Please keep it carefully

<div style="border">

Express5800/320Fa-L(R), 320Fa-M(R)

GeminiEngine Control Software
Update Procedure (2)

</div>

Thank you for choosing Express5800/ft series.
This document mentions the installation procedure when users want to install the latest drivers module to FT product noted in "Applicable models". Please read the content mentioned in this document first and update the system step by step by as following procedure.

Applicable models

N8800-082F, N8800-083F, N8800-088F, N8800-089F

Contents of package

Please confirm the following contents exist in this driver module package.

No.	Product Name	Appointment	Amount	Remarks
1	Express5800/320Fa-L(R), 320Fa-M(R), 320Fb-L(R), 320Fb-M(R) ft SW collection		1	File download
2	the latest driver module for FT Installation Procedure	856-127146-001	1	this document

Transfer to the third person

In case of transferring (or selling) of purchased Express5800/ft server to the third person, please transfer this latest FT drivers module installation procedure together.

Attention in using -To operate the device properly-

**To use this device properly, please update ft drivers (GeminiEngine Control Software) following this document.
In addition, please update the ft drivers if OS is reinstalled to this system with an EXPRESSBUILDER CD-ROM.**

Introduction

■ Confirming the version of ft driver (GeminiEngine Control Software)

(1) Log on as an administrative user.
(2) In "Add or Remove Programs", choose GeminiEngine Control Software.
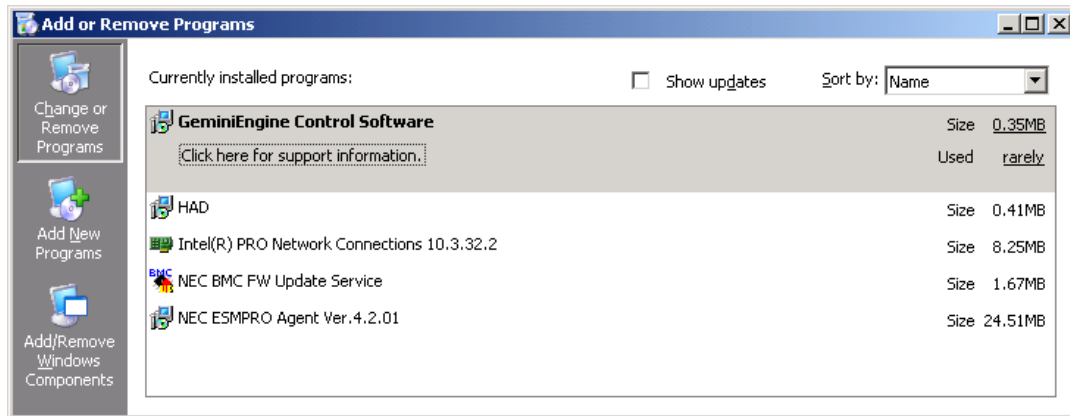
(3) Click **Click here for support information**, confirm the version of ft driver (GeminiEngine Control Software)
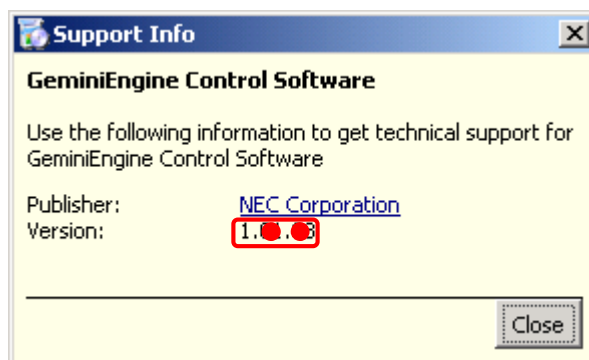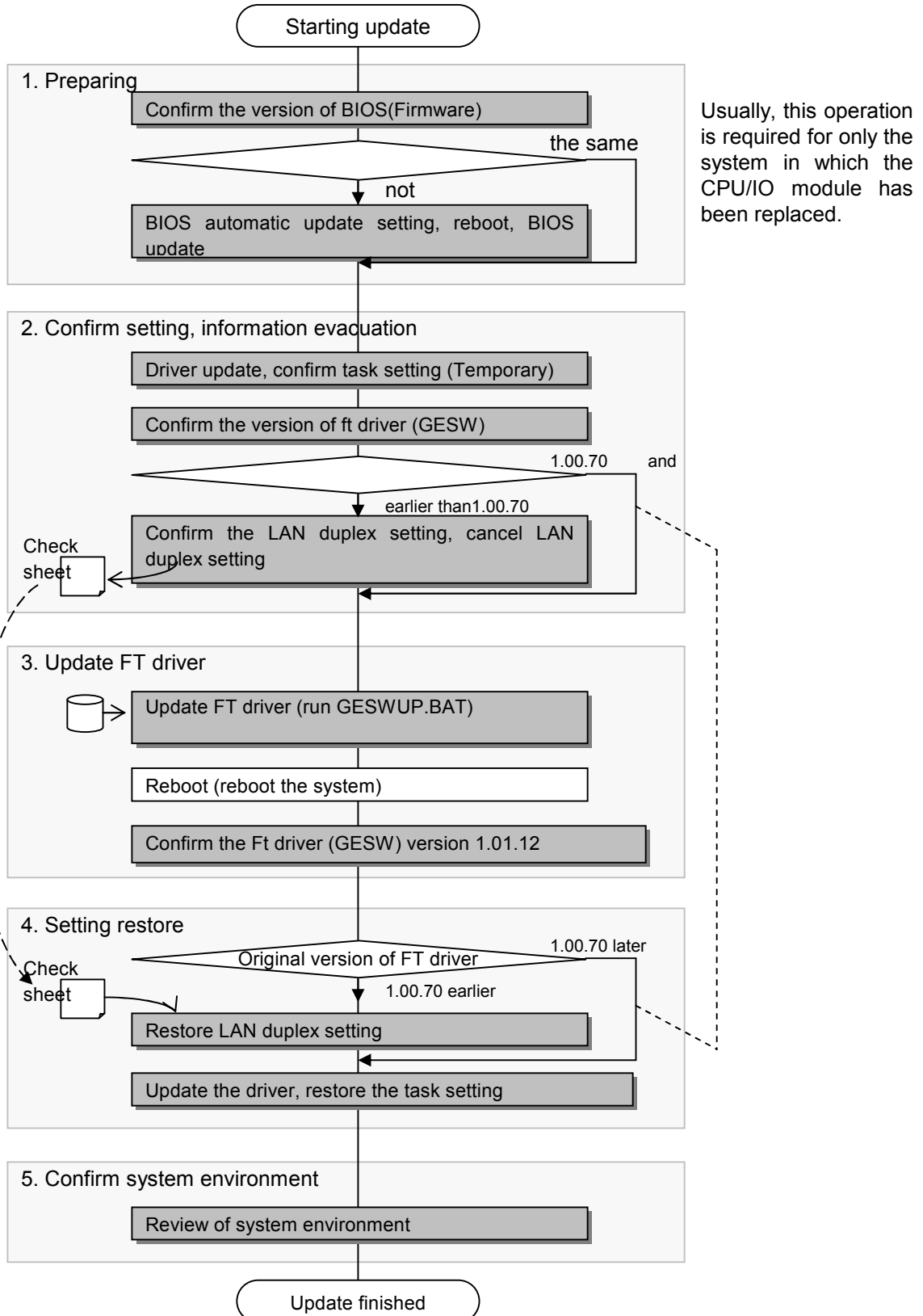

If the version of the ft driver (GeminiEngine Control Software) is 1.00.70 and later, it is able to simplify the application procedure, it can be installed following the procedure mentioned "GeminiEngine Control Software Update Procedure (2)" (856-127146-111).

*Even if the version is later than 1.00.70, it is able to install the latest driver following the procedure of this document.

Procedure of installing the latest FT drivers

It shows the procedure to install the latest ft drivers (GeminiEngine Control Software) to this system.
<u>This document is for the system which version of ft driver is earlier than 1.01.12.</u>

Starting update

1. Preparing

Confirm the version of BIOS(Firmware)

the same / not

BIOS automatic update setting, reboot, BIOS update

Usually, this operation is required for only the system in which the CPU/IO module has been replaced.

2. Confirm setting, information evacuation

Driver update, confirm task setting (Temporary)

Confirm the version of ft driver (GESW)

1.00.70 and earlier than1.00.70

Confirm the LAN duplex setting, cancel LAN duplex setting

Check sheet

3. Update FT driver

Update FT driver (run GESWUP.BAT)

Reboot (reboot the system)

Confirm the Ft driver (GESW) version 1.01.12

4. Setting restore

Original version of FT driver — 1.00.70 later / 1.00.70 earlier

Check sheet

Restore LAN duplex setting

Update the driver, restore the task setting

5. Confirm system environment

Review of system environment

Update finished

Step 1   Preparing (Confirm and update BIOS version)

Confirm the BIOS version of two modules by Server Maintenance Utility.   If the BIOS version of two modules are not the same, please make them same by updating BIOS in following procedure.

(1)   Logon to Windows 2003 by Administrator account of Built-in account.
(2)   If the FT status LED does not light green (not duplex), Wait for lighting in green.
(3)   From **Start** menu, choose **All Programs**->**NEC ESMPRO Agent**->**Server Maintenance Utility**.
(4)   In **Server Maintenance Utility** window、select **CPU Module** of Module#0 and Module#1, confirm each version of **Firmware**.

Please write down the version of firmware (BIOS) on each module here.
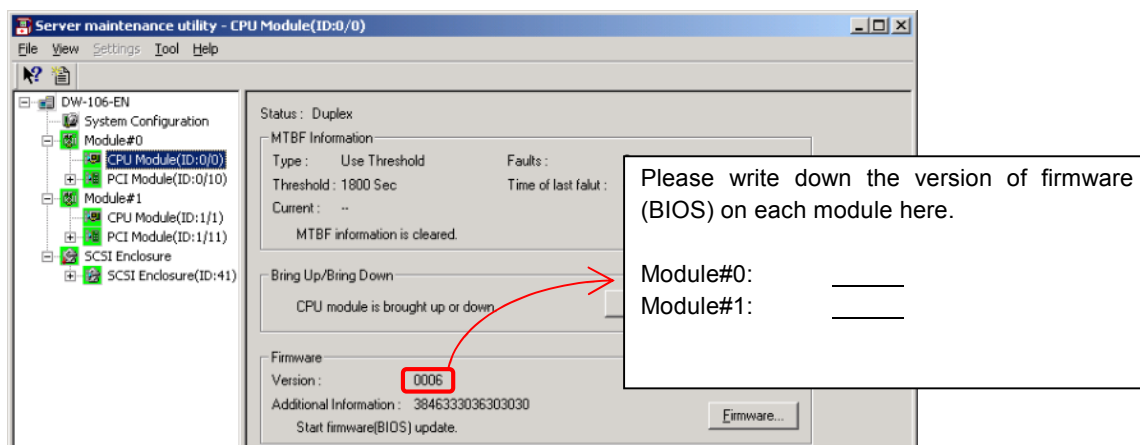
Module#0: _____
Module#1: _____

If the version of Module#0 and Module#1 are same, the following step is not required.

(5)   If the version of Module#0 and Module#1 are not same, please use the automatic BIOS update to make older BIOS version same as the new one. Please set **Automatic firmware update** and **Automatic module start** as **Enable** in **System Configuration** menu of **Server Maintenance Utility**.
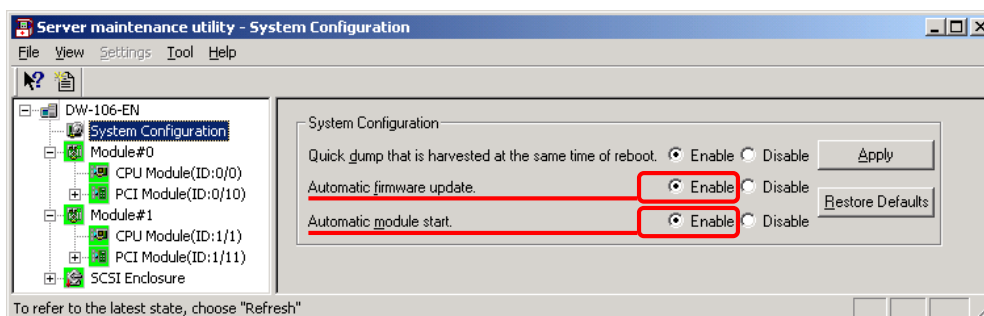
(6)   Please push the module POWER switch in the module front left side (on lower position if it is a tower type) of the module of which the firmware (BIOS) version is older (the value is lower). The module is separated and the remaining module runs as a simplex system.

(7)   Reboot the system. When system and Windows OS reboot, in the timing of system duplex, BIOS is updated automatically. BIOS update takes about 10 minutes.
Confirm the BIOS update status by **Status** of CPU and PCI module in Server Maintenance Utility.
In addition, the status can not refresh automatically. Please execute **Refresh** appropriately to confirm.
(8)   Following Step 2) and step 3), please confirm that the versions of the firmware (BIOS) on both modules are same.

Step2   Setting confirmation, Save information

2.1 Driver update, task setting confirmation

(1)   Confirm the setting of **Task Scheduler**
Select **Administrative Tools** -> **Services**, confirm the status of **Task Scheduler**.   If the service is not as following status, the updating of GeminiEngine Control Software can not be finished.

Name	Status	Startup Type
Task Scheduler	**Start**	**Automatic**

If it is not in state mentioned above, write down the status of the service of Task Scheduler, and please change setting of Task Scheduler as above.

Name	Status	Startup Type
Task Scheduler	_____	_____

(2)   Select **System Properties -> Hardware** tab -> **Driver Signing**, check if the **Driver Signing Options** is set other than **Block**. If it is set as **Block**, please change it to **Warn** before applying this update.
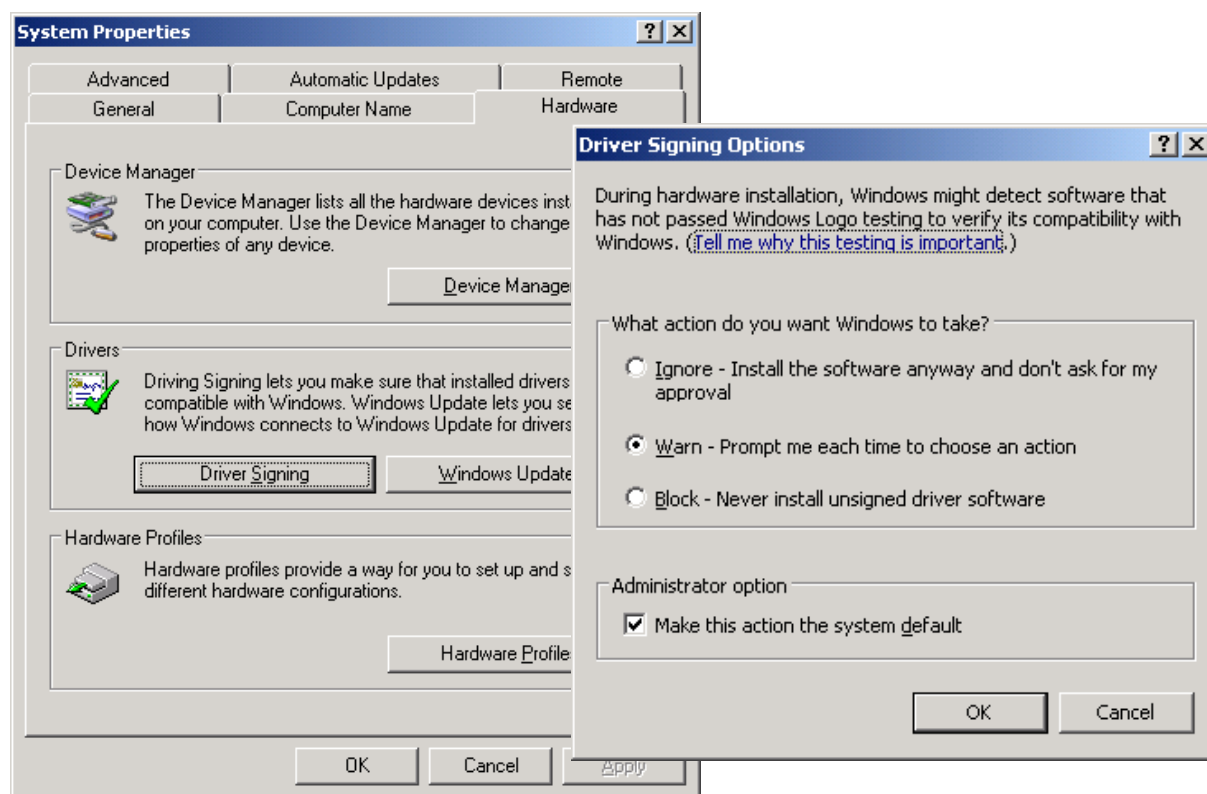
2.2 Confirm the FT driver (GeminiEngine Control Software) version

(1) Log on to Windows Server 2003 as Administrative user.
(2) Open **Start** -> **Control Panels** -> **Add or Remove Programs**.
(3) Click **Click here for support information** under **GeminiEngine Control Software**, the version will be shown.
(4) Please write down the displayed version number.

Version: 1.____.____
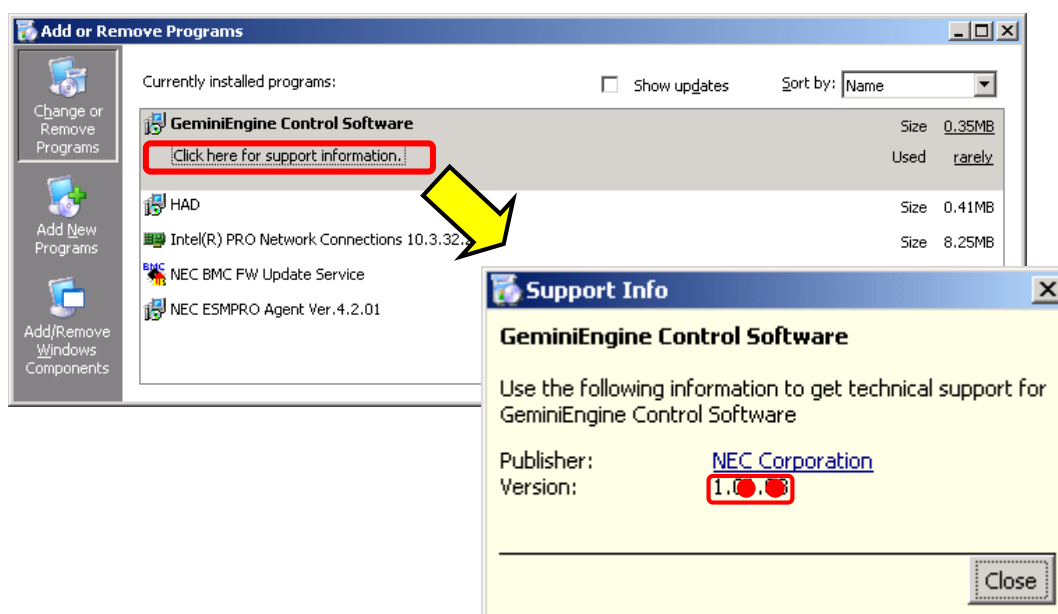
Cautions

When **HAD** is not displayed on the list of installed programs, the account which logs on is not appropriate.

Please be sure to log on by **Administrator of built-in account**, and to carry out subsequent updates, where **HAD** is displayed on the list of programs.

When you cannot log on by built-in Administrator account, please update HAD individually after applying update of Step 3.

The procedure which updates HAD individually is indicated to STEP 3.

(5) The difference of the procedure by version
If the version number is earlier than 1.00.70 (1.00.66 or etc.)
To update LAN driver, remove the LAN duplex setting after confirming its setting status by following procedure.

If the version number is 1.00.70 and later   (1.00.71 or 1.01.07 etc.)
It is not necessary to change the setting of LAN, please go to Step 3.

2.3 Confirmation of the LAN duplex setting, remove the LAN duplex setting

### 2.3.1 Confirmation of the LAN duplex setting

Confirm the duplex setting of all LAN. Since the duplex setting must be removed on update, please be sure to confirm this setting for both onboard LAN and optional LAN board.

➢ **Please write down the contents of setting on a "LAN duplex setting check sheet".**
   **LAN cables are not need to be disconnected from the system.**

(1) Select **Administrative Tools** -> **Computer Management**-> **Device Manager** -> **Network Adapters**. Confirm the team name->**Check sheet(1)**
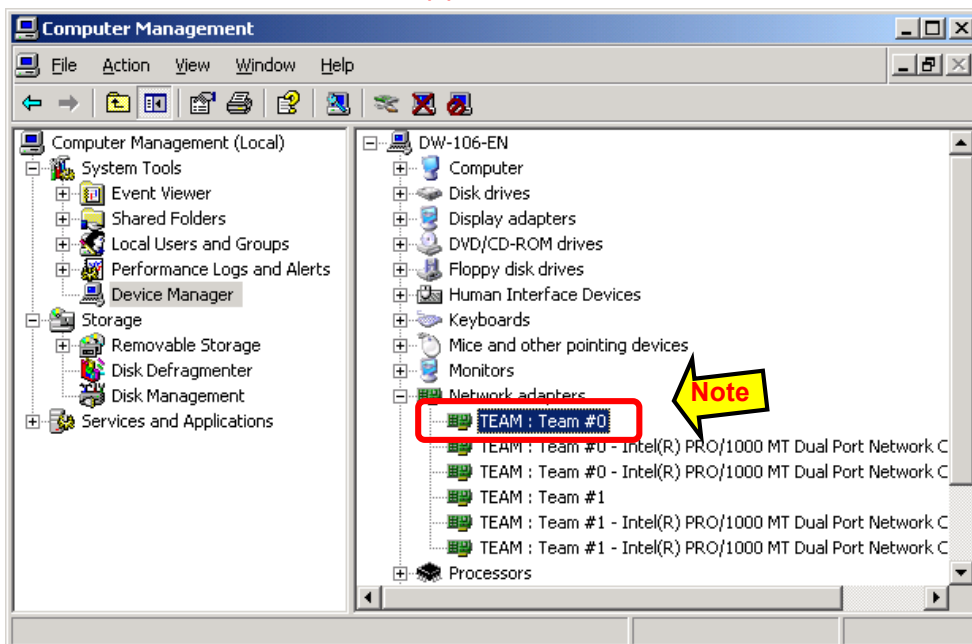
(2) Select the team and right click on the team to select **Properties**, select **Settings** tab. Confirm the information of **Adapter Properties…** ->**Check sheet (2)**
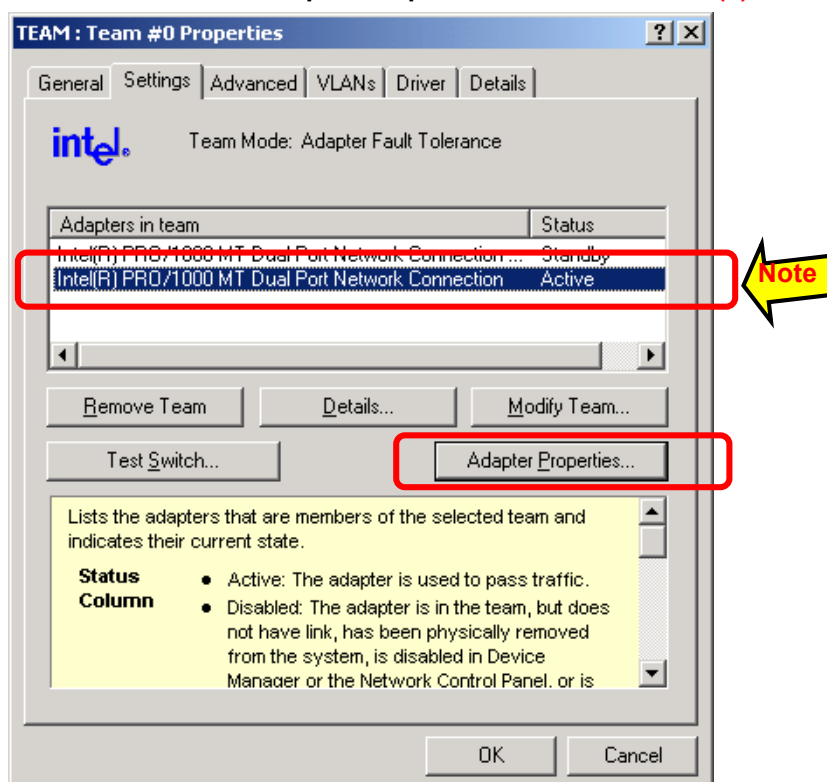
(3) Select adapter and click the **Properties** button.
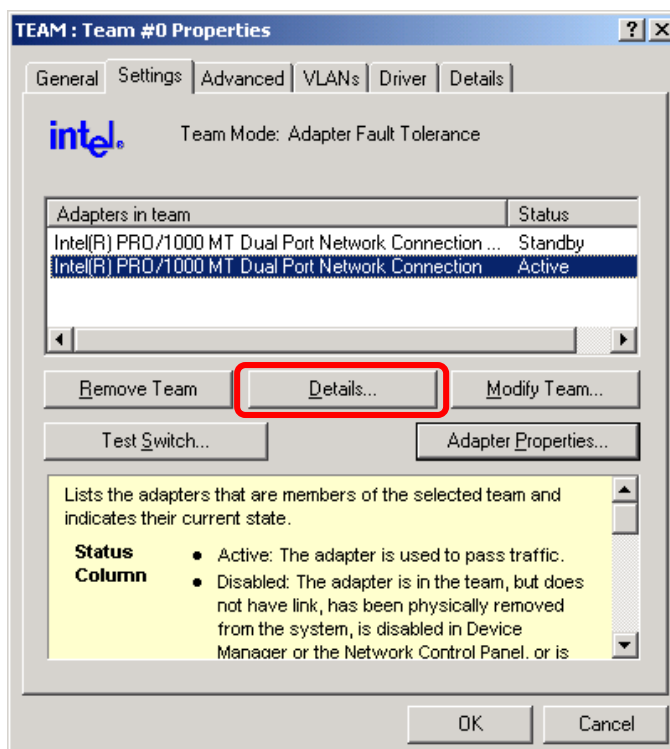Confirm **Network Connection** and **Location** (Bus Number).->**Check sheet (2)**
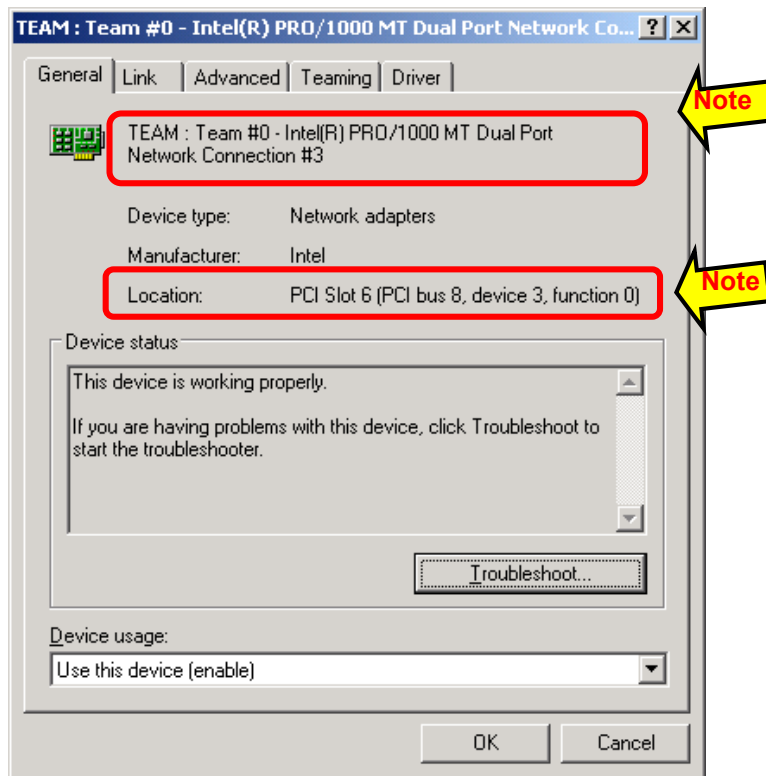
(4) Select the **Link** tab in adapter **Properties** window.
Confirm **Link Status**, **Speed and Duplex** mode of link.->**Check sheet (3)**
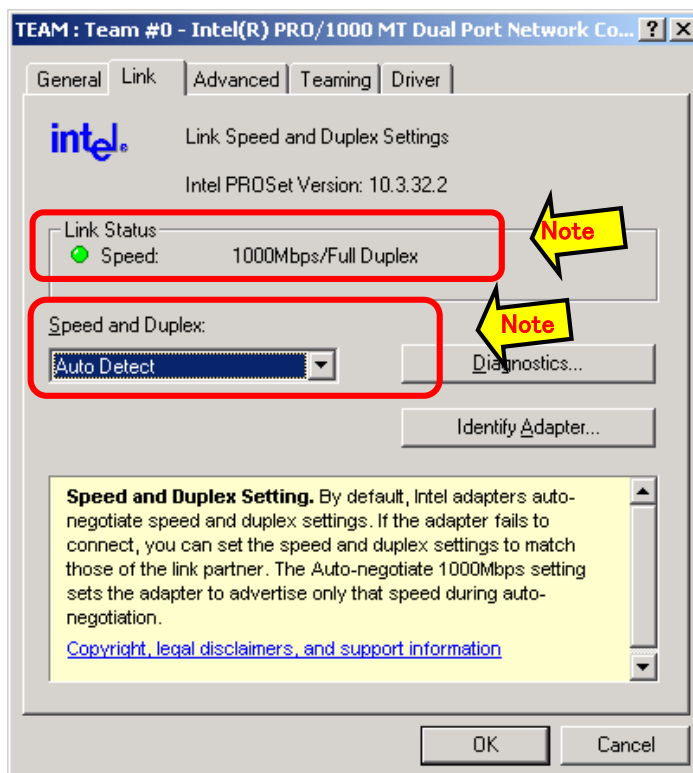
(5) Select the **Advanced** tab in adapter **Properties** window.
     Select each item of the **Settings**, click the property and confirm each value.   ->**Check sheet (4)**
     **Confirm whether it is different from a default value and write down to the check sheet if it is
      not default.**
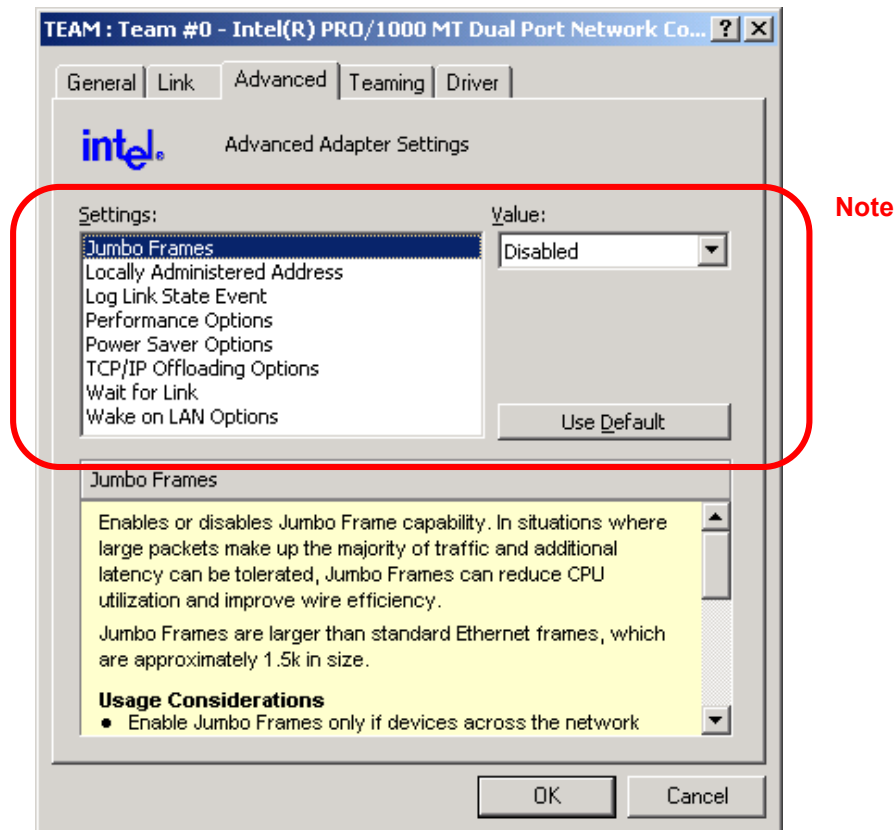
(6) For the other adapters, check the information mentioned in step2 – step 5.
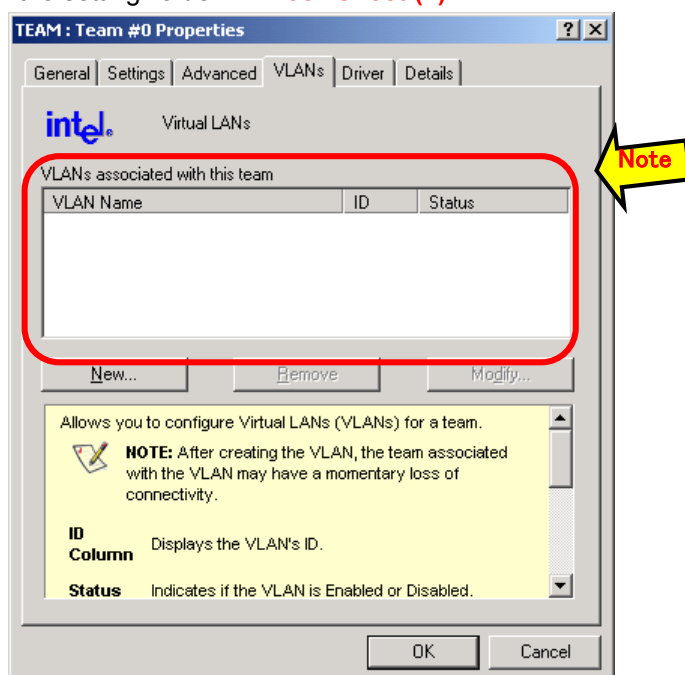(7) Click **Settings** tab-> **Details** button in team **Properties**.

(8) Confirm **Team Type** and **Ethernet Address**.->**Check sheet (5)**

Team Details

Team Type   Adapter Fault Tolerance
Ethernet Address 003013B8A236

Close

Note
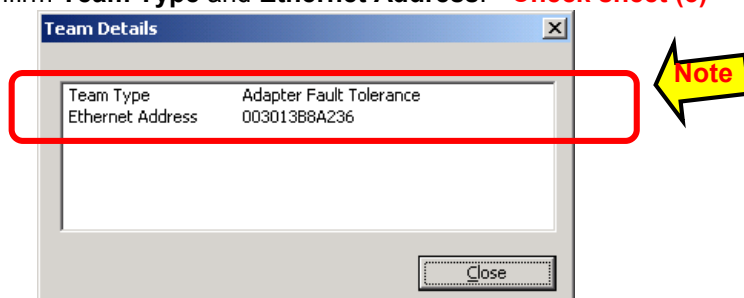
(9) Select **Advanced** tab in team **Properties**.
Confirm the setting of each subject. ->**Check sheet (6)**
Confirm whether it is different from a default value and write down to the check sheet if it is not default.

TEAM : Team #0 Properties

General | Settings | Advanced | VLANs | Driver | Details

intel.   Advanced Team Settings

Settings: Value:
Activation Delay   Disabled
Check Time (in Seconds)
Locally Administered Address
Max no. times probe sent
Number of RX packets
Number of TX packets
Probe
QoS Packet Tagging   Use Default

QoS Packet Tagging

Enables the team to send and receive tagged frames meeting the
802.1Q VLAN and/or 802.1p QoS specifications.

Note: If VLANs are assigned to the team, this option
will be enabled and can not be disabled until all VLANs
are removed.

OK   Cancel

Note

(10) Select **VLANs** tab in team **Properties**.
Confirm the setting value. ->**Check sheet (7)**

TEAM : Team #0 Properties

General | Settings | Advanced | VLANs | Driver | Details

intel.   Virtual LANs

VLANs associated with this team

VLAN Name   ID   Status

New...   Remove   Modify...

Allows you to configure Virtual LANs (VLANs) for a team.

NOTE: After creating the VLAN, the team associated
with the VLAN may have a momentary loss of
connectivity.

ID
Column   Displays the VLAN's ID.

Status   Indicates if the VLAN is Enabled or Disabled.

OK   Cancel

Note

(11) For the other adapters, check the information mentioned in Step 1 – step 10.

(12) Right click **My Network Places** of **Windows Explorer** and choose **Properties**.
Confirm the name of network. ->**Check sheet (8)**
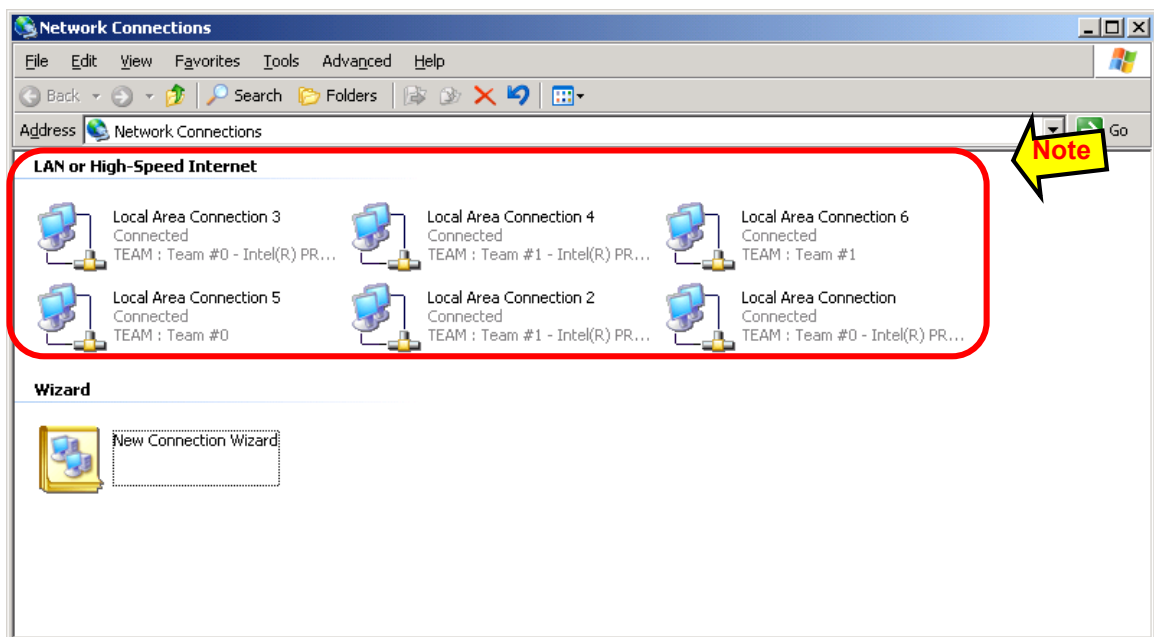
(13) Right click the team name then select **Properties**.
Confirm the protocol. ->**Check sheet (9)**
If there is a protocol except the ones mentioned in the check sheet, please add it to check sheet.
In addition, please write down the setting information in the Properties.
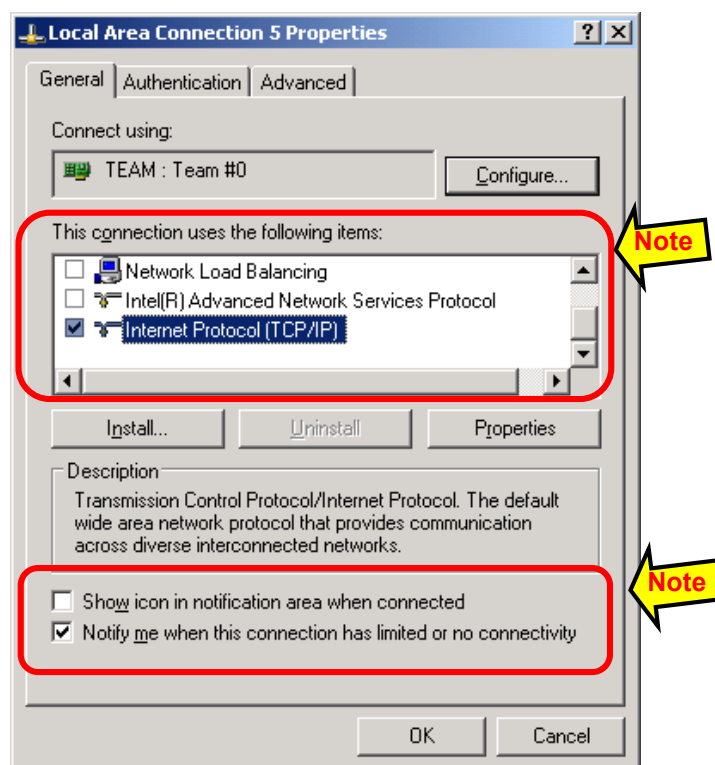
(14)   Select **Internet Protocol (TCP/IP)**, Click **Properties** button.
       Confirm the setting of Internet Protocol (TCP/IP). ->**Check sheet (10)**
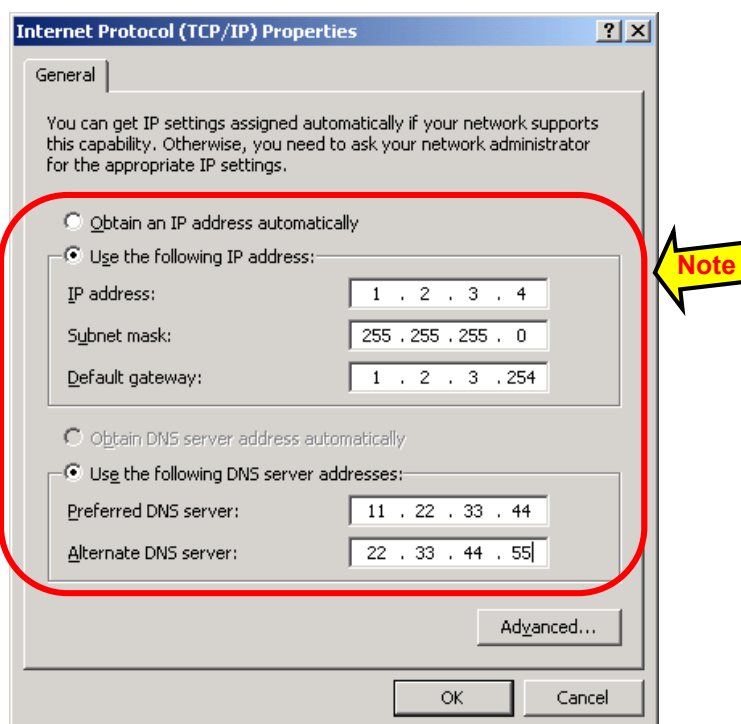
(15)   Click **Advanced…** button.
       Confirm the setting of **IP Settings** tab.->**Check sheet (11)**
       Confirm the setting of **DNS** tab. ->**Check sheet (11)**
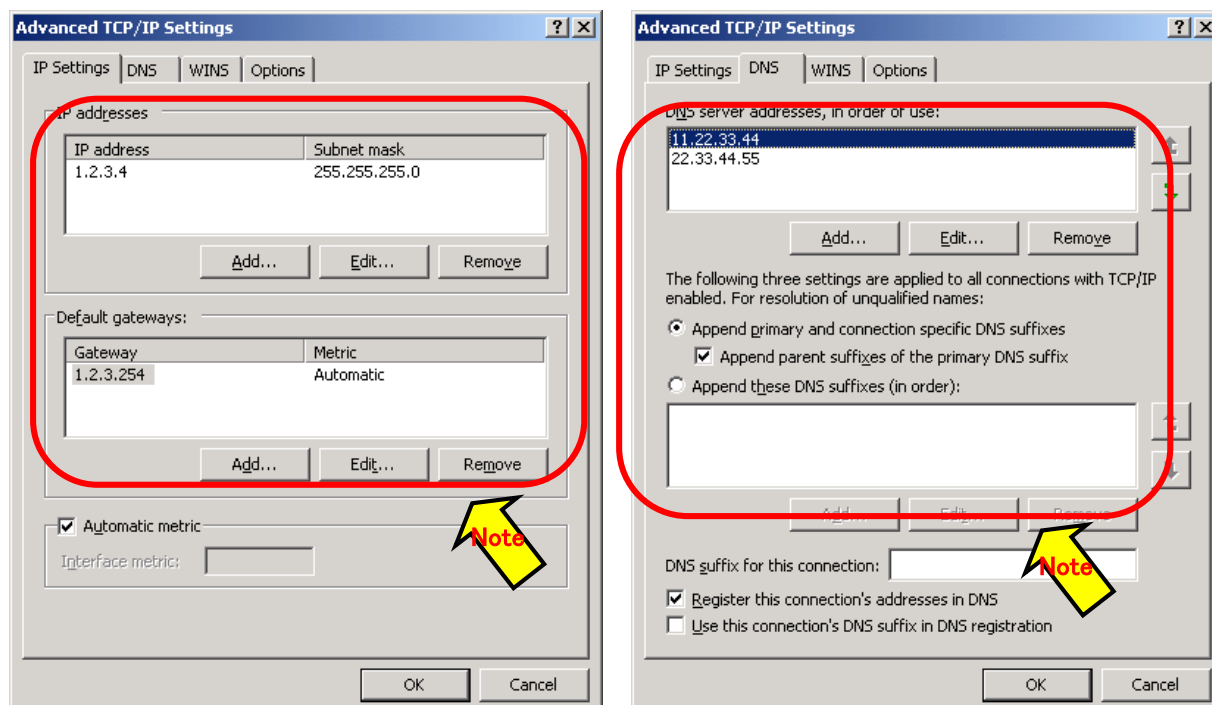
Confirm the setting of **WINS** tab ->**Check sheet (11)**
Confirm the setting of **Options** tab. ->**Check sheet (11)**
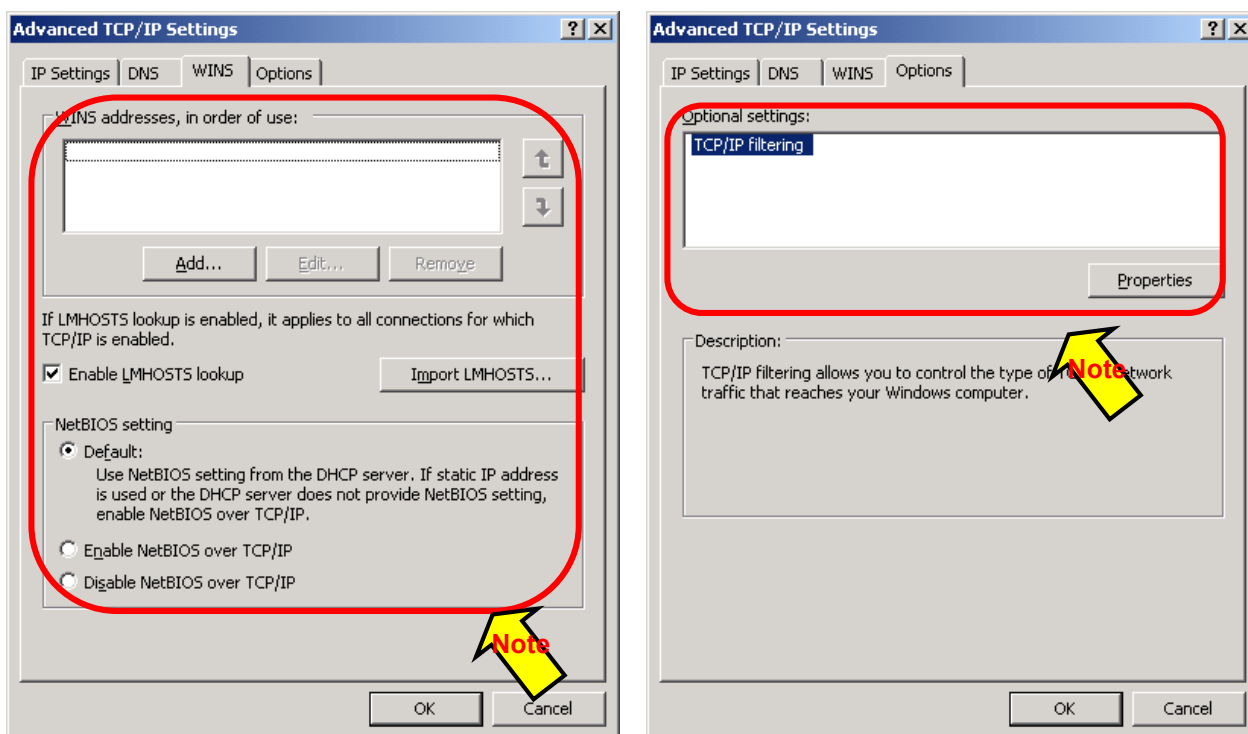
(16)   For other teams, check the information mentioned in step 12 - step15.

(17)   Start **Command Prompt**, type ipconfig /all and confirm the setting that wrote down in check sheet.

2.3.2 Removing the setting of LAN teaming

Remove the LAN teaming setting for all of LAN adapters. Apply the teaming setting after the update is completed. This procedure is required for both of onboard and option LAN.

➢ LAN setting will be lost if the teaming is removed. Therefore be sure to write down the setting information to "Check sheet of LAN duplex setting". LAN cables are not required to be removed from the system.

(1) Start **Device Manager**.

(2) Select the team adapter which is required to remove the team setting. Right-click on it and select **Properties** from the menu displayed to show the properties dialog box.
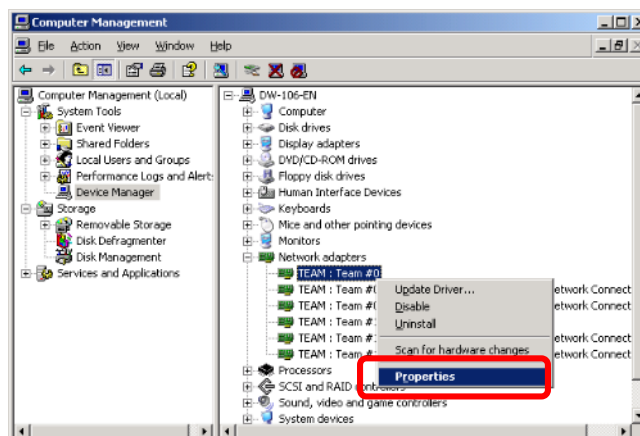
(3) Select the **Teaming** tab on the **Properties** dialog box. Click **Remove Team** button.
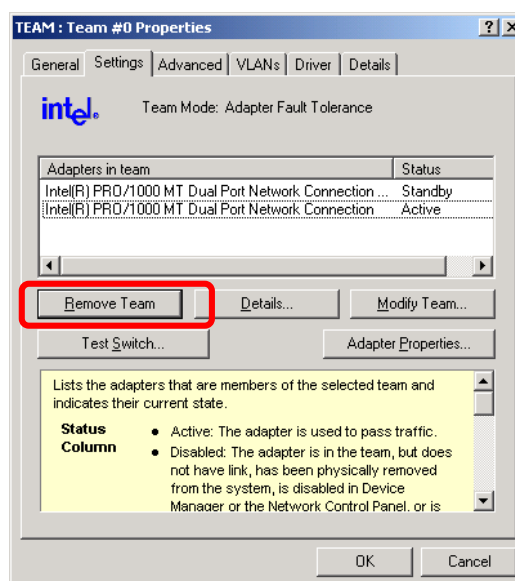
(4) The confirmation dialog will be displayed. Click **Yes** and delete the team.

➢ Uninstall is not required.
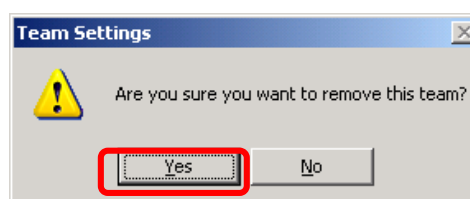
Step 3   Update of FT server

■ Be sure to follow the procedure shown in this guide. ■ Logon to the system using the local account (Administrator as default) which is used during OS installation. ■ Perform the update after confirming that the system is working in duplex mode and FT status LED is green. ■ Confirm that unsupported devices are not connected to the USB port. Only the supported keyboard (mouse) are allowed to connect.

● **Procedure of Update**

(1)   Download latest FT driver to the adequate folder on the HDD.

(2)   Extract GE10113E.ZIP. Right-click on the GE10113E.ZIP, and select **Extract all.**
Extraction Wizard will be displayed and extract the compressed file following the instruction of the wizard.
[CD1] folder will be extracted. Copy [CD1] folder to C drive. (Other drives also can be used if C drive is not available. Be sure to place the [CD1] folder on the top directory of the d rive)

(3)   Select **Run...** from **Start** menu.

(4)   Enter C:\CD1\GESWUP.BAT to the dialog box of **Open**, and click **OK**.
(C: means that the drive letter to which the [CD1] folder is copied.)

Command Prompt is started it starts to update.   During the update, confirmation dialog appears several times.   Follow the messages on the dialog in this case.
In case of updating LAN driver,   the following message will be displayed.   Before executing the update, be sure to confirm that the network setting parameter are wrote down and the teaming setting of LAN is removed properly.

➢Do not perform any operation using keyboard and mouse until update is completed.
It takes approximately 15minutes.

(5)   When installation is completed, the system requires to shutdown.

When complete FT driver install (update), following message will be displayed.
Before clicking OK button, you must confirm that below driver files exist in the system.

C:\Windows\system32\drivers

| Driver	File name	check
SCSI	adpu320.sys	
SCSI duplex control	haddsm.sys	
HA System Controller	HasCtrl.sys	
HA IPMI	HASIPMI.SYS	
MPIO	mpdev.sys	
	mpio.sys	
	mpspfltr.sys	

When all of above files exist, click OK button on following dialog. The system reboots automatically.

If the file of a SCSI driver does not exist, please execute the following programs from the file extracted by the above-mentioned 2.

```
\CD1\HASSETUP\SCSI\UPDATE.VBS
```

Then, please check existence of the above-mentioned file again.

When other driver files do not exist, please perform update again in the above-mentioned 3. Please choose overwrite, although the check dialog of whether to overwrite is displayed in that case. Then, please check existence of the above-mentioned file anew.
Even if it carries out the operation so far, when there is a file not existing, please inform a maintenance member, without pushing the "O.K." button.
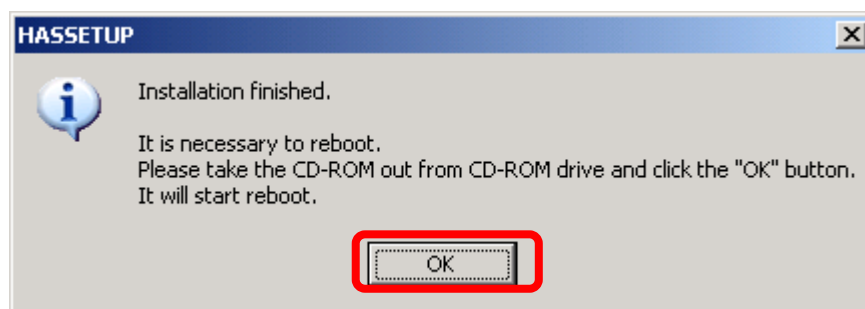
Confirm GeminiEngine SW version in following procedure.
- (1)   Log on Windows 2003 by Administrative user
- (2)   Open **Add or Remove programs** in **Control panels** from **Start** menu.
- (3)   Version will be displayed by clicking **Click here for support information** in the **GeminiEngine Control Software**.
- (4)   After this update, the version has been updated to 1.01.13 or 1.01.21.
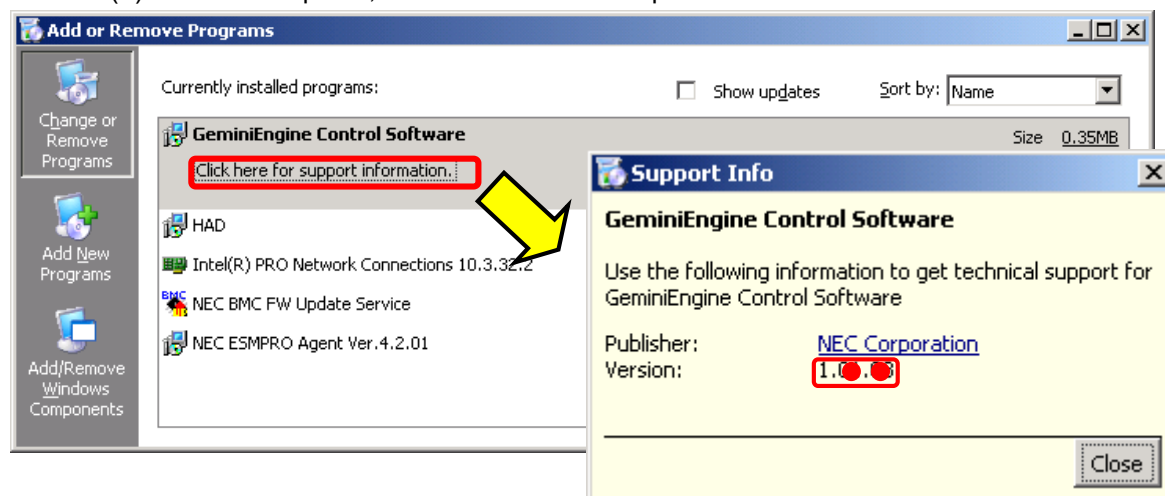
Version before update	Version after update
Less than 1.01.13	1.01.13
1.01.20	1.01.21

Procedure of Update HAD individually

If the GeminiEngine Control Software is updated when the `"HAD"` program is not displayed on `"Add or Remove Programs"`, after reboot the warning dialog of `"ILLEGAL FILE"` may be displayed when logged on by the user who updated.
In this case, please update the HAD driver in the following procedures.

If the warning dialog of `"ILLEGAL FILE"` is displayed, please click the `"Close"` button to close the dialog. Then, update the HAD driver in the following procedures.

1. Expand the update file `"GE10113E.ZIP"`. And copy `"CD1"` folder directly under C drive.

2. Copy the following file to the folder for work according to the version before update of the GeminiEngine Control Software.

   - Create folder `"CD1HAD"` under C drive for work.
   - Copy the following file to the `"CD1HAD"` folder.

Version before update	File to copy
1.00.xx (xx: 52 - 73)	`C:\CD1\HASSETUP\HAD\HASHADUS.CAB`
1.01.yy (yy: 03 - 12)	`C:\CD1\HASSETUP\HAD\HASHADUS.CAB`
1.01.20	`C:\CD1\HASSETUP\HAD117\HASHADUS.CAB`

3. Open command prompt. And move to the `C:\CD1HAD` folder.

4. Expand `"HASHADUS.CAB"` by the following command.

```
> expand HASHADUS.CAB -F:* .
```

5. Create "bin", "mof", and "esm" folder by the following commands.

```
> mkdir bin
> mkdir mof
> mkdir esm
```

6. Expand `"BIN.CAB"`, `"MOF.CAB"`, and `"ESM.CAB"` to `"bin"`, `"mof"`, and `"esm"` folder by the following commands.

```
> expand BIN.CAB -F:* bin
> expand MOF.CAB -F:* mof
> expand ESM.CAB -F:* esm
```

7. Move to `"esm"` folder by the following command.

```
> cd esm
```

8. Create `"en"` and `"jp"` folder by the following commands.

```
> mkdir en
> mkdir jp
```

9. Expand `"EN.CAB"` and `"JP.CAB"` to `"en"` and `"jp"` folder by the following commands.

```
> expand EN.CAB -F:* en
> expand JP.CAB -F:* jp
```

10. Move to the folder on one by the following command.

```
> cd ..
```

11. Run "`HadSetup.bat`". Update of the HAD driver starts.

12. Click the "`YES`" button, if the "`Security Alert`" dialog is displayed during update.

13. Log on by the user who updated and check that the "`ILLEGAL FILE`" dialog is not displayed, after rebooting. And remove the folder used for work after the check.

Update is completion.

STEP 4　Restoring the setting

(1)　　If the version of original FT driver is less than 1.00.70, reconfigure the network setting using the check sheet which is filled out in advance. Refer to the next page for the procedure to make the network setting.

(2)　　If **Task Scheduler** setting is changed in 1) of step2, restore the original setting.

(3)　　If **Driver Signing** is changed from **System Properties** in 2) of step2, restore the original setting.

(4)　　Installation is completed. Go to STEP 5 to review the system environment.

● **Teaming setting of LAN**

(1)   Wait until FT status LED will be green
       Start **Device Manager**. Add the setting in accordance of "LAN duplex setting Check sheet".

(2)   Select a target Network Adapter. Right-click on it and select **Properties** from the menu displayed
       to show the properties dialog box.
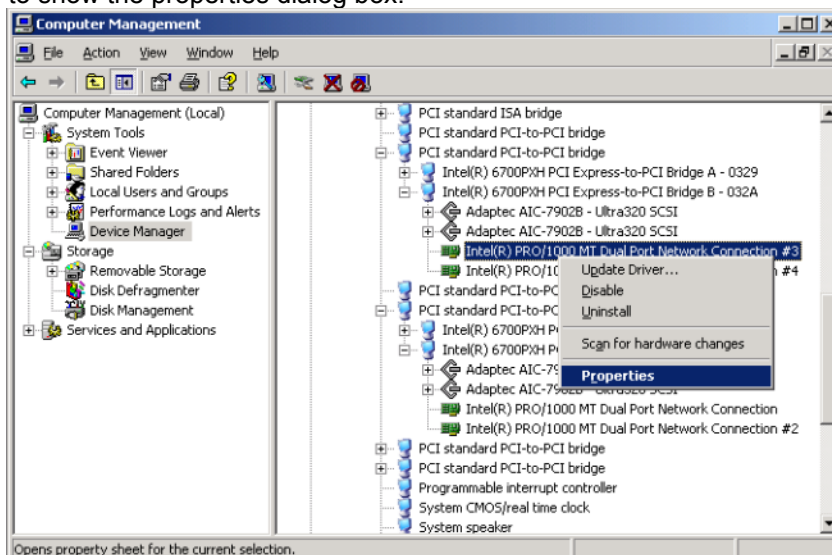
(3)   Select the **Teaming** tab on the **Properties** dialog box. Select the **Team with other adapters**,
       and then click the **New Team** button.
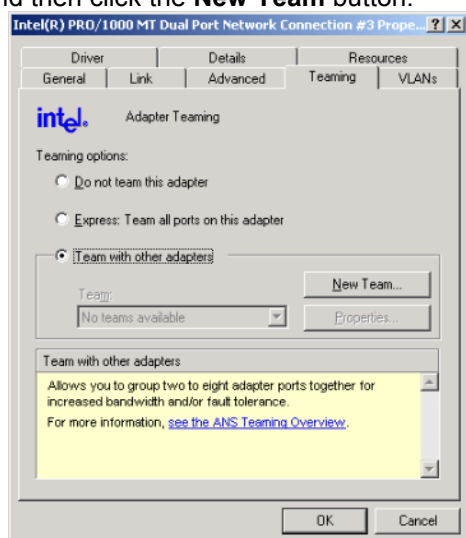
(4)   Enter the team name and click **Next**.

(5)   Select the adapters to include in the team and click **Next**.
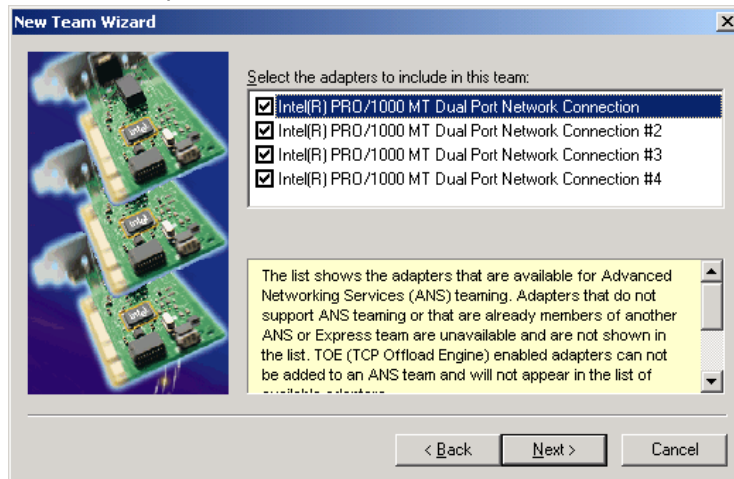
(6)   Select team mode (Usually select **Adapter Fault Tolerance**) and click **Next**.
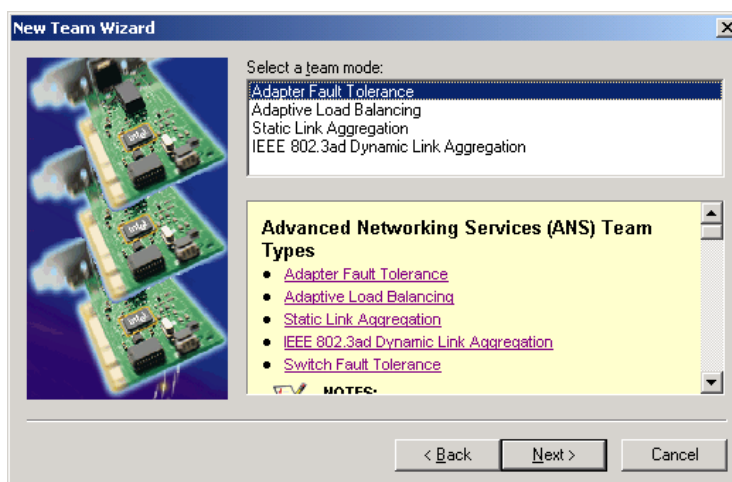
(7)   Click **Finish**.
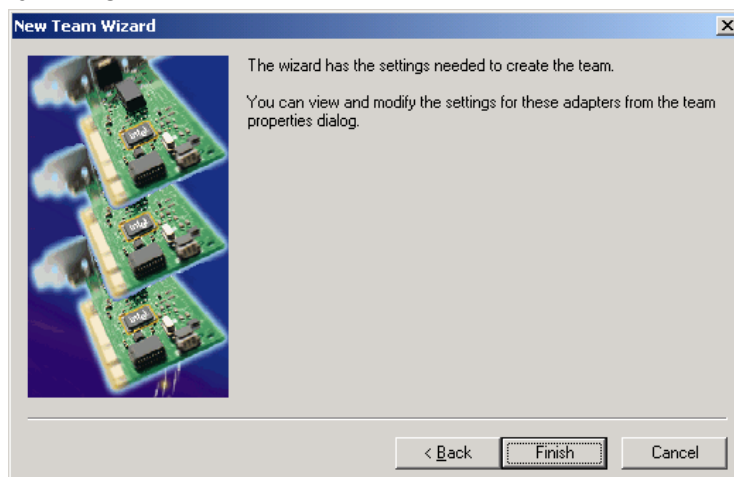
(8)   Start **Command Prompt** to check the physical MAC address set on ipconfig/all.

(9)　　Select the team adapter you have set. Right-click on it and select **Properties** from the menu displayed to show the properties dialog box.
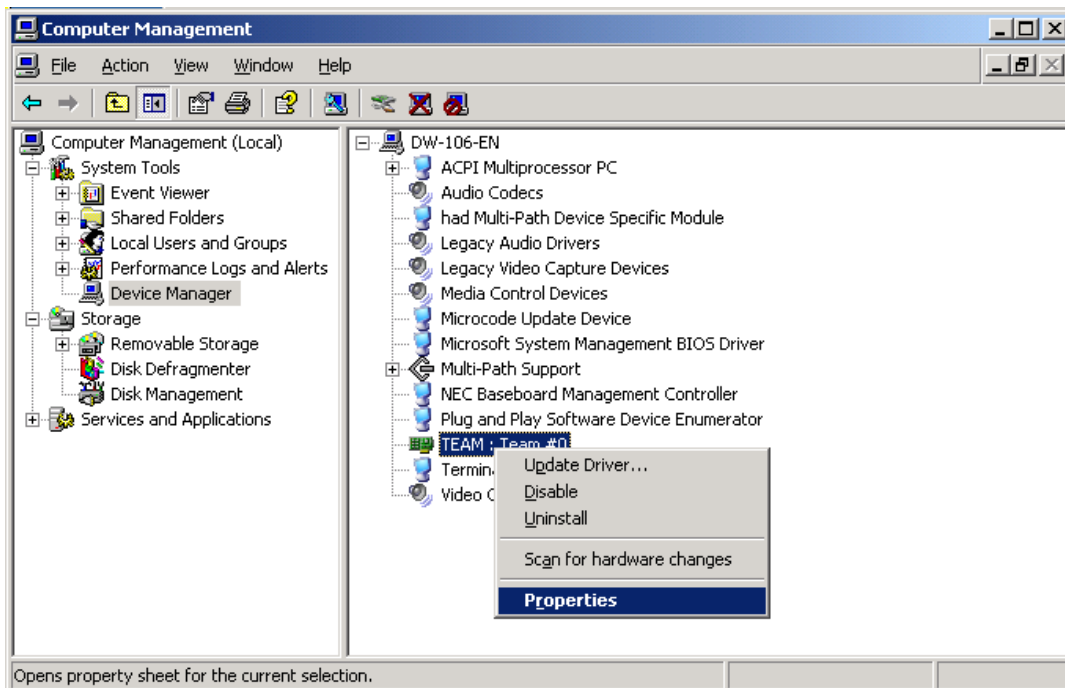
(10)　　Select the **Advanced** tab on the **Properties** dialog box. Select **Locally Administered Address** from the **Settings** list box, and then enter the MAC address of a team adapter, which you have checked, in the **Value** text box. Click **OK**.
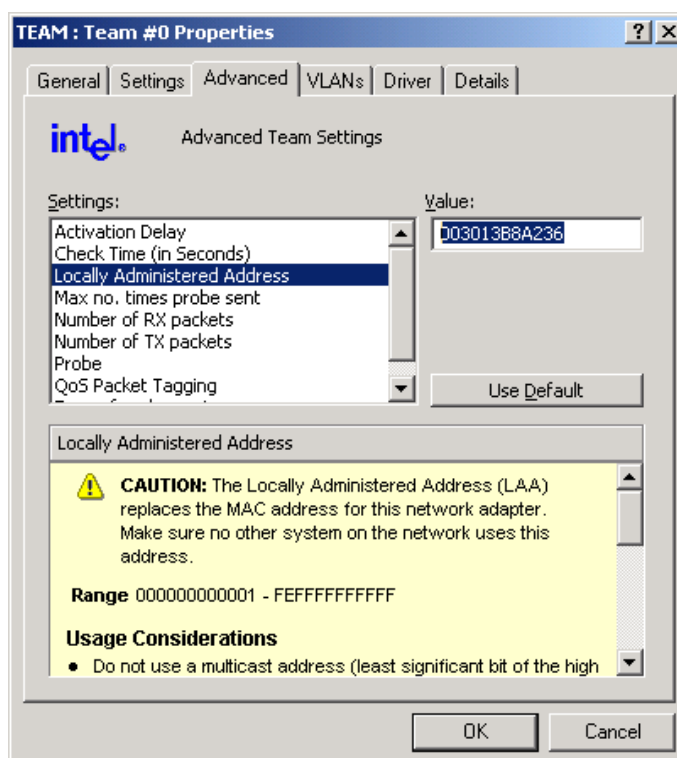
(11)　　Make all teams following above steps.

STEP5. Confirm system environment and Notices

・Memory Dump

In the case that the following log is outputted to Event Log (System), enable to collecting memory dump by setting the paging file size more than recommended size.

Event source: ESMCommonService,   Types: warning, Event ID: 2001
Description:
  Memory dump may not be able to extract normally.
  The initial size of the paging file of the starting drive is set below the recommendation value.
  It is recommended to set the value of 1.5 times loading memory size or above.

Please select **Complete memory dump** if the installed memory size is 2GB or less.

・SNMP service

Confirm [service status] is [Auto Start] and [Status] is [Automatic] in SNMP Service in Service
If this service is stopped, the ESMPRO Agent Alert messages which could not be sent to Manager accumulate to the system and it causes high-load status of the system.
When SNMP service cannot be started, please give the SNMP report of ESMPRO/ ServerAgent as disable.   Please perform a configuration of a report-function by report setup of ESMPRO/ServerAgent on a control panel.

GeminiEngine Monitor Tool

Application of this update will register a GeminiEngine Monitor tool into a start menu.
Refer to the user's guide of Express5800/320Fb for the usage of this tool.

Connection Monitoring Function (IPCHK)

With this server, [Connection Monitoring Function] operates when the system is started up. This [Connection Monitoring Function] is used to avoid the following issue.
"The network connection might not start session when an effective LAN cables are not connected to the IO module started first during the system starts with Intel adapter teaming existed in the system".
This function monitors the connection initiation. It automatically restarts the network adapter if the connection is stopped and keeps the connection. The [Connection Monitoring Function] is provided with "IPCHK.VBS."

"IPCHK.VBS" uses wscript.exe which is one of the processes relating to Microsoft Windows operating system. Therefore, "IPCHK.VBS" cannot be operated in the system where the programs associated to vbs are disabled by wscript.exe or wscript.exe itself is disabled.

The command prompt screen of "IPCHK" will be left displayed when the system starts in the above environment, it is necessary to invalidate the service of ipchk by the following procedure.

    ----Disable the "IPCHK" service----
1. Open [Control Panel] -> [Administrative Tools] -> [Computer Management].
2. Click [Services and Applications] -> [Services].
3. In [Services] tree, right click [EXECSV] and click [stop].
4. Again right click [EXECSV] and click [properties].
5. Change [Startup Type] to [Disabled].
6. Click [OK].

In the environment where ipchk is assumed to be disabled or ipchk is not applied, the connection might not be able to start session when an effective LAN cables are not connected to the IO module started first during the system starts with Intel adapter teaming existed in the system.
In this case, it must be manually disabled the virtual adapter at once and reeffective it again by the following procedure.

------Disable/Enable manually the virtual adapter--------
1. Right Click [Control Panel]->[Network Connections] and choose [Open].
2. Right Click the Virtual adapter[Local Area Connection xx] and click [Disable].
3. Right Click the Virtual adapter[Local Area Connection xx] and click [Enable].

<LAN duplex setting check sheet>

1-1. A network setup (LAN on board)   **1/2**

* Please enter the 1st set of teams of LAN on board in this sheet.

(1) Device Manager **[Team]**

name for the team	

(2) Whole information on the property of a team, an adapter **[team/adapter]**

Selected adapters in team	Status	Location #			
		PCI Slot	PCI bus	device	function
□Intel(R) PRO/1000 MT Dual Port Network Connection					
□Intel(R) PRO/1000 MT Dual Port Network Connection #2					
□Intel(R) PRO/1000 MT Dual Port Network Connection #3					
□Intel(R) PRO/1000 MT Dual Port Network Connection #4					

Example) Status: Active/Standby/Disabled, PCI Slot: 6, PCI bus: 8, device: 3, function: 0

(3) Link information of the property of an adapter **[Each card]**

	default	card	card#2	card#3	card#4
Link Status					
Auto Detect	■	□	□	□	□
10Mbps/Half Duplex	□	□	□	□	□
10Mbps/Full Duplex	□	□	□	□	□
100Mbps/Half Duplex	□	□	□	□	□
100Mbps/Full Duplex	□	□	□	□	□
Auto-negotiate 1000Mbps	□	□	□	□	□

(4) Advanced adapter settings **[Each card]**

When it differs from the default value, it indicates to a check sheet.

	Default	card	card#2	card#3	card#4
Jumbo Frames	Disabled				
Locally Administered Address	-				
Log Link State Event	Enabled				
Performance options					
Adaptive Inter-Frame Spacing	Enabled				
Flow Control	Generate & Respond				
Interrupt Moderation Rate	Adaptive				
Receive Descriptors	256				
Transmit Descriptors	256				
Power Saver Options					
Reduce speed to save power	□	□	□	□	□
Reduce power during standby	■	□	□	□	□
TCP/IP Offloading Options					
Offload Receive IP Checksum	■	□	□	□	□
Offload Receive TCP Checksum	■	□	□	□	□
Offload Transmit IP Checksum	■	□	□	□	□
Offload Transmit TCP Checksum	■	□	□	□	□
Offload TCP Segmentation	■	□	□	□	□
Wait for Link	Auto Detect				
Wake On LAN Options					
Enable PME	OS Controlled				
Wake On Link Settings	Disabled				
Wake On Settings	OS Controlled				

(5) Detail of Team Properties **[Team]**

Team Type	□AFT (Adapter Fault Tolerance) □ALB (Adaptive Load Balancing)
Ethernet Address	- - - - -

(6) Advanced Team Settings **[Team]**
When it differs from the default value, it indicates to a check sheet.

	default	
Activation Delay	0	
Check Time (in Second)	1	
Locally Administered Address		
Mac no. times probe sent	10	
Number of RX packets	0	
Number of TX packets	0	
Probe	Enabled	
QoS Packet Tagging	Disabled	
Type of probe sent	Broadcast Probes	

(7) Virtual LANs (VLANs) Settings **[Team]**

VLAN name	ID	Status

(8) Name of network **[Team/Card]**

Team Name	card	card#2	card#3	card#4

* Please return a network name at the manual step 4.
A network is chosen and right-clicked and it can correct by change of a name.

(9) General information **[Team/Card]**

	Team	card	card#2	card#3	card#4
□Client for Microsoft Networks	□	□	□	□	□
□File and Printer Sharing for Microsoft network	□	□	□	□	□
□Network Load Balancing	□	□	□	□	□
□Intel(R) Advanced Network Service Protocol	□	□	□	□	□
□Internet Protocol(TCP/IP)	□	□	□	□	□
□Show icon in notification area when connected	□	□	□	□	□
■Notify me when this connection has limited or no connectivity	□	□	□	□	□

* When there are protocols other than a check sheet statement, please add a postscript to a check
sheet. Moreover, please also cut down the setting information on a property.

(10) Internet Protocol(TCP/IP) Properties **[Team]**

☐ Obtain an IP address automatically
☐ Use the following IP address

IP address	. . .
Subnet mask	. . .
Default gateway	. . .

☐ Obtain DNS server address automatically
☐ Use the following DNS server address

Preferred DNS server	. . .
Alternate DNS server	. . .

(11) Advanced TCP/IP Settings **[Team]**
When it differs from the default value, it indicates to a check sheet.

		default	
IP Settings	IP address		
	Subnet mask		
	gateway		
	Metric		
	Automatic metric	■	☐
DNS	DNS server address, in order of use		
	Append primary and connection specific DNS suffixes	●	○
	Append parent suffixes of the primary DNS suffix	■	☐
	Append these DNS suffices (in order):	○	○
	DNS suffix for this connection:		
	Register this connection's addresses in DNS	■	☐
	Use this connection's DNS suffix in DNS registration	☐	☐
WINS	WINS addresses, in order of use:		
	Enable LMHOSTS lookup	■	☐
	NetBIOS setting		
	Default	●	○
	Enable NetBIOS over TCP/IP	○	○
	Disable NetBIOS over TCP/IP	○	○
Optional settings	Enable TCP/IP Filtering (All adapters)	☐	☐
	Permit All	●	○
	Permit Only	○	○
	TCP Ports		
	Permit All	●	○
	Permit Only	○	○
	UDP Ports		
	Permit All	●	○
	Permit Only	○	○
	IP Protocol (number)		

NEC

1-2. A network setup (LAN on board)

* Please enter the 2nd set of teams of LAN on board in this sheet.

(1) Device Manager **[Team]**

name for the team	

(2) Whole information on the property of a team, an adapter **[team/adapter]**

Selected adapters in team	Status	Location #			
		PCI Slot	PCI bus	device	function
□Intel(R) PRO/1000 MT Dual Port Network Connection					
□Intel(R) PRO/1000 MT Dual Port Network Connection #2					
□Intel(R) PRO/1000 MT Dual Port Network Connection #3					
□Intel(R) PRO/1000 MT Dual Port Network Connection #4					

Example) Status: Active/Standby/Disabled, PCI Slot: 6, PCI bus: 8, device: 3, function: 0

(3) Link information of the property of an adapter **[Each card]**

	default	card	card#2	card#3	card#4
Link Status					
Auto Detect	■	□	□	□	□
10Mbps/Half Duplex	□	□	□	□	□
10Mbps/Full Duplex	□	□	□	□	□
100Mbps/Half Duplex	□	□	□	□	□
100Mbps/Full Duplex	□	□	□	□	□
Auto-negotiate 1000Mbps	□	□	□	□	□

(4) Advanced adapter settings **[Each card]**
When it differs from the default value, it indicates to a check sheet.

	Default	card	card#2	card#3	card#4
Jumbo Frames	Disabled				
Locally Administered Address	-	/	/	/	/
Log Link State Event	Enabled				
Performance options					
Adaptive Inter-Frame Spacing	Enabled				
Flow Control	Generate & Respond				
Interrupt Moderation Rate	Adaptive				
Receive Descriptors	256				
Transmit Descriptors	256				
Power Saver Options					
Reduce speed to save power	□	□	□	□	□
Reduce power during standby	■	□	□	□	□
TCP/IP Offloading Options					
Offload Receive IP Checksum	■	□	□	□	□
Offload Receive TCP Checksum	■	□	□	□	□
Offload Transmit IP Checksum	■	□	□	□	□
Offload Transmit TCP Checksum	■	□	□	□	□
Offload TCP Segmentation	■	□	□	□	□
Wait for Link	Auto Detect				
Wake On LAN Options					
Enable PME	OS Controlled				
Wake On Link Settings	Disabled				
Wake On Settings	OS Controlled				

(5) Detail of Team Properties **[Team]**

Team Type	□AFT (Adapter Fault Tolerance) □ALB (Adaptive Load Balancing)
Ethernet Address	- - - - -

(6) Advanced Team Settings **[Team]**
When it differs from the default value, it indicates to a check sheet.

	default	
Activation Delay	0	
Check Time (in Second)	1	
Locally Administered Address		
Mac no. times probe sent	10	
Number of RX packets	0	
Number of TX packets	0	
Probe	Enabled	
QoS Packet Tagging	Disabled	
Type of probe sent	Broadcast Probes	

(7) Virtual LANs (VLANs) Settings **[Team]**

VLAN name	ID	Status

(8) Name of network **[Team/Card]**

Team Name	card	card#2	card#3	card#4

* Please return a network name at the manual step 4.
A network is chosen and right-clicked and it can correct by change of a name.

(9) General information **[Team/Card]**

	Team	card	card#2	card#3	card#4
□Client for Microsoft Networks	□	□	□	□	□
□File and Printer Sharing for Microsoft network	□	□	□	□	□
□Network Load Balancing	□	□	□	□	□
□Intel(R) Advanced Network Service Protocol	□	□	□	□	□
□Internet Protocol(TCP/IP)	□	□	□	□	□
□Show icon in notification area when connected	□	□	□	□	□
■Notify me when this connection has limited or no connectivity	□	□	□	□	□

* When there are protocols other than a check sheet statement, please add a postscript to a check
sheet. Moreover, please also cut down the setting information on a property.

(10) Internet Protocol(TCP/IP) Properties **[Team]**

□ Obtain an IP address automatically
□ Use the following IP address

IP address	. . .
Subnet mask	. . .
Default gateway	. . .

□ Obtain DNS server address automatically
□ Use the following DNS server address

Preferred DNS server	. . .
Alternate DNS server	. . .

(11) Advanced TCP/IP Settings **[Team]**
When it differs from the default value, it indicates to a check sheet.

		default	
IP Settings	IP address		
	Subnet mask		
	gateway		
	Metric		
	Automatic metric	■	□
DNS	DNS server address, in order of use		
	Append primary and connection specific DNS suffixes	●	○
	Append parent suffixes of the primary DNS suffix	■	□
	Append these DNS suffices (in order):	○	○
	DNS suffix for this connection:		
	Register this connection's addresses in DNS	■	□
	Use this connection's DNS suffix in DNS registration	□	□
WINS	WINS addresses, in order of use:		
	Enable LMHOSTS lookup	■	□
	NetBIOS setting		
	Default	●	○
	Enable NetBIOS over TCP/IP	○	○
	Disable NetBIOS over TCP/IP	○	○
Optional settings	Enable TCP/IP Filtering (All adapters)	□	□
	Permit All	●	○
	Permit Only	○	○
	TCP Ports		
	Permit All	●	○
	Permit Only	○	○
	UDP Ports		
	Permit All	●	○
	Permit Only	○	○
	IP Protocol (number)		

2-1. A network setup (additional LAN board)

* Please enter the 1st set of teams of additional LAN board in this sheet.

2.1. slot position

Slot	□ PCI-1　　□ PCI-2　　□ PCI-3

　*PCI-3 can not use Express5800/320Fa-L, Express5800/320Fa-LR

(1) Device Manager [Team]

name for the team	

(2) Whole information on the property of a team, an adapter [team/adapter]

Selected adapters in team	Status	Location #			
		PCI Slot	PCI bus	device	function
□Intel(R) PRO/1000 MT Dual Port Network Connection					
□Intel(R) PRO/1000 MT Dual Port Network Connection #2					
□Intel(R) PRO/1000 MT Dual Port Network Connection #3					
□Intel(R) PRO/1000 MT Dual Port Network Connection #4					

Example) Status: Active/Standby/Disabled, PCI Slot: 6, PCI bus: 8, device: 3, function: 0

(3) Link information of the property of an adapter [Each card]

	default	card	card#2	card#3	card#4
Link Status					
Auto Detect	■	□	□	□	□
10Mbps/Half Duplex	□	□	□	□	□
10Mbps/Full Duplex	□	□	□	□	□
100Mbps/Half Duplex	□	□	□	□	□
100Mbps/Full Duplex	□	□	□	□	□
Auto-negotiate 1000Mbps	□	□	□	□	□

(4) Advanced adapter settings [Each card]
When it differs from the default value, it indicates to a check sheet.

	Default	card	card#2	card#3	card#4
Jumbo Frames	Disabled				
Locally Administered Address	-				
Log Link State Event	Enabled				
Performance options					
Adaptive Inter-Frame Spacing	Enabled				
Flow Control	Generate & Respond				
Interrupt Moderation Rate	Adaptive				
Receive Descriptors	256				
Transmit Descriptors	256				
Power Saver Options					
Reduce speed to save power	□	□	□	□	□
Reduce power during standby	■	□	□	□	□
TCP/IP Offloading Options					
Offload Receive IP Checksum	■	□	□	□	□
Offload Receive TCP Checksum	■	□	□	□	□
Offload Transmit IP Checksum	■	□	□	□	□
Offload Transmit TCP Checksum	■	□	□	□	□
Offload TCP Segmentation	■	□	□	□	□
Wait for Link	Auto Detect				
Wake On LAN Options					
Enable PME	OS Controlled				
Wake On Link Settings	Disabled				
Wake On Settings	OS Controlled				

(5) Detail of Team Properties **[Team]**

Team Type	□AFT (Adapter Fault Tolerance) □ALB (Adaptive Load Balancing)
Ethernet Address	- - - - -

(6) Advanced Team Settings **[Team]**
When it differs from the default value, it indicates to a check sheet.

	default	
Activation Delay	0	
Check Time (in Second)	1	
Locally Administered Address		
Mac no. times probe sent	10	
Number of RX packets	0	
Number of TX packets	0	
Probe	Enabled	
QoS Packet Tagging	Disabled	
Type of probe sent	Broadcast Probes	

(7) Virtual LANs (VLANs) Settings **[Team]**

VLAN name	ID	Status

(8) Name of network **[Team/Card]**

Team Name	card	card#2	card#3	card#4

* Please return a network name at the manual step 4.
A network is chosen and right-clicked and it can correct by change of a name.

(9) General information **[Team/Card]**

	Team	card	card#2	card#3	card#4
□Client for Microsoft Networks	□	□	□	□	□
□File and Printer Sharing for Microsoft network	□	□	□	□	□
□Network Load Balancing	□	□	□	□	□
□Intel(R) Advanced Network Service Protocol	□	□	□	□	□
□Internet Protocol(TCP/IP)	□	□	□	□	□
□Show icon in notification area when connected	□	□	□	□	□
■Notify me when this connection has limited or no connectivity	□	□	□	□	□

* When there are protocols other than a check sheet statement, please add a postscript to a check
sheet. Moreover, please also cut down the setting information on a property.

(10) Internet Protocol(TCP/IP) Properties **[Team]**

□ Obtain an IP address automatically
□ Use the following IP address

IP address	.	.	.
Subnet mask	.	.	.
Default gateway	.	.	.

□ Obtain DNS server address automatically
□ Use the following DNS server address

Preferred DNS server	.	.	.
Alternate DNS server	.	.	.

(11) Advanced TCP/IP Settings **[Team]**
When it differs from the default value, it indicates to a check sheet.

		default	
IP Settings	IP address		
	Subnet mask		
	gateway		
	Metric		
	Automatic metric	■	□
DNS	DNS server address, in order of use		
	Append primary and connection specific DNS suffixes	●	○
	Append parent suffixes of the primary DNS suffix	■	□
	Append these DNS suffices (in order):	○	○
	DNS suffix for this connection:		
	Register this connection's addresses in DNS	■	□
	Use this connection's DNS suffix in DNS registration	□	□
WINS	WINS addresses, in order of use:		
	Enable LMHOSTS lookup	■	□
	NetBIOS setting		
	Default	●	○
	Enable NetBIOS over TCP/IP	○	○
	Disable NetBIOS over TCP/IP	○	○
Optional settings	Enable TCP/IP Filtering (All adapters)	□	□
	Permit All	●	○
	Permit Only	○	○
	TCP Ports		
	Permit All	●	○
	Permit Only	○	○
	UDP Ports		
	Permit All	●	○
	Permit Only	○	○
	IP Protocol (number)		

2-2. A network setup (additional LAN board)

* Please enter the 2nd set of teams of additional LAN board in this sheet.

2.1. slot position

Slot	□ PCI-1 □ PCI-2 □ PCI-3

 *PCI-3 can not use Express5800/320Fa-L, Express5800/320Fa-LR

(1) Device Manager **[Team]**

name for the team	

(2) Whole information on the property of a team, an adapter **[team/adapter]**

Selected adapters in team	Status	Location #			
		PCI Slot	PCI bus	device	function
□Intel(R) PRO/1000 MT Dual Port Network Connection					
□Intel(R) PRO/1000 MT Dual Port Network Connection #2					
□Intel(R) PRO/1000 MT Dual Port Network Connection #3					
□Intel(R) PRO/1000 MT Dual Port Network Connection #4					

Example) Status: Active/Standby/Disabled, PCI Slot: 6, PCI bus: 8, device: 3, function: 0

(3) Link information of the property of an adapter **[Each card]**

	default	card	card#2	card#3	card#4
Link Status					
Auto Detect	■	□	□	□	□
10Mbps/Half Duplex	□	□	□	□	□
10Mbps/Full Duplex	□	□	□	□	□
100Mbps/Half Duplex	□	□	□	□	□
100Mbps/Full Duplex	□	□	□	□	□
Auto-negotiate 1000Mbps	□	□	□	□	□

(4) Advanced adapter settings **[Each card]**

When it differs from the default value, it indicates to a check sheet.

	Default	card	card#2	card#3	card#4
Jumbo Frames	Disabled				
Locally Administered Address	-				
Log Link State Event	Enabled				
Performance options					
Adaptive Inter-Frame Spacing	Enabled				
Flow Control	Generate & Respond				
Interrupt Moderation Rate	Adaptive				
Receive Descriptors	256				
Transmit Descriptors	256				
Power Saver Options					
Reduce speed to save power	□	□	□	□	□
Reduce power during standby	■	□	□	□	□
TCP/IP Offloading Options					
Offload Receive IP Checksum	■	□	□	□	□
Offload Receive TCP Checksum	■	□	□	□	□
Offload Transmit IP Checksum	■	□	□	□	□
Offload Transmit TCP Checksum	■	□	□	□	□
Offload TCP Segmentation	■	□	□	□	□
Wait for Link	Auto Detect				
Wake On LAN Options					
Enable PME	OS Controlled				
Wake On Link Settings	Disabled				
Wake On Settings	OS Controlled				

(5) Detail of Team Properties **[Team]**

Team Type	□AFT (Adapter Fault Tolerance)
	□ALB (Adaptive Load Balancing)
Ethernet Address	- - - - -

(6) Advanced Team Settings **[Team]**
When it differs from the default value, it indicates to a check sheet.

	default	
Activation Delay	0	
Check Time (in Second)	1	
Locally Administered Address		
Mac no. times probe sent	10	
Number of RX packets	0	
Number of TX packets	0	
Probe	Enabled	
QoS Packet Tagging	Disabled	
Type of probe sent	Broadcast Probes	

(7) Virtual LANs (VLANs) Settings **[Team]**

VLAN name	ID	Status

(8) Name of network **[Team/Card]**

Team Name	card	card#2	card#3	card#4

 * Please return a network name at the manual step 4.
  A network is chosen and right-clicked and it can correct by change of a name.

 (9) General information **[Team/Card]**

	Team	card	card#2	card#3	card#4
□Client for Microsoft Networks	□	□	□	□	□
□File and Printer Sharing for Microsoft network	□	□	□	□	□
□Network Load Balancing	□	□	□	□	□
□Intel(R) Advanced Network Service Protocol	□	□	□	□	□
□Internet Protocol(TCP/IP)	□	□	□	□	□
□Show icon in notification area when connected	□	□	□	□	□
■Notify me when this connection has limited or no connectivity	□	□	□	□	□

 * When there are protocols other than a check sheet statement, please add a postscript to a check
  sheet. Moreover, please also cut down the setting information on a property.

(10) Internet Protocol(TCP/IP) Properties **[Team]**

☐ Obtain an IP address automatically
☐ Use the following IP address

IP address	. . .
Subnet mask	. . .
Default gateway	. . .

☐ Obtain DNS server address automatically
☐ Use the following DNS server address

Preferred DNS server	. . .
Alternate DNS server	. . .

(11) Advanced TCP/IP Settings **[Team]**
  When it differs from the default value, it indicates to a check sheet.

		default	
IP Settings	IP address		
	Subnet mask		
	gateway		
	Metric		
	Automatic metric	■	☐
DNS	DNS server address, in order of use		
	Append primary and connection specific DNS suffixes	●	○
	Append parent suffixes of the primary DNS suffix	■	☐
	Append these DNS suffices (in order):	○	○
	DNS suffix for this connection:		
	Register this connection's addresses in DNS	■	☐
	Use this connection's DNS suffix in DNS registration	☐	☐
WINS	WINS addresses, in order of use:		
	Enable LMHOSTS lookup	■	☐
	NetBIOS setting		
	Default	●	○
	Enable NetBIOS over TCP/IP	○	○
	Disable NetBIOS over TCP/IP	○	○
Optional settings	Enable TCP/IP Filtering (All adapters)	☐	☐
	Permit All	●	○
	Permit Only	○	○
	TCP Ports		
	Permit All	●	○
	Permit Only	○	○
	UDP Ports		
	Permit All	●	○
	Permit Only	○	○
	IP Protocol (number)		

2-3. A network setup (additional LAN board)

* Please enter the 3rd set of teams of additional LAN board in this sheet.

2.1. slot position

Slot	□ PCI-1 □ PCI-2 □ PCI-3

 *PCI-3 can not use Express5800/320Fa-L, Express5800/320Fa-LR

(1) Device Manager [Team]

name for the team	

(2) Whole information on the property of a team, an adapter [team/adapter]

Selected adapters in team	Status	Location #			
		PCI Slot	PCI bus	device	function
□Intel(R) PRO/1000 MT Dual Port Network Connection					
□Intel(R) PRO/1000 MT Dual Port Network Connection #2					
□Intel(R) PRO/1000 MT Dual Port Network Connection #3					
□Intel(R) PRO/1000 MT Dual Port Network Connection #4					

Example) Status: Active/Standby/Disabled, PCI Slot: 6, PCI bus: 8, device: 3, function: 0

(3) Link information of the property of an adapter [Each card]

	default	card	card#2	card#3	card#4
Link Status					
Auto Detect	■	□	□	□	□
10Mbps/Half Duplex	□	□	□	□	□
10Mbps/Full Duplex	□	□	□	□	□
100Mbps/Half Duplex	□	□	□	□	□
100Mbps/Full Duplex	□	□	□	□	□
Auto-negotiate 1000Mbps	□	□	□	□	□

(4) Advanced adapter settings [Each card]
When it differs from the default value, it indicates to a check sheet.

	Default	card	card#2	card#3	card#4
Jumbo Frames	Disabled				
Locally Administered Address	-				
Log Link State Event	Enabled				
Performance options					
Adaptive Inter-Frame Spacing	Enabled				
Flow Control	Generate & Respond				
Interrupt Moderation Rate	Adaptive				
Receive Descriptors	256				
Transmit Descriptors	256				
Power Saver Options					
Reduce speed to save power	□	□	□	□	□
Reduce power during standby	■	□	□	□	□
TCP/IP Offloading Options					
Offload Receive IP Checksum	■	□	□	□	□
Offload Receive TCP Checksum	■	□	□	□	□
Offload Transmit IP Checksum	■	□	□	□	□
Offload Transmit TCP Checksum	■	□	□	□	□
Offload TCP Segmentation	■	□	□	□	□
Wait for Link	Auto Detect				
Wake On LAN Options					
Enable PME	OS Controlled				
Wake On Link Settings	Disabled				
Wake On Settings	OS Controlled				

(5) Detail of Team Properties **[Team]**

Team Type	□AFT (Adapter Fault Tolerance) □ALB (Adaptive Load Balancing)
Ethernet Address	-　-　-　-　-

(6) Advanced Team Settings **[Team]**

When it differs from the default value, it indicates to a check sheet.

	default	
Activation Delay	0	
Check Time (in Second)	1	
Locally Administered Address		
Mac no. times probe sent	10	
Number of RX packets	0	
Number of TX packets	0	
Probe	Enabled	
QoS Packet Tagging	Disabled	
Type of probe sent	Broadcast Probes	

(7) Virtual LANs (VLANs) Settings **[Team]**

VLAN name	ID	Status

(8) Name of network **[Team/Card]**

Team Name	card	card#2	card#3	card#4

* Please return a network name at the manual step 4.
A network is chosen and right-clicked and it can correct by change of a name.

(9) General information **[Team/Card]**

	Team	card	card#2	card#3	card#4
□Client for Microsoft Networks	□	□	□	□	□
□File and Printer Sharing for Microsoft network	□	□	□	□	□
□Network Load Balancing	□	□	□	□	□
□Intel(R) Advanced Network Service Protocol	□	□	□	□	□
□Internet Protocol(TCP/IP)	□	□	□	□	□
□Show icon in notification area when connected	□	□	□	□	□
■Notify me when this connection has limited or no connectivity	□	□	□	□	□

* When there are protocols other than a check sheet statement, please add a postscript to a check sheet. Moreover, please also cut down the setting information on a property.

(10) Internet Protocol(TCP/IP) Properties **[Team]**

□ Obtain an IP address automatically
□ Use the following IP address

IP address	. . .
Subnet mask	. . .
Default gateway	. . .

□ Obtain DNS server address automatically
□ Use the following DNS server address

Preferred DNS server	. . .
Alternate DNS server	. . .

(11) Advanced TCP/IP Settings **[Team]**
  When it differs from the default value, it indicates to a check sheet.

		default	
IP Settings	IP address		
	Subnet mask		
	gateway		
	Metric		
	Automatic metric	■	□
DNS	DNS server address, in order of use		
	Append primary and connection specific DNS suffixes	●	○
	Append parent suffixes of the primary DNS suffix	■	□
	Append these DNS suffices (in order):	○	○
	DNS suffix for this connection:		
	Register this connection's addresses in DNS	■	□
	Use this connection's DNS suffix in DNS registration	□	□
WINS	WINS addresses, in order of use:		
	Enable LMHOSTS lookup	■	□
	NetBIOS setting		
	Default	●	○
	Enable NetBIOS over TCP/IP	○	○
	Disable NetBIOS over TCP/IP	○	○
Optional settings	Enable TCP/IP Filtering (All adapters)	□	□
	Permit All	●	○
	Permit Only	○	○
	TCP Ports		
	Permit All	●	○
	Permit Only	○	○
	UDP Ports		
	Permit All	●	○
	Permit Only	○	○
	IP Protocol (number)		