

16ch Stepping Motor Controller
PM16C-04
Network Setting
(XPort)

(2411 Ver.2)

APPLICATION OF ELECTRONIC DEVICES

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Network Setting

1. Preparation for setting.

For safety, prepare Ethernet network environment that is free from external network, personal computer that can be connected to the network, and basic software (terminal software, ftp, ping). For example, the network setting procedure using:

10Base-T cross cable, Personal computer with Windows95, telnet and ping command included in the Windows95 are explained below.

2. Connection between the network and PM16C

Power on the PC.

Change the IP address and sub net mask data of PC as the next sequence.

(For example IP address :192.168.1.10 Sub net mask : 255.255.255.0)

PM16C network setting is set as default :

IP address : 192.168.1.55 Sub net mask : 255.255.255.0 Port number : 7777

Select the screen: START → SET → CONTROL PANEL

Select "NETWORK" in the CONTROL PANEL.

Select "TCP/IP" for the using network card in "NETWORK SETTING"

ex) TCP/IP → ATKK LA-ISA PNP ISA Ethernet etc.

Note "IP address ", "Sub net mask data"

(If "IP address is got automatically" mode selected, it should be changed)

Select "IP address set" mode.

Set IP address / 192.168.1.10, Sub net mask data / 255.255.255.0.

Restart the computer.

Connect the PM16C and the personal computer with the 10Base-T cross cable (100Base-T are available if it is supported by PC).

This is the end of connecting between the network and PM16C.

To confirm the exact connection, select the "MS-DOS" screen by the order START → PROGRAM → "MS-DOS program," and start "ping" command in the "MS-DOS" screen.

Supplementary :

This is in case that IP address is 192.168.1.55 , sub net mask is 255.255.255.0 and Port number 7777, so change them if other data used.

If you forgot the IP address, you wouldn't be able to set the network.

You should not forget it.

If you don't know the IP address or forget it, please see 6. Setting network when you don't know the IP address.

Microsoft(R) Windows 95

(C)Copyright Microsoft Corp. 1981-1996.

C:\Windows>ping 192.168.1.55

Pinging 192.168.1.55 with 32 bytes of data:

Reply from 192.168.1.55: bytes=32 time=2ms TTL=255

Reply from 192.168.1.55: bytes=32 time=1ms TTL=255

Reply from 192.168.1.55: bytes=32 time=1ms TTL=255

Reply from 192.168.1.55: bytes=32 time=1ms TTL=255

C:\Windows>

If the connection is wrong, the result would be as follows:

C:\Windows>ping 192.168.1.55

Pinging 192.168.1.55 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

Request timed out.

C:\Windows>

3. Change of Network setting.

After confirming the exact connection, change the IP address and telnet port number if needed.

The PM16C has the IP address : 192.168.1.55 and the Port number 7777 as the default data.

The IP address should be set for the network the PM16C work.

If you don't need to change the port number, use port number 7777 as the default data.

If you need to change it, we recommend the number 10000 to 10999.

In the Windows screen,

Select : Start → Set filename and execute

And input "telnet 192.168.1.55 9999"

Here "9999" is the special port number where network setting is available.

Just after clicking OK button telnet screen start immediately.

MAC address 00204A80F1B6

← depend on the PM16C serial number

Software version 01.5 (031003) XPTE

← depend on the PM16C serial number

Press Enter to go into Setup Mode

after this message on the screen press Enter key in three seconds to go into setup mode.

If you don't press the Enter key in three seconds connection won't be done.

Next by the message on the screen,

.....

Change Setup:

- 0 Server configuration
- 1 Channel 1 configuration
- 3 E-mail settings
- 5 Expert settings
- 6 Security
- 7 Factory defaults
- 8 Exit without save
- 9 Save and exit Your choice ?

Select 0, and set the IP address as below:

IP Address : (192) 192.(168) 168.(001) 1.(55) 50

Set Gateway IP Address (N) N

Net mask: Number of Bits for Host Part (0=default) (0)

Change telnet config password (N) N

(This is the sample in which IP address is set to 192.168.1.50)

Gateway IP address is to be set if needed.

Net mask is set to 24 when mask is 255.0.0.0, 16 when mask is 255.255.0.0,
and 8 when mask is 255,255.255.0.

Again,

Change Setup:

- 0 Server configuration

- 1 Channel 1 configuration
- 3 E-mail settings
- 5 Expert settings
- 6 Security
- 7 Factory defaults
- 8 Exit without save
- 9 Save and exit Your choice ?

Select 1,

- Baud rate (9600) ? ...Press the Enter key without doing
- I/F Mode (4C) ? ...Press the Enter key without doing
- Flow (02) ? ...Press the Enter key without doing
- Port No (7777) ? ...Enter telnet port number if needed.
(default number 7777, recommend 10000 ~ 10999)
- ConnectMode (C0) ? ...Press the Enter key without doing
- Remote IP Address : (000).(000).(000).(000) ...Press the Enter key three times
- Remote Port (0) ? ...Press the Enter key without doing
- DisConnMode (00) ? ...Press the Enter key without doing
- Flush Mode (80) ? ...Press the Enter key without doing
- Pack Cntrl (10) ? ...Press the Enter key without doing
- DisConnTime (00:00) ? ...disconnection time mm:ss(mm:minute, ss:second)
(default value 00:00 for 99minute 59seconds)
- SendChar 1 (0D) ? ...Press the Enter key without doing
- SendChar 2 (0A) ? ...Press the Enter key without doing

Again,

Change Setup:

- 0 Server configuration
- 1 Channel 1 configuration
- 3 E-mail settings
- 5 Expert settings
- 6 Security
- 7 Factory defaults
- 8 Exit without save
- 9 Save and exit Your choice ?

Select 9 and quit the setting process.

In these process, you can change IP address, Sub net mask etc.

You must not change the data followed by "Press the Enter key without doing".

If you'd changed them by some mistake, you must restore them as above.

4. Restore the Setting for the PC.

Here, the settings for the network are completed.

Restore the network setting of the personal computer as follows.

Select the screen: START → SET → CONTROL PANEL

Select "NETWORK" in the CONTROL PANEL.

Select "TCP/IP" for the using network card in "NETWORK SETTING"

ex) TCP/IP → ATKK LA-ISA PNP ISA Ethernet etc.

Restore "IP address", "Sub net mask data" as the note that was written at the beginning of this procedure.

(If "IP address is got automatically" mode selected at the beginning, restore to the mode)

After the end of restoring of all data, restart the personal computer.

Connect the network cable, that was connected before, to the computer.

5. Test of connection.

Test the connection between the PM16C and the personal computer.

Select : Start → Set filename and execute → telnet 192.168.1.50 7777 → click OK

(If the IP address etc are changed, use the newest data)

Enter the PM16C commands from keyboard, you can control PM16C over LAN.

If you type "SIR<Enter>" then PM16C would be set to remote mode, and by "SIL<Enter>", it would be set to local mode.

6. Setting network when you don't know the IP address.

If you don't know the IP address, you can't do the process 3. Change of Network setting.

In such case you can set the network data using MAC address(hard ware address) as below.

The hard ware address may be written under the LAN connector on the back panel.

The setting process below is written for the condition where the MAC address is

00-20-4a-80-e4-c6 and the IP address supposed to be set to 192.168.1.50.

Start the Windows and call the DOS prompt screen.

Using arp(address resolution protocol) command, see Note 1)

```
C:\Windows>arp -s 192.168.1.50 00-20-4a-80-e4-c6
```

Next,

```
C:\Windows>telnet 192.168.1.50 1
```

Where error message may appear soon.

Close the telnet screen and again,

```
C:\Windows>telnet 192.168.1.50 9999
```

Telnet screen will start and,

MAC address 00204A80F1B6 ← depend on the PM16C serial number

Software version 01.5 (031003) XPTE ← depend on the PM16C serial number

Press Enter to go into Setup Mode

After this message on the screen press Enter key in three seconds to go into setup mode.

If you don't press the Enter key in three seconds connection won't be done, then try again.

Next process is as same as 3. Change of Network setting.

Note 1) For the ARP command to work on Windows "95", the ARP table must have at least one IP address defined other than its own.

So if you are using Windows 95, type ARP -A at the DOS command prompt to verify that there is at least one entry in the ARP table.

```
C:\Windows> arp -a
```

```
No ARP Entries Found
```

If the local machine has the only entry as above, ping another IP address on your network to build a new entry in the ARP table; the IP address must be a host other than the machine on which you are working.

```
C:\Windows> ping xxx.xxx.xxx.xxx
```

Once there is at least one additional entry in the ARP table, use following command to ARP an IP address to the unit: