



# **KX-TDA TSP**

## Installation Manual

Revision: 3.4.8.0

August 2010

# ***Introduction***

## About TSP

Panasonic TAPI Service Provider for TDA/TDE/NCP Series (Panasonic KX-TDA TSP) is a driver that provides you with a TAPI Interface.

**KX-TDA TSP version 3.1.0.7** or later supports TDE/NCP series PBX.

**KX-TDA TSP version 3.3** or later is required to use C# SDK.

## About this manual

The TSP Installation Manual describes installation and setting of Panasonic KX-TDA TSP.

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## NOTES

Description related USB in this manual is applied to **TDA series PBX only**.

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# 1 Before Installing

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## 1.1 System Requirement

### Required Operating System (both 32-bit and 64-bit)

- Microsoft® Windows® 7
- Microsoft Windows Server® 2008
- Microsoft Windows Vista®
- Microsoft Windows XP

### Minimum Hardware Requirements

- Windows has to work on the PC
- Hardware Requirements of the application that you use with Panasonic KX-TDA TSP.
- If you use USB connection, USB Interface is needed.  
**Note : USB connection is not supported on 64-bit Windows.**
- If you use LAN connection, LAN Interface is needed.
- HDD 400 Mb free disk space  
Note : Additional HDD space may be required in case logging capabilities of Panasonic KX-TDA TSP are enabled.

### NOTE

The total minimum free disk space you need is the Panasonic KX-TDA TSP minimum plus disk space which the application requires as minimum.

## 1.2 PBX Settings

### Supported PBX Types

- Supported PBX Types are **KX-TDA30/50/100/200/600**, **KX-TDE100/200/600**, **KX-NCP500/1000**.
- Panasonic KX-TDA TSP uses USB or TCP/IP for connecting to the TDA/TDE/NCP PBX.

### USB Setting

- In order to use the USB connection with TDA PBX, USB drivers (Version 2.0.0.7 or later) for TDA PBX must be installed on the computer.
- And if you use two or more USB connections, you need to assign unique **USB serial number** for each TDA PBX by TDA Maintenance Console. For more details about installation of the TDA PBX USB driver, please consult related installation manual.

### TCP/IP Setting

- Before installation, please make sure you know the IP address of the PBX and its CTI port. By default the CTI port is 33333.
- If you use TDA series PBX, you need LAN interface card on the PBX.

PBX	LAN Interface card
NCP500/1000	IPCMPR Card
TDE100/200/600	IPCMPR Card
TDA100/200/600	CTI Link Card
TDA30/50	IP Gateway Card

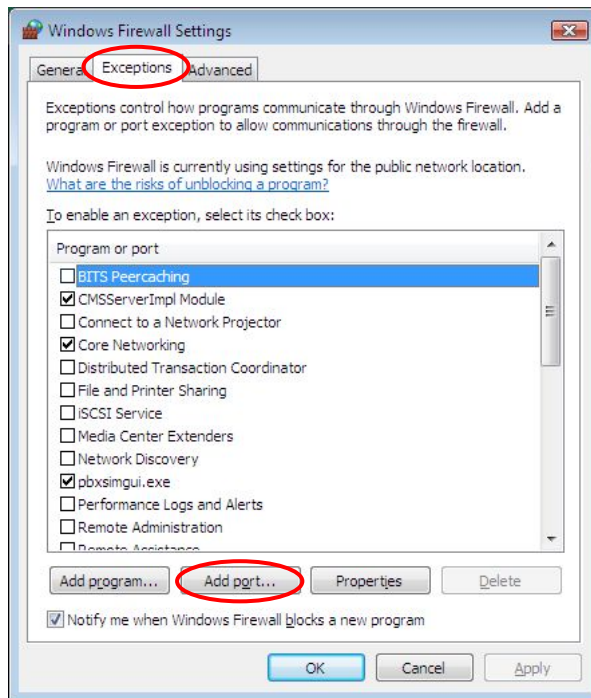
- If you use CTI enhance features, you may need **SD Memory Card** or **activation key** for software upgrade depending on your application.

PBX	Required SD Card or Activation Key
KX-TDA30	KX-TDA3920
KX-TDA50	KX-TDA5920
KX-TDA100/200	KX-TDA0920
KX-TDA600	KX-TDA6920
KX-TDE100/200	KX-NCS4910,
KX-TDE600	KX-NCS4950
KX-NCP500/1000	KX-NCS3910

## 1.3 Windows Firewall Settings

If you install the TSP into Windows Vista and use LAN to connect to the PBX, you may need to configure Windows Firewall as follows.

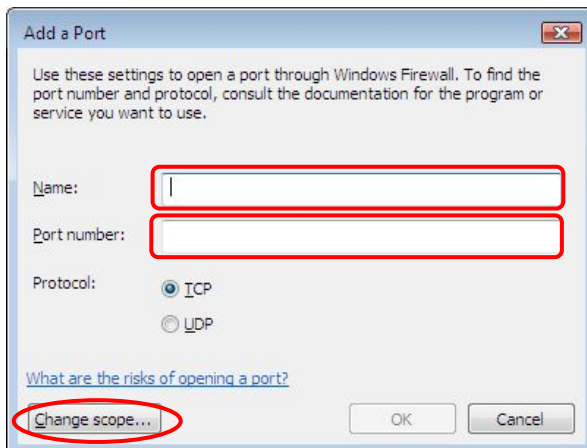
1. Open “Windows Firewall Settings” dialog from Control Panel, and select “Exceptions” tab.



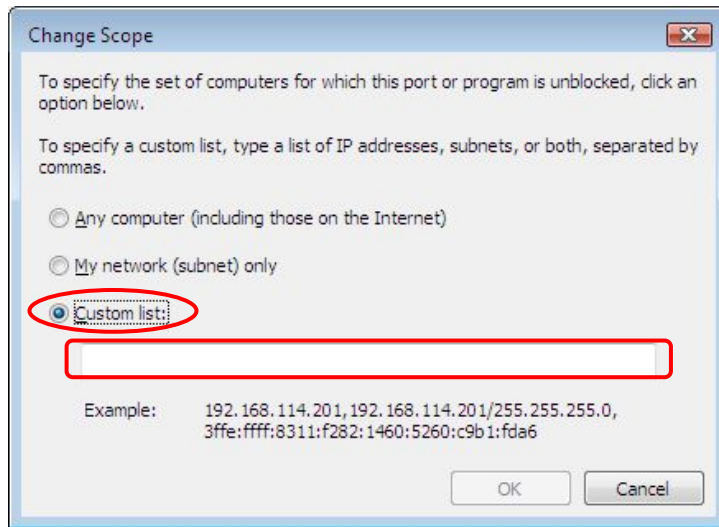
2. Click “Add port...” button. Then type as follows.

Name : KX-TDA TSP

Port number: 33333 (If you change the default port number, type the number you changed)



3. Click “Change scope...” button, and click “Custom list:”. Then type IP address of the PBX.



4. Click OK to close “Change Scope” dialog.
5. Click OK to close “Add a Port” dialog.
6. Click OK to close “Windows Firewall Settings” dialog.

# 2 Installing TSP

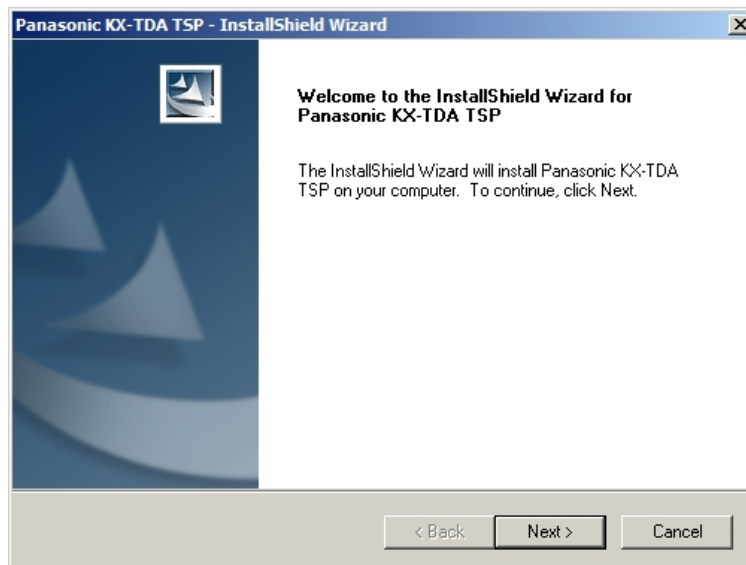
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## 2.1 Installing Panasonic KX-TDA TSP

To install or uninstall the software, you must be logged in as a user with Administrator privilege. If other version of TSP is already installed in your PC, please refer to section 2.3.

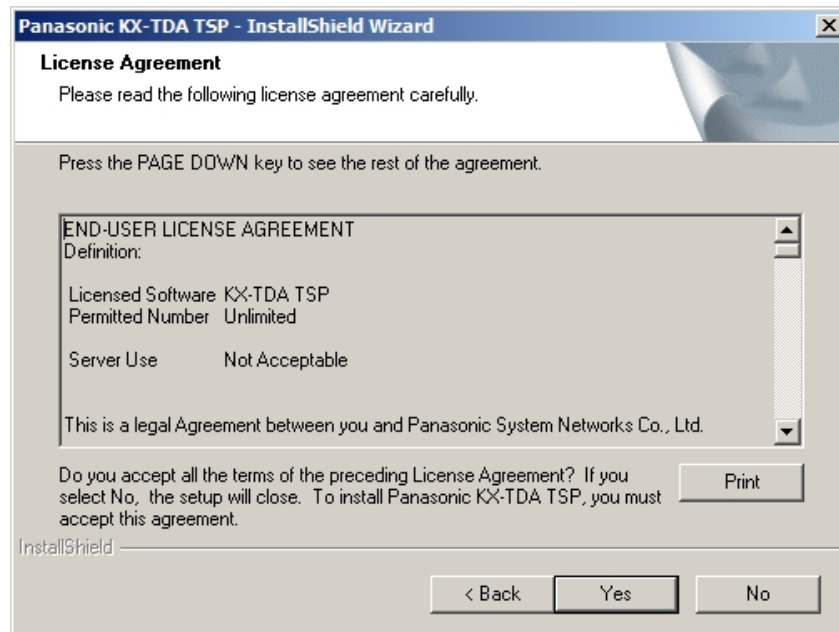
### How to Install TSP

1. Double-click the setup file according to your operating system. If you use a 32-bit operating system, select the file "**panasonic\_kx-tda\_tsp\_instx86\_34xx.exe**". If you use a 64-bit operating system, select the file "**panasonic\_kx-tda\_tsp\_inst32x64\_34xx.exe**". And click "**Next**" to continue installation. Click "**Cancel**" to abort.  
(“xx” will be different number depending on time when TSP is released)

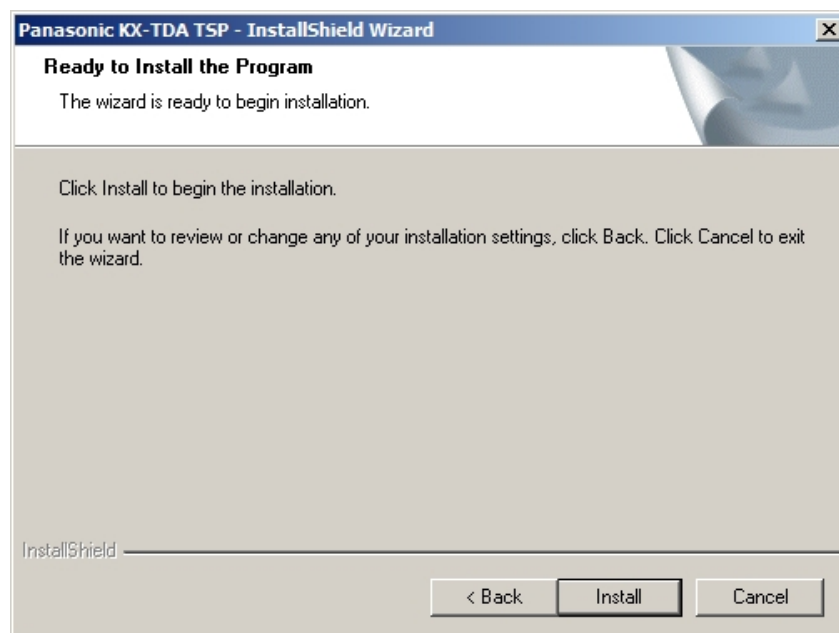




2. Click **"Yes"** to continue installation after you have read the agreement. Click **"No"** to abort installation. Click **"Back"** to go back to previous step.  
If you want to print out the agreement, click **"Print"**.



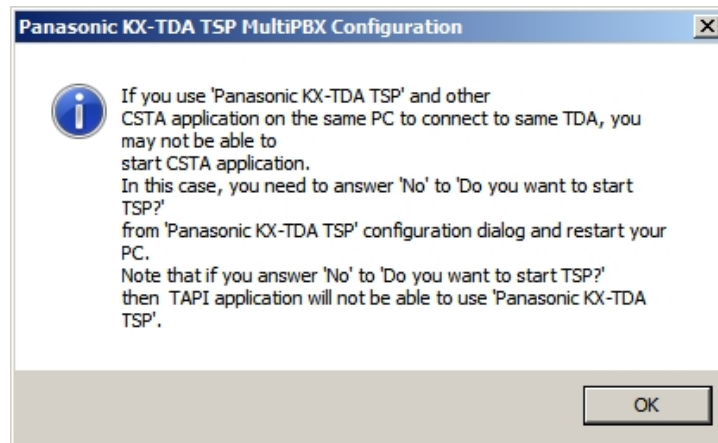
3. Click **"Install"** to start installation. Click **"Cancel"** to abort installation. Click **"Back"** to go back to previous step.



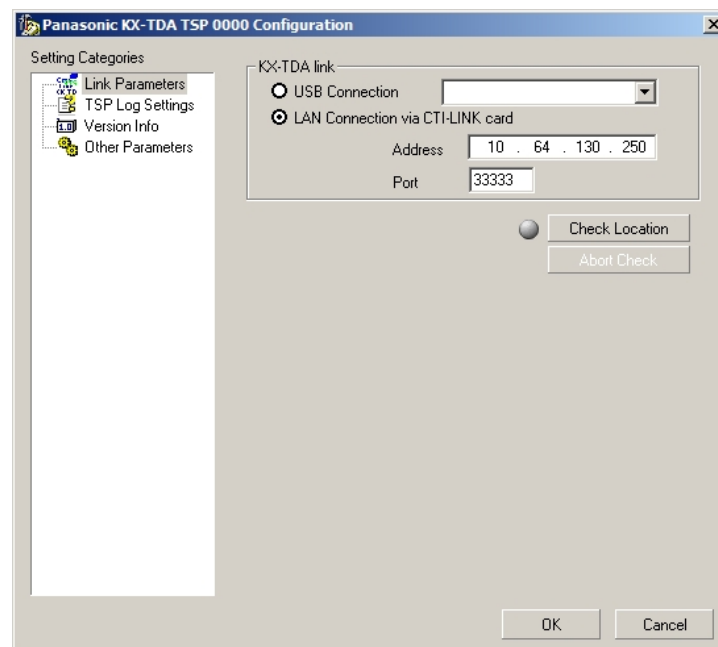
4. If KX-TDA USB driver is not installed in your computer, a dialog showing “USB Driver is not installed” may appear. Press “OK” to continue.

**Note : USB connection is not supported on 64-bit Windows.**

5. The following message will appear in order to note that TSP and CSTA Application cannot be used at the same time. Press “OK” to continue.



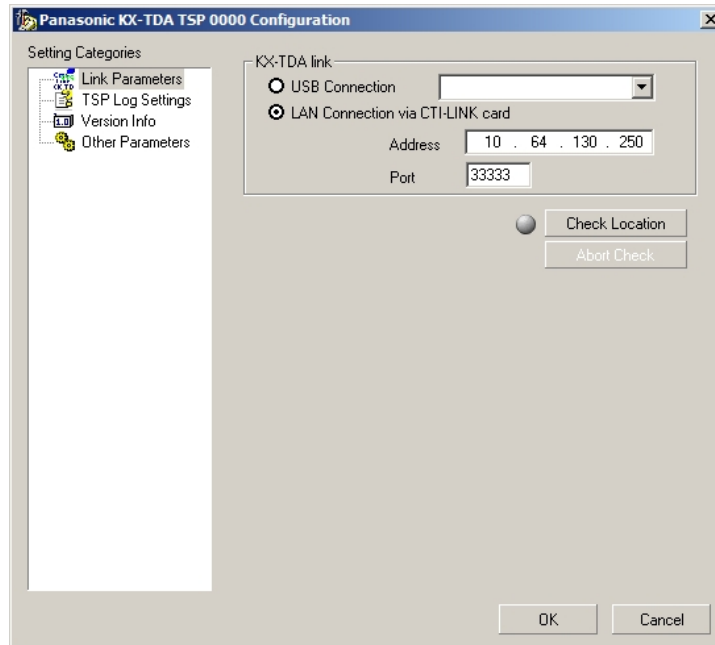
6. By default one instance will be installed and registered with TAPI. After registration with TAPI is completed, following dialog will prompt you to configure parameters. Pressing “OK” will update settings you have just changed. Pressing “Cancel” will leave default configuration.



If you use LAN connection, select “LAN Connection via CTI-LINK card” even though your PBX is TDE series or NCP series and set IP address of PBX. See **3.1.1** for more detail.

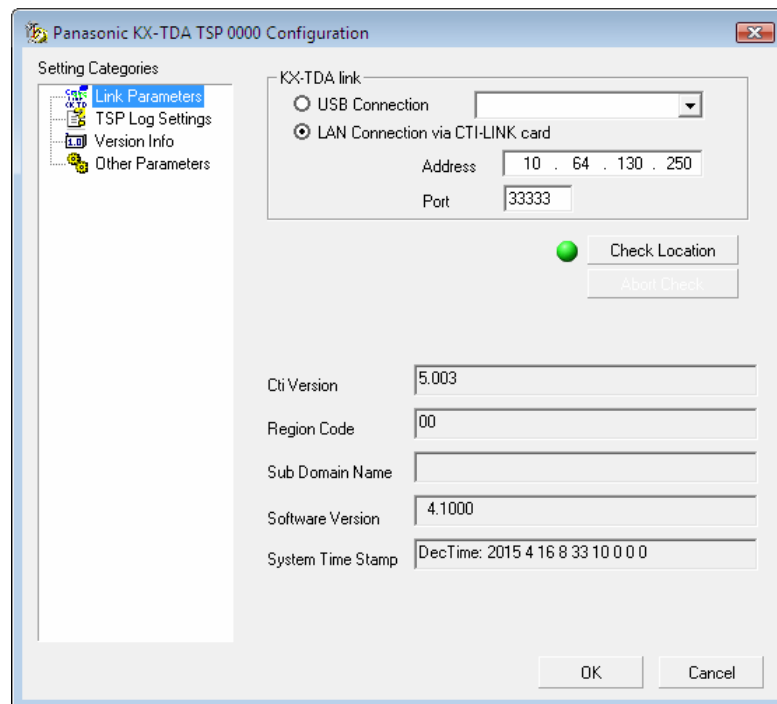
If USB connection is used, select "USB Connection". See **3.1.2** for more detail.

7. After entering the IP address and TCP port of PBX, click "**Check Location**" to verify the connection with the PBX.

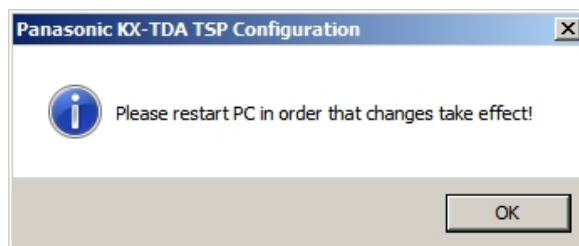


If the connection is successful, the following screen will appear, containing system information gathered from PBX: CTI Version, Region Code, Sub Domain Name, Software Version and System Time Stamp. System information gathered from PBX may help you identify the PBX that you will use. When the connection is successful, the GRAY LAMP to the left of "**Check Location**" button will turn to GREEN LAMP.

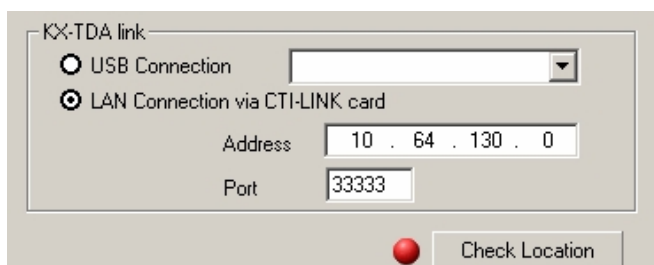
To abort "**Check Location**", click "**Abort Check**" button.



If the connection with the TDA/TDE PBX was not successful, a message box will appear.

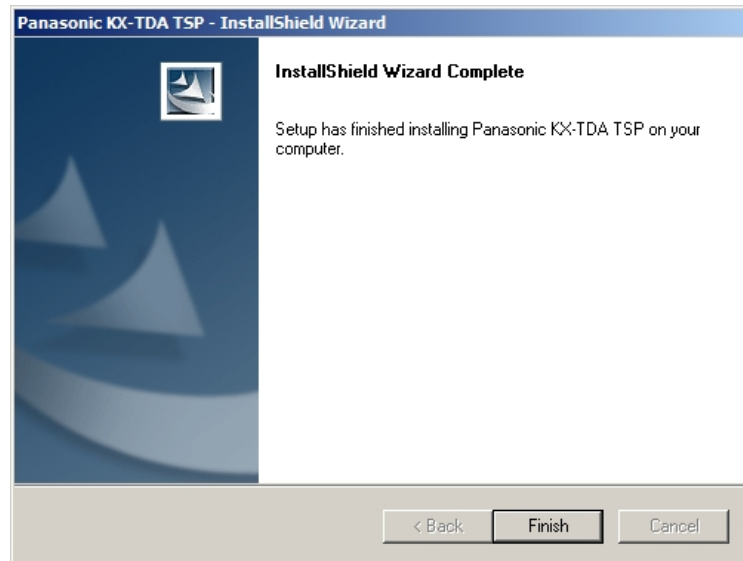


Then the GRAY LAMP to the left of “**Check Location**” button will turn to RED LAMP.

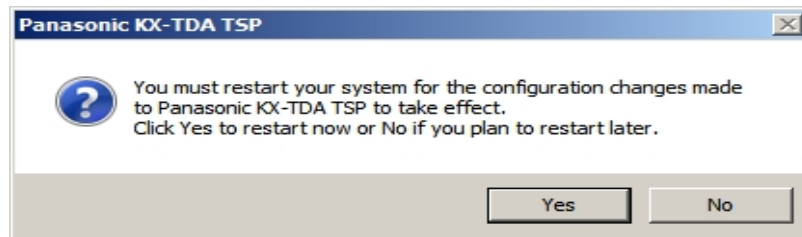


In this case, please make sure IP address of PBX is correct.

8. Click **“Finish”** to complete the installation.



9. Install program prompt user to reboot PC: Press **“Yes”** to reboot PC.



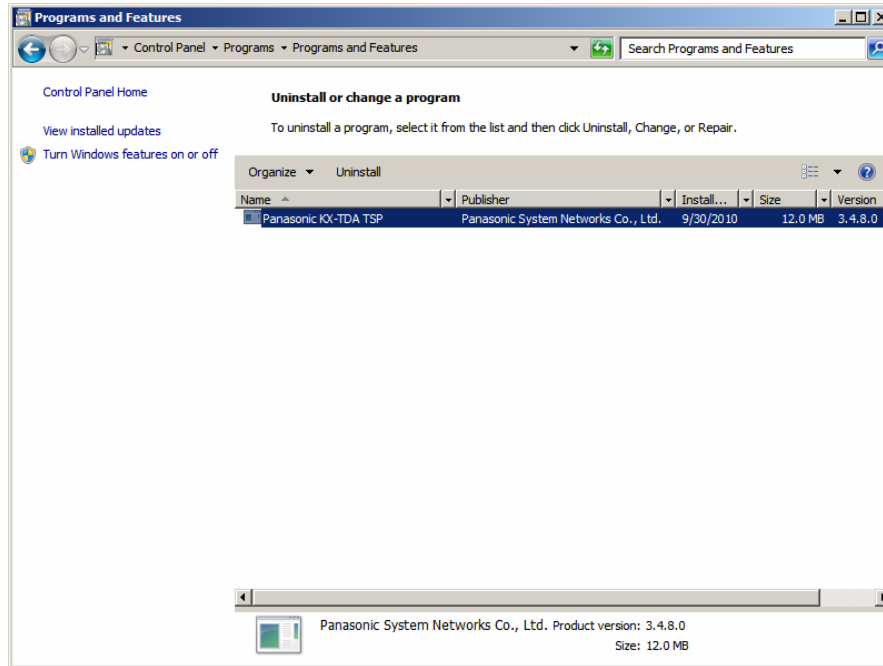
**Notes:**

During installation a default folder is created under <Program Files>\Panasonic\KX-TDA TSP. This folder contains End User License Agreement.

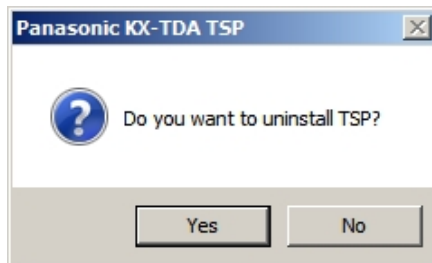
## 2.2 Uninstalling Panasonic KX-TDA TSP

### How to Uninstall TSP

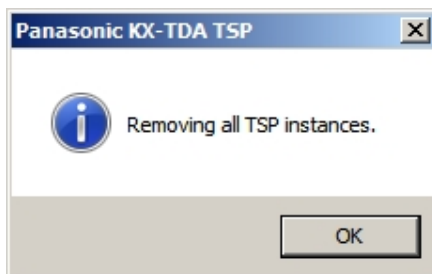
1. To do that, go to Control Panel, Programs and Features, select Panasonic KX-TDA TSP and click **“Change/Remove”** or **“Uninstall/Change”**.



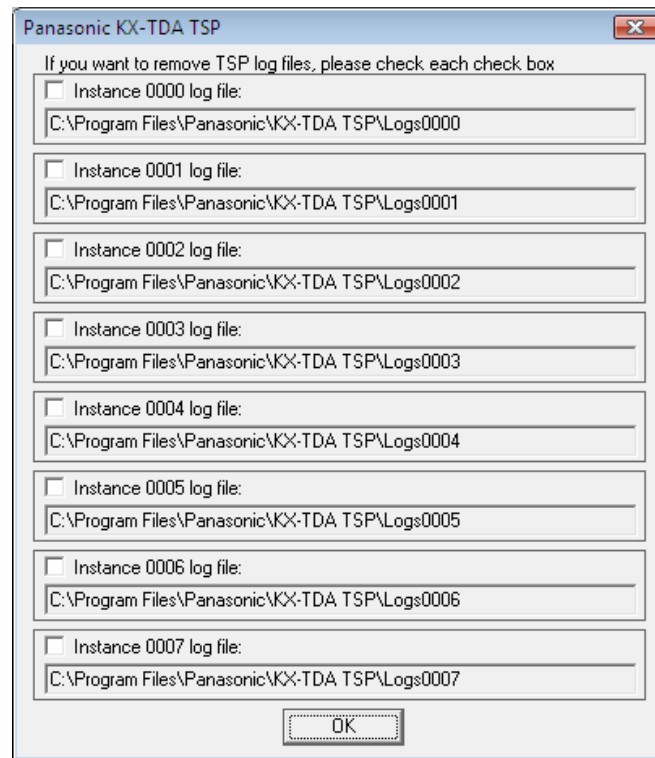
2. Click **“Yes”** to uninstall, or **“No”** to abort.



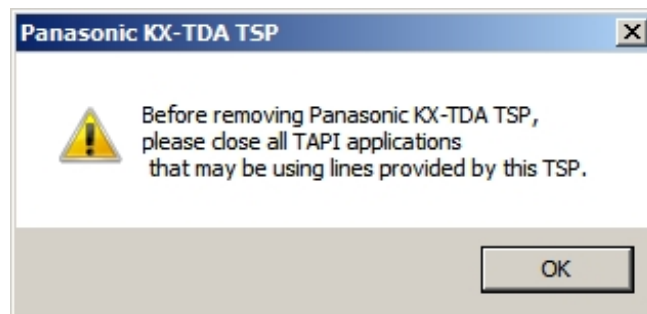
3. Click **“OK”** to continue.



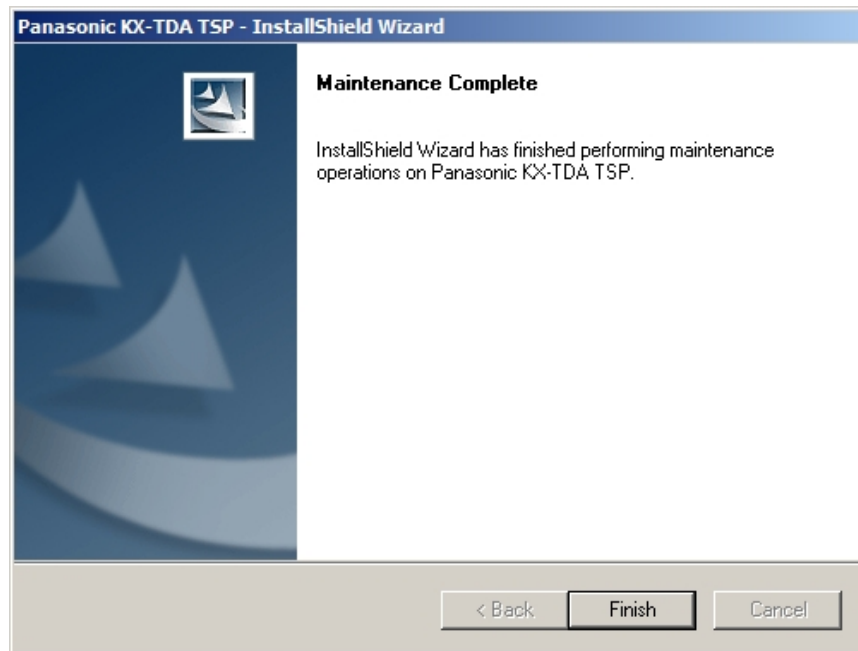
4. If you set TSP to generate log, the following dialog is displayed. If you want to remove specified log files, check each check box and press “OK”.



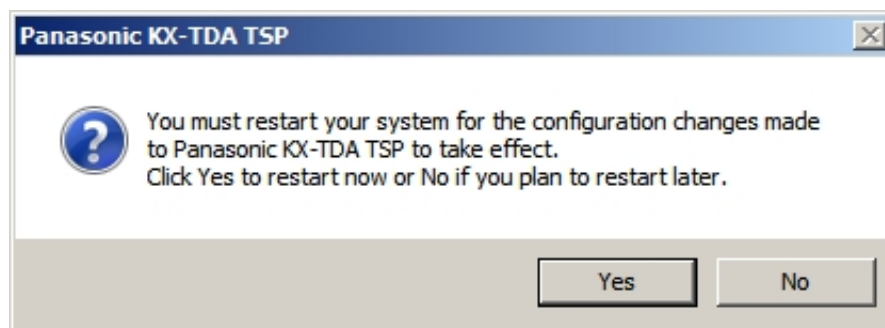
5. For TSP instance registered with TAPI, user is prompted to close any application that may use Panasonic KX-TDA TSP. Press “OK” to continue.



6. Click **“Finish”** to complete the uninstallation.



7. User is prompted to restart computer. Press **“Yes”** to restart.





## 2.3 Overwrite Installing Panasonic KX-TDA TSP

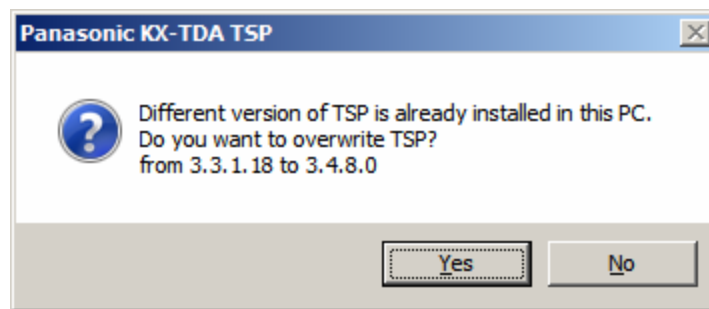
### IMPORTANT

Overwrite installation from version 3.4 to older version is NOT possible.

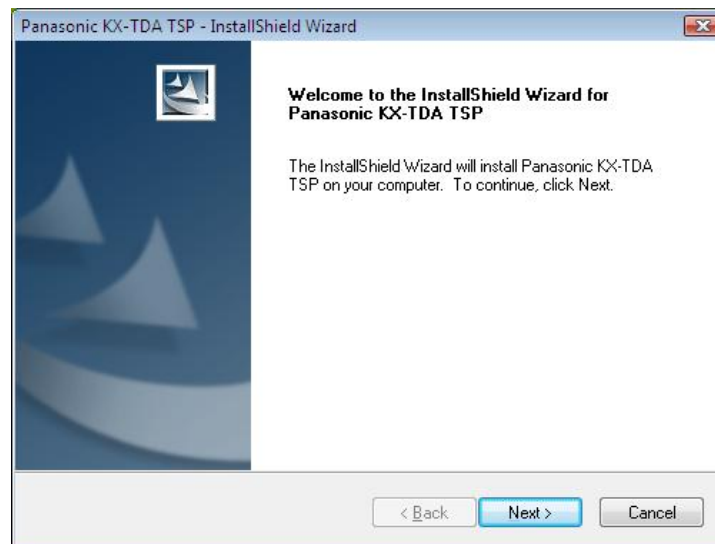
If you want to use version 3.3 or older version after version 3.4 is installed, uninstall version 3.4 first.

#### How to overwrite TSP

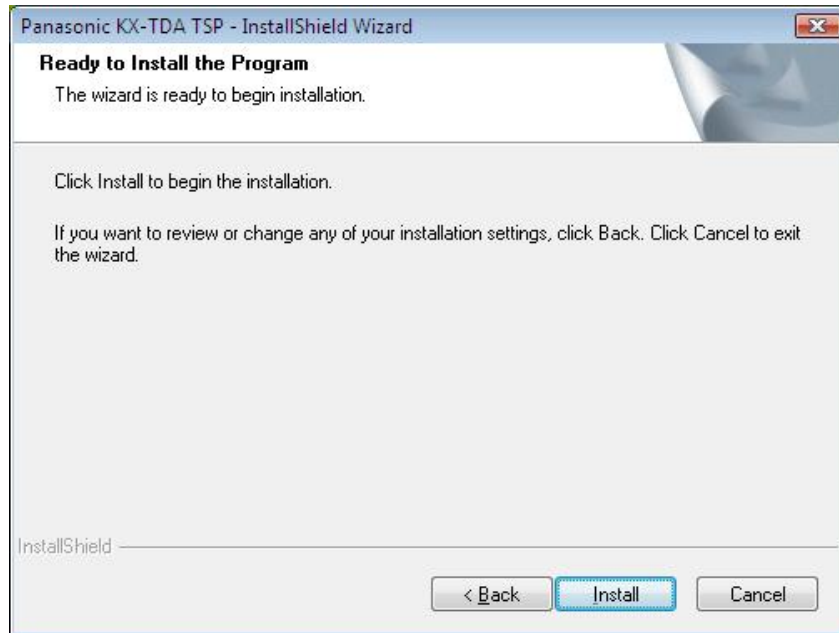
1. Double click a setup file of TSP which you want to install newly on the PC that other version of TSP is already installed on.
2. Click “**OK**” to continue the overwrite installation or “**Cancel**” to abort.



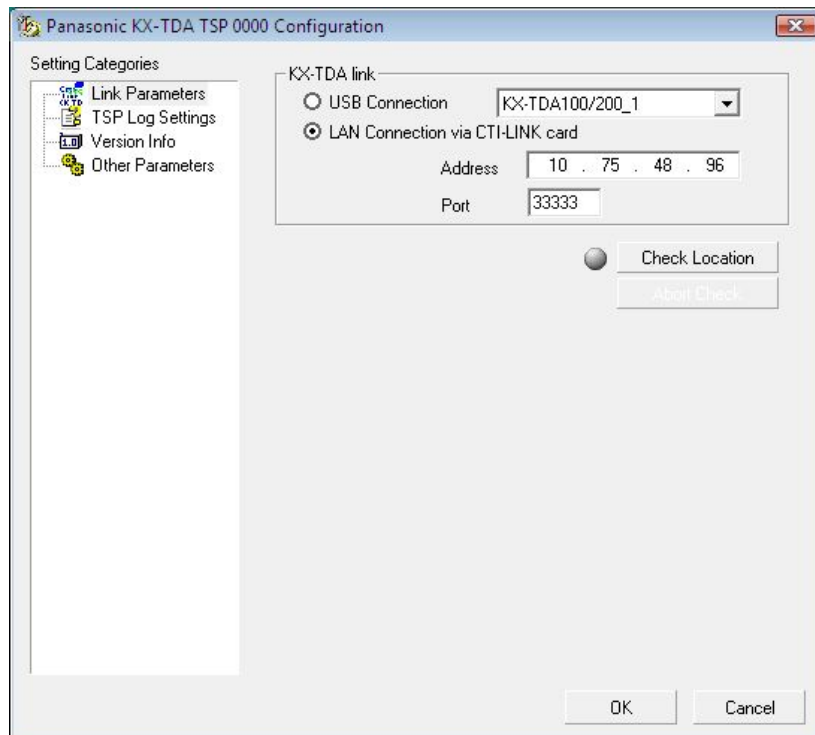
3. Click “**Next**” to continue the overwrite installation or “**Cancel**” to abort.



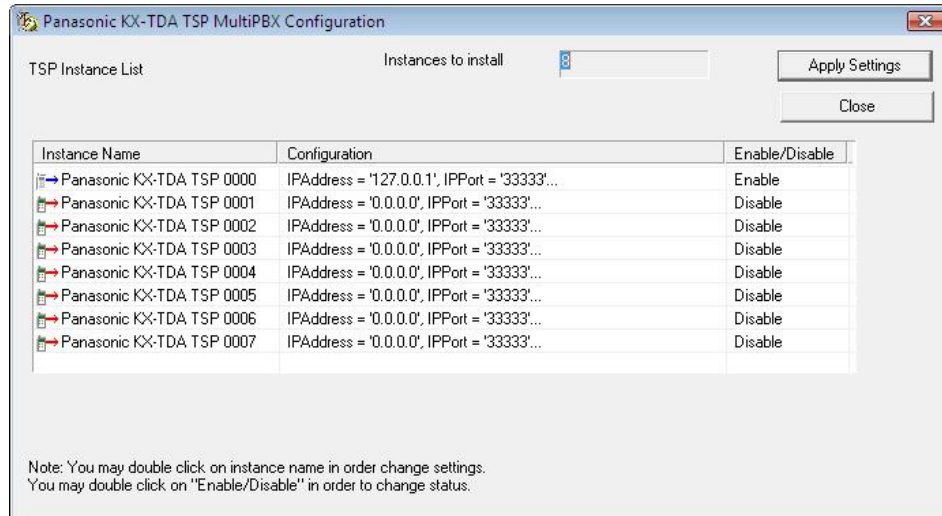
4. Click **"Install"** to start installation. Click **"Cancel"** to abort. Click **"Back"** to go back to previous step.



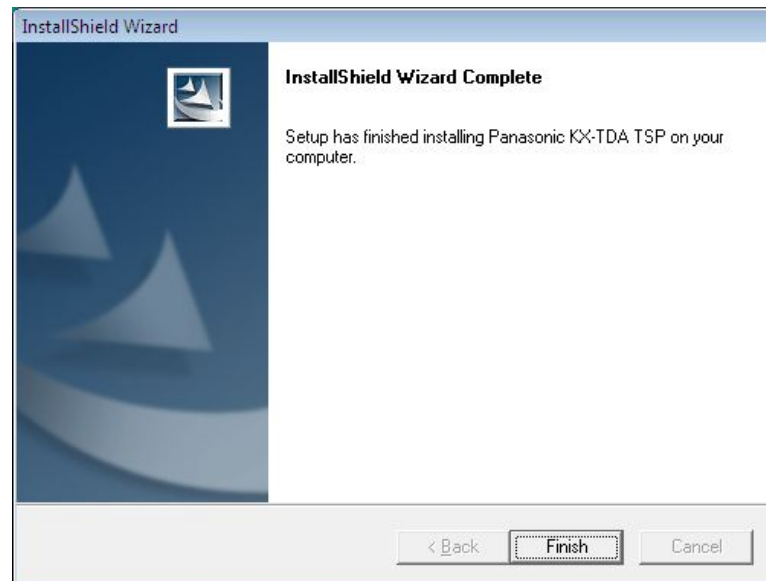
5. If you use only 1 instance, the following dialog is displayed. Please refer to section 2.1.1 for the configuration. Previous configuration is kept. If you do not need to change the configuration, press **"OK"**.



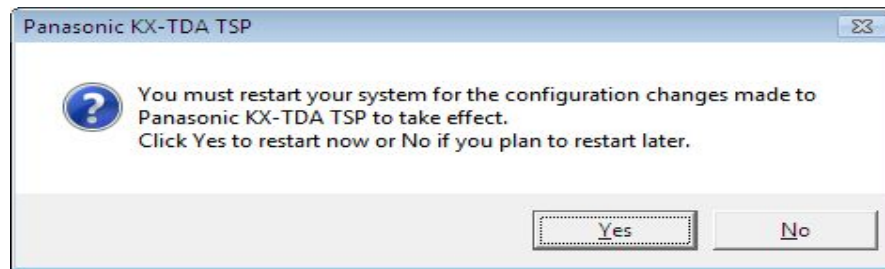
6. If you use multiple instances, the following dialog is displayed. Please refer to section 3.1 for the configuration. Previous configuration is kept. If you do not need to change the configuration, press “**Apply Settings**”.



7. Click “**Finish**” to complete the installation.



8. Install program prompts user to reboot PC. Press “**Yes**” to reboot PC.



# 3 TSP Settings

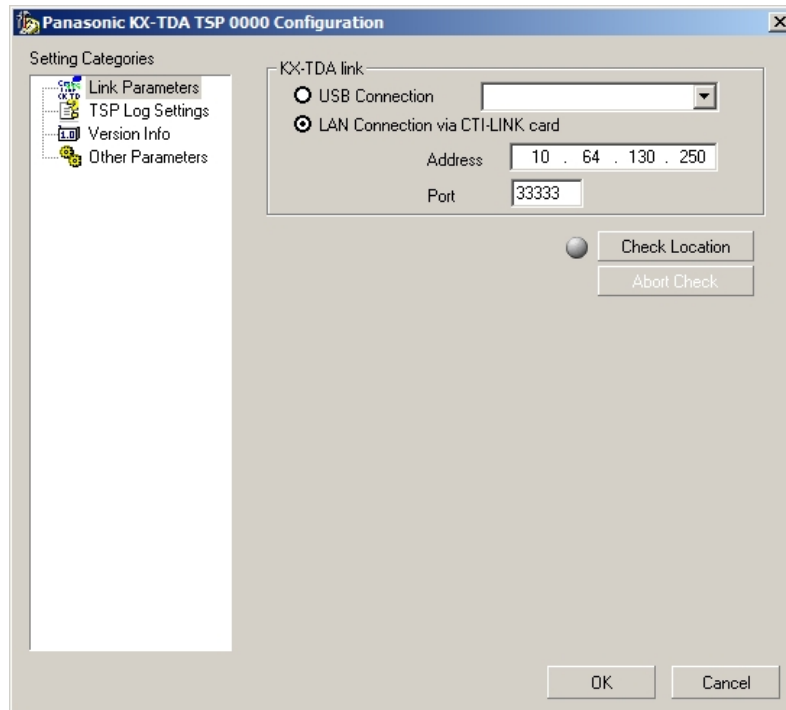
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To change TSP settings, Open "**Phone and Modem Options**" from Control Panel, and select "**Advanced**" tab.

Then select "**Panasonic KX-TDA TSP 0000**" and click "**Configure**" button.

## 3.1 Link Parameters

The "**Link parameters**" configures how Panasonic KX-TDA TSP will establish communication with the TDA/TDE/NCP PBX.



### 3.1.1 LAN Connection

When Panasonic KX-TDA TSP uses LAN to communicate with the PBX, select “**LAN Connection via CTI-LINK card**” and enter “**Address**” and “**Port**”.

“Address” is the IP address of the PBX in dot format, and “Port” is the TCP port which the PBX is listening to. By default the address is blank.

PBX	LAN Interface Card
NCP500/1000	IPCMPR Card
TDE100/200/600	IPCMPR Card
TDA100/200/600	CTI Link Card
TDA30/50	IP Gateway Card

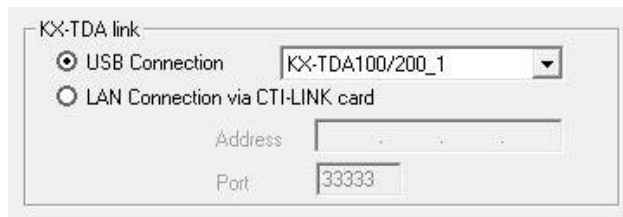
Example of setting an IP address:

E.g.: Address=10.64.130.250    Port=33333

The screenshot shows a window titled "KX-TDA link". Inside, there are two radio button options: "USB Connection" and "LAN Connection via CTI-LINK card". The "LAN Connection via CTI-LINK card" option is selected. Below these options, there are two text input fields. The first is labeled "Address" and contains the text "10 . 64 . 130 . 250". The second is labeled "Port" and contains the text "33333". A mouse cursor is pointing at the "Port" field. At the bottom right of the window, there is a button labeled "Check Location".

### 3.1.2 USB Connection

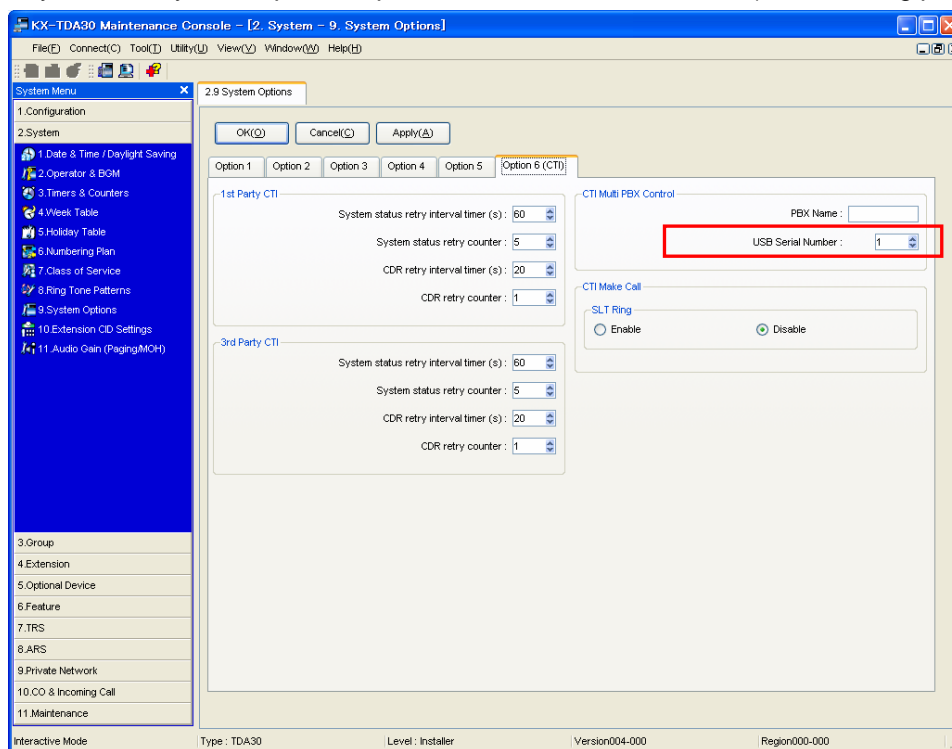
When Panasonic KX-TDA TSP uses USB to communicate with the PBX, select “**USB Connection**”.



**Remark:**

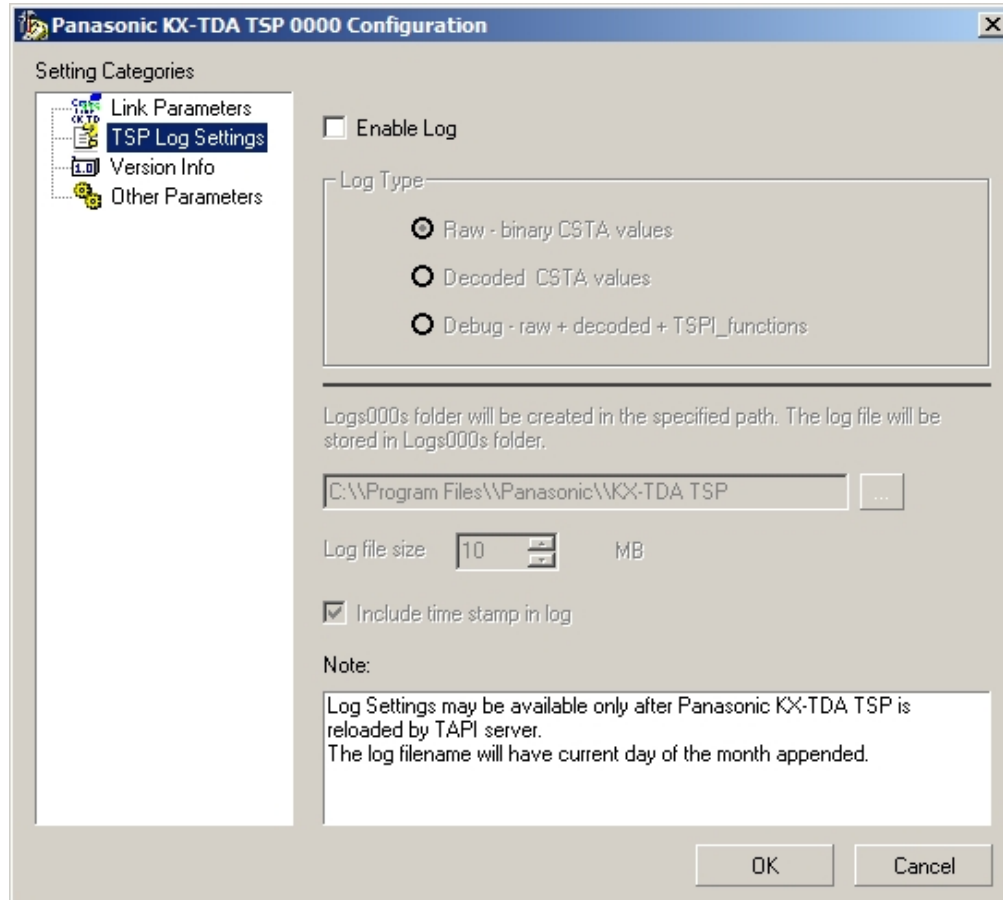
- 1) In case of KX-TDA PBX Version 2.0 or later, information of connected KX-TDA PBX is displayed to next field of “USB Connection”. If you use KX-TDA PBX Version 1.1 or earlier, this field is blank. (TDA TSP can be connected to PBX.)
- 2) In case of multi PBX connection, please use **USB driver Version 2.0.0.2 or later**.
- 3) If you use two PBXs by USB connection, you need to assign unique USB serial number for each PBX by TDA Maintenance Console.  
( e.g. if USB Serial Number is “1” , USB connection name will be “KX-TDA100/200\_1”.  
if USB Serial Number is “2” , USB connection name will be “KX-TDA100/200\_2”).

For TDA series PBX, USB serial number setting menu on the Maintenance Console is on “2.System - 9.System Option - Option6 - CTI Multi PBX Control “(see following picture).



## 3.2 TSP Log Setting

The “**TSP Log Settings**” configures how Panasonic KX-TDA TSP will output log with the PBX.



### a. Log Type

Panasonic KX-TDA TSP has logging capabilities in order to enable discovery of irregular situations that may cause problems in TSP. Panasonic KX-TDA TSP has 3 log levels:

- Raw : Contains only binary CSTA messages exchanged with PBX.
- Decoded CSTA values: Contains binary CSTA messages and their human readable form.
- Debug: Contains decoded CSTA messages as well as TSPI function calls and TSPI messages sent to TAPI. This is the most effective information to solve an irregularity.



**b. Log File Path**

logs<xxxx> folder is created in the path which user specified and log files are stored in the folder. Default path is <Program Files>\Panasonic\KX-TDA TSP.

The log file name will be composed of the base file name and 0 through 3.

(0->1->2->3->0->1->...)

When the 4 days passed the previous log files is overwritten.

Default of log file name is "KXTDAxxxxx (\*\*).txt. "\*\*\*" is 0 through 3.

**c. Log file size**

When log file size grows greater than established Log file size, then the log file is restarted from the beginning.

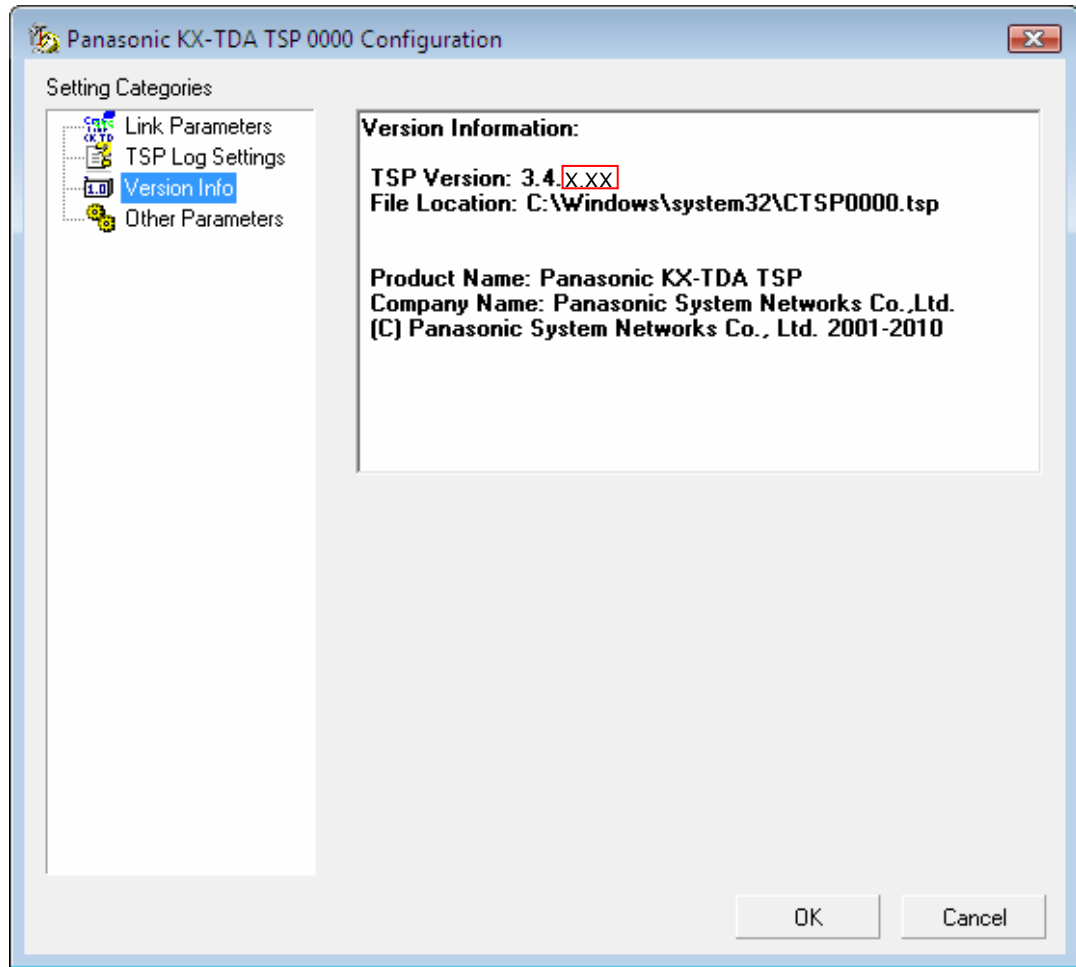
**d. Include time stamp in log**

By checking this box the log file will contain a time stamp for each operation logged.

### 3.3 Version Info

The “**Version Info**” is **read only** and contains version information about the Panasonic KX-TDA TSP you are using.

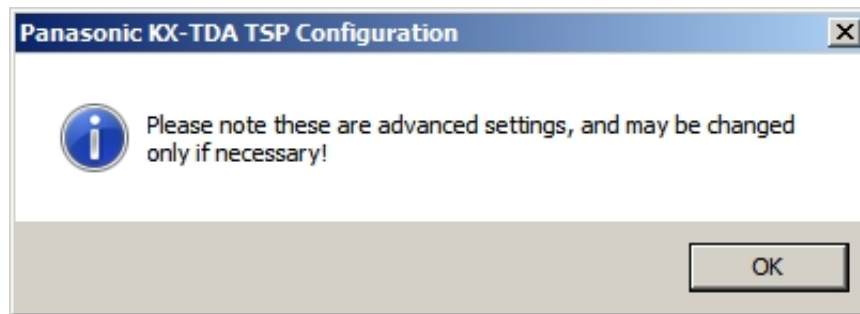
Please see “Note” if you want to know License identification information of Panasonic KX-TDA TSP.



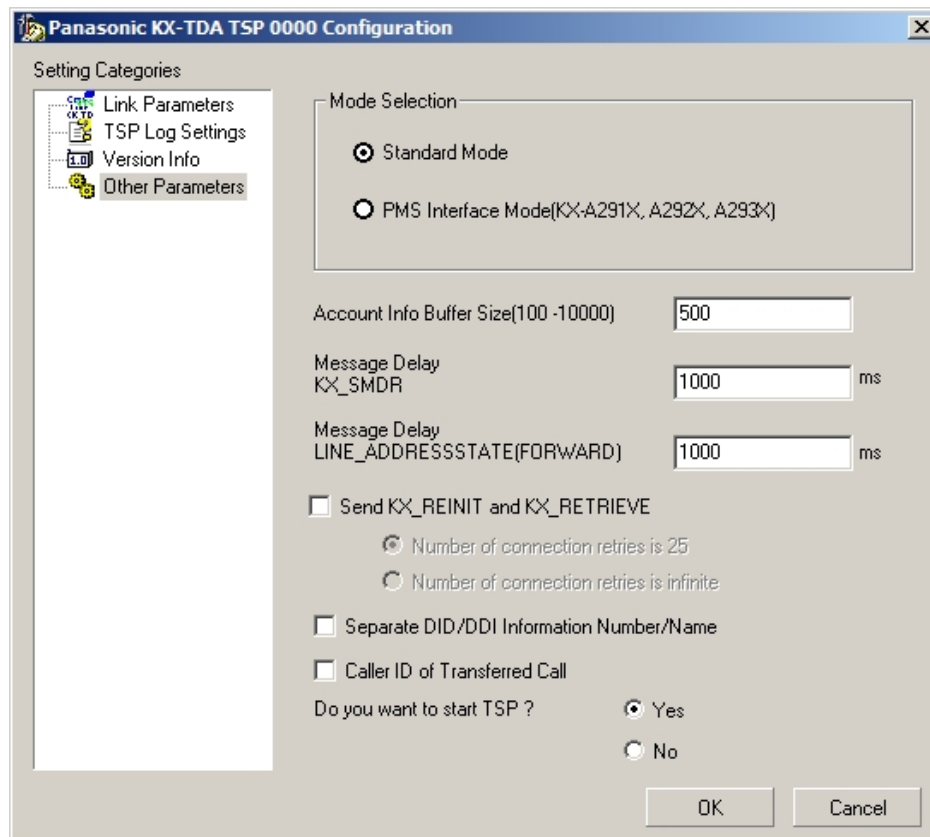
X.XX will be different number depending on time when TSP is released.

### 3.4 Other Parameters

When the “**Other Parameters**” option is selected, a message box will appear to inform the user that these settings are advanced and must be changed according to TAPI Application requirements.

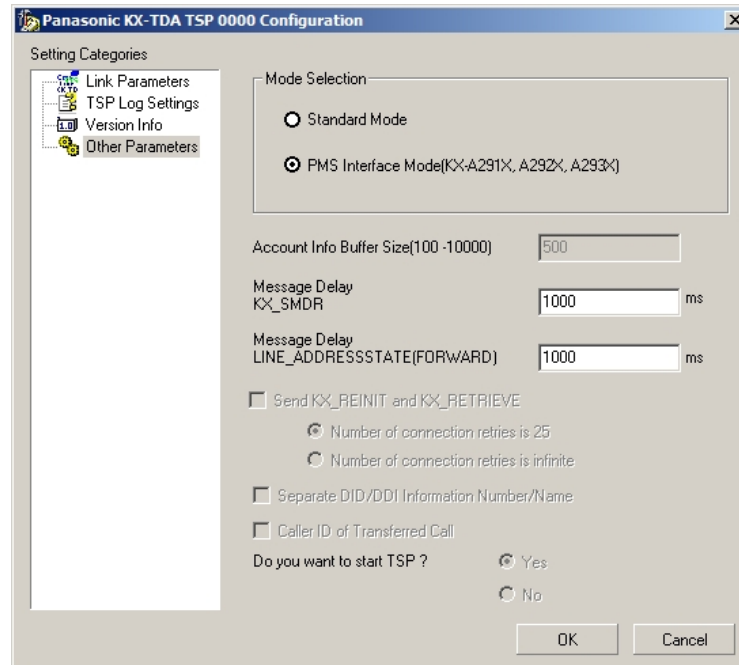


The “**Other Parameters**” configures optional parameters.



**Note:**

- Additional TSP instances is not available for “PMS Interface MODE”.
- When “PMSI Interface MODE” is selected, some of options are unavailable as following dialog.



Configurable parameters are as follows:

**a. Mode Selection**

- Standard Mode - The KX-TDA TSP works in native mode.
- PMS Interface Mode - The KX-TDA TSP works in compatibility mode with the PMS Interface application

**Note:**

If you plan to use KX-TDA TSP for PMS Interface application please use only “PMS Interface mode” because Standard mode contains features that are **not compatible** with the PMS Interface application.

Also, if you use PMS Interface mode, multiple instances cannot be used.

**b. Account Info Buffer Size**

This parameter configures the number of account information records that the KX-TDA TSP can store on the HDD. If TSP cannot reserve its needed space to save on the HDD all account info records, then an error message will be displayed and KX-TDA TSP will not start.

**c. Message Delay (KX\_SMDR)**

KX-TDA TSP can be configured to queue LINE\_DEVSPECIFIC (KX\_SMDR) events sent to TAPI in order to let the application have enough time to process each event. Each line device that supports this kind of message has its own queue. It is recommended to use default value of 1000 ms.

**d. Message Delay LINE\_ADDRESSSTATE (LINEADDRESSSTATE\_FORWARD)**

KX-TDA TSP can be configured to queue LINE\_ADDRESSSTATE (LINEADDRESSSTATE\_FORWARD) events sent to TAPI in order to let the application have enough time to process each event. Each line device that supports this kind of message has its own queue. It is recommended to use default value of 1000 ms.

**e. Send KX\_REINIT and KX\_RETRIEVE**

If this option is checked and TSP works in *Standard MODE*, in case if TSP loses connection with PBX, it sends LINEDEVSPECIFIC (KX\_REINIT) and begins recovery procedure. However, TSP may fail recovery in some case. (e.g. "When PBX Setting changed between KX\_REINIT and KX\_RETRIEVE." etc.).

Call event is not notified while TSP sends KX\_REINIT event and KX\_RETRIVE event.

Otherwise TSP sends LINE\_DEVSTATE (REINIT) and enters in an unknown condition waiting all Applications to reinitialize use of TAPI.

**f. Number of Connection Retries**

Number of Connection Retries is 25 - When TSP loses connection with PBX, TSP try to re-connect 25 times (same as previous version).

Number of Connection Retries is infinite - When TSP loses connection with PBX, TSP try to re-connect infinitely.

**g. DID/DDI Information Number/Name**

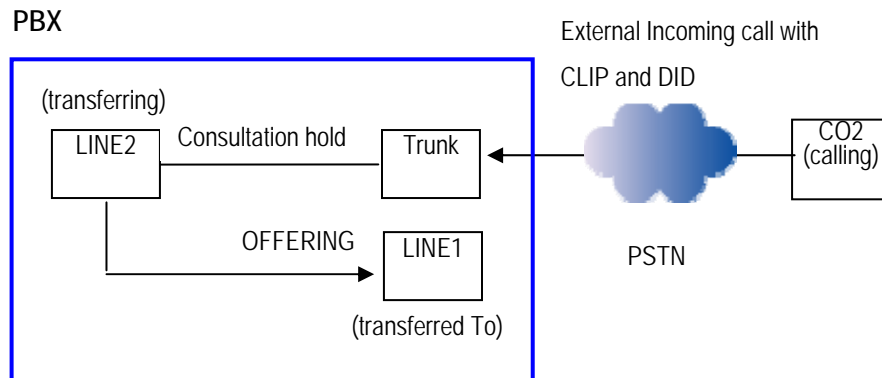
If this option is checked, TSP fills CALLINFO.DEVSPECIFIC structure with DID/DDI number and name in separated format (the number is set into dwDIDDDISize/DIDDDIOffset area and the name is set into dwDIDDDINameSize/dwDIDDDINameOffset area).

Also CLIP information including CLIP Name in transferred call is set in separated format (the number of CLIP information is set into dwTranCLIPSize/ dwTranCLIPOffset area and name of CLIP information is set into dwTranCLIPNameSize/dwTranCLIPNameOffset area).

#### h. Caller ID of Transferred Call

By checking this option, parameter value of LINECALLINFO.CallerID and CallerIDName for transferred to line (LINE1) becomes original callerID(CLIP) only when transferring line (LINE2) is DISA or voice unit for both screened and unscreened transfer.

If transferring line is other than DISA or voice unit, CallerID and CallerIDName parameter value is actual transferring line (LINE2).



#### i. Enable connection to TDA PBX “Do you want to start TSP ?”

If "Panasonic KX-TDA TSP" and "KX-TDA Maintenance Console" are set to connect to PBX by USB connection, both software cannot be used at the same time.

If you use USB connection, you cannot use "Panasonic KX-TDA TSP" and "KX-TDA Maintenance Console" at the same time.

If "Panasonic KX-TDA TSP" is installed and computer is restarted, Windows may start "Panasonic KX-TDA TSP" automatically. Therefore, "KX-TDA Maintenance Console" may not be started by installation of "Panasonic KX-TDA TSP". For this reason, to start TSP or not, you can set the switch ("Yes" or "No") in "Do you want to start TSP?".

(1) In case of "Yes"

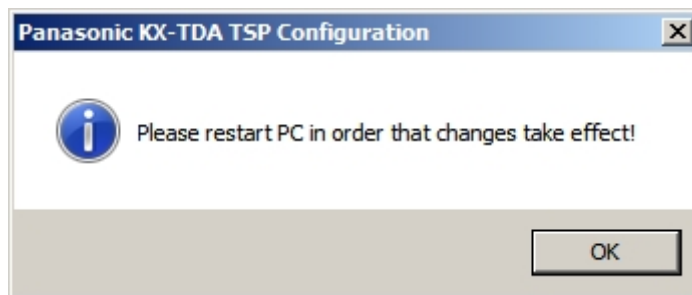
After computer is restarted, you can use "TAPI Application". However, "Panasonic KX-TDA TSP" may be started automatically after computer restart and you may not be able to start "KX-TDA Maintenance Console".

(2) In case of "No"

After computer is restarted, you can use "KX-TDA Maintenance Console". However, you cannot start "TAPI Application" after computer restart.

Note:

All settings will effectively take effect after the next restart of computer.



## 3.5 Settings for Multi PBX Connection

### 3.5.1. Version Information

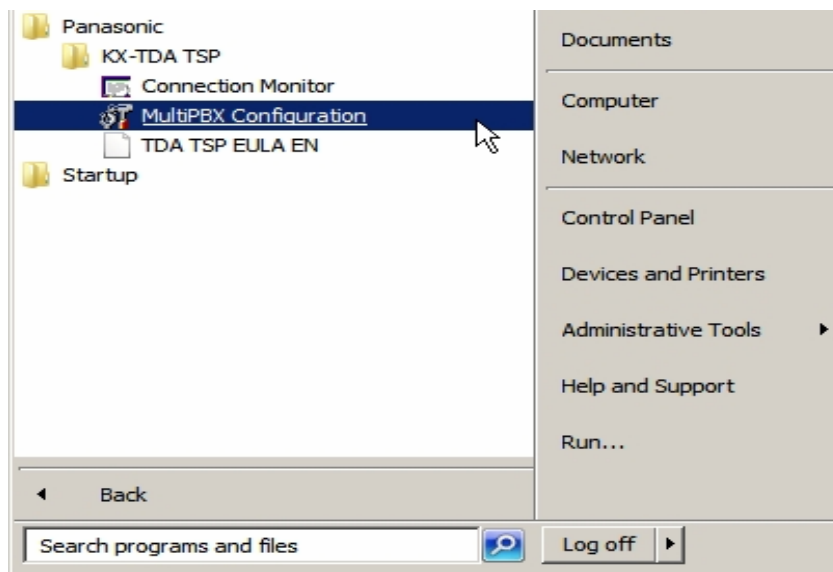
- 1) In case of multi PBX connection, please make sure to use **PBX Version 2.0 or later**.
- 2) Please use **USB driver Version 2.0.0.2 or later**, if you use USB.

### 3.5.2. Before setting Multi PBX Connection

- 1) Please connect PC and PBX by LAN or USB for multi connection.  
Note ) In case of LAN connection, please configure IP Address of PBX.
- 2) Please install TDA-TSP in advance.

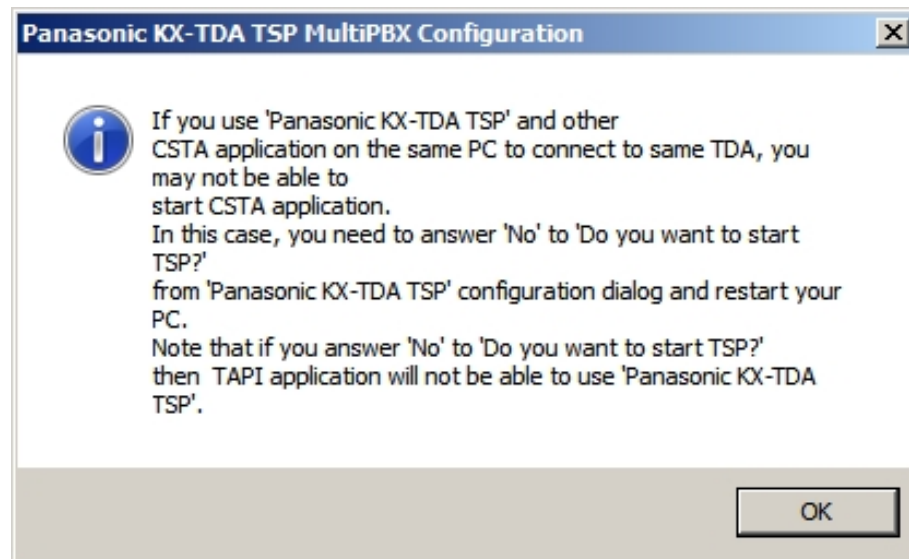
### 3.5.3. How to set Multi PBX Connection

- 1 In order to start Panasonic KX-TDA TSP Multi PBX Configuration, you need to follow:  
“**Start->Program->Panasonic->KX-TDA TSP->MultiPBX Configuration**” like in the next image.

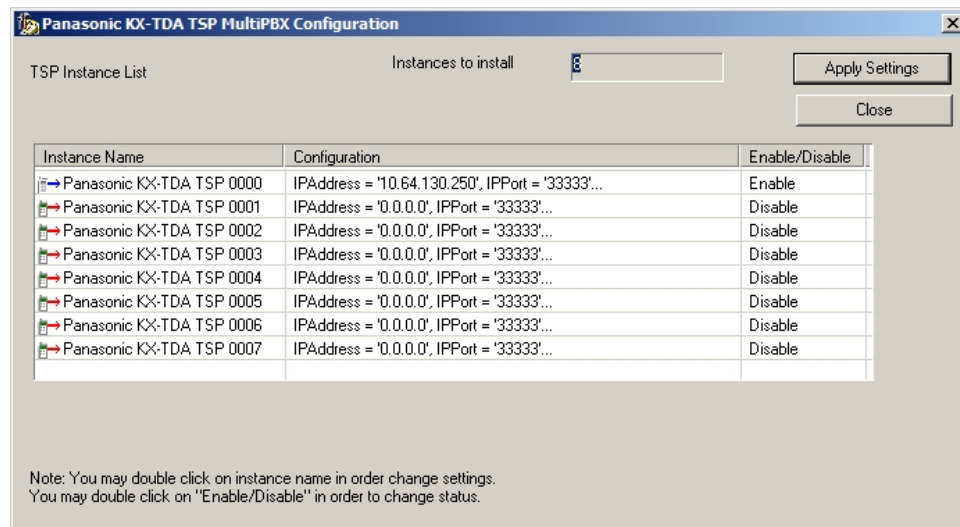




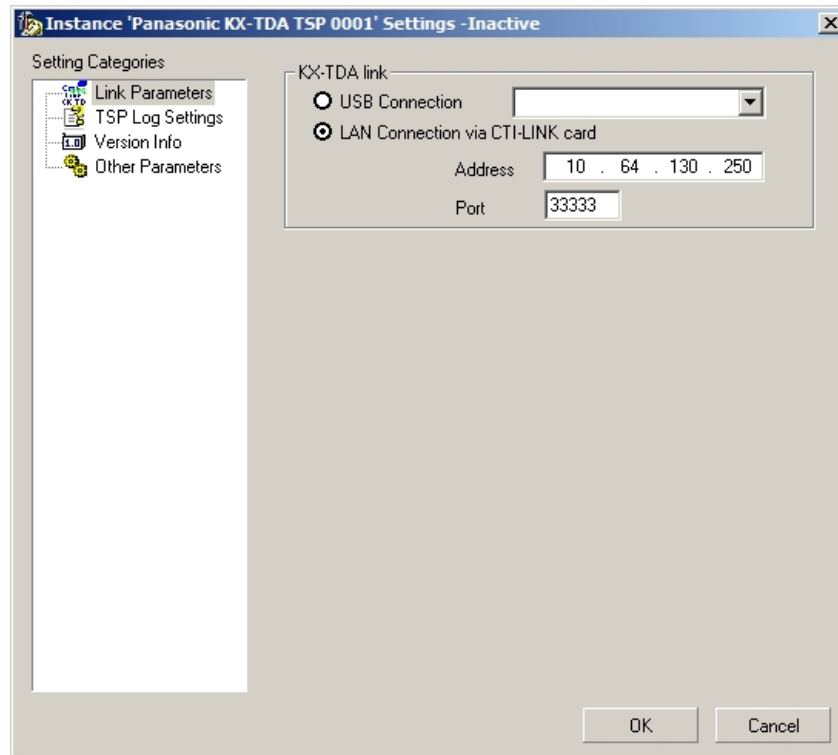
- 2 The following message will appear in order to note that TSP and CSTA Application cannot be used at the same time. Press “OK” to continue.



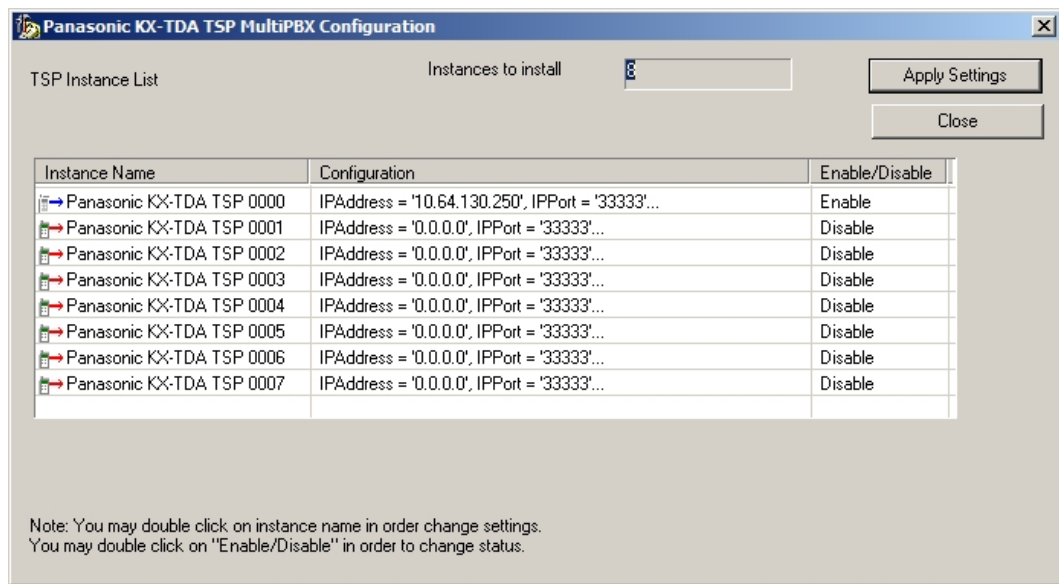
- 3 Panasonic KX-TDA TSP MultiPBX Configuration dialog will appear:  
Select “**Panasonic KX-TDA TSP 0001**” and double click.



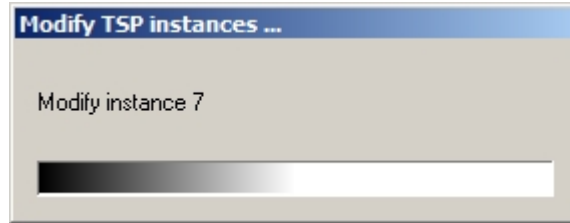
- 4 If “Panasonic KX-TDA TSP 0001” setting screen is opened, configure KX-TDA Link in Link Parameters and press “OK”.



- 5 After finishing to setup configuration press “Apply settings”

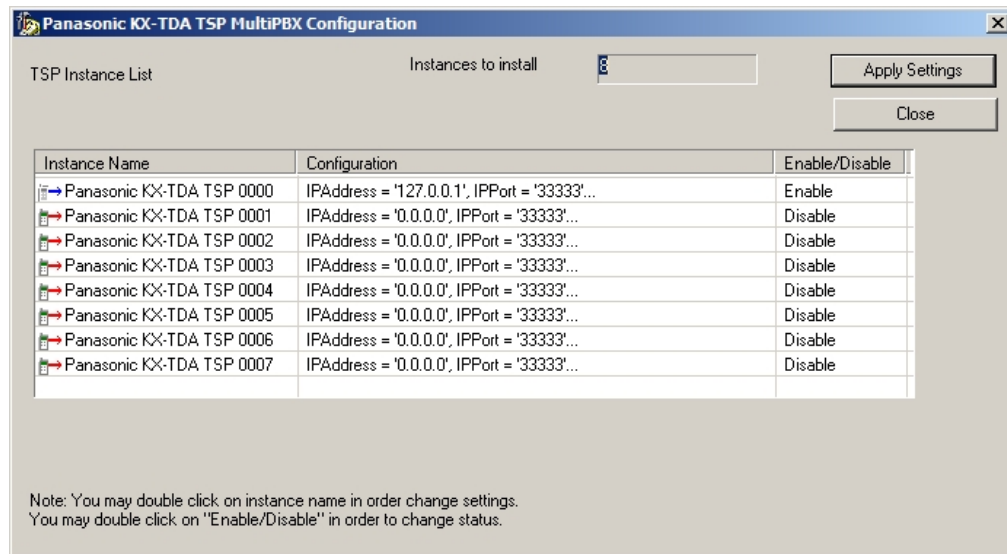


- 6 MultiPBX Configuration Tool will show operation progress:



- 7 MultiPBX Configuration Tool will exit after finishing. Then please **reboot PC manually**.

### 3.5.4. MultiPBX Configuration Screen



TSP Instance list contains following information:

- "Instance Name" - This is TSP Instance Name same as Control Panel - Phone and Modems Options - Advanced displays.
- "Configuration" - Informative of configuration string.
- "Enable/Disable"
  - "Enable": TSP instance is registered with TAPI
  - "Disable": TSP instance is unregistered with TAPI.

At startup this field contains current registration status of TSP Instance. "Enable": TSP instance is registered with TAPI. "Disable": TSP instance is not registered with TAPI.

MultiPBX Configuration Tool allows to:

- Specify parameters of each instance
- Register/Unregister each TSP instance with TAPI (Telephony System).

# 4 Frequently Asked Questions

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## 4.1 “KX-TDA Maintenance Console” can not use USB to communicate with the PBX

Windows operating system may start Telephony Service (TSP) automatically when the computer is started.

Specially, if you install “TSP” and “KX-TDA Maintenance Console” on the same computer and select the same connection way (USB) for “KX-TDA LINK” of “TSP” and “KX-TDA Maintenance Console”, the problem that “KX-TDA Maintenance Console” can’t connect to PBX using USB drivers may occur.

“TSP” is automatically started when the computer is started, “KX-TDA Maintenance Console” can’t use USB port of PBX because “TSP” has already been using it. For this reason, the problem occurs. If this problem occurs on your computer, please restart “KX-TDA Maintenance Console” in following procedure.

At first please restart “KX-TDA Maintenance Console” in following Procedure A.

[Procedure A]

- (1) Unplug USB cable for communication between the computer and TDA.
- (2) Plug in again.
- (3) Start “KX-TDA Maintenance Console” and select “USB” on “Connection” to connect to PBX.

If you still can’t connect “KX-TDA Maintenance Console” to PBX, please restart it in following Procedure B.

[Procedure B]

- (1) Unplug USB cable for communication between the computer and TDA.
- (2) Restart the computer.
- (3) After the computer is restarted, connect the computer to TDA by USB cable.
- (4) Start “KX-TDA Maintenance Console” and select “USB” on “Connection” to connect to PBX.

### Note:

Even though you could connect “KX-TDA Maintenance Console” to PBX with USB driver after [Procedure A], you still might need to restart PC in case after operation with “KX-TDA Maintenance Console” is completed in order to operate again with TSP.

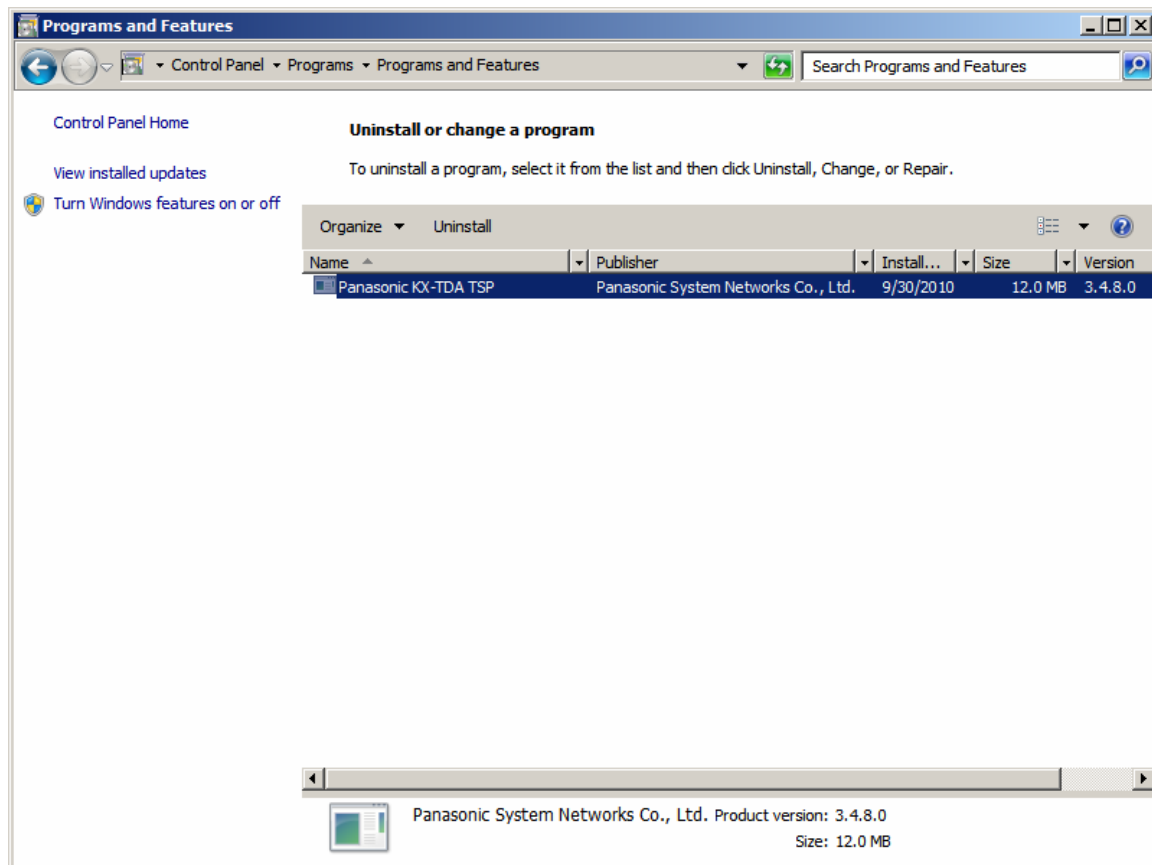
## **4.2 TSP can not communicate with PBX via LAN**

In case firewall protection software is installed on your PC and TSP is configured to use “LAN Connection via CTI-LINK card” then make sure that firewall protection software is not restricting communication with PBX. Therefore you may need to configure firewall protection software to permit communication with IP address and IP port that you have used in TSP configuration.

In case communication is restricted by firewall protection software then you will not be able to “Check Location” from TSP configuration GUI. Also TSP will report to TAPI a number of zero line devices and zero phone devices. Therefore communication is restricted by firewall protection software TAPI application will not be able to control and monitor devices on respective PBX.

### 4.3 How to check if Panasonic KX-TDA TSP was already installed in your computer?

To do so, go to Control Panel, Programs and Features, and see if the item labeled “Panasonic KX-TDA TSP” can be found in the “Currently installed programs”.



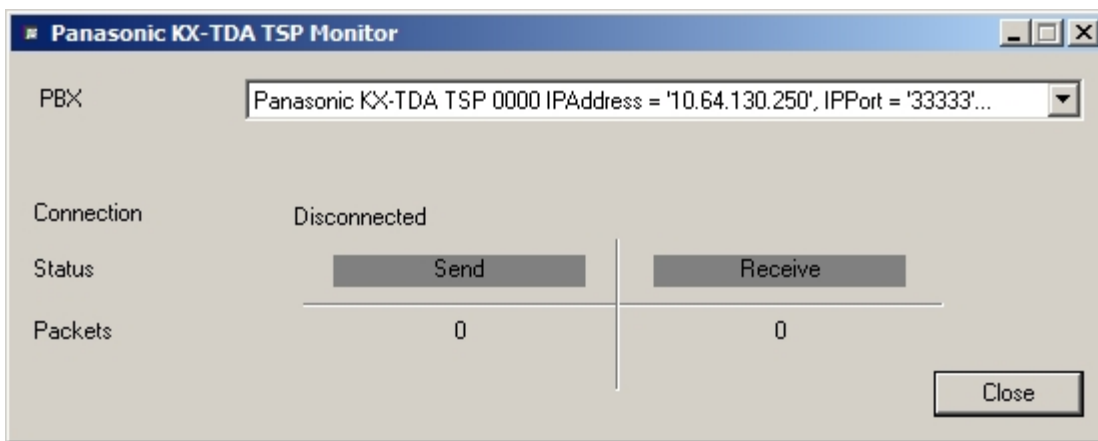
# Annex A

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## Panasonic KXTDA TSP Connection Monitor Tool

This tool is provided to show state of each TSP instance.

You may use provided shortcut under “**Start Menu-> Programs-> Panasonic-> KX-TDA TSP -> Connection Monitor.**”



Use “PBX” combo box to select instance for which you want to see status.

Connection may be:

- Now Connecting – TSP instance is initializing connection with PBX.

- Connected - TSP instance is connected with PBX. It is possible to control/monitor with TAPI application(s).

- Disconnected – TSP instance is not communicating with PBX.

- Not Registered with TAPI – TSP instance is not registered in TAPI (Telephony System).



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