less than 500mA	
	IEEE802.3 (10Base-T)	
Network Interface	IEEE802.3u (100Base-TX)	
	half-duplex / full-duplex (auto detected)	
		ESD protection ±11KV
LAN Connector	KJ45	isolation over 1500Vrms
Protocol	TCP / UDP / Telnet	isolation over 1500Vrms
Parallel Input	Centronics Parallel input	-
	Centronics type 36pin	
Parallel side Connector	Amphenol connector (female)	
Setting Memory Card	microSD card	For save and restore the
Setting Memory Caru		product setting
	POW: Power LED	
	LPT: Centronics side Status LED	
LED	LAN: LAN side LED	
	SYS: System Status LED	
	LINK (RJ45 Connector): LINK Status	
	ACT (RJ45 Connector): ACT Status	
Operating Ambient Temp.	-10 to 55 [°C] (14 to 131 [°F])	
Operating Ambient Humi.	30 to 85 %RH	No condensation
Storage Ambient Tem.	-20 to 60 [°C] (-4 to 140 [°F])	permitted
Storage Ambient Humi.	30 to 85 % RH	
Weight	Approx. 270 [g]	Only main body
Dimensions	165 x 80.5 x 39 [mm]	Without projections
DIMENSIONS	(6.496" x 3.169" x 1.535")	without projections

* There may be cases that these parts and specifications are changed.

* Power saving function (suspend, standby, sleep and others) is not supported

 \ast Please use the microSD card included in the package. SDHC/SDXC is not supported



Item	Description	Remarks
Output	5VDC 2.0A	
Plug	2.1mm inner diameter	Positive Tip
Compatible DC Jack	2.1mm inner diameter	
Operating Ambient Temp.	0 to 40 [°C] (32 to 104 [°F])	
Operating Ambient Humi.	30 to 85 % RH	No condensation
Storage Ambient Temp.	-20 to 80 [°C] (-4 to 176 [°F])	permitted
Storage Ambient Humi.	10 to 95 % RH	
Wire Length	1.6m	
Weight	approx. 70 [g]	
Dimensions	46 x 34 x 25 [mm]	Without projections
Dimensions	1.811" x 1.339" x 0.984"	without projections

4.1. AC adapter (Japan's specifications)

* This AC adapter is attached for use mainly in Japan. If you use in the other countries, please check the specifications above and plug shape.

* There may be cases that this part and specifications are changed.



4.2. Optional Accessories

Model Name	Image	Description
KP-DV15		Printer Cable 1.5m (SANWA SUPPLY) D-sub 25pin male – Centronics 36pin male (IEEE1284 standard) JAN : 4969887553404
ACC-027		Metal bracket type A for vertical mounting USB/LNX series JAN : 4937920801096
ACC-028	13] 27	Metal bracket type A for horizontal mounting USB/LNX series JAN : 4937920801102
ACC-031		Din rail attachment type B for USB/LNX series JAN : 4937920801256
ACC-036		Neodymium magnet set for USB/LNX series JAN : 4937920801539

4.3. Power Supply

LNX-201 supports PoE function both A and B type as standard which make it possible to be powered via a LAN cable (PoE compatible HUB is required). It also can be powered by the AC adapter.

5. Connection examples

[LNX-201 single operation]



Capture parallel signal from devices which have general printer interface via a local area network.

[Tunneling mode between LNX-201 and LNX-001]



Capture parallel signal by USB interface from devices which have general printer interface via a local area network. For communication, FTDI virtual COM port and D2XX-API can be used. No need knowledge of network for the programming. LNX-001 is a USB to LAN converter.

[Direct print via LNX-201]



Print Centronics input data directly by relaying the data to LAN printer. To print properly, the input data should be suitable for the printer.

* Please use a cross cable to connect LNX-201 without using a hub. (LNX-201 does not have a function for AutoMDI/MDI-X.)



6. Setting Tool

Setting tool supports to save and read network setting by a microSD card. This tool does not require installation.

Reading data So Savin	ng data	Read/Write from Network	٦
Keading data	ing data	Hetwork	
tsic Extension			
Network setting	Serial setting	1	
IP address	Baudrate	921600	~
0.0.0.0	-		
Subnet mask	Flow control	RTS/CTS(Hardware)	V
255.255.255.0 V	Stop bits	1	
Default gateway	Parity	None	
Port number Protcol	Data bits	8	V
10001 TCP ~			
O Enable Disable Remote IP address Remote Po 0 0 0 10001 Connection method Intervention Intervention	ort number		
Remote IP address Remote Pe 0 0 0 10001	ort number		
Remote IP address Remote Po 0 0 0 10001 Connection method	vrt number		
Remote IP address Remote Po 0 0 0 10001 Connection method With any character	vrt number	Product sele	ct
Remote IP address Remote Period 0 0 0 10001 Connection method With any character Image: Connection in the microSD card	<u>m</u>	Product sele	

This is a screenshot from version 2.1

PowerON Access to the microSD card is done immediately after power input. When micro SD card access LED is lighting, do POW LED、 microSD LED turn on not detach the microSD card. You can detach it after confirming the LED is None microSD card Detect None Setting data WR_DATA.TXT Find microSD LED flicker NG Different product types in the setting Product type data and actual product. Verify It is necessary to correct the product type by LNX setting tool. ОК Write setting data Saving backup data of RD_DATA.TXT in the micro SD card. microSD LED turn off Possible to remove of the microSD card SYS LED flicker (System start up) SYS LED turn on Ready

6.1. Access Flow of microSD card



6.2. Function

microSD card	_	Read/Write from Netwo	rk
Reading data	ng data	Network	
asic Extension			
Network setting	Serial setting	,	
IP address	Baudrate	921600	v
0.0.0.0 Subset mask	Flow control	RTS/CTS(Hardware)	
255.255.255.0 V	Stop bits	1	0
Default gateway	Parity		
0.0.0.0	Party	None	×
Port number Protcol 10001 TCP V	Data bits	8	
Remote IP address Remote Po 0 0 0 10001 Connection method	rt number		
With any character			
With any character			
		Product selec	ct
nformation in the microSD card		Product select	_

Item	Contents
Reading data	Read setting data (RD_DATA.txt) from microSD card.
Saving data	Save setting data (WR_DATA.txt) to microSD card.
Nisterer	Read or write setting data over the network. LNX product and PC
Network	must be connected to the same network segment.
Product select	Display product select window.
Copy to clipboard	Copy a display image to clipboard.
Exit	Terminate the application.



[Basic Setting]

Basic	Extension			
Netw	ork setting	Serial setting	,	
_	ddress	Baudrate	921600	
	. 0 . 0 . 0	Flow control	RTS/CTS(Hardware)	
255	.255.255.0	✓ Stop bits	1	Y
-	ult gateway	Parity	None	
_	number Protcol 001 TCP V	Data bits	8	4
_	te setting(Tunneling mode) nable			
Remo	ote IP address	Remote Port number		
0	. 0 . 0 . 0	10001		
Conn	nection method			
with	h any character	~		

Item		Contents		
	If DHCP is not	used to assign an IP address, enter it manually.		
IP address	Unique IP addre	ess must be used in the network. The default		
	setting is 0.0.0.0) (DHCP is enabled)		
Subnet mask	A subnet mask	defines the number of bits taken from the IP		
Subliet mask	address that are	e assigned for the host part.		
	A gateway addr	ess of a router which is allowed to communicate to		
Default gateway	other LAN segm	nents. This address should be an IP address of the		
	router which is	in the same LAN segment.		
	Enter the local j	port number. The default setting is 10001.		
	If you change the value, please avoid the following numbers. They			
	are allocated to	other function.		
Denterral	1-1024	Reserved for well-known ports		
Port number	9999	Reserved for telnet setup		
	14000-14009	Reserved for old redirector		
	30704	Reserved for remote control of user I/Os		
	30718	Reserved for configuration		



Protocol	From the drop-down menu, select TCP or UDP. Normally TCP is used, but when one-to-multiple communication like broadcast or sensitive-responsiveness is needed, please select UDP. The default setting is TCP.
Remote Setting (Tunneling mode) Enable/Disable	Select to enable remote connection (tunneling). The default setting is disable.
Remote IP address	Enter the remote IP address of tunneling target.
Remote Port number	Enter the remote port number of tunneling target.
Connection method	Select connection method to the target.

* Serial setting of LNX-201 is fixed.



[Extension Setting]

Pack control	I/O Buffer clear setting
⊖ Enable	Input buffer from serial to LNX
Idle gap time 12 [msec] \sim	With network connect O Yes No
Trigger character	With network disconnect
○ 1 byte ○ 2 byte string	OYes €No
Any string(HEX) 0x 00 0x 00 Check sum ○ 1 byte 2 byte	Output buffer from LNX to serial With network connect O Yes
TCP keepalve 5 sec Setting range : 0~65sec (0 : Disable)	With network disconnect Yes No
Telnet Com port control(RFC2217)	

Item	Contents
	Select to enable pack control.
	Two packing algorithms define how and when packets are sent to the
	network. The standard algorithm is optimized for applications in
	which the unit is used in a local environment, allowing for very small
Pack control	delays for single characters, while keeping the packet count low. The
Enable/Disable	alternate packing algorithm minimizes the packet count on the
	network and is especially useful in applications in a routed Wide
	Area Network (WAN). Adjusting parameters in this mode can
	economize the network data stream.
	The default setting is disable.
	Select idle gap time from 12, 52, 250 or 5000 msec.
Idle gap time	After this idle gap time with no response from a serial device, data is
	packetized and transmitted to the target. The default setting is 12.
Trigger character	Select packet size and set trigger character (hexadecimal digits).
Check sum	Select check sum size.
	TCP keepalive time defines how many seconds LNX-201 waits
	during an inactive connection before checking its status. If the unit
TCP keepalive	does not receive a response, it drops that connection. Enter a value
	between 0 and 65 seconds. 0 disables keepalive.
	The default setting is 5.



	Set to enable when control COM port using Telnet.
Telnet Com port	The product enables a RFC2217 function to use a control signal used
control (RFC2217)	in a serial port on a network. When it is not used this function, set to
	disable.
I/O buffer clear	Set it whether input/output buffer clear at the time of network
setting	connection or disconnection.



6.3. Write Setting Data

- 1. Open Setting Tool for LNX series (LNX SETTING TOOL Ver*.*).
- 2. Select "LNX-201 LPT-CAPTURE-LAN", and click "OK".

Product select	×
Please select the product, and push the OK button.	
言語 〇日本語 ④English OK	

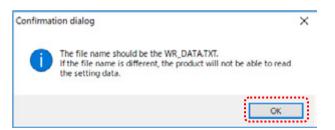
- 3. Enter the setting such as network or serial.
- 4. Insert a microSD card to PC (A USB adapter is included with the product)



5. Click "Saving data".

LNX SETTING TOOL Ver2.1		- 0	×
microSD card	g data	Read/Write from Network	¢
Basic Extension			
Network setting IP address	Serial setting	-	i.
0.0.0.0	Baudrate	921600	
Subnet mask	Flow control		~
255.255.255.0 V Default gateway	Stop bits	1	1
0.0.0.0	Parity	None	1
Port number Protcol 10001 TCP V	Data bits	8	1
Remote setting(Tunneling mode) Enable Disable Remote IP address Remote Poil 0 0 0 10001 Connection method With any character Image: Connection in the microSD card	t number		
HuMANDATA support page]		Product select	
NX series : www.fa.hdl.co.jp/jp/inx-home.ht Support page : www.fa.hdl.co.jp/jp/inx-suport.h	_	Copy to clipboar	d
HUMANDATA.		Exit	
oduct select : INX-201 LPT-CAPTURE-LAN			

6. Click "OK" in the confirmation dialog.



- 7. Specify the microSD card as saving destination. Please do not change the file name from "WR_DATA.TXT".
- 8. Remove the microSD card from PC and insert it to the product. Please confirm that the product power is turned off.

9. When the product is powered on, the setting data is configured to the product automatically. After the data is stored in the product, microSD card is not needed any more. The start-up time can be shortened if the microSD card is removed from the product.

Please be careful not to detach the microSD card before microSD LED is turned off.



6.4. Read Setting Data

- 1. After confirming the power is off, insert the microSD card to the product.
- When the product is powered on, the setting data will be reserved to the microSD card automatically. The data file name is "RD_DATA.TXT".
 Please be careful not to detach the microSD card before microSD LED is turned off.
 * If there is the same file name in the microSD card, the data will be overwritten.
- 3. Insert a microSD card to PC (A USB adapter is included with the product)
- 4. Start the setting tool and click "Reading data".

HU LNX SETTING TOOL Ver2.1		– 🗆 X
Reading data	g data	Read/Write from Network
Basic Extension		
Network setting IP address	Serial setting Baudrate	921600 ~
192 . 168 . 0 . 100 Subnet mask	Flow control	RTS/CTS(Hardware) \lor
255.255.255.0 V Default gateway	Stop bits	1 ~
0.0.0.0	Parity	None V
Port number Protool 10001 TCP ~	Data bits	8 ~
Remote setting(Tunneling mode) O Enable (i) Disable		
Remote IP address Remote Por	tnumber	
Connection method		
With any character $\qquad \lor$		
Information in the microSD card		
[HuMANDATA support page]		Product select
LNX series : <u>www.fa.hdl.co.jp/jp/lnx-home.htr</u> Support page : <u>www.fa.hdl.co.jp/jp/lnx-suport.ht</u>	_	Copy to clipboard
HUMANDATA.		Exit
Product select : LNX-201 LPT-CAPTURE-LAN		



5. Click "OK" in the confirmation dialog.



- 6. Open the "RD_DATA.TXT" in the microSD card.
- 7. Setting data is loaded.

microSD card		Read/Write from Netw	ork
Reading data	ng data	Network	
asic Extension			
Network setting	Serial setting	,	
IP address	Baudrate	921600	~
192 . 168 . 0 . 100	Flow control	RTS/CTS(Hardware)	
Subnet mask 255.255.255.0 V			
Default gateway	Stop bits	1	
0.0.0.0	Parity	None	*
Port number Protcol	Data bits	8	V
10001 TCP ~			
⊖Enable () Disable	rt number		
	rt number		
O Enable • Disable Remote IP address Remote Po 0 0 0 Connection method 0 With any character	rt number		
Remote IP address Remote Po 0 0 0 0 Connection method 0 0	rt number		
Cenable Disable Remote IP address Remote Po O O Connection method With any character formation in the microSD card AC address : 0080A3937C98 mware : Ver. 1.0.06.A0	rt number	Product sele	ect
Cenable Disable Remote IP address Remote Po Connection method With any character Formation in the microSD card AC address : 0080A3937C98		Product sele Copy to clipbo	



6.5. Write or Read setting data over the network

- 1. Enter the setting such as network or serial and click "Network".
 - * Please confirm that microSD card is not inserted in a product.

U LNX SETTING TOOL Ver2.1			×
microSD card Reading data	Saving data	Read/Write from I	ictwork work
Basic Extension	Serial setting	×	
IP address	Baudrate	921600	~
192 . 168 . 0 . 100 Subnet mask	Flow control	RTS/CTS(Hardware)	~

2. Enter an IP address manually or click "Search". When some products are found, please select a number from a list.

Read/Write from N	letwork		×
O Input IP addre	SS	Search	
192 168	0 100	Update	
Search results			1
No	IP address	MAC address	
1	192.168.0.100	0080A3937CC9	
Read data Write data			
Done			

- 3. Click "Read data" or "Write data"
 - * Even if some devices will be listed in the list and occur process time out. In this case, please change the PCs' network setting to the same network segment as the product or using microSD card.



6.6. Setting Example

[LNX-201 single operation]



LNX-201

Network Setting	
IP Address	192.168.0.100
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Port Number	10005
Protocol	TCP
Remote IP Address	0.0.0.0
Remote Port Number	0

[Tunneling mode between LNX-201 and LNX-001]



LNX-201	LNX-001	
Network Setting		
192.168.0.100	IP Address	192.168.0.101
255.255.255.0	Subnet Mask	255.255.255.0
0.0.0.0	Default Gateway	0.0.0.0
10005	Port Number	10005
TCP	Protocol	TCP
192.168.0.101	Remote IP Address	192.168.0.100
10005	Remote Port Number	10005
Serial Communication		
921600	Baud rate	230400
RTS/CTS (hard ware)	Flow Control	RTS/CTS (hard ware)
1	Stop Bits	1
None	Parity	None
8	Data Bits	8

* Serial setting of LNX-201 is fixed.



LNX-201		
Network Setting		
IP Address	192.168.0.100	
Subnet Mask	255.255.255.0	
Default Gateway	0.0.0.0	
Port Number	10005	
Protocol	ТСР	
Remote IP Address	192.168.0.101	
Remote Port Number	9100	

7. Virtual COM Port

You can use the software that creates Virtual COM ports on your PC. You can use the COM port to communicate to an IP address of LNX-201. Rather than going out the local port, the data is transmitted across the Ethernet network using TCP/IP. LNX-201 attached to the network receives the data and transfers it from its own serial port to the attached equipment.

For more details about the application, please refer to the "CPR_Manager" folder in the CD-ROM bundled with the product. There is the download link for the application in that folder.



8. Additional Documentation and User Support

The following documents and other supports are available at https://www.hdl.co.jp/en/faspc/LNX/lnx-201

- LNX SETTING TOOL
- Outline Drawing ... and more.

9. Warranty and Compensation

Please refer to the following URL for the warranty. https://www.fa.hdl.co.jp/en/fa-warranty.html

LPT-CAPTURE-LAN LNX-201 User's Manual

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