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Installation of Sangoma A101/102/104/108/200 card Drivers
on Windows XP/2003.
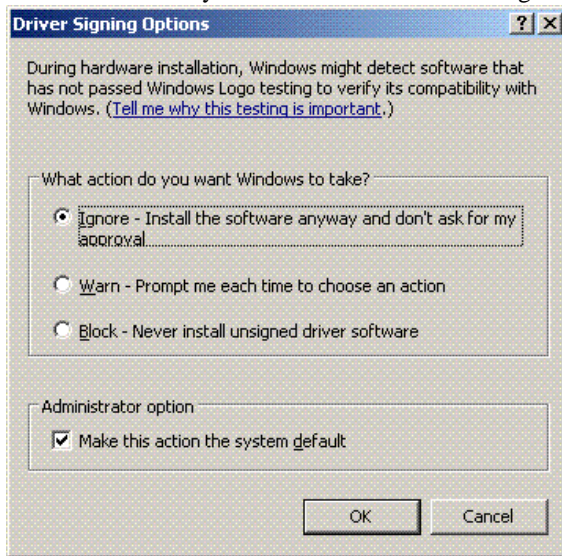==

STEP 1 – installing the card

The new card is sealed in anti-static packaging before shipping.
Before removing the card from it's packaging, please ensure that you are
grounded (touch a well grounded object such as your PC chassis).
Handling only the mounting bracket, insert the card into a PCI slot.
Make sure that the card is properly seated,
and that the fasteners are tightened properly.

Plug in the AFT PCI adapter and turn on your system.
The "New Hardware Wizard" will start automatically.

Click on "Cancel" to exit the "New Hardware Wizard".

Set System Driver Signing Option to "Ignore" or "Warn":
"Control Panel->System->Hardware->Driver Signing"

Open "Command Prompt" and change directory to the "card"
subdirectory on distribution disk, e.g. \AFT_beta_6_0_3_7\card.
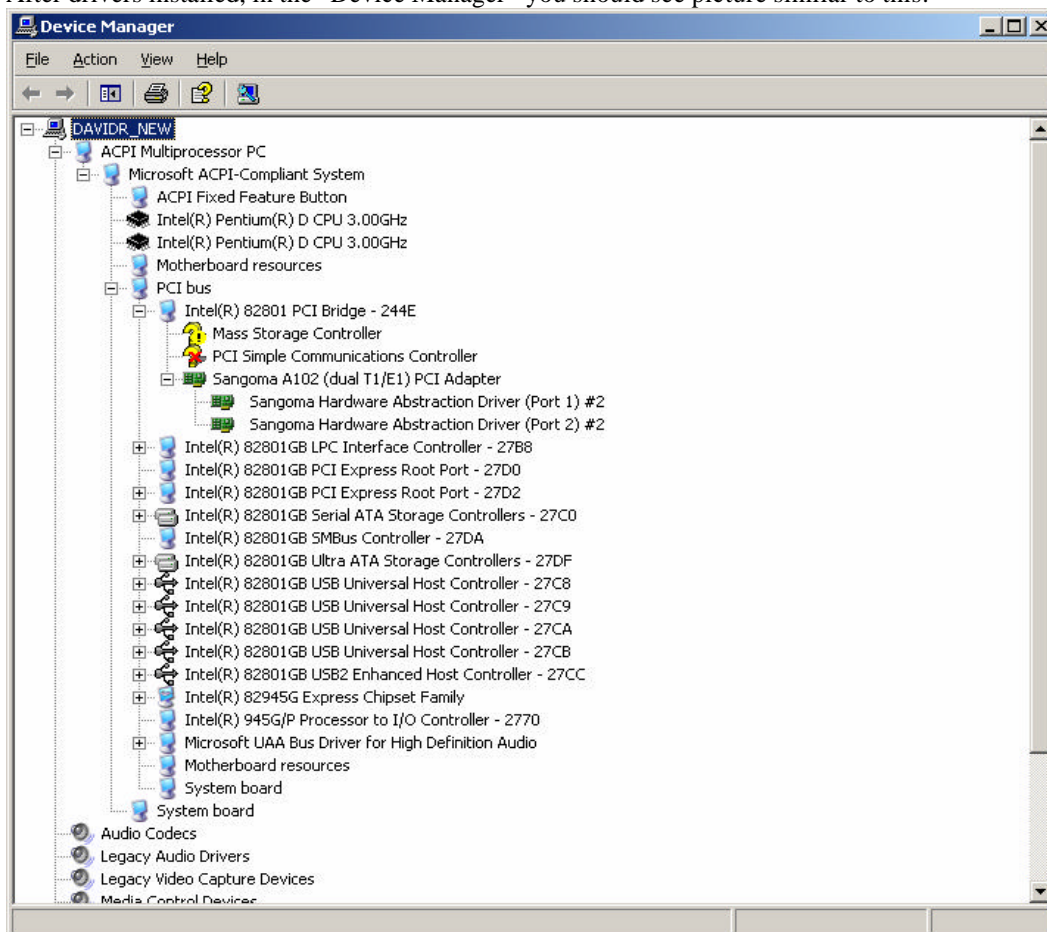
Type in <Setup install>

If "Update Driver Warning" ("Installing this device driver is not recommended
because Windows cannot verify that it is compatible with your hardware...") appears,
ignore the warning and continue installation.

If the "Digital Signature Not Found" warning appears, ignore the warning and
select "Continue Anyway" to continue installation.

After drivers installed, in the "Device Manager" you should see picture similar to this:

Open the properties of "Sangoma Hardware Abstraction Driver (Port 1)",
switch to "Line Configuration" page to choose T1/E1 settings.

Sangoma Hardware Abstraction Driver (Port 1) #2 Properties

| T1/E1 Groups of channels | Driver Settings | Driver | Details |
| General | | Line Configuration | |

Device Name: WANPIPE1

Media Type
- ○ Serial/FT1 ● T1 ○ E1 ○ 56K

Clocking/Interface: Active Channels:
[External/V.35 ▼]   [ ]

T1 Framing: E1 Framing:
[ESF ▼]   [CRC4 ▼]

T1 Line Decoding: E1 Line Decoding:
[B8ZS ▼]   [AMI ▼]

T1 LBO: Clocking Mode: Clock Reference Port:
[0dB ▼]   [Normal ▼]   [Not Used ▼]

[Help]

[OK]   [Cancel]

Switch to "T1/E1 Groups of Channels" page.

Sangoma Hardware Abstraction Driver (Port 1) #2 Properties

| General | | Line Configuration | |
| T1/E1 Groups of channels | Driver Settings | Driver | Details |

Device Name: WANPIPE1

Number of groups of channels: [1 ▼]

Channels used by each group

Select and right-click a Group to change Properties or to start Monitor

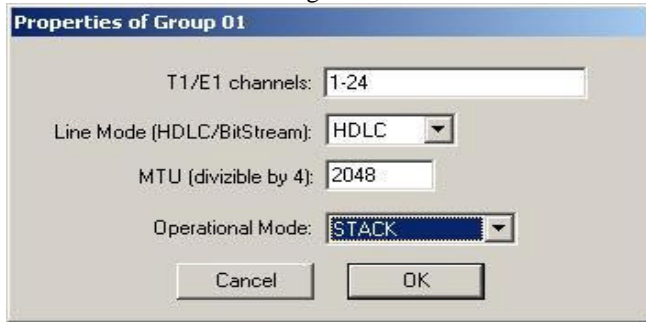| Interface Name	T1\E1 Channels	Line Mode	MTU	Operational Mode
WANPIPE1_IF0	1-24	HDLC	2048	API

[OK]   [Cancel]

If you purchased channelized version of AFT card,
you may set "Number of groups of channels"
to something different than 1.

Select and right-click on a Channel Group,
You will see the following options:
1. "Group Properties…"
2. "Start WANPIPE Monitor"

Select "Group Properties…" from the menu.
You should see the following:

If you need BitStream or HDLC API,
the Operational Mode should be set to API.
If you need Frame Relay, CHDLC (CiscoHDLC) or PPP
router or API, the Operational Mode should be set to STACK.
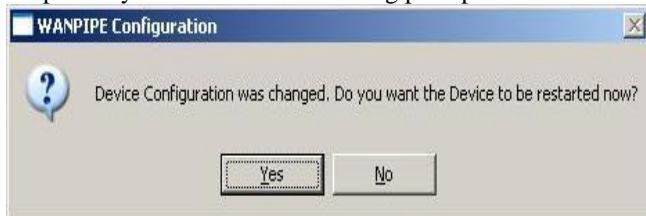For STACK Mode the "Sangoma WAN Protocol Driver" will
have to be installed.

Note: if you select "Start WANPIPE Monitor" option,
the WANPIPEMON application will start and will
automatically connect to the driver.
This application can be used to:
1. Read T1/E1 alarms
2. Run Line Trace in Hex Dump or Interpreted Mode.
   The Interpreted Mode capable of interpreting
   Frame Relay, PPP and CHDLC protocols.
   The TCP/IP V4 interpretation is possible too.
3. Read Driver statistics
It is recommended to use the WANPIPEMON after
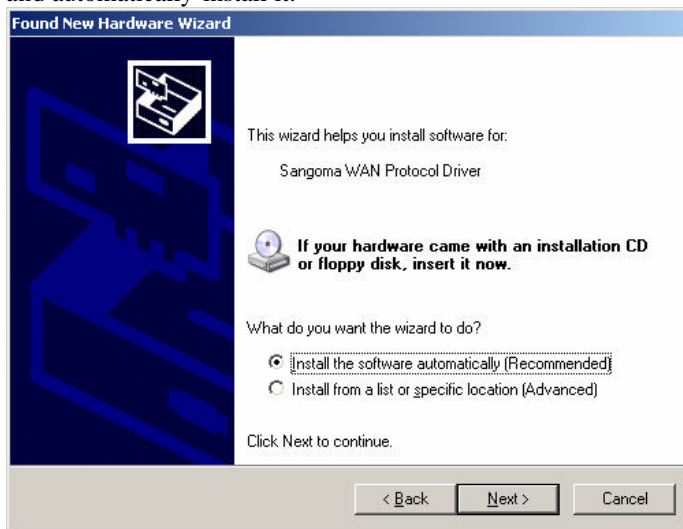all installation steps are complete.

If anything was changed in ""Sangoma Hardware Abstraction Driver (CPU A)"
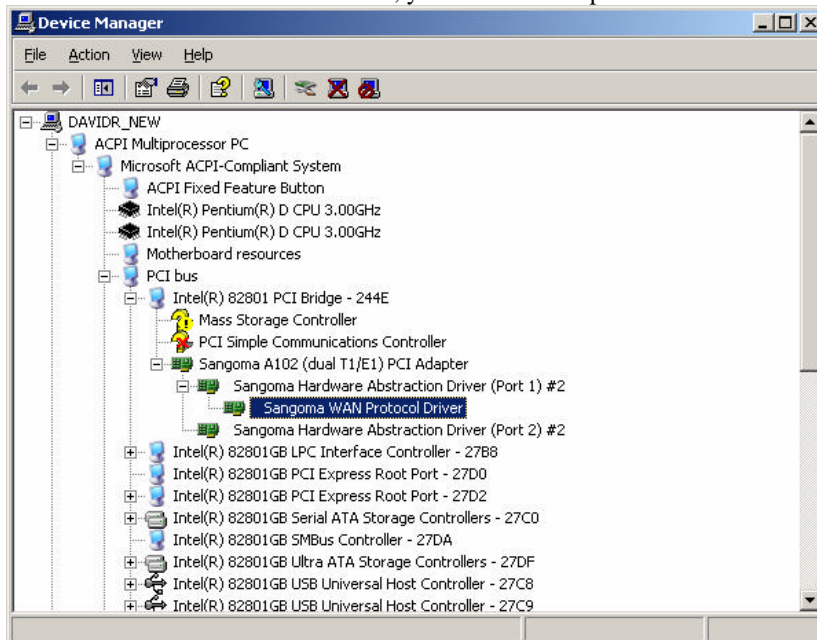Properties you will see the following prompt:

If you want the changes to take effect, click "Yes".
If STACK was selected, the "New Hardware Wizard" will start
automatically.
Please proceed to **STEP 2**.

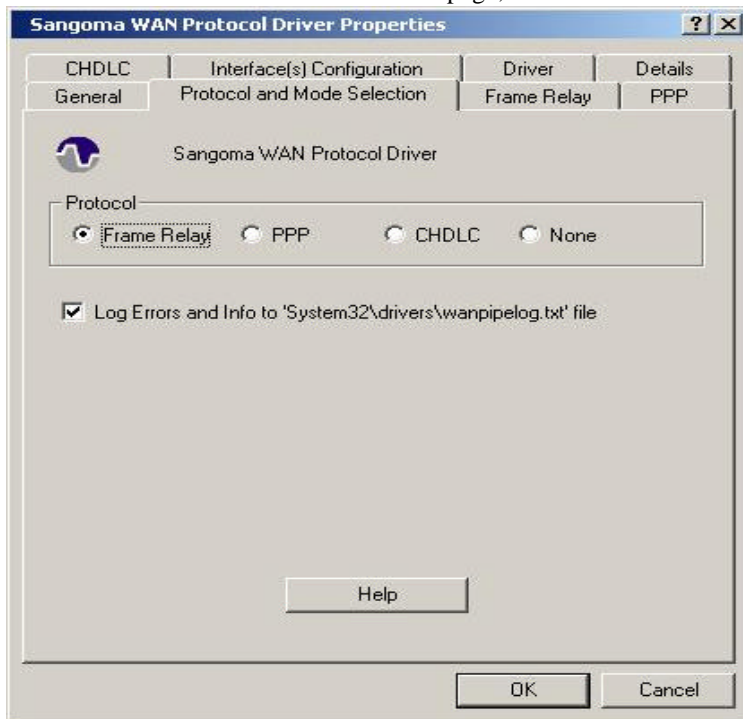**STEP 2 – installing the "Sangoma WAN Protocol Driver"**

Follow the "New Hardware Wizard" and let it search for the driver
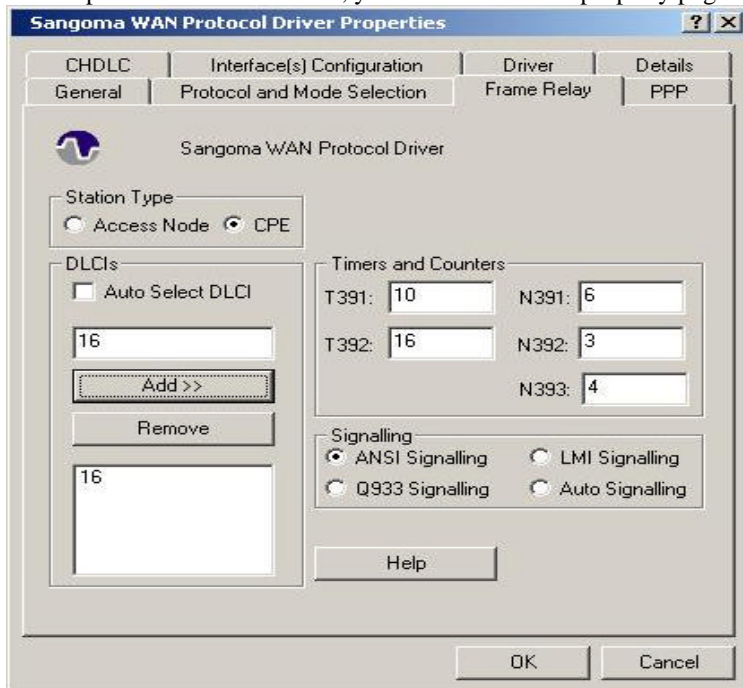and automatically install it.

After driver was found and installed, you should see a picture similar to this:
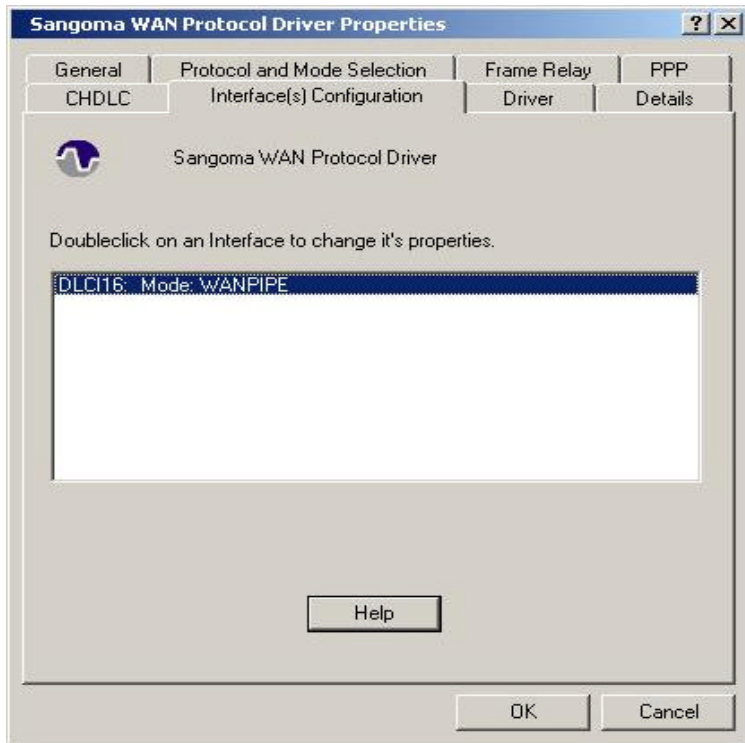
Open the properties of "Sangoma WAN Protocol Driver",
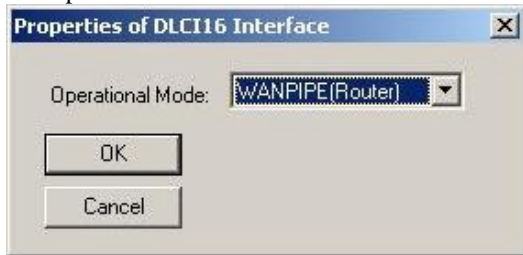switch to "Protocol and Mode Selection" page, select a Protocol.

Once a protocol choice is made, you can switch to its property page.

When the protocol configuration is done switch to "Interface(s) Configuration"
page. You will see there one or more Protocol Interfaces:

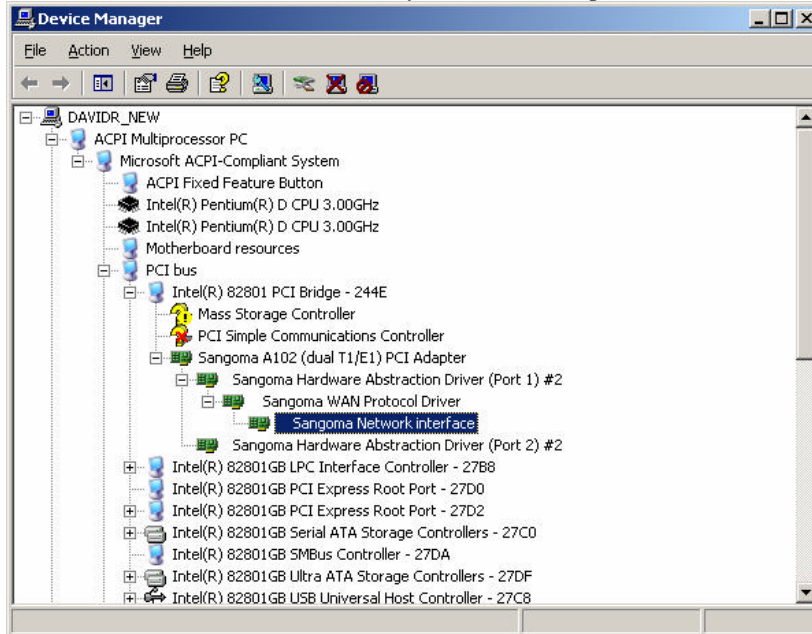Set Operation Mode of each interface as needed.

For example, if you need to run a Router over Frame Relay, select WANPIPE(Router) mode and click OK and click OK on "Sangoma WAN Protocol Driver" page too. The "New Hardware Wizard" will start automatically. Please proceed to **STEP 3**.

STEP 3 – installing the "Sangoma Network interface"

Follow the "New Hardware Wizard" and let it search for the driver
and automatically install it.

After driver was found and installed, you should see a picture similar to this:

At this point the installation is complete and you can proceed to configure
the network properties for the WAN interface.
It is done from the "Network and Dial-up Connections" applet.

To Upgrade:
=========
Open "Command Prompt" and change directory to the "card"
subdirectory on distribution disk,
e.g. \AFT_beta_6_0_3_7\card.

1. Type in <Setup remove>

2. Restart your system.

3. Follow **"STEP 1 – installing the card"** instructions but
   use the new version of the card driver.

To Uninstall:
=========
Open "Command Prompt" and change directory to the "card"
subdirectory on distribution disk,
e.g. \AFT_beta_6_0_3_7\card.

1. Type in <Setup remove>

2. Shutdown your system.

3. Unplug the card from PCI slot.

Sangoma Technical Support
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Phone (905) 474-1990 during business hours Eastern Time, or email at

TechDesk@sangoma.com if you are having problems the product.