HelloDevice Pro

PS100/PS200/PS400

1.0.5

2003-06-24

HelloDevice Pro

1.0.5

1.2.x

Printed in Korea

Copyright 2002, , Inc. All rights reserved.

.

HelloDevice™ , Inc. .

Windows® Microsoft Corporation .

Ethernet® XEROX Corporation .

,

.

.

.

.

210

137-130,

Tel: (02) 573-5422

Fax: (02) 573-7710

E-Mail: support@sena.com

Website: http://www.sena.com

1:

1.1

HelloDevice Pro

                      .   ,
        .

HelloDevice PS100   . PS200   PS400
PS100   2   4   .
HelloDevice Pro   RS232, RS422   RS485   .
HelloDevice Pro   .

                        HelloDevice Pro   TCP/IP, UDP   PPPoE
        , ADSL   LAN(   )
                 .

HelloDevice Pro   telnet   ,   ,
                             ,   .
        HelloDevice Pro   IP
             ,   3DES
        .

HelloDevice Pro   /POS,   ,
        .

        .   .

1.2

- HelloDevice Pro

- 110V   230V

-

-

- HD VirtualCOM, HD-IDE, HD Manager   CD-ROM

1.3

	PS100	PS200	PS400
	1- RS232/422/485 Male DB9	2- RS232/422/485 Male DB9	4- RS232/422/485 Male DB9
	1200bps ~ 115Kbps		
	: None　　　　　　RTS/CTS		
	: RS232　　Rx, Tx, RTS, CTS, DTR, DSR, GND RS422　　Rx+, Rx-, Tx+, Tx- RS485　　Data+, Data-		
	10 Base-T　　　　(RJ45　　　)		
	IP		
	ARP, IP/ICMP, TCP, UDP, Telnet, DNS, SMTP, DHCP　　　　, PPPoE		
	ID		
	: 3DES		
	IP		
	telnet　　　　　　　　　　HelloDevice Manager		
	100		
	telnet		
LED	10 Base-T Link, 　　　　Rx/Tx		
	: 7.5 ~ 30 VDC		
	: 140mA (　　)	: 140mA (　　)	: 190mA (　　)
	: 0 ~ 55 oC : -4 ~ 66 oC		
	: 112 mm　　L 82 mm　　W 25 mm　　H	: 135 mm　　L 80 mm　　W 25 mm　　H	: 230 mm　　L 153 mm　　W 30 mm　　H
	: 290g	: 300g	: 920g
	FCC(A), CE(A), MIC		
	5		

1.4

HelloDevice Pro

.

MAC

LAN   MAC(Media Access Control)

. (LAN   .)

6   OUI(Organization Unique Identifier)   6

12   . HelloDevice Pro   MAC   00-01-95-xx-xx-xx   ,

.

.

"   "

.   IP

"   "   .

.

,

("   ").

.

/

/   ,

.

,   /

.   ,

.   HTML

.   HTML   .

1-1.

ISP	(Internet Service Provider)
PC	(Personal Computer)
NIC	(Network Interface Card)
MAC	(Media Access Control)
LAN	(Local Area Network)
UTP	(Unshielded Twisted Pair)
ADSL	(Asymmetric Digital Subscriber Line)
ARP	(Address Resolution Protocol)
IP	(Internet Protocol)
ICMP	(Internet Control Message Protocol)
UDP	(User Datagram Protocol)
TCP	(Transmission Control Protocol)
DHCP	(Dynamic Host Configuration Protocol)
SMTP	(Simple Mail Transfer Protocol)
FTP	(File Transfer Protocol)
PPP	(Point-To-Point Protocol)
PPPoE	(Point-To-Point Protocol over Ethernet)
HTTP	(HyperText Transfer Protocol)
DNS	(Domain Name Service)
SNMP	(Simple Network Management Protocol)
UART	(Universal Asynchronous Receiver/Transmitter)
Bps	( ) (Bits per second (baud rate)
DCE	(Data Communications Equipment)
DTE	(Data Terminal Equipment)
CTS	(Clear to Send)
DSR	(Data Set Ready)
DTR	(Data Terminal Ready)
RTS	(Request To Send)

2:

HelloDevice Pro   .

- 2.1   LED   .
- 2.2   HelloDevice Pro   ,
.
- 2.3
telnet   .

.

- DC   (   ) x 1
-                  RS-232   x 1
-                (NIC)   PC x 1   RS232   x 1
- PC
-                  x 1

2.1

2.1.1 PS100

PS100   2-2   LED   5   .
2   10 Base-T   (Link)   (Act)   .
.   2
.   2-1   LED
.

2-1. PS100

2-1. PS100   LED

10 Base-T	**LINK**	10 Base-T .
	Rx/Tx	PS100 .
	Rx/Tx	PS100 .
	Ready	.
	Power	.

2.1.2 PS 200

PS200   2-2   1 , DB9
            1   LED   8   .
                                                                        ,   2   10 Base-T
        (Link)   (Act)   .   4
                        .   2-2   LED   .
PS200   2-2   1 , 10 Base-T
                    RJ45   1   DB9   4   .

(a) PS200

(b) PS200

2-2. PS200

2.2. PS200   LED

LED	**Power**	.
	Ready	.
LED	**Link**	10 Base-T .
	Act	PS200 .
1~2 LED	**Rx**	PS200 .
	Tx	PS200 .

2.1.3 PS400

PS400   1 , DB9   1
LED   12   .
                    ,   2   10 Base-T   (Link)   (Act)
               .   8   .   2-3
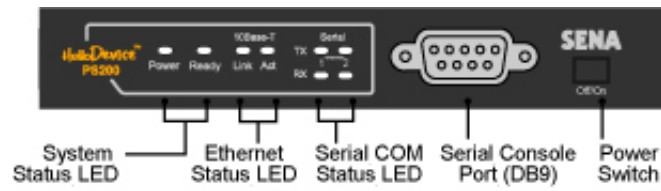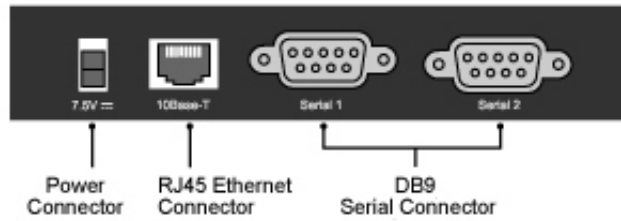   LED   .
PS400   1 , 10 Base-T   RJ45   1
                    DB9   4   .

13
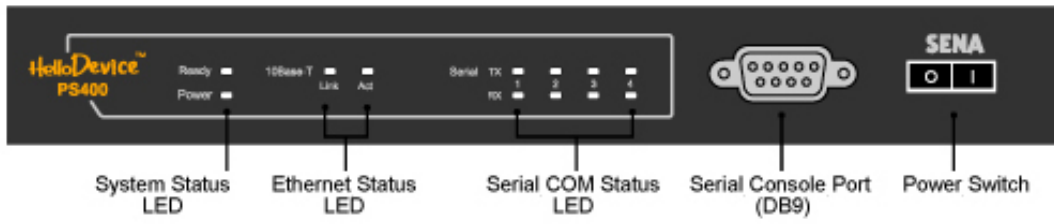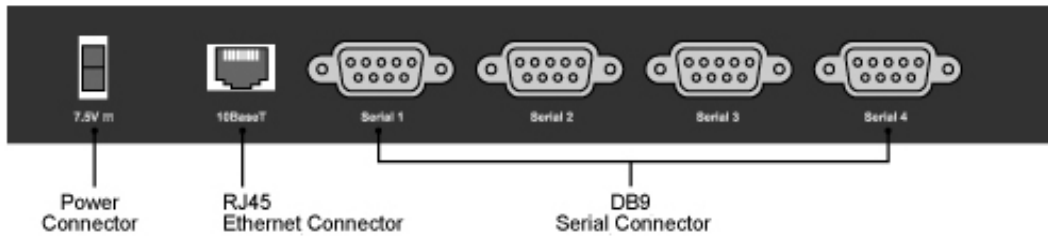
(a) PS400

(b) PS400

2-3. PS400

2.3. PS400   LED

LED	**Power**	.
	Ready	.
LED	**Link**	10 Base-T .
	Act	PS400 .
1~4 LED	**Rx**	PS400 .
	Tx	PS400 .

2.2

HelloDevice Pro

- HelloDevice Pro   .
- HelloDevice Pro   .
- HelloDevice Pro   .

2.2.1

DC   HelloDevice Pro
        .   , [Power]   .
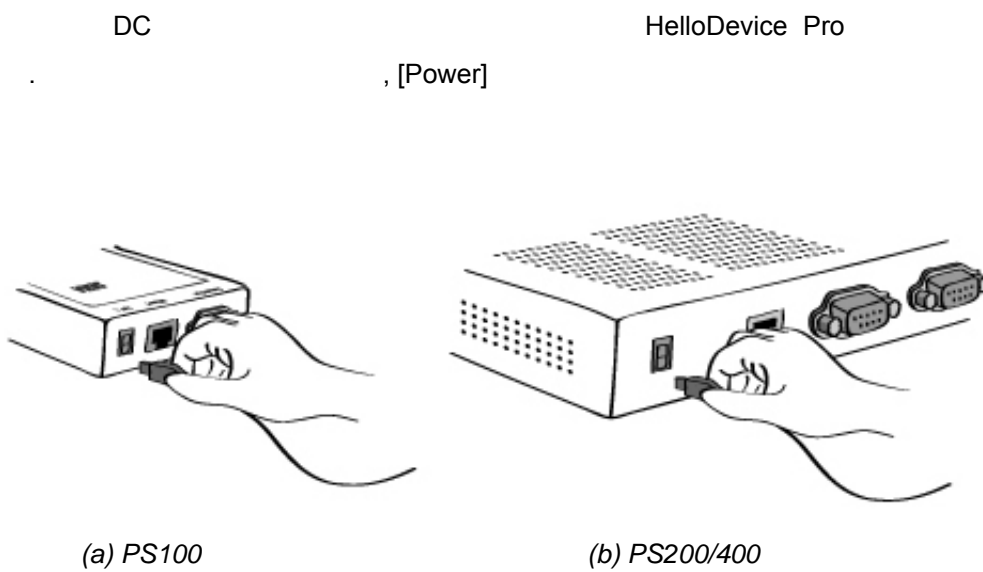
(a) PS100   *(b) PS200/400*

2-4. HelloDevice Pro

2.2.2

HelloDevice Pro   10Base-T   ,
                            .   , HelloDevice Pro
                            .

- [Link]   .
- [Act]   .

HelloDevice Pro
        .
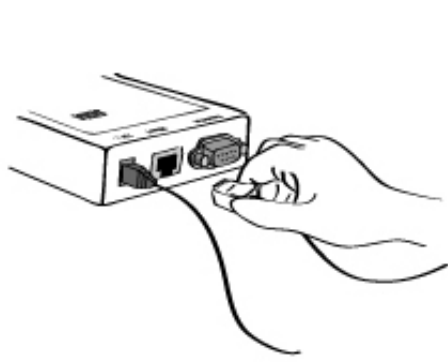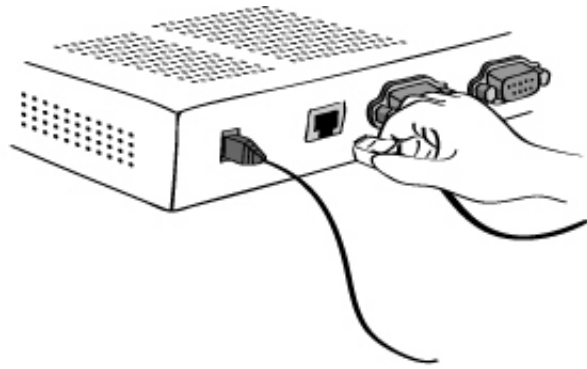
(a) PS100   (b) PS200/400

2 -5. HelloDevice Pro

2.2.3

HelloDevice Pro   .
HelloDevice Pro   .
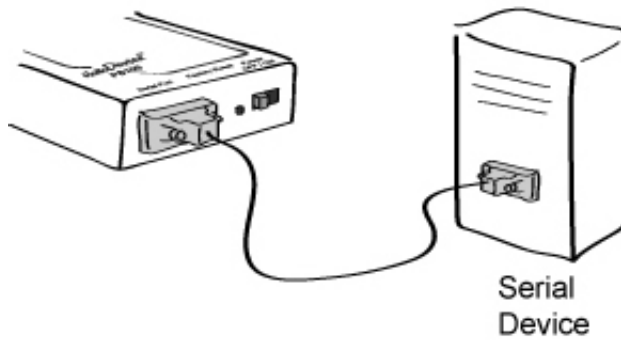
(a) PS100
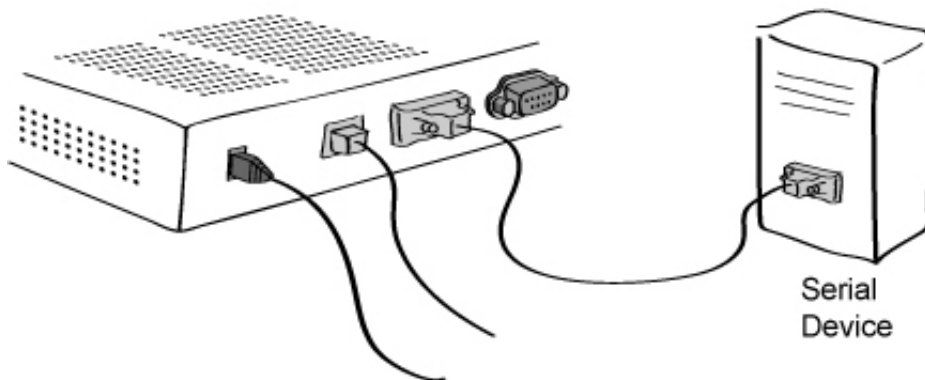
(b) PS200/400

2 -6. HelloDevice Pro

16

2.3.

HelloDevice Pro

-       :

(   )   HelloDevice Pro

-       :

TCP/IP   HelloDevice Pro   (23)

telnet   .

HelloDevice Pro   .

2.3.1

1)   HelloDevice Pro   .
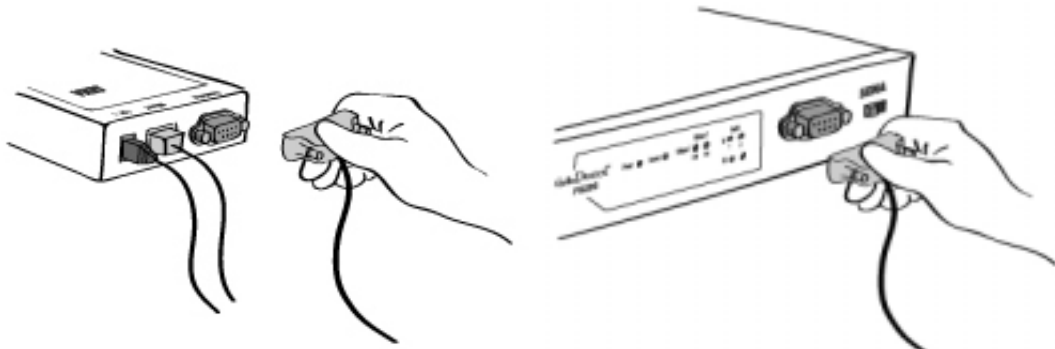
(a) PS100   *(b) PS200*
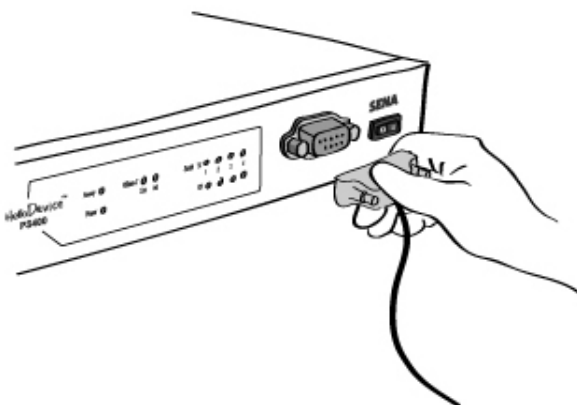
(c) PS400

2 -7. PS200

2)　　　　　　　　　　　　　　　　　　　　　　　　　(COM)　　　　　　　　　　．

3)　　　　　　　(HyperTerminal)　　　　　　　　　　　　　　　　　　　　　　　．

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　．

9600 Baud rate, Data bits 8, Parity None, Stop bits 1, Hardware flow control (RTS/CTS)

4)　[ENTER]　　　　　　　　．

5)　　　　　　　　　　　　　　　　　　HelloDevice　Pro　　　　　　　　　　　．

　　　　　　　　　　　　　　　　　　　　　　admin　　　．

```
login : admin
Password : *****
```

6)　HelloDevice Pro　　　　　　　　　　　　　　　　　　　　　．

　　　　　2-8

[ENTER]　　　　　　　　HelloDevice　Pro　　　　　　　　　　　　　　　　　　　　　　　．

　　　　　　　　　　　　　　　　　　　　　　　　　　　．

HelloDevice　Pro　　　　　　　　　　　　　　　　　　，　　　　　7. Save changes

　　　　　　　．　　　　　　　　　　　　9. Exit and reboot

　　．　　　　　　　　　　　　　　　　　．

```
-----------------------------------------------------------------------------
Welcome to PS-400 configuration page
Current time: 2002/05/04 14:13:25
Serial No.  : PS200-020200028  MAC Address: 00-01-95-04-13-80
F/W REV.    : V1.2.12          UP time    : 0 Days 02:26:00
IP mode     : DHCP             IP Address : 192.168.0.152
-----------------------------------------------------------------------------
Console#1 (Serial) : Connected
Console#2 (Telnet) : Available (NULL)
Console#3 (Telnet) : Available (NULL)
Console#4 (Telnet) : Available (NULL)
-----------------------------------------------------------------------------
Select menu
1. IP Configuration
2. Serial port configuration
3. System Status & log
4. System administration
5. Advanced options
6. System tools
7. Save changes
8. Exit without reboot
9. Exit and reboot
 <ESC> Back, <ENTER> Refresh
----->
```

2-8.　　　　　　　　　　(PS400)

2.3.2

HelloDevice Pro   IP   . (

3   IP   .)   ,

. (5.1

.)

.   HelloDevice Pro   telnet

.   telnet   TCP   23   .

telnet   3   .

,

.   telnet

.

1) TeraTerm-Pro   telnet   .

Target IP   HelloDevice Pro   .

23   .   .

telnet 192.168.1.254

,   telnet   .
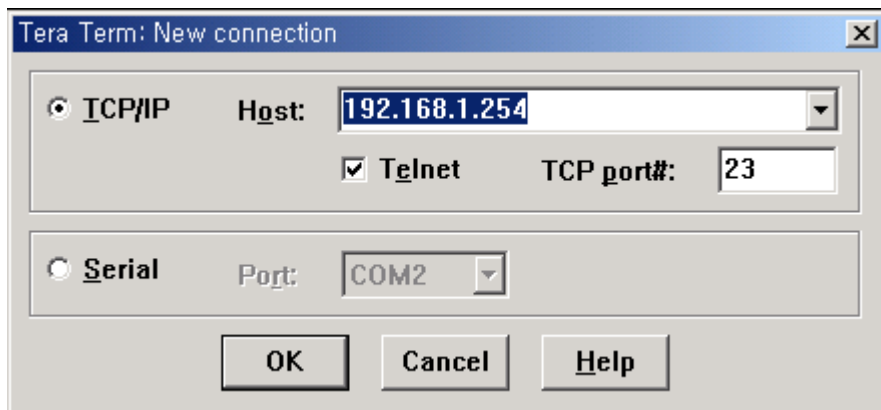
2-9. telnet

2) HelloDevice Pro   .

admin   .

19

```
Welcome to PS-400 Configuration
 Console#1 (Serial) : Not Connected
 Console#2 (Telnet) : Available (NULL)
 Console#3 (Telnet) : Available (NULL)
 Console#4 (Telnet) : Established (192.168.0.16)

 login : admin
 Password : *****
```

2-10. HelloDevice Pro   (PS400)

3) HelloDevice Pro

             .   [ENTER]   .

                             .

4)

                       .   2-11   .

```
 Welcome to PS-400 Configuration
 Console#1 (Serial) : Not Connected
 Console#2 (Telnet) : Available (NULL)
 Console#3 (Telnet) : Established (192.168.0.16) : Read-only
 Console#4 (Telnet) : Established (192.168.0.16)
 This Console(#3) is Read-Only

 login : admin
 Password : *****

-------------------------------------------------------------------------------
 Welcome to PS-400 configuration page
 Current time: 2002/05/04 14:19:47
 Serial No.  : PS200-020200028 MAC Address: 00-01-95-04-13-80
 F/W REV.    : V1.2.12          UP time    : 0 Days 02:32:22
 IP mode     : DHCP             IP Address : 192.168.0.152
-------------------------------------------------------------------------------
 Console#1 (Serial) : Not Connected
 Console#2 (Telnet) : Available (NULL)
 Console#3 (Telnet) : Established (192.168.0.16) : Read-only
 Console#4 (Telnet) : Established (192.168.0.16)
 This Console(#3) is Read-Only
-------------------------------------------------------------------------------
 Select menu
 1. IP Configuration
 2. Serial port configuration
 3. System Status & log
 4. System administration
 5. Advanced options
 6. System tools
 7. Save changes
 8. Exit without reboot
 9. Exit and reboot
  <ESC> Back, <ENTER> Refresh
 ----->
```

2 -11.   (PS400)

3: IP

HelloDevice Pro 의 가장 중요한 설정요소 중 하나가 IP 주소의 설정이라고 할 수 있다. 올바른 IP 주소의 설정으로 네트워크 통신이 이루어 진다. IP 주소의 설정이 잘못되면, 네트워크 상의 다른 장비와 HelloDevice Pro 사이의 데이터 송수신이 이루어지지 않는다.

이 장에서 설명할 IP Configuration 에서는 **Static IP, DHCP** 와 **PPPoE** 등 3 가지의 IP 주소 할당 방식을 지원하며, 각 방식에 따라 관련된 IP 주소 설정이 달라지게 된다. 기본적인 IP 주소 할당 방식은 **DHCP** 로 설정되어 있다. 표 3-1 에는 **IP Configuration** 의 각 요소가 정리되어 있다.

표 3-1. IP

Static IP	IP mode
	IP address
	Subnet mask
	Default gateway
	Primary DNS/ Secondary DNS
DHCP	IP mode
PPPoE	IP mode
	PPPoE User name/ Password

3.1 Static IP

3.1.1

Static IP 모드에서는 사용자가 HelloDevice Pro 의 고정된 IP 주소를 설정하며, 이때 사용자는 해당 네트워크에서 유일한 주소를 선택하여 사용하여야 한다.

HelloDevice Pro 의 고정된 주소 설정을 위한 항목은 다음과 같다.

그림 3-1 은 **Static IP configuration** 에서 설정이 가능한 요소를 보여주고 있다. 각 항목의 번호를 선택하고 [ENTER] 를 누르면 설정 값을 입력할 수 있다.

```
----------------------------------------------------
IP configuration
----------------------------------------------------
Select menu:
1. IP mode: static IP
2. IP address: 192.168.1.1
3. Subnet mask: 255.255.255.0
4. Default gateway: 192.168.1.254
5. Primary DNS: 210.106.255.188
6. Secondary DNS: 210.106.255.189
<ESC> Back, <ENTER> Refresh
--->
```

그림 3-1. Static IP

3.1.2 IP

Static IP   IP   .

         IP   . IP

                                                          .

```
---> 2
Enter IP address: 192.168.1.100[ENTER]
```

3-2. Static IP   IP

    :

192.168.1.x   IP   ISP   (private)   .

HelloDevice Pro

                 ,   IP   .   IP

              ISP   .

3.1.3   (Subnet mask)

                             ,   LAN

           .   HelloDevice Pro

TCP/IP   .

HelloDevice Pro   HelloDevice Pro

          .   .

```
---> 3
Enter subnet mask: 255.255.255.0[ENTER]
```

3-3. Static IP

3.1.4   (Default gateway)

                                                                                   .

              ISP   .

                                              HelloDevice Pro

IP   .   IP

                         .


```
---> 4
Enter default gateway: 192.168.1.1[ENTER]
```

3-4. Static IP

3.1.4 Primary   Secondary DNS

                              ,   IP
DNS(Domain Name System)   ,   . DNS
                    IP   .   **sena.com**
                                                                . DNS
                              TCP/IP   IP
            .
HelloDevice Pro   DNS
     DNS   IP   . HelloDevice Pro   **Primary DNS server**
Secondary DNS server   DNS   IP   . Secondary
DNS   Primary DNS   .


```
---> 5 (or 6)
Enter primary (or secondary) DNS server: 211.112.43.133[ENTER]
```

3-5. Static IP   DNS

3.2 DHCP

3.2.1

                         (DHCP)   IP
                                                    . DHCP   IP
                         ,   IP
            .
3.1   IP   Static IP   ,
                                                            IP   .
     , IP   DHCP   IP   ,   ,   , DNS
                                        . DHCP   IP

, " (lease)" . IP

DHCP , DHCP IP

.

HelloDevice Pro IP DHCP

. DHCP IP ,

, DNS . HelloDevice Pro

. , HelloDevice Pro DHCP

. DHCP HelloDevice Pro

IP . HelloDevice Pro DHCP

IP .

:

DHCP HelloDevice Pro

. DNS Manual DNS Configuration

. (5.3 *DNS* .)

DHCP IP IP

. , DHCP HelloDevice Pro IP

. , HelloDevice Pro IP

IP DHCP . DHCP IP

HelloDevice Pro HelloDevice Pro

MAC .

```
MAC=00:01:95:04:0c:a1
```

3.2.2 DHCP

```
--------------------------------------------------
IP configuration
--------------------------------------------------
Select menu:
IP mode: DHCP
<ESC> Back, <ENTER> Refresh
---> 1
Select mode (1 = Static IP, 2 = DHCP, 3 = PPPoE)
---> 2
```

3-6. DHCP

3.3 PPPoE

3.3.1

PPPoE   LAN   (Customer Premises
Equipment)   .   ((Customer
Premises Equipment)   .) PPPoE
                              ADSL,   ,
              ADSL   .
HelloDevice Pro   PPPoE   PPPoE   ADSL
PPPoE   . HelloDevice Pro   PPPoE
ADSL   . HelloDevice Pro
          PPPoE   .
IP   PPPoE   HelloDevice Pro   PPPoE
PPPoE   .   IP   ,   ,   DNS
                                                    .   HelloDevice Pro
                            .   HelloDevice Pro
              PPPoE   .
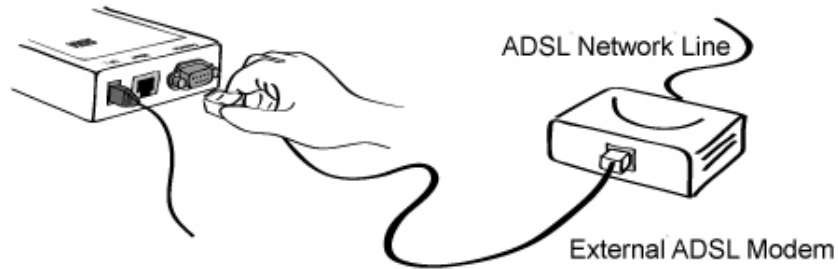
(a) ADSL   PS100
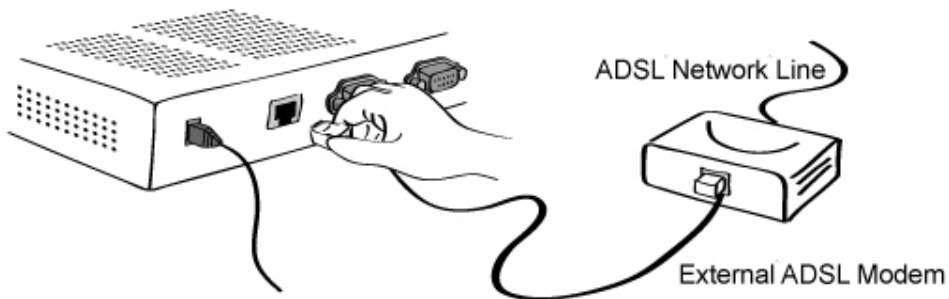
(b) ADSL   PS200/P400

3-7. ADSL   HelloDevice Pro

3.3.2 PPPoE

HelloDevice Pro   PPPoE   ADSL   PPPoE
                        .

```
--------------------------------------------------------------------------------
 IP configuration
--------------------------------------------------------------------------------
 Select menu
 1. IP mode : PPPoE
 2. Change PPPoE username : whoever
 3. Change PPPoE user password : pppoepwd
  <ESC> Back, <ENTER> Refresh
 -----> 2
 Enter user name : pppoeuser



--------------------------------------------------------------------------------
 IP configuration
--------------------------------------------------------------------------------
 Select menu
 1. IP mode : PPPoE
 2. Change PPPoE username : pppoeuser
 3. Change PPPoE user password : pppoepwd
  <ESC> Back, <ENTER> Refresh
 -----> 3
 Enter password : pppoepassword



--------------------------------------------------------------------------------
 IP configuration
--------------------------------------------------------------------------------
 Select menu
 1. IP mode : PPPoE
 2. Change PPPoE username : pppoeuser
 3. Change PPPoE user password : pppoepassword
  <ESC> Back, <ENTER> Refresh
 ----->
```

3-8. PPPoE

4:

2 .

, UART ,

4 .

.

- :

- UART: Baudrate, Parity, Data bit, Stop bit

- :

- :

PS400 . PS100 port#1

, PS200 port#1 port#2 .

```
--------------------------------------------------------------------------------
 Serial configuration
--------------------------------------------------------------------------------
Port# Mode    Port    Destination           Type     Settings     Flow
1    TCP s   6000    N/A                   RS232    9600-N-8-1   RTS/CTS
2    TCP s   6001    N/A                   RS232    9600-N-8-1   RTS/CTS
3    TCP s   6002    N/A                   RS232    9600-N-8-1   RTS/CTS
4    TCP s   6003    N/A                   RS232    9600-N-8-1   RTS/CTS
Select menu
 1. port#1 settings
 2. port#2 settings
 3. port#3 settings
 4. port#4 settings
 <ESC> Back, <ENTER> Refresh
 ----->
```

4-1. *(PS400)*

, 4

. 4-1 .

```
--------------------------------------------------------------------------
Serial configuration --> port #1
--------------------------------------------------------------------------
Select menu
1. Host mode configuration
2. UART Configuration
3. Cryptography Configuration
4. Option
 <ESC> Back, <ENTER> Refresh
----->
```

4-2.

4-1.

Host mode	**TCP Server**	Host Mode	
		Local Port	
	TCP Client	Host Mode	
		Destination IP/Port	
		Cyclic Connection	Enable/Disable
			Interval
	TCP Server/Client	Host Mode	
		Local Port	
		Destination IP/Port	
		Cyclic Connection	Enable/Disable
			Interval
	UDP Tunneling	Host Mode	
		Local Port	
		Destination IP/Port	
	UDP Server	Host Mode	
		Local Port	
	Modem Emulation	Host Mode	
UART	**RS232**	Type	
		Baud rate	1200/2400/4800/9600 19200/38400/57600/115200
		Data bits	7/8
		Parity	None/Even/Odd
		Stop bits	½
		Flow control	None, Hardware (RTS/CTS)
		DTR behavior	Always HIGH
			Always LOW
			Show TCP connection
		DSR behavior	None
			Open/Close TCP connection
			Accept TCP connection only by HIGH
	RS485 echo	TYPE, Baud rate, Data bits, Parity, Stop bits	
	RS485 non-echo	TYPE, Baud rate, Data bits, Parity, Stop bits	
	RS422	TYPE, Baud rate, Data bits, Parity, Stop bits	
Cryptography	**None**	Method	
	3DES	Method	
		Key string	
Options	Inactivity timeout		
	Inter-character timeout		

4.1

4.1.1

HelloDevice Pro   .

                                                                       . TCP

          ,   ,   /   . TCP

                           UDP   .   AT

                                                                                TCP

          AT   .   4-2   .

4-2. HelloDevice Pro   TCP/IP

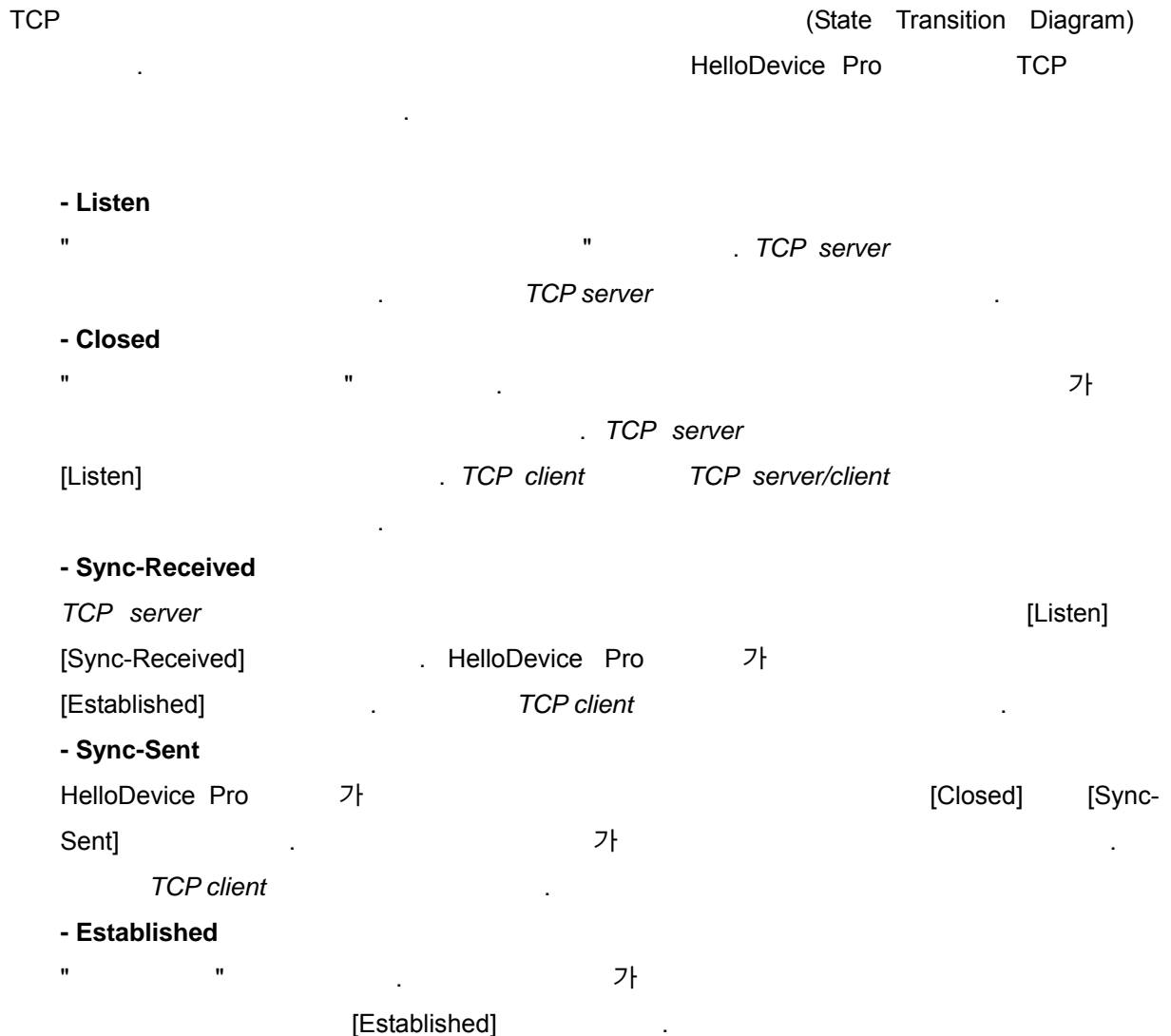|	

TCP server	HelloDevice Pro TCP . HelloDevice Pro
	TCP . TCP
	HelloDevice Pro .
	                                                                                    .
	HelloDevice Pro TCP
	          , TCP .
	                                                   .

TCP client	HelloDevice Pro TCP .
	                                                HelloDevice Pro TCP
	                              TCP . TCP
	HelloDevice Pro .
	                                                HelloDevice Pro
	                                                                        .
	                                                                              .

TCP server/client	. HelloDevice Pro TCP
	                    . ,
	                                                        . .
	          HelloDevice Pro .

UDP tunneling	UDP tunneling UDP HelloDevice Pro TCP server/client .

UDP server	UDP server UDP , UDP
	                                        HelloDevice Pro .
	                    HelloDevice Pro
	                                        .

Modem emulation	AT AT . TCP .

TCP Server , *Serial Port Configuration-host mode*

Configuration-Host mode .

```
--------------------------------------------------------------------------------
 serial configuration -->port#1 --> TCP/IP
--------------------------------------------------------------------------------
 Select menu
 1. Host mode : TCP Server
 2. Local port : 6000
  <ESC> Back, <ENTER> Refresh
 -----> 1


 Select host mode
   1 = TCP Server, 2 = TCP Client, 3 = TCP Server / Client
   4 = UDP Server / Client, 5 = modem emulation
 ----->
```

4-3.

TCP   (State Transition Diagram)
         .   HelloDevice Pro   TCP
                                     .

- Listen

"   "   . *TCP server*

                             . *TCP server*   .

- Closed

"   "   .

                                                    . *TCP server*

[Listen]   . *TCP client*   *TCP server/client*

                        .

- Sync-Received

TCP server   [Listen]

[Sync-Received]   . HelloDevice Pro

[Established]   .   *TCP client*   .

- Sync-Sent

HelloDevice Pro   [Closed]   [Sync-

Sent]   .   .

         TCP client   .

- Established

"   "   .

                                    [Established]   .

30

- Data

[Established]   . TCP

[Data]

.   [Data]   RFC 793 [Transmission Control Protocol]

[Established]   .

.

4.1.2 TCP

HelloDevice Pro   TCP   ,   TCP   [Listen]   .
HelloDevice Pro   TCP   .

.   TCP

-                              PC   TCP

.

1)

[Listen]   [Sync-Received]   [Established]   [Data]   [Closed]   [Listen]

TCP   [Listen]   . TCP   [Sync-
Received]   [Established]   ,   .

.   [Data]   .

[Closed]   .

,   [Listen]   .

2)

HelloDevice Pro

Inter-character timeout

.   IP   (   )
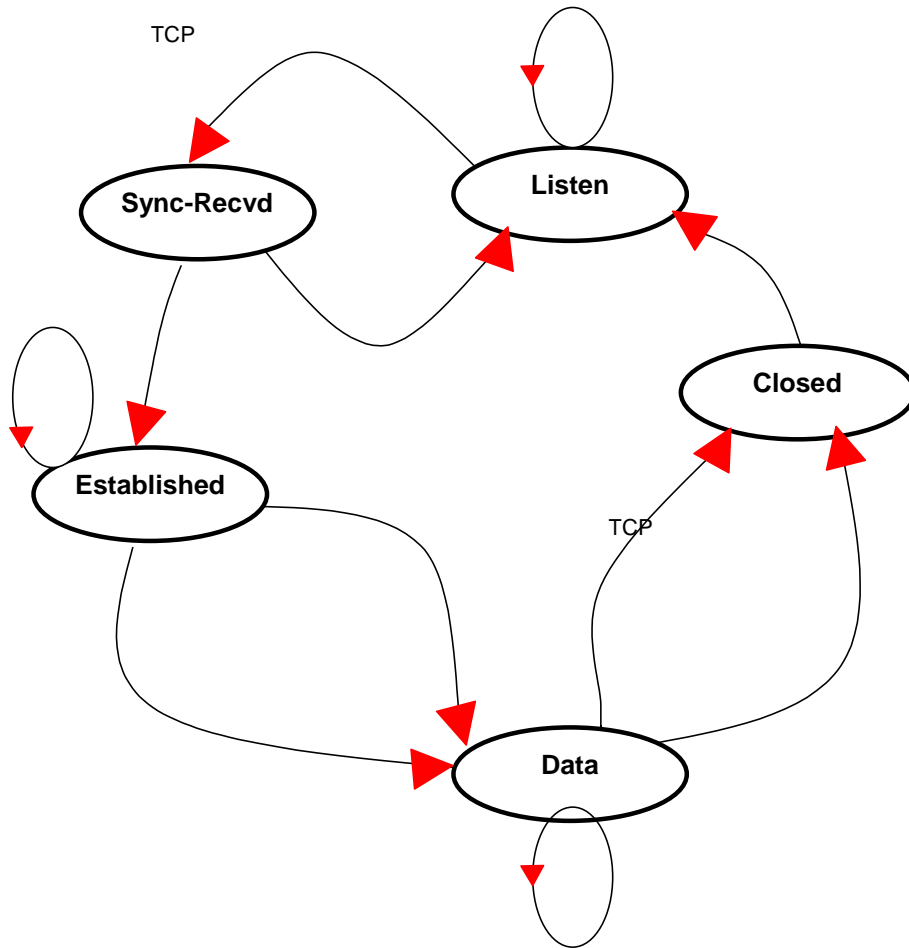
. (*Inter-character timeout*   4.4   .)
HelloDevice Pro

.

("*Inactivity timeout*")   . (*Inactivity timeout*

4.4   .)

IP

HelloDevice Pro

. (5.1   .)

4-4   TCP server   .

TCP

Sync-Recvd   Listen

Closed

Established

TCP

Data

4-4. TCP

3)

Local Port

TCP   TCP   .

Local Port   . HelloDevice Pro

.

. (D.   )

TCP Server   2   .

```
-----------------------------------------------------------------
serial configuration -->port#1 --> TCP/IP
-------------------------------------------------------------------------
Select menu
1. Host mode : TCP Server
2. Local port : 6000
 <ESC> Back, <ENTER> Refresh
-----> 2
Enter local port number : 6001
```

4-5.   TCP

4.1.3 TCP

HelloDevice Pro   TCP   ,   TCP
[Closed]   .   TCP   -
PC   TCP   .

1)

[Closed]   [Sync-Sent]   [Established]   [Data]   [Closed]
              TCP   [Closed]   .
HelloDevice Pro   .   [Sync-
Sent]   ,   .
                  [Established]   ,   .
                                                          .   [Data]   .
                                                    [Closed]   .

2)

                              HelloDevice Pro   HelloDevice
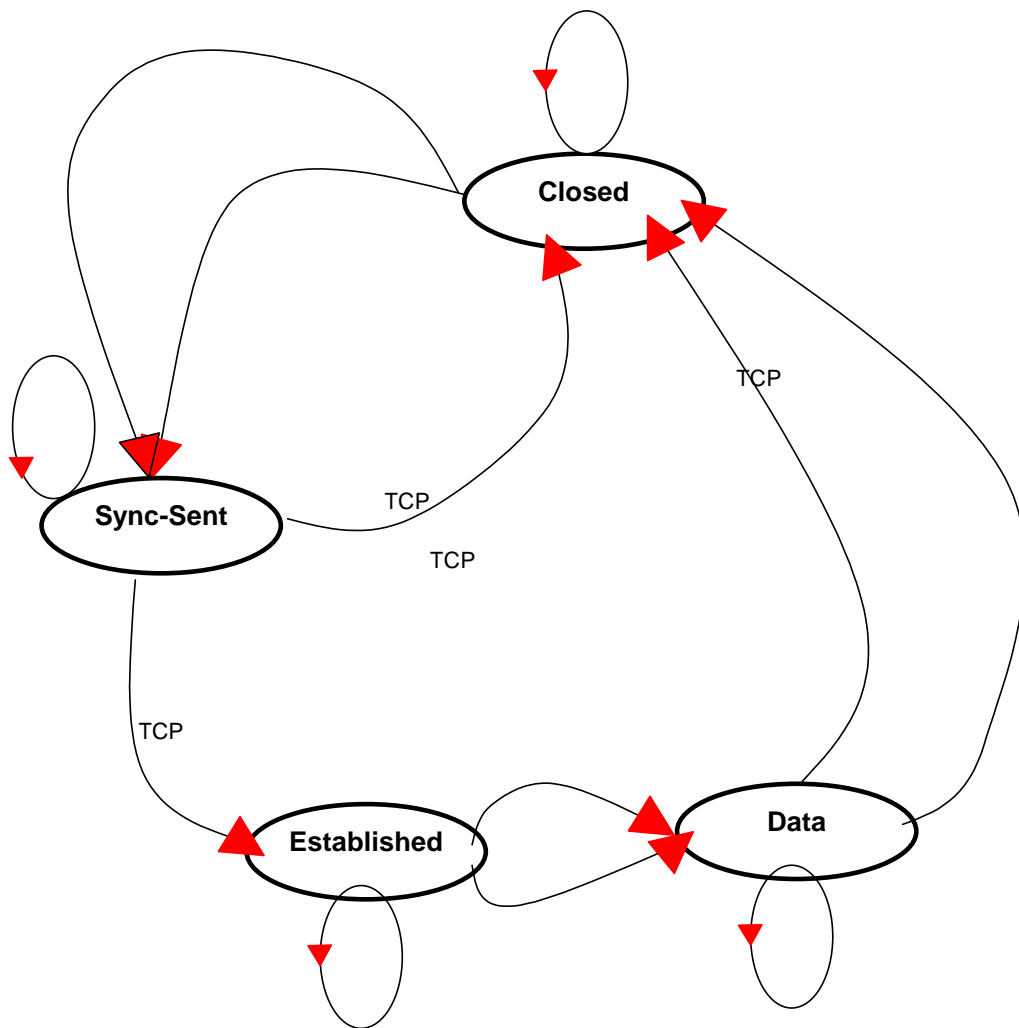   Pro   .
                          Inter-character timeout   TCP
                                                    IP   (   )
                  . (*Inter-character   timeout*   4.4   .)
    HelloDevice Pro
                                          .   .

                              ("*Inactivity timeout*")   . (*Inactivity timeout*
```
                                                33
```

4.4   .)

.

TCP client   TCP   .

Cyclic Connection   HelloDevice Pro

.   ,
HelloDevice Pro   .
         HelloDevice Pro   HelloDevice
Pro   .

.   4-6   *TCP client*

.

4-6. TCP

3)

        IP   (   )

      HelloDevice Pro   *TCP client*

        . IP   (   )   TCP   .

                TCP Client   2   .

          .

  [IP   (   )]:[TCP   ]

)

 211.116.20.197:1221 : IP address 211.116.20.197, Port 1221

 ser.sena.com:6001   : domain name ser.sena.com, Port 6001

```
-----------------------------------------------------------------------------
 serial configuration -->port#1 --> TCP/IP
-----------------------------------------------------------------------------
 Select menu
 1. Host mode : TCP Client
 2. Destination IP & port : 192.168.1.120:6010
 3. Cyclic connection : Disable
 <ESC> Back, <ENTER> Refresh
 -----> 2
 Enter destination IP and port (ex: 192.168.1.1:7001)
 -----> 192.168.1.200:6001



-----------------------------------------------------------------------------
 serial configuration -->port#1 --> TCP/IP
-----------------------------------------------------------------------------
 Select menu
 1. Host mode : TCP Client
 2. Destination IP & port : 192.168.1.200:6001
 3. Cyclic connection : Disable
 <ESC> Back, <ENTER> Refresh
 ----->
```

4-7.

      HelloDevice Pro

              . 0

             .   .   *TCP*

    Client   3   .

```
------------------------------------------------------------------------
serial configuration -->port#1 --> TCP/IP
------------------------------------------------------------------------
Select menu
1. Host mode : TCP Client
2. Destination IP & port : 192.168.1.200:6001
3. Cyclic connection : Disable
 <ESC> Back, <ENTER> Refresh
-----> 3
Enter cyclic connection interval in minute(0=disable) : 10


------------------------------------------------------------------------
serial configuration -->port#1 --> TCP/IP
------------------------------------------------------------------------
Select menu
1. Host mode : TCP Client
2. Destination IP & port : 192.168.1.200:6001
3. Cyclic connection : 10 Min
 <ESC> Back, <ENTER> Refresh
----->
```
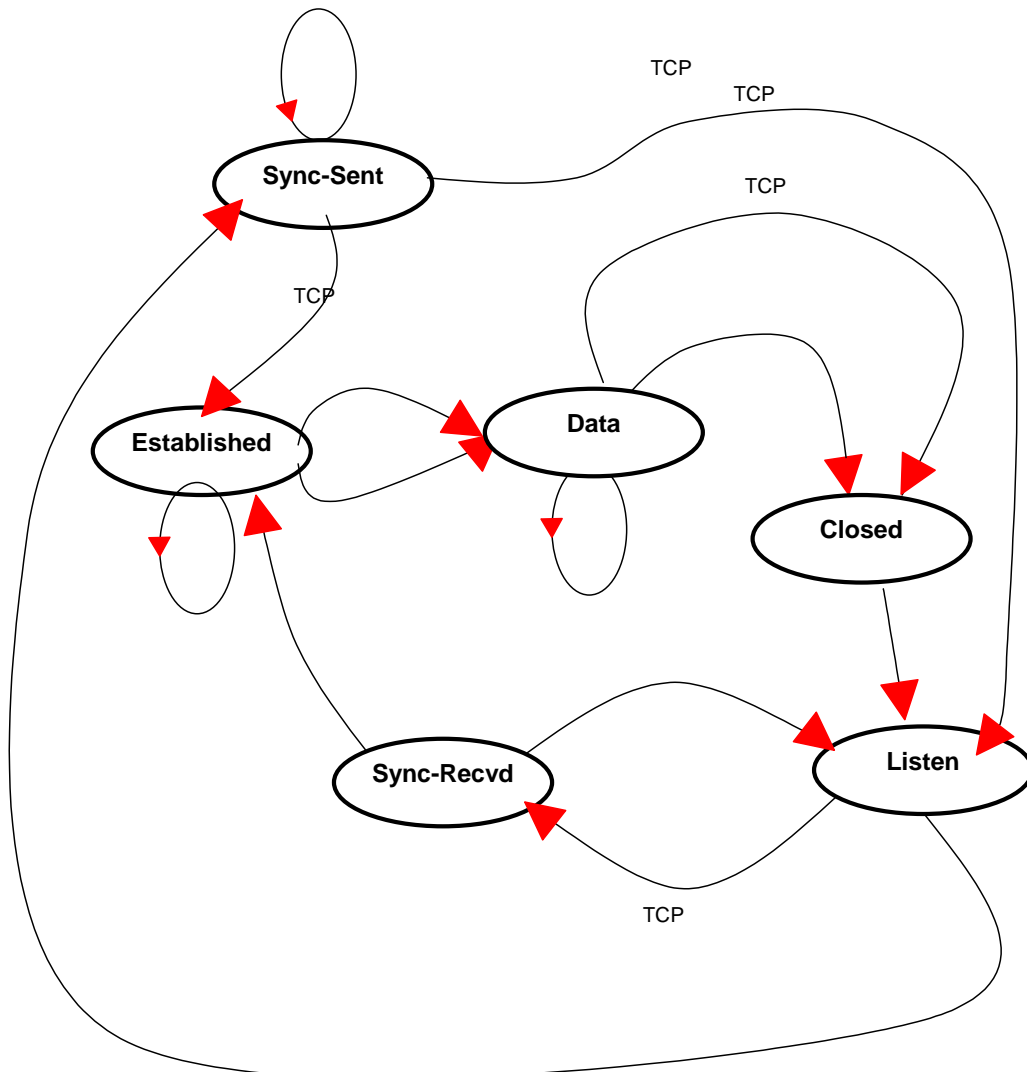
4-8.

4.1.4 TCP   /

HelloDevice Pro   TCP   .

     TCP

              .   TCP   TCP server   [Listen]   .

1)

[Listen]   [Sync-Received]   [Established]   [Data]   [Closed]   [Listen]

[Listen]   [Sync-Sent]   [Established]   [Data]   [Closed]   [Listen]

                [Listen]   .   TCP

                          .   TCP

                                                      .   HelloDevice Pro

                                            .

2)

TCP server   HelloDevice Pro   TCP

                                        . *TCP client*

                                          .

36

TCP server 와 *TCP client* 의 상태천이를 나타낸 것이다.   4.1.2
4.1.3 에서 살펴본다.

4-9. TCP   /

3)
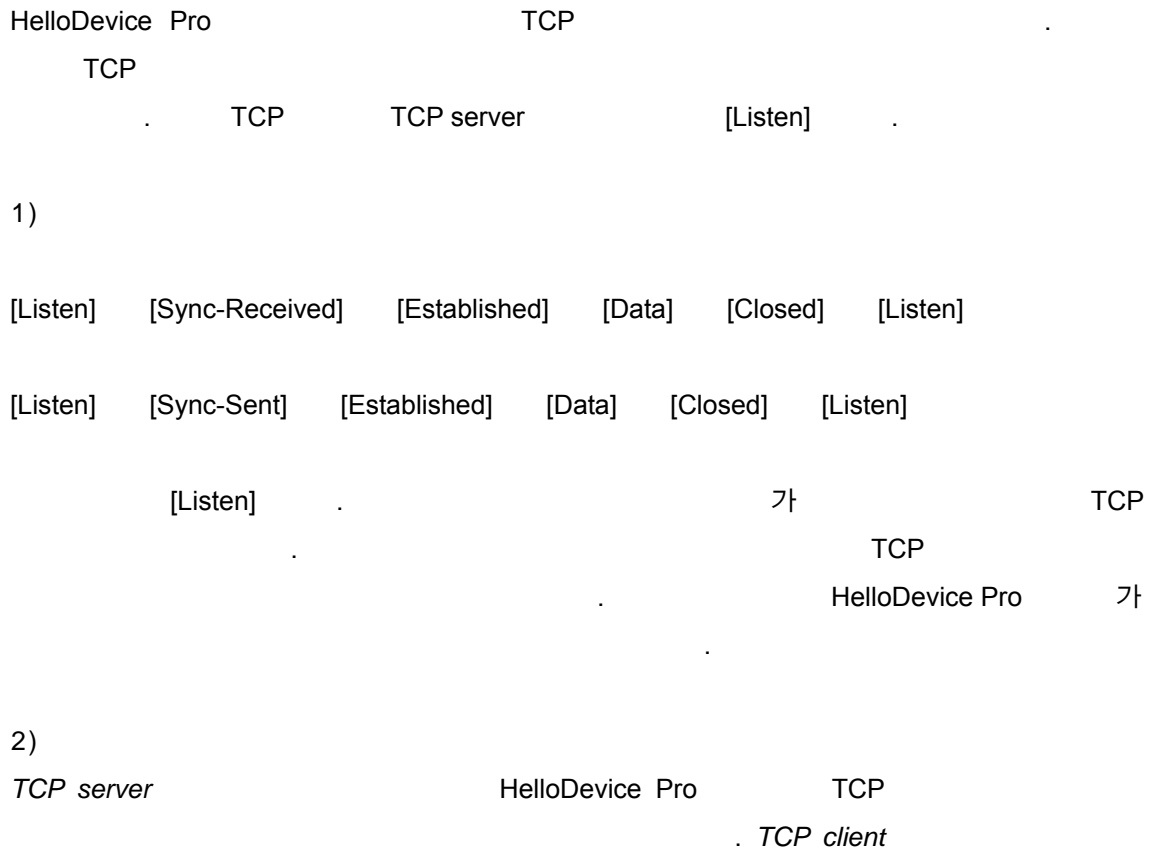
          4.1.2   .
     IP   (   )
          4.1.3   .

          4.1.3   .

```
-------------------------------------------------------------------------
serial configuration -->port#1 --> TCP/IP
-------------------------------------------------------------------------
Select menu
1. Host mode : TCP Server & client
2. Local port : 6000
3. Destination IP & port : 192.168.1.200:6001
4. Cyclic connection : 10 Min
 <ESC> Back, <ENTER> Refresh
----->
```

4-10. TCP   /

4.1.5 UDP tunneling

UDP   tunneling   UDP

          HelloDevice Pro   *TCP server/client*

          . UDP   *Inactivity timeout*

              .

1)

               HelloDevice Pro   UDP Local port   UDP

        IP   *Destination IP*   . IP

     HelloDevice   Pro   .

HelloDevice Pro   UDP   .

                                              HelloDevice Pro   *Destination IP &*

Port   .

HelloDevice Pro   .

2)

    TCP   .   4.1.2   TCP

              .

        IP   (   )

    TCP   .   4.1.3   TCP

              .
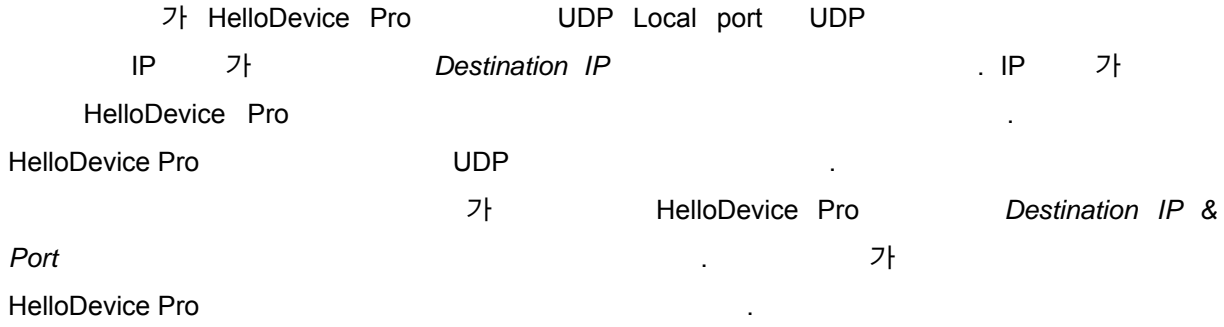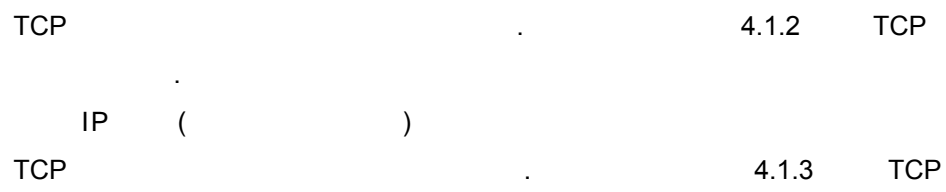
```
-------------------------------------------------------------------------
serial configuration -->port#1 --> TCP/IP
-------------------------------------------------------------------------
Select menu
1. Host mode : UDP tunneling
2. Local port : 6000
```

```
3. Destination IP & port : 192.168.1.200:6001
 <ESC> Back, <ENTER> Refresh
----->
```

4-11. UDP tunneling

4.1.6 UDP

UDP tunneling   UDP   , UDP
               HelloDevice Pro   .   HelloDevice
Pro
Inactivity timeout   .   *Serial Configuration - Options*
          .(4.4.1   .)

1)
UDP   UDP   . HelloDevice Pro
               UDP   *Inactivity timeout*
          . HelloDevice Pro   *Inactivity timeout*   UDP
                                        UDP
            .

             Inactivity timeout   .
             UDP   UDP   . *Inactivity
timeout*
HelloDevice Pro   .

2)

   TCP   .   4.1.2   ***TCP***
          .


```
--------------------------------------------------------------------------
serial configuration -->port#1 --> TCP/IP
--------------------------------------------------------------------------
Select menu
1. Host mode : UDP server
2. Local port : 6000
<ESC> Back, <ENTER> Refresh
----->
```

4-12. UDP

4.1.7

AT , .

- .

HelloDevice
Pro . IP (
) ATA/ATDT .

- .

. ,

, . ATD(T)
XXX IP ( ) .
HelloDevice Pro

. . 4-
3 HelloDevice Pro AT . 4-4 AT
. 4-12 ATDA
.

4-3. Pro AT

		[1] **(Verbose code)**
+++	..	OK
A/	.	
AT?	TCP connection .	OK NO CARRIER
ATD(T)[IP]:[ ]	TCP TCP , .) atdt192.168.1.9:1002: IP , 192.168.1.9, 1002 .	CONNECT [CR][LF], NO CARRIER [CR][LF], ERROR [CR][LF] '
AT ATZ	TCP .	
ATA[ ]	TCP TCP TCP [Listen] .	OK [CR][LF]

---

[1] *Echo* . .
.

ATEn	E, E0: echo E1: echo	ERROR [CR][LF]
ATHn	H, H0, H1:　　　TCP　　　　　　　　. 　　　　　　　　　　.	
ATOn	O, O0:　　　　　　　　　　　.	
ATQn	Q, Q0:　　　　　on (　　　) Q1:　　　　off	
ATVn	V, V0:　　　= <　　　　　> [CR][LF] V1 (　　　):　　= <　　　　　　> [CR][LF]	
AT&Dn	D, D0: DTR(PC)　　　　　　. D2(　　): TCP　　　　　　.	
AT&Fn	F, F0, F1:　　　　　　　　.	
AT&Kn	K, K0:　　　　no K3: RTS/CTS　　　　(　　) K4: Xon/Xoff (　　　)	
AT&Sn	S, S0: DSR(PC)　　high S1: DSR(PC)　TCP　　　　.	
ATIn	I, I0 : "　　　　, Inc."　　　　. I3 :　　　　. Others : "OK"　　　.	
AT\Tn	n　　　　. \T, \T0:　　　　　　(　　).	OK [CR][LF]
AT\Tsn	n　　　　. \Ts, \Ts0:　　　　　(　　).	OK [CR][LF]
ATBn, ATCn, ATLn, ATMn, ATNn, ATP, ATT, ATYn, AT%Cn, AT%En, AT&Bn, AT&Gn, AT&In, AT&Qn, AT&V, AT}Mn, AT\An, AT\Bn, AT\Nn	None	OK [CR][LF]
ATS?, ATSn=x, AT&Cn, AT&Wn, AT&Zn=x	None	ERROR [CR][LF]
ATFn	None	n=1 OK [CR][LF] , ERROR [CR][LF]
ATWn, ATXn	None	n=0 OK [CR][LF] , ERROR [CR][LF]

4-4. AT

(Verbose) ("ATV1"　　　　　)	("　ATV0"　　　　　)	
	0	
	1	
	2	
	3	

ERROR	4	

4-13. /
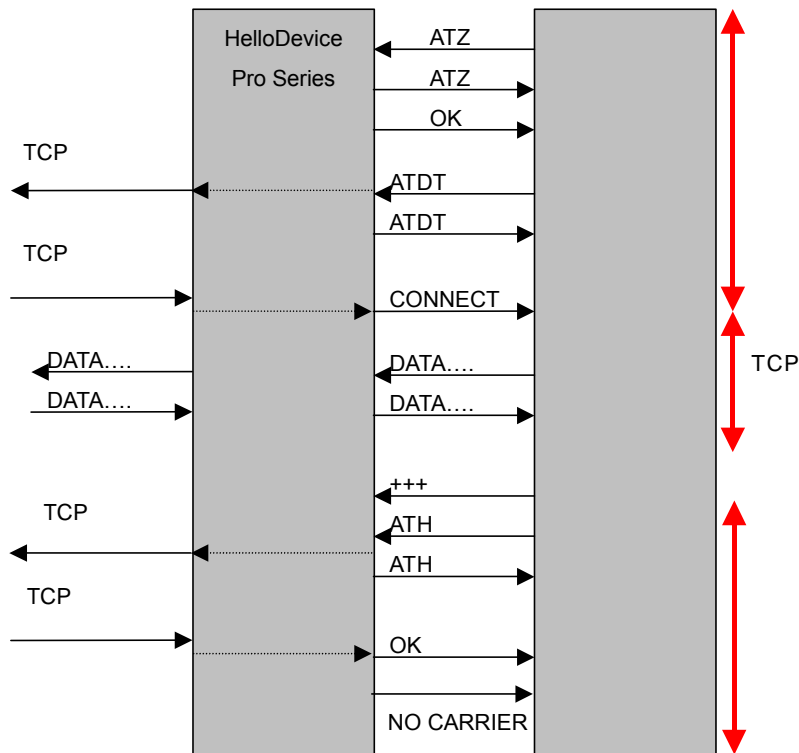
```
--------------------------------------------------------------------------
 serial configuration -->port#1 --> TCP/IP
--------------------------------------------------------------------------
 Select menu
 1. Host mode : Modem emulation
  <ESC> Back, <ENTER> Refresh
 ----->
```

4-14.

4.2 UART

HelloDevice Pro

. UART

. UART   *Serial port configuration   UART*
configuration   .

```
 --------------------------------------------------------------------------
 Serial configuration --> port#1 ---> UART
 --------------------------------------------------------------------------
 Select menu
 1. Type : RS232
 2. Baud rate : 9600
 3. Data bits : 8
 4. parity : None
 5. Stop Bits : 1
 6. Flow control : Hardware
 7. DTR behavior : Always High
 8. DSR behavior : None
  <ESC> Back, <ENTER> Refresh
 ----->
```

4-15. UART

4.2.1 　(Type)

　　　　　　 HelloDevice Pro 　　　　　　　　　　　　　　 RS232, RS422, RS485
echo mode 　　 RS485 non-echo mode 　　　　　　　　　 . HelloDevice Pro

　　　　　　　　　　　　　 RS232 　　　　　　　　　, RS422 　 RS485

　　　　　　　　　　 . 　　　　　　　　　　　　 Type

　　　 . Type 　　　　　　　　　　　　　　　 B 　　　　　 .
HelloDevice Pro 　　　　　　 two-wire 　　 echo mode 　 non-echo mode 　　 RS485

　　　　　 . RS485 echo mode

　　　　　　　　　　　　　　　　　　　　　　　　　　　　 non-echo

mode 　　　　　　　　　　　　 .

```
 --------------------------------------------------------------------------
 Serial configuration --> port#1 ---> UART
 --------------------------------------------------------------------------
 Select menu
 1. Type : RS232
 2. Baud rate : 9600
 3. Data bits : 8
 4. parity : None
 5. Stop Bits : 1
 6. Flow control : Hardware
 7. DTR behavior : Always High
 8. DSR behavior : None
  <ESC> Back, <ENTER> Refresh
 -----> 1
 Select serial type
 1 = RS232, 2 = RS485 Echo, 3 = RS485 NonEcho, 4 = RS422
 ----->
```

4-16.

4.2.2 Baud rate

HelloDevice Pro   baudrate   .

1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600   115200

baudrate   *Serial port configuration-UART configuration-Baud rate*
                    .

```
-----------------------------------------------------------------------------
 Serial configuration --> port#1 ---> UART
-----------------------------------------------------------------------------
 Select menu
 1. Type : RS232
 2. Baud rate : 9600
 3. Data bits : 8
 4. parity : None
 5. Stop Bits : 1
 6. Flow control : Hardware
 7. DTR behavior : Always High
 8. DSR behavior : None
  <ESC> Back, <ENTER> Refresh
-----> 2
 Select baud rate
  1 = 1200, 2 = 2400, 3 = 4800, 4 = 9600
  5 = 19200, 6 = 38400, 7 = 57600, 8 = 115200
----->
```

4-17.

4.2.3   (Data bit),   (Stop bit),   (Parity)

Data bits, stop bits   parity   *8, 1   None*   . 3 , 4
5   .

```
-----------------------------------------------------------------------------
 Serial configuration --> port#1 ---> UART
-----------------------------------------------------------------------------
 Select menu
 1. Type : RS232
 2. Baud rate : 9600
 3. Data bits : 8
 4. parity : None
 5. Stop Bits : 1
 6. Flow control : Hardware
 7. DTR behavior : Always High
 8. DSR behavior : None
  <ESC> Back, <ENTER> Refresh
-----> 3 (or 4 or 5)

 Select data bits (1 = 7 bits, 2 = 8 bits) :
(Or
Select parity (1 = None, 2 = Even, 3 = odd) :
Select stop bits (1 = 1 bit , 2 = 2 bits) :
)
```

4-18.   ,   ,

4.2.4 (Flow control)

None   . HelloDevice Pro   RTS/CTS

                        .

                            .

    :

            RS232   . RS422   RS485

                            .

        6. Flow control   .

```
--------------------------------------------------------------------------
 Serial configuration --> port#1 ---> UART
--------------------------------------------------------------------------
 Select menu
 1. Type : RS232
 2. Baud rate : 9600
 3. Data bits : 8
 4. parity : None
 5. Stop Bits : 1
 6. Flow control : Hardware
 7. DTR behavior : Always High
 8. DSR behavior : None
  <ESC> Back, <ENTER> Refresh
 -----> 6
 Select flow control (1 = None, 2 = Hardware) :
```

4-19.

4.2.5 DTR/DSR behavior

DTR/DSR   TCP
                    . HelloDevice Pro   , DTR   ,
DSR   .
DTR   *Always high, Always low*   *Show TCP connection*   3
                . DTR   *show TCP connection*   DTR   TCP
            HIGH   .
DSR   *None, Open/close TCP connection*   *Allow TCP connection only by high*
3   . *Open/close TCP connection*   TCP
                                        . DSR   *Open/close TCP*
connection   , DSR   HIGH   HelloDevice Pro
                                , LOW   . *Allow TCP*
connection only by HIGH   TCP   .
                        TCP   DSR   HIGH   .

46

```
-----> 7
 Select DTR output behavior
    1 = Always HIGH
    2 = Always LOW
    3 = Show TCP connection (HIGH while connected)
 --->
```

4-20. DTR

```
-----> 8
 Select behavior on DSR input
    1 = None
    2 = Allow TCP connection only by HIGH
      (TCP server or corresponding mode only)
    3 = Open/close TCP connection
      (Open = HIGH, Close = LOW, TCP client or corresponding mode only)
 ----->
```

4-21. DSR

4.3

HelloDevice Pro   (UDP   )   TCP
                                    .   3DES   HelloDevice
Pro   HelloDevice Pro   .
PC   HelloDevice Pro
                    .

```
--------------------------------------------------------------------------------
 Serial configuration --> port#1 ---> Cryptography
--------------------------------------------------------------------------------
 Select menu
 1. Cryptography method : None
  <ESC> Back, <ENTER> Refresh
 -----> 1
 Select cryptography method (1 = None, 2 = 3DES) : 2


--------------------------------------------------------------------------------
 Serial configuration --> port#1 ---> Cryptography
--------------------------------------------------------------------------------
 Select menu
 1. Cryptography method : 3DES
 2. Key string : Encryption
  <ESC> Back, <ENTER> Refresh
 -----> 2
 Enter arbitrary key string (maximum 31 chars)
 -----> Anykeystring
```
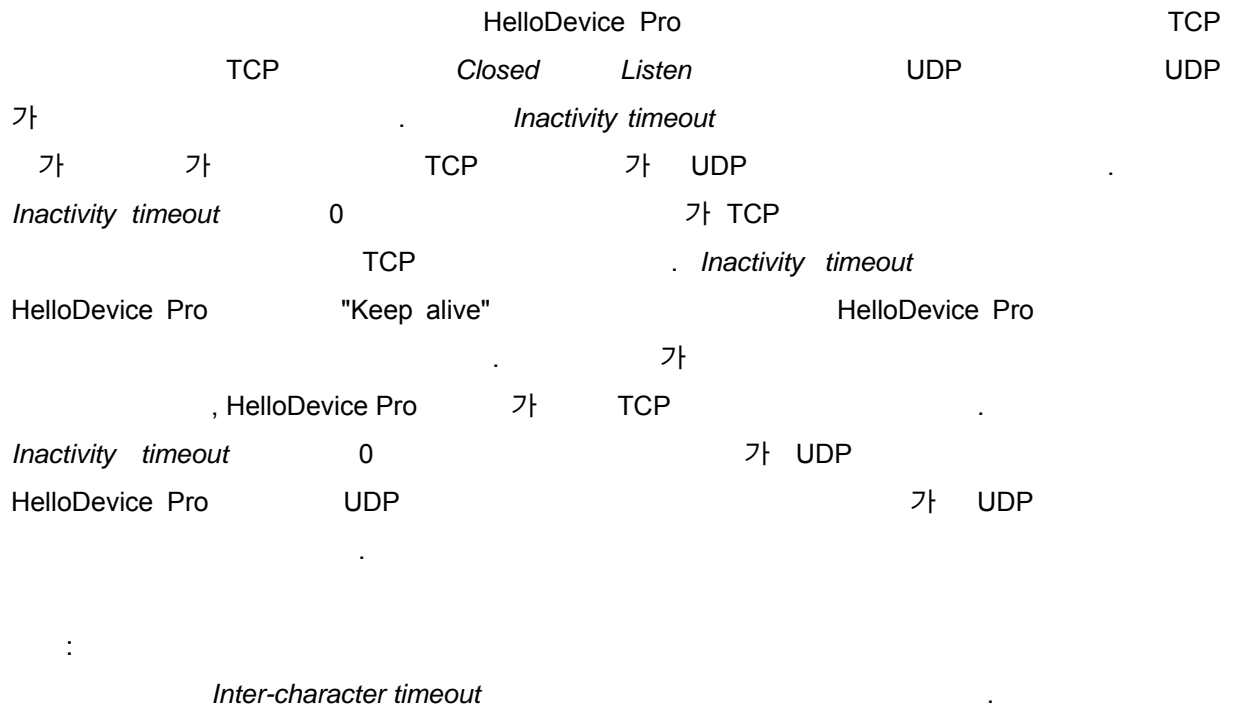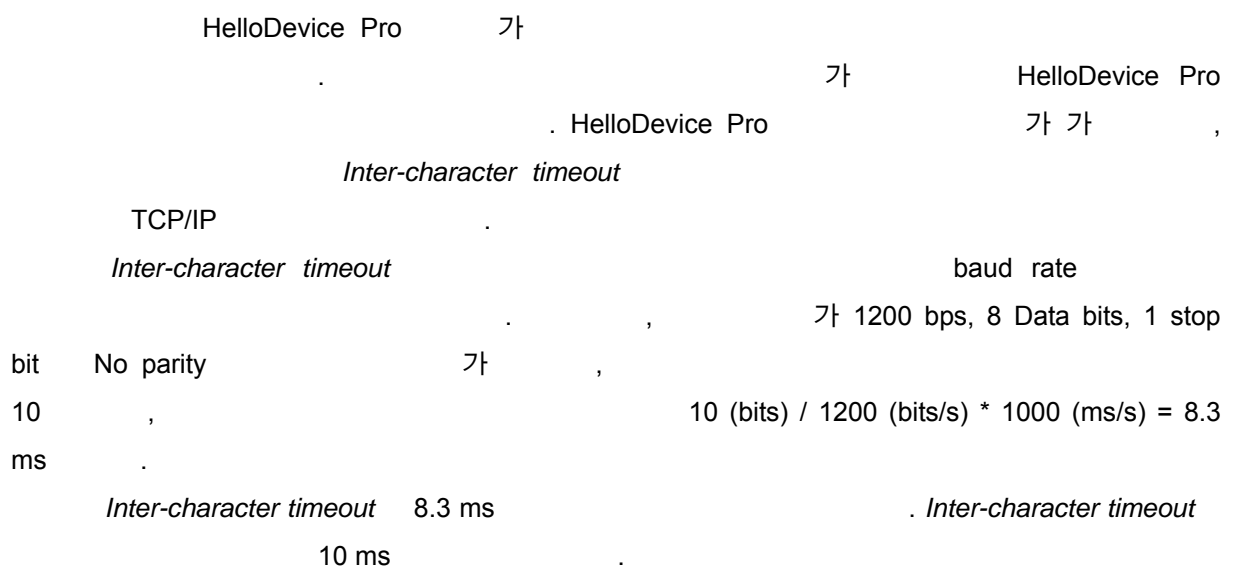
4-22.

4.4

4.4.1 Inactivity timeout

HelloDevice Pro   TCP
          TCP   *Closed*   *Listen*   UDP   UDP
                                        . *Inactivity timeout*
                              TCP   UDP   .
Inactivity timeout   0   TCP
                              TCP   . *Inactivity timeout*
HelloDevice Pro   "Keep alive"   HelloDevice Pro
                                        .

              , HelloDevice Pro   TCP   .
Inactivity timeout   0   UDP
HelloDevice Pro   UDP   UDP
                    .

      :
                    Inter-character timeout   .

      .

4.4.2 Inter- character timeout

          HelloDevice Pro
                              .   HelloDevice Pro
                              . HelloDevice Pro   ,
                    Inter-character timeout
      TCP/IP   .
      Inter-character timeout   baud rate
                              .   ,   1200 bps, 8 Data bits, 1 stop
bit   No parity   ,
10   ,   10 (bits) / 1200 (bits/s) * 1000 (ms/s) = 8.3
ms   .
      Inter-character timeout   8.3 ms   . *Inter-character timeout*
                    10 ms   .

정지하게 된다.   ,

                    Inter-character timeout   ,

        HelloDevice Pro   . HelloDevice Pro

                          600   .

```
------------------------------------------------------------------------------
 Serial configuration --> port#1 ---> option
------------------------------------------------------------------------------
 Select menu
 1. Inactivity timeout : 100 sec
 2. Inter-character timeout : 1 ms
  <ESC> Back, <ENTER> Refresh
 -----> 1
 Enter inactivity timeout value to disconnect TCP connection in seconds
 ( 1 - 3600)Sec , 0 = unlimited
 -----> 300


------------------------------------------------------------------------------
 Serial configuration --> port#1 ---> option
------------------------------------------------------------------------------
 Select menu
 1. Inactivity timeout : 300 sec
 2. Inter-character timeout : 1 ms
  <ESC> Back, <ENTER> Refresh
 -----> 2
 Enter Inter-character timeout in milliseconds (1 - 10000) : 100
```

4-23. Inactivity timeout   Inter-character timeout

5:

, Locating DNS

. 5-1 .

```
--------------------------------------------------------------------------------
 Advanced options
--------------------------------------------------------------------------------
 Select menu
 1. Remote host access control
 2. Manual DNS configuration for DHCP & PPPoE
 3. Locating server configuration
 <ESC> Back, <ENTER> Refresh
 ----->
```

5-1.

5-1.

Remote Host access control	Telnet configuration enable/disable	
	Allowed remote hosts for configuration	
	Allowed remote hosts for port#n	
Manual DNS for DHCP & PPPoE	Enable/Disable	
	Primary DNS	
	Secondary DNS	
Locating server Configuration	Enable	Mode
		Server IP/Port
	Disable	Mode

5.1

HelloDevice Pro

telnet HelloDevice Pro IP

.   .

- IP   HelloDevice Pro   .

- HelloDevice Pros   .

- HelloDevice Pro   .

5.1.1

1.Remote configuration by Telnet   HelloDevice Pro

                                         .   "Enabled"   .

                      2.Allowed remote hosts for configuration   HelloDevice Pro

                                             .

HelloDevice Pro   "   IP   /   "   IP

           .   HelloDevice Pro   "IP

    /255.255.255.255"(: 192.168.1.100/255.255.255.255)   .

             "   /   "(: "192.168.1.0/255.255.255.0")   .

         "0.0.0.0/0.0.0.0"   .   5-2   .

                 "Any"   .

5-2.

Any host	0.0.0.0/0.0.0.0
192.168.1.120	192.168.1.120/255.255.255.255
192.168.1.1 ~ 192.168.1.254	192.168.1.0/255.255.255.0
192.168.0.1 ~ 192.168.255.254	192.168.0.0/255.255.0.0
192.168.1.1 ~ 192.168.1.126	192.168.1.0/255.255.255.128
192.168.1.129 ~ 192.168.1.254	192.168.1.128/255.255.255.128

```
--------------------------------------------------------------------------
Advanced options -> Remote host access control
--------------------------------------------------------------------------
Select menu
1. Remote configuration by telnet : Enable
2. Allowed remote hosts for configuration : Any
3. Allowed remote hosts for Port#1 : Any
4. Allowed remote hosts for Port#2 : Any
5. Allowed remote hosts for Port#3 : Any
6. Allowed remote hosts for Port#4 : Any
 <ESC> Back, <ENTER> Refresh
----->
```

5-2. telnet

5.1.2

                          ,   IP

        . 3 ~6   .

        5-2   .

```
-----> 2 (or 3, 4, 5, 6)
Enter IP address or network of hosts allowed to access
   Format) IP-address/subnet-mask
   Ex1) 192.168.1.0/255.255.255.0 to allow hosts of 192.168.1.*
   Ex2) 192.168.1.99/255.255.255.255 to allow hosts of 192.168.1.99
   Ex3) 0.0.0.0 / 0.0.0.0  to allow any remote host
 -----> 192.168.0.0/255.255.0.0
```

5-3.

5.2   DNS

DHCP   PPPoE   DNS

DNS   DNS   .   DNS

                        "Disabled"   .

```
--------------------------------------------------------------------------
 Advanced options -> Manual DNS configuration
--------------------------------------------------------------------------
 Select menu
 1. Manual DNS configuration for DHCP & PPPoE : Disable
 <ESC> Back, <ENTER> Refresh
 -----> 1
 Do you want to configure DNS manually for DHCP & PPPoE? (y/n) : y


--------------------------------------------------------------------------
 Advanced options -> Manual DNS configuration
--------------------------------------------------------------------------
 Select menu
 1. Manual DNS configuration for DHCP & PPPoE : Enable
 2. Primary DNS : 211.172.129.198
 3. Secondary DNS : 211.172.129.199
 <ESC> Back, <ENTER> Refresh
 -----> 2
 Enter Primary DNS IP address : 211.116.26.193
```

5-4.   DNS

5.3 Locating

5.3.1

HelloDevice Pro   (TCP   UDP)

HelloDevice Pro   IP   .   DHCP   PPPoE   IP

                HelloDevice Pro   IP   .   HelloDevice Pro

             IP   .

                    IP   HelloDevice Pro

Locating   IP   .

      Locating   Locating

    .

Locating   .

                      .

5.3.2 Locating

     5-5   Locating   . Locating   IP   , Locating   UDP   Locating   . Locating   "Disabled"   .

```
-----------------------------------------------------------------------
 Advanced options -> Locating server
-----------------------------------------------------------------------
 Select menu
 1. Use locating server : Disable
  <ESC> Back, <ENTER> Refresh
 -----> 1
 Do you want to put your information to locating server ? (y/n): y


-----------------------------------------------------------------------
 Advanced options -> Locating server
-----------------------------------------------------------------------
 Select menu
 1. Use locating server : Enable
 2. Locating server connection time interval:  1 Min
 3. Locating server IP address and port : 192.168.1.211 : 9999
  <ESC> Back, <ENTER> Refresh
 -----> 2
 Enter locating server connection time interval in minutes (1 ~ 3600)
 -----> 10


-----------------------------------------------------------------------
 Advanced options -> Locating server
-----------------------------------------------------------------------
 Select menu
 1. Use locating server : Enable
 2. Locating server connection time interval:  10 Min
 3. Locating server IP address and port : 192.168.1.211 : 9999
  <ESC> Back, <ENTER> Refresh
 -----> 3
 Enter locating server IP address and port (EX: 211.116.26.213:9999)
 -----> 211.116.26.213:9999


-----------------------------------------------------------------------
 Advanced options -> Locating server
-----------------------------------------------------------------------
 Select menu
 1. Use locating server : Enable
 2. Locating server connection time interval:  10 Min
 3. Locating server IP address and port : 211.116.26.213 : 9999
  <ESC> Back, <ENTER> Refresh
 ----->
```

5-5. Locating

5.3.3 Locating

HelloDevice Pro   Locating   IP

        .

		(0)	(1)	…	(n)
	4	Variable	Variable		Variable
	F1-AA-AA-BC				

    (n)

	ID		
	1	1	Variable
	1~6	Variable	Variable

      ID

ID		
1	Device name	Var
2	Model name	Var
3	Serial number	Var
4	MAC address	6
5	IP address	4
6	Local ports*	2 4 8

        :

Local port: 2   . PS100

            2   , PS200   PS400   4   8   .

                    TCP(UDP)   Network-order bytes,

        .   0

        .

PS100   :

            = 6001 (1771h)   ,   = 17h, 71h

            TCP   ,   = 0h, 0h

PS400   :

        1 = 6001 (1771h),   2 = 6002 (1772h),   3 = TCP   ,   4 = 6003(1773h)

              = 17h, 71h, 17h, 72h, 00h, 00h, 17h, 73h

6:

HelloDevice Pro .

, HelloDevice Pro
.

3.System status & log .

```
--------------------------------------------------------------------------------
 System status
--------------------------------------------------------------------------------
 Select menu
 1. Display system status
 2. Display log
 3. Reset incoming/outgoing statistics
 4. Clear log
 5. Send log by Email : Disable
  <ESC> Back, <ENTER> Refresh
 ----->
```

6-1.

6.1

1.Display system status .

, . *3.Reset*

incoming/outgoing statistics .

```
--------------------------------------------------------------------------------
 System status
--------------------------------------------------------------------------------
 Select menu
 1. Display system status
 2. Display log
 3. Reset incoming/outgoing statistics
 4. Clear log
 5. Send log by Email : Disable
  <ESC> Back, <ENTER> Refresh
 -----> 1


--------------------------------------------------------------------------------
 System information
--------------------------------------------------------------------------------
 Model No.: PS200                   Serial No.: PS200-02020001
 F/W REV.  : V1.00                  MAC Address  : 00-01-95-04-04-33
 Cur Status : Running                Current time : 2038/05/10 04:34:10
--------------------------------------------------------------------------------
 IP information
```

```
--------------------------------------------------------------------------
 IP Mode : Static                   IP Expiration : N/A
 IP Address : 192.168.2.100          Subnetmask : 255.255.0.0
 Gateway : 192.168.1.1               Receive/Transmit errors : N/A
 Primary DNS : 211.172.129.198       Secondary DNS : 211.172.129.199
--------------------------------------------------------------------------
 Port #0 information
--------------------------------------------------------------------------
 Connection Mode : Modem Emul        Local port : 6000
 Destination : 192.168.1.120:6010     Host allowed : 0.0.0.0/0.0.0.0
 Incoming bytes : 268492             Outgoing bytes : 285121
 UART : 9600-N-8-1-Hardware          Encryption : 3DES
 Inactivity timeout : 300 sec         Inter-character timeout : 100 ms

 ...


--------------------------------------------------------------------------
 Port #3 information
--------------------------------------------------------------------------
 Connection Mode : TCP Server         Local port : 6003
 Destination : 192.168.1.120:6013     Host allowed : 0.0.0.0/0.0.0.0
 Incoming bytes : 0                  Outgoing bytes : 0
 UART : 9600-N-8-1-Hardware          Encryption : None
 Inactivity timeout : 100 sec         Inter-character timeout : 1 ms
 End of Status
 Press Enter
```

6-2.   *(PS400)*

6.2

2.Display log   . *4.Clear* log

                                     .


```
2002-02-10 04:41:32 > ### No valid log table. Initialize logs ###
2002-02-10 04:41:44 > ### Boot up System Start ###
2002-02-10 04:41:44 > ### Start with Static IP by 192.168.2.100 ###
 End of Log
 Press Enter
```


6-3.

6.3

HelloDevice Pro

                                     . *5.Send log by email*

        Enable   .   , SMTP   ,
                                                   .

                                              .   SMTP

arbitrary_user@yahoo.com　　　　*anybody@sena.com*

```
-----> 5
 Select email log send option ( 1 = Enable, 2 = Disable) : 1

----------------------------------------------------------------------------
 System status
----------------------------------------------------------------------------
 Select menu
 1. Display system status
 2. Display log
 3. Reset incoming/outgoing statistics
 4. Clear log
 5. Send log by Email : Enable
 6. Number of log message to send a mail(1 - 100) : 5
 7. SMTP server : smtp.yourcompany.com
 8. PS-400 mail address : PS200@yourcompany.com
 9. Log recipient's mail address : admin@yourcompany.com
 <ESC> Back, <ENTER> Refresh
----->
```

6-4.

7:

4.System administration

    .   ,   ,
    .

7.1

                                                                            .

31   .   "admin"   .

```
-------------------------------------------------------------------------------
 User Administrator
-------------------------------------------------------------------------------
 Select menu
 1. Administrator username : admin
 2. Administrator password : *****
 3. Device name : PS200 Device
 4. Date : 2002/02/10
 5. Time : 04:45:38
  <ESC> Back, <ENTER> Refresh
 -----> 1
 Enter current password : *****
 Enter New Username : root
 >>> Administrator username changed successfully!


-------------------------------------------------------------------------------
 User Administrator
-------------------------------------------------------------------------------
 Select menu
 1. Administrator username : root
 2. Administrator password : *****
 3. Device name : PS200 Device
 4. Date : 2002/02/10
 5. Time : 04:45:52
  <ESC> Back, <ENTER> Refresh
 -----> 2
 Enter current password : *****
 Enter New password : ****
 Retype password : ****
 >>> Password changed successfully!


-------------------------------------------------------------------------------
 User Administrator
-------------------------------------------------------------------------------
 Select menu
 1. Administrator username : root
 2. Administrator password : ****
 3. Device name : PS200 Device
 4. Date : 2002/02/10
 5. Time : 04:45:58
  <ESC> Back, <ENTER> Refresh
 ----->
```

7-1.

7.2

HelloDevice Pro   . 3
      4   .

```
--------------------------------------------------------------------------------
 User Administrator
--------------------------------------------------------------------------------
 Select menu
 1. Administrator username : root
 2. Administrator password : ****
 3. Device name : PS200 Device
 4. Date : 2038/05/10
 5. Time : 04:48:03
  <ESC> Back, <ENTER> Refresh
 -----> 4
 Enter Current Date(yyyy/mm/dd) : 2002/3/14


--------------------------------------------------------------------------------
 User Administrator
--------------------------------------------------------------------------------
 Select menu
 1. Administrator username : root
 2. Administrator password : ****
 3. Device name : PS200 Device
 4. Date : 2002/03/14
 5. Time : 04:48:15
  <ESC> Back, <ENTER> Refresh
 -----> 5
 Enter Current Time(hh:mm:ss) : 18:00:00
```

7-2.

8:

HelloDevice Pro   ,   Ping

                            .   *6. System tools*   .

```
--------------------------------------------------------------------------------
 System tools
--------------------------------------------------------------------------------
 Select menu
 1. Reload factory default settings
 2. Reload factory default settings except IP setting
 3. Firmware upgrade
 4. Ping Test
 5. Socket reset
 <ESC> Back, <ENTER> Refresh
 ----->
```

8-1.

8.1

       1.Reload factory default settings   HelloDevice Pro

       .   (reload)   IP   *2.Reload factory*
default settings except IP settings   .

8.2

HelloDevice Pro

      .   ,   URL
http://www.sena.com/Korean/support/downloads/   .
                            Zmodem   .
                  IP
       .
                        .

1)   .
2)   telnet   . HelloDevice Pro

       .

   9600 Baud rate, Data bits 8, Parity None, Stop bits 1, Hardware flow control (RTS/CTS)

3)   .

4)   .

```
-----> 3
 Are you sure to start firmware upgrade ? (y/n) : y
 Preparing for firmware upgrade. Wait a moment...
 Transfer firmware by zmodem using your terminal application.
**B01ff000005b157
```

<p align="center">8-2.</p>
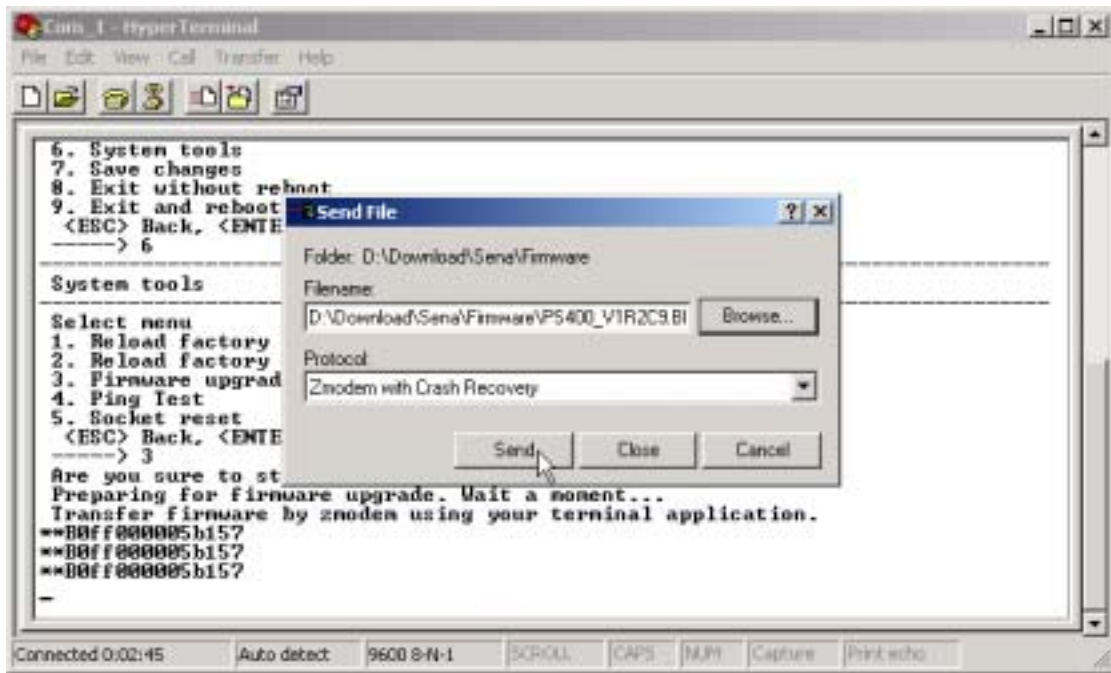
<p align="center">8-3. Zmodem   (   )</p>

5)   HelloDevice Pro   .

6)   HelloDevice Pro

                     ..

```
-----> 3
 Are you sure to start firmware upgrade ? (y/n) : y
 Preparing for firmware upgrade. Wait a moment...
 Transfer firmware by zmodem using your terminal application.
**B01ff000005b157
**B01ff000005b157
**B01ff000005b157
**B01ff000005b157
**B01ff000005b157
 Firmware upgrade failure. Recovering the previous firmware...

Recovering completed. Device will reboot in a moment...
```

<p align="center">8-4.</p>

8.3 Ping

4.Ping Test   ICMP echo   (ping)

        .   8-5   Ping

    .

```
-----> 4
 Enter IP Address or Hostname to ping : 192.168.1.1
 to 192.168.1.1 pining 4times..
 Receive time = 1 ms Sequence num = 0
 Receive time = 1 ms Sequence num = 1
 Receive time = 1 ms Sequence num = 2
 Receive time = 1 ms Sequence num = 3
```

8-5. Ping

8.4

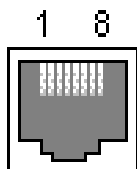*5.Socket Reset*   .   8-6

        .

```
-----> 5
 Select a serial port to reset:
 1 = port#1 : Listen (6000)
 2 = port#2 : Listen (6001)
 3 = port#3 : Listen (6002)
 4 = port#4 : Listen (6003)
 -----> 1
 Are you sure to reset? (y/n): y
 Socket Initialized !
```

8-6.

A:

A.1 Ethernet Pin out

HelloDevice Pro   AT&T258   Shielded

.   A-1   .

A-1. RJ45

A-1. RJ45

1	Tx+	
2	Tx-	
3	Rx+	
4	NC	
5	NC	
6	Rx-	
7	NC	
8	NC	

A.2   Pin Out

HelloDevice Pro   DB9   A-2   .

.
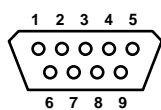
A-2. DB-9

A-2. DB-9

	RS232	RS422	RS485
1	-	Tx-	Data-
2	Rx	-	-
3	Tx	Rx-	-
4	DTR	Rx+	-
5	GND	-	-
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-
9	-	Tx+	Data+

A.3

HelloDevice

Rx+(1)
Rx-(2)
Tx+(3)
Tx-(6)

Remote Host

Rx+(1)
Rx-(2)
Tx+(3)
Tx-(6)

A-3.

HelloDevice

Rx+(1)
Rx-(2)
Tx+(3)
Tx-(6)

Hub

Rx+(1)
Rx-(2)
Tx+(3)
Tx-(6)

Remote Host

Rx+(1)
Rx-(2)
Tx+(3)
Tx-(6)

Rx+(1)
Rx-(2)
Tx+(3)
Tx-(6)

A-4.

A.4

HelloDevice

Tx(3)
Rx(2)
RTS(7)
CTS(8)
DTR(4)
DSR(6)
GND(5)

Serial Device

Rx
Tx
CTS
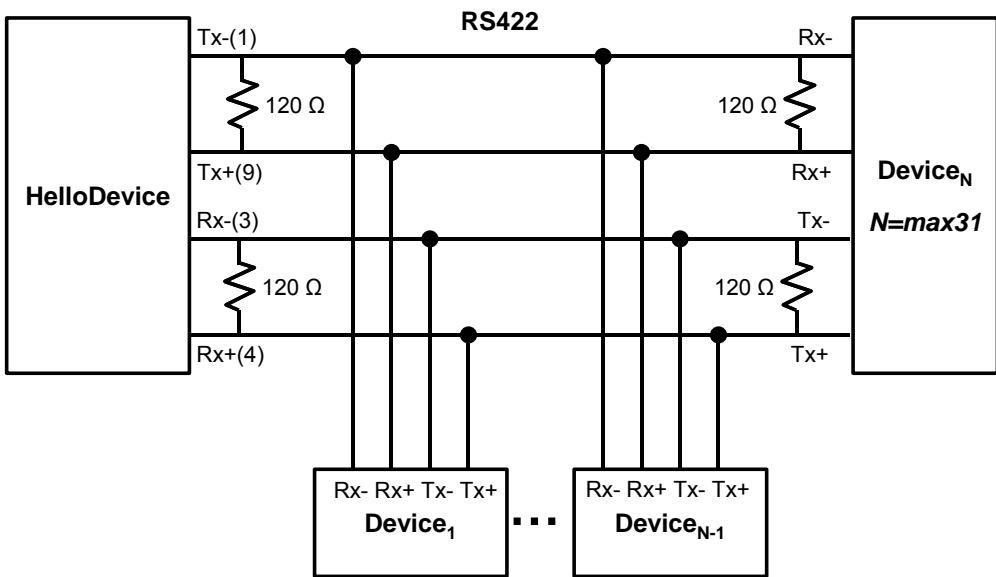RTS
DSR
DTR
GND
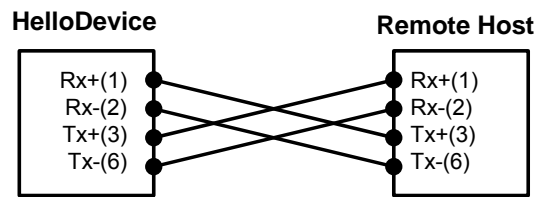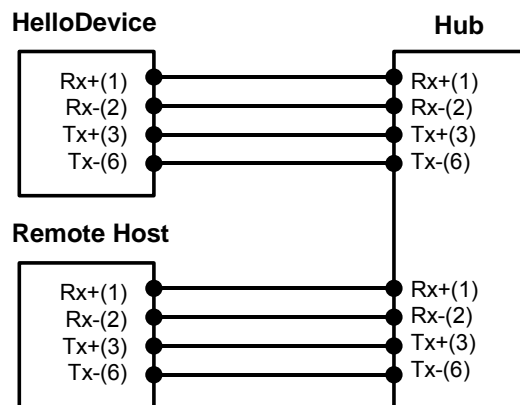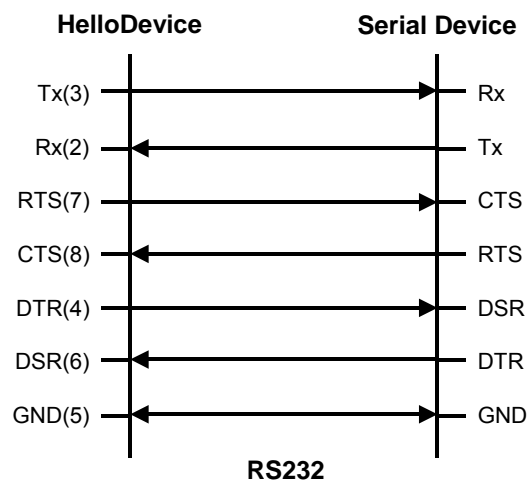
RS232

A-5. RS232
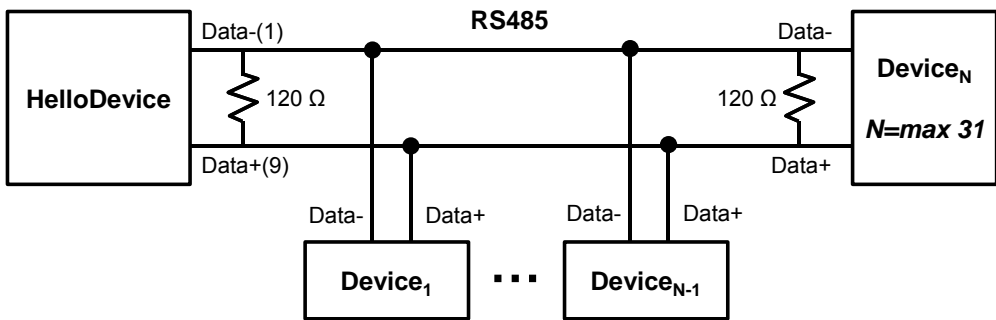
A-6. RS485

A-7. RS422

B:

(Well Known Ports), (Registered Ports),
(Dynamic and/or Private Ports) 3 . 0
1023 . 1024 49151 .
49152 65535 .
IANA ,
. B-1
. IANA .
URL http://www.iana.org/assignments/port-numbers .

B-1.

		TCP/UDP
21	FTP (File Transfer Protocol)	TCP
22	SSH (Secure SHell)	TCP
23	Telnet	TCP
25	SMTP (Simple Mail Transfer Protocol)	TCP
37	Time	TCP, UDP
39	RLP (Resource Location Protocol)	UDP
49	TACACS, TACACS+	UDP
53	DNS	UDP
67	BOOTP server	UDP
68	BOOTP client	UDP
69	TFTP	UDP
70	Gopher	TCP
79	Finger	TCP
80	HTTP	TCP
110	POP3	TCP
119	NNTP (Network News Transfer Protocol)	TCP
161/162	SNMP	UDP

C:

C.1   /LED

Power LED .	.	.
Link LED .	.	.
	.	(Straight) (Cross-over) . HelloDevice Pro , .
ACT LED .	IP .	IP .

C.2

.	.	( ) .
	.	9600 bps, 8 Data bits, No parity, 1 stop bit, Hardware flow control .
.	IP DHCP PPPoE IP .	IP DHCP PPPoE DHCP PPPoE IP 20 . IP static IP .
.	.	. . admin .

C.3

telnet HelloDevice Pro .	HelloDevice Pro IP .	HelloDevice Pro IP .

	HelloDevice Pro 　　PC　IP 　　　　　　．	PC　IP　　　　　　　　　　　　　　．
		．
． 	 　　　．	．　 　　　　　　　　　　　　　　　　　　　．　 　　　　　　　　　　　　　　　　admin　．

C.4 IP

HelloDevice Pro 　　IP 　　．		IP　　　　　　　．
		HelloDeviceManager HelloDevice Pro　　　　　　　　　　．
HelloDeviceManager HelloDevice Pro 　．	HelloDevice Pro 　　　IP 　　．	HelloDevice Pro　　　　　IP 　．
	HelloDeviceManager HelloDevice Pro 　．	HelloDevice Pro　　　　　　　　　PC HelloDeviceManager　　　　．

C.5 DHCP

IP 　．	DHCP 　　　．	DHCP　　　　　　　　　　　　　．
HelloDevice Pro 　　IP 　．	DHCP 　．	DHCP　　　　　　　　　　．

C.6 TCP

HelloDevice Pro 　．	IP 　．	IP　　　　　　　　　．

	HelloDevice Pro	HelloDevice Pro	TCP
	TCP	TCP /	.
	.		
	HelloDevice Pro	IP	HelloDevice Pro	TCP/UDP
	IP	.	
	TCP/UDP		
	.		
	DSR	DSR	HelloDevice Pro	DSR
	DSR	HIGH	.	
	HIGH		
	.		
	HelloDevice Pro		PC	IP	.
	PC	IP		
	.		
		TCP	.
	TCP		
	.		

C.7

TCP/IP	Inter-character time-out	Inter-character time-out	.
.	.	
HelloDevice Pro		HelloDevice Pro
.	.	.
PS400		PS400	port#2
port#2	.	.
(PS400).		port#2	.
		port#2
		.
		.
.	.	
RS485		RS485 Echo	RS 485 Non-echo
.	.	.
	(terminator	HelloDevice Pro	RS485
resistor)	. Data+	Data-	120 Ω
.	.	
RS422		RS422	.
.	.	
	(terminator	HelloDevice Pro	RS422
resistor)	. Tx+	Tx-	Rx+	Rx
.	120 Ω	.