

**X**TRAMUS

# NuDOG-MPT User's Manual

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**Xtramus Technologies**

E-mail: [sales@xtramus.com](mailto:sales@xtramus.com)

Web: <http://www.xtramus.com>

Phone: +886-2-8227-6611

Fax: +886-2-8227-6622

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## 1. Introduction

NuDOG-MPT makes NuDOG an accurate and efficient Ethernet tester for batch tasks. Various packet generation and reception testing items could be set for pre-defined testing modules. The utility of NuDOG-MPT is easy to load testing models. All simple and visualized results and detailed testing logs are available to access based on requirements. NuDOG-MPT is a powerful and convenient tool to apply on NuDOG for batch tests.

### 1.1 Specifications

Item	Description
Platform	NuDOG
Operating System	Microsoft Windows 2000 or Windows XP
Pre-built	Tx/Rx Forwarding, Flow Control, Broadcast, Filter, CRC Error, Ping
Report	Test report in text format
Configuration	Text file and GUI

### 1.2 Function Description

Pre-built tests in the program include Forwarding, Flow Control, Broadcast, Filter, CRC Error and Ping tests.

Test Name	Test Item
Forwarding Test	FW_10H (10M Half Duplex) FW_10F (10M Full Duplex) FW_100H (100M Half Duplex) FW_100F (100M Full Duplex)
Flow Control Test	FC_10F_100F (10M Full ↔100M Full) FC_100F_10F (100M Full ↔10M Full)
Broadcast Test	BC_10H BC_10F

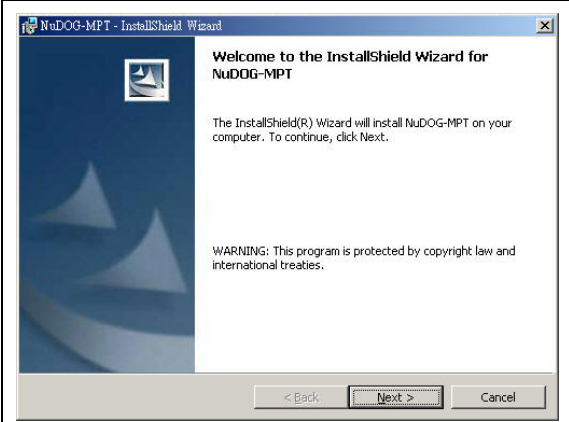
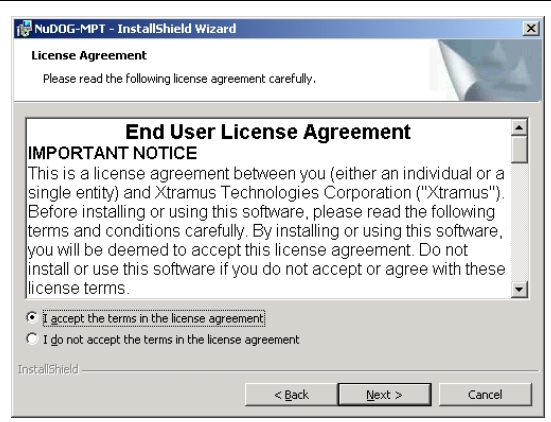
	BC_100H BC_100F
Filter Test	FT_10H FT_10F FT_100H FT_100F
CRC Error Test	CRC_10H CRC_10F CRC_100H CRC_100F
Ping Test	Ping (A→B) Ping (B→A) Ping (A→N) Ping (B→N)

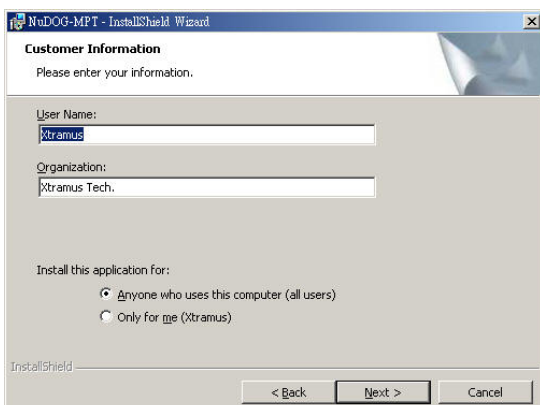
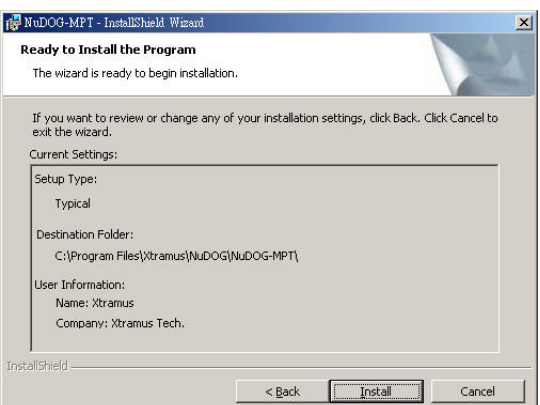
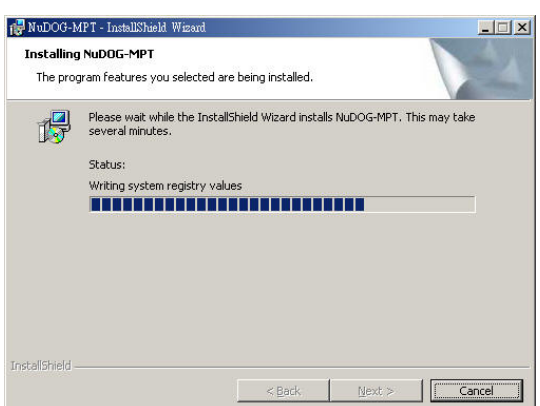
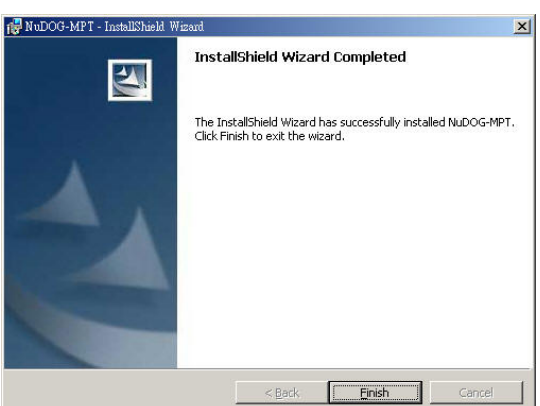
## 2. Software Installation and Uninstallation

### 2.1 Installation

Double click **NuDOG-MPT\_setup.exe**



 <p>Start NuDOG-MPT installation. Click <b>Next</b> to continue next step.</p>	 <p>Read License Agreement carefully before selecting to accept all terms and then click <b>Next</b> for next step.</p>
---	---

 <p><b>Customer Information</b> Please enter your information.</p> <p>User Name: Xtramus</p> <p>Organization: Xtramus Tech.</p> <p>Install this application for:</p> <p><input checked="" type="radio"/> Anyone who uses this computer (all users) <input type="radio"/> Only for me (Xtramus)</p> <p>InstallShield</p> <p>&lt; Back   Next &gt;   Cancel</p>	 <p><b>Ready to Install the Program</b> The wizard is ready to begin installation.</p> <p>If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.</p> <p>Current Settings:</p> <p>Setup Type: Typical</p> <p>Destination Folder: C:\Program Files\Xtramus\NuDOG\NuDOG-MPT\</p> <p>User Information: Name: Xtramus Company: Xtramus Tech.</p> <p>InstallShield</p> <p>&lt; Back   Install   Cancel</p>
<p>Input user's information. Then click <b>Next</b> for next step.</p>	<p>Confirm and review installation settings. Click <b>Install</b> for next step.</p>
 <p><b>Installing NuDOG-MPT</b> The program features you selected are being installed.</p> <p>Please wait while the InstallShield Wizard installs NuDOG-MPT. This may take several minutes.</p> <p>Status: Writing system registry values</p> <p>InstallShield</p> <p>&lt; Back   Next &gt;   Cancel</p>	 <p><b>InstallShield Wizard Completed</b></p> <p>The InstallShield Wizard has successfully installed NuDOG-MPT. Click Finish to exit the wizard.</p> <p>InstallShield</p> <p>&lt; Back   Finish   Cancel</p>
<p>NuDOG-MPT Installation is in progress.</p>	<p>NuDOG-MPT has been Installed successfully. Click <b>Finish</b> to exit the Wizard.</p>

## 2.2 Uninstallation

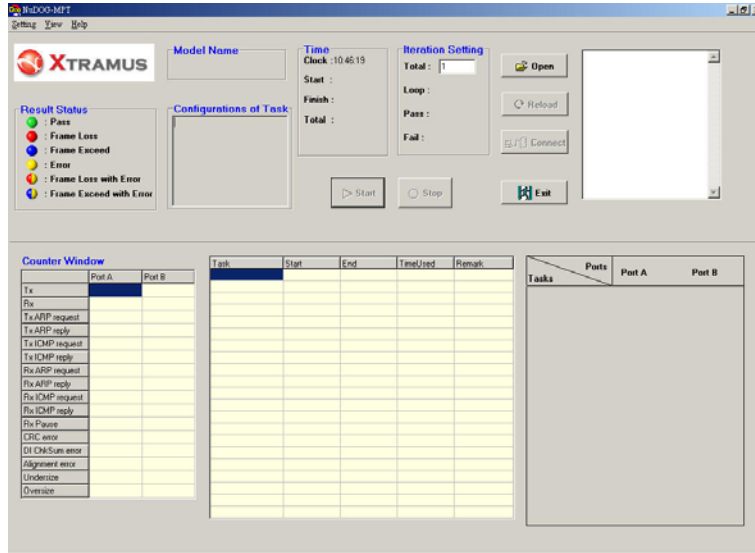
If applications do not work properly, it may be necessary to uninstall them. Or before updating a new version of the software, the previous version must be uninstalled first.

There are two ways to uninstall NuDOG-MPT: Start Menu or Control Panel.

- Start Menu: Click on Windows **Start** menu → **Programs** → **Xtramus** → **NuDOG** → **NuDOG-MPT** → **Uninstall NuDOG-MPT**.
- Control Panel: Activate the **Control Panel** → **Add/Remove Programs** → **NuDOG-MPT** → **Change/Remove**.

### 3. Main Window

The main window of the user interface is illustrated below. The top-level menu includes the following major parts: **Setting, View** and **Help**.




#### 3.1 Table Description

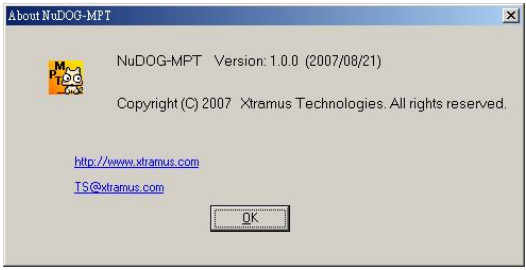
The choices for the **Setting Menu** are described in the table below:

Menu Choice	Usage
Modify Model	Open a dialog to modify configurations of an existing model.
New Model	Create configuration of a new model.
Exit	Exit NuDOG-MPT window

The choices for the **View Menu** are described in the table below:

Menu Choice	Usage
Show Current Log	Open the log file of the last test.
Show Current Config	Open the configuration file of the loaded model.
Show Current Folder	Open the folder of the loaded model.
Show NuDOG Information	 <p>Show the system version of NuDOG device.</p>







The choices for the **Help Menu** are described in the table below:

Menu Choice	Usage
Read Me	Open an introduction file about settings.
About NuDOG-MPT	 <p>Show information of NuDOG-MPT version.</p>

## 3.2 Interface Description

### 3.2.1 Result Status

The LED indicators of **Result Status** in the main window are described in the table below.




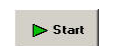

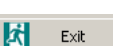
Item	Description
	Pass
	Frame Loss
	Frame Exceed
	Receives Error: CRC Error, Checksum Error, Alignment Error, Dribble Error, Oversize Frame, and Undersize Frame.
	Frame Loss and Receives Error Frames
	Frame Exceed and Receive Error Frames



### 3.2.2 Enforcement Buttons

The control buttons in the main window are described in the table below.

Item	Description
------	-------------

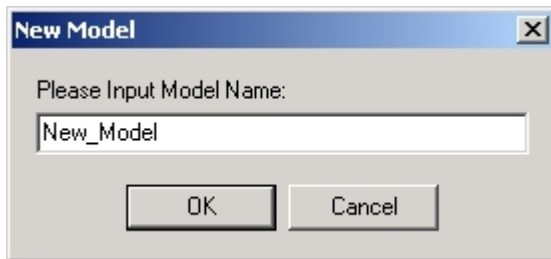


	Loads settings of the model corresponding to DUT.
	Reloads the same model if the parameters have been modified.
	Connects to NuDOG.
	Starts testing.
	Stops testing.
	Exits the program.

First, click  button to open an .ini file. Click  button to run the test.

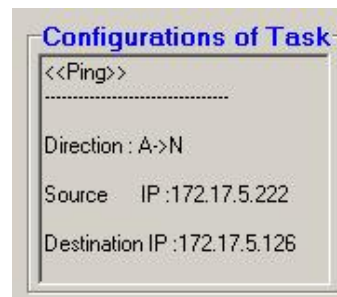
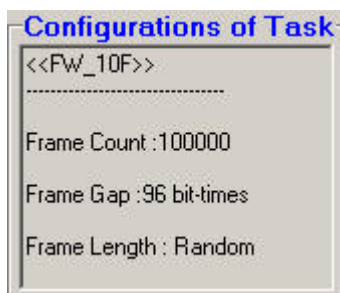
### 3.2.3 Model Name

Go to **Setting** menu and click **New Model** to bring out the window below.



Input a name to create a new model, then click **OK** button to exit.

### 3.2.4 Configurations of Task



Showing information of current parameters for Frame test including server address, frame length, frame count, frame gap, and for Ping test including direction, source IP and destination IP.

### 3.2.5 Time

**Time**  
**Clock** :17:40:40  
**Start** :17:38:37  
**Finish** :17:40:34  
**Total** :00:01:57

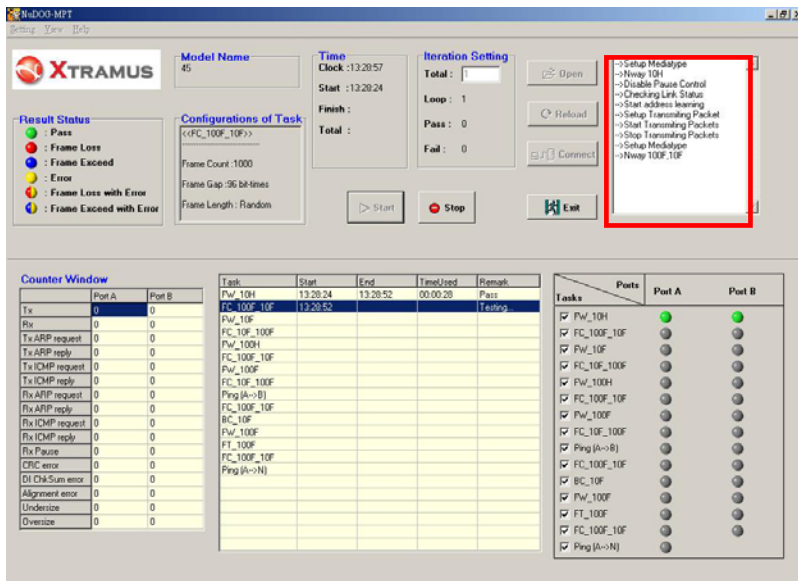
**Time** table displays the clock (the current time), what time the test starts and finishes, and the total time the test takes.

### 3.2.6 Iteration Setting

**Iteration Setting**  
**Total** : 10  
**Loop** : 5  
**Pass** : 4  
**Fail** : 0

Input the total number of times the test to be run, including total loop, loop for current, pass time and fail time.

### 3.2.7 Memo



The screenshot shows the XTRAMUS software interface. On the right side, there is a memo box with a red border containing the following steps:

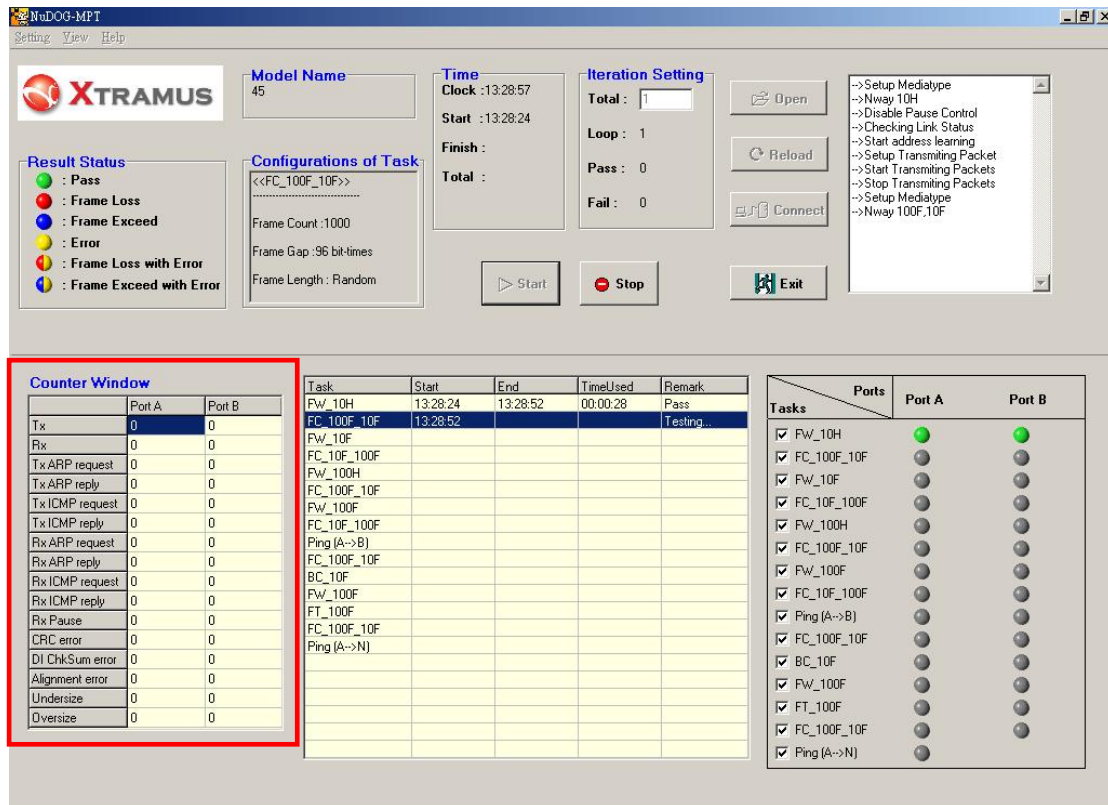
- >Setup Medatype
- >Newp 10H
- >Disable Pause Control
- >Checking Link Status
- >Start address learning
- >Setup Transmitting Packet
- >Start Transmitting Packets
- >Stop Transmitting Packets
- >Setup Medatype
- >Newp 100F,10F

Below the memo box, there is a 'Counter Window' table showing test results for various tasks and ports.

Task	Start	End	TimeUsed	Remark
Pw_10H	13:28:24	13:28:52	00:00:28	Pass
FC_100F_10F	13:28:52			Testing
Pw_10F				
FC_10F_100F				
Pw_100H				
FC_100F_10F				
Pw_100F				
FC_10F_100F				
Ping (A->B)				
FC_100F_10F				
BC_10F				
Pw_100F				
FT_100F				
FC_100F_10F				
Ping (A->N)				

Memo box on the upper right corner shows step by step as each process carries out.

### 3.2.8 Counter Window

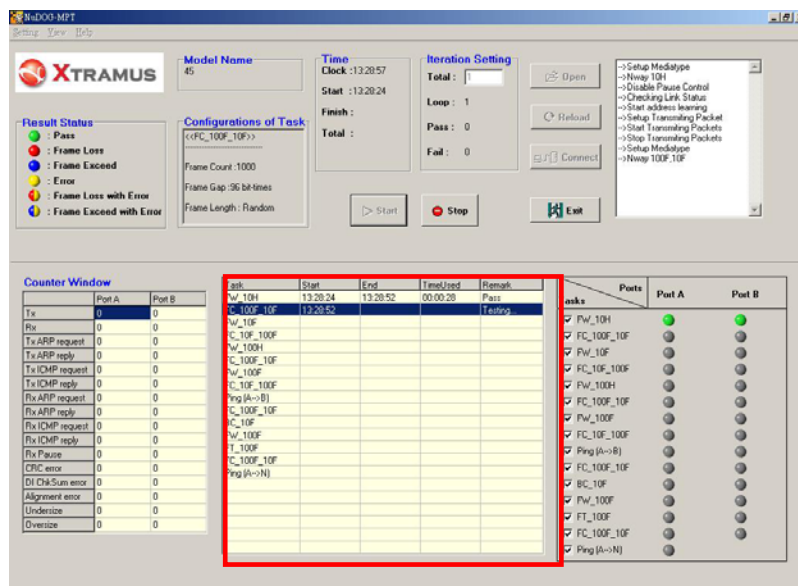


The Counter Window table shows the following data:

	Port A	Port B
Tx	0	0
Rx	0	0
Tx ARP request	0	0
Tx ARP reply	0	0
Tx ICMP request	0	0
Tx ICMP reply	0	0
Rx ARP request	0	0
Rx ARP reply	0	0
Rx ICMP request	0	0
Rx ICMP reply	0	0
Rx Pause	0	0
CRC error	0	0
DI ChkSum error	0	0
Alignment error	0	0
Undersize	0	0
Oversize	0	0

This table shows detailed transmit and receive counters and any error for Port A and Port B during every task.

### 3.2.9 Task Table



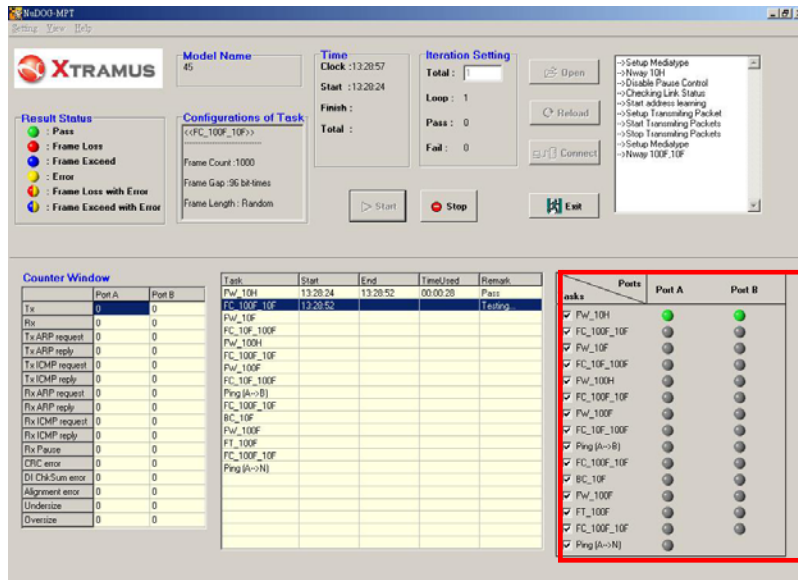
The Task Table shows the following data:

Task	Start	End	TimeUsed	Remark
FW_10H	13:28:24	13:28:52	00:00:28	Pass
FC_100F_10F	13:28:52			Testing...
FW_10F				
FC_10F_100F				
FW_100H				
FC_100F_10F				
FW_100F				
FC_10F_100F				
Ping (A->B)				
FC_100F_10F				
BC_10F				
FW_100F				
FT_100F				
FC_100F_10F				
Ping (A->N)				

The lower middle table shows which **Task** selected to be tested, and for each test loop, every relative task with **Start** (what time to start the test), **End** (what time to end the

test), **Time Used** (how much time totally used), and **Remark** states the task result in **Pass, Fail** or **Stopped**.

### 3.2.10 LED Panel



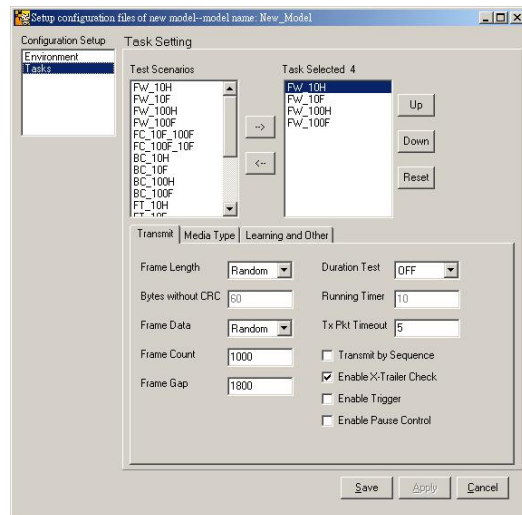
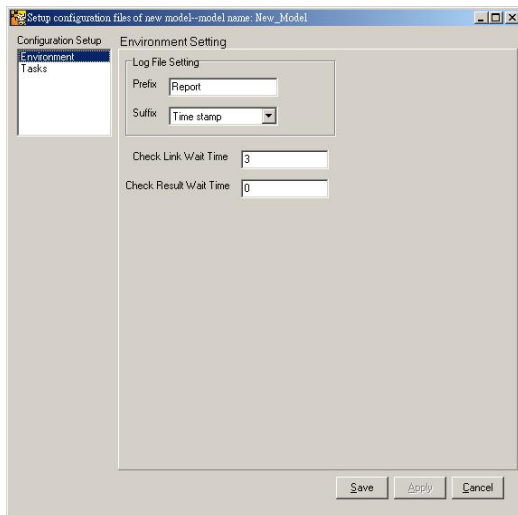
LED panel on the lower right shows every task result.

Gray light means frame is not chosen to be tested or not tested yet; green light means frame tests pass; red light means frame tests fail.

## 4. Function Setting

### 4.1 New Model

Go to Toolbar to select **Setting> New Model**. Create and type in a new model name and then click **OK** to bring out the Window below.



### 4.1.1 Configuration Setup

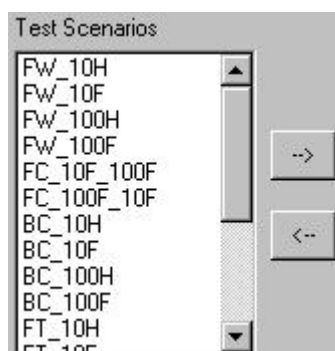
**Configuration Setup** includes two settings, **Environment** and **Tasks**.



**Environment** refers to the surroundings and conditions of the configuration settings while **Tasks** refers to which task(s) selected to be tested.

**Task Setting** contains two parts. The upper half is **Test Scenarios** and **Task Selected**. The lower half covers 3 tabs: **Transmit** (transmitting parameters), **Media Type** and **Learning and Other**.

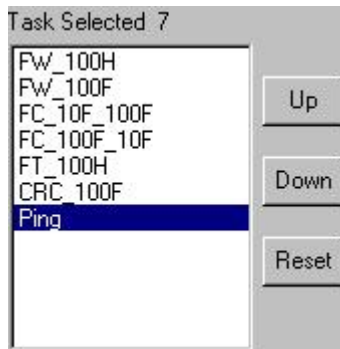
### 4.1.2 Task Setting

#### 4.1.2.1 Test Scenarios






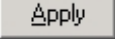
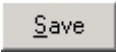
All pre-built tests (total of 16) are provided in this test scenario. Click mouse on any desired test(s) and use  or  button to add or countermand the tests needed to be performed.

#### 4.1.2.2 Task Selected #

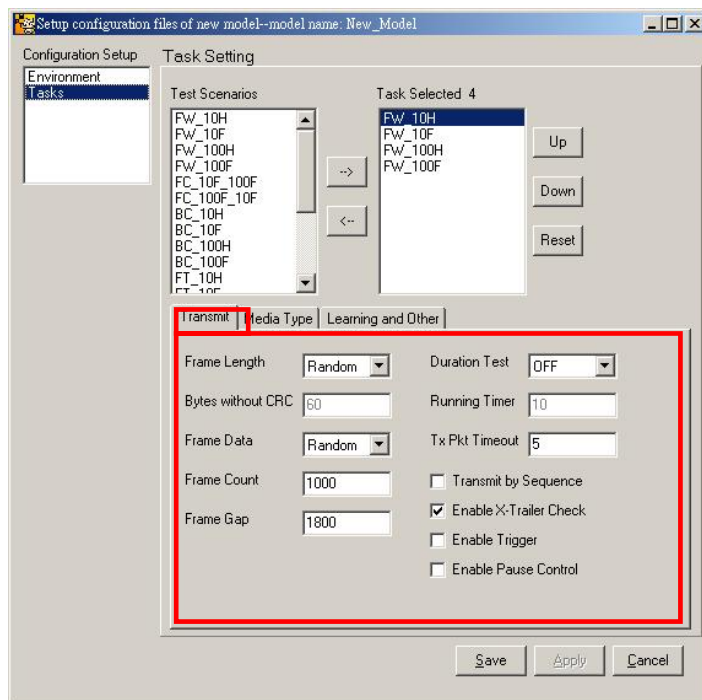


The column of **Task Selected #** shows what tests are chosen to be tested in order.

Click the desired test and then click **Up** button  or **Down** button  to arrange the selected tasks in order. Click **Reset**  button to clear all tasks selected.

When the settings complete, make sure to click **Apply** button  to enable all the settings and then click **Save** button  to save settings and go to the next step.

#### 4.1.2.3 Transmit



In **Transmit** tab, the main purpose is to edit frame settings to transmit. More details are elaborated below.



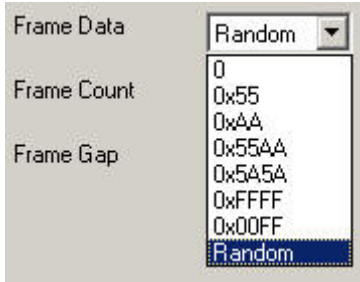
Frame Length: Random  
Bytes without CRC: Fixed

There are two options for frame length: Random and Fixed.



Bytes without CRC: 60

The bytes of frame length range from 60 to 1514 without CRC.



Frame Data: Random  
Frame Count: 0  
Frame Gap: 0x55AA

There are eight types of frame pattern to choose from: 7 pre-set ones and Random as left display. Scroll down to click mouse to complete choosing.




Frame Count: 100000

Set up the numbers of frame count in bit-time in this task.



Frame Gap: 96

Set up frame gap in bit-time for the task.



Duration Test: OFF  
Runin Timer: ON

In order to send packets every certain period of time, choose ON for duration.



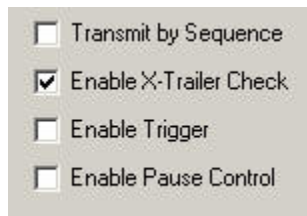
Runin Timer: 10

Assign the number of seconds to determine the interval to send packets.



Tx Pkt Timeout: 5

Assign time limit in seconds for every transmission.

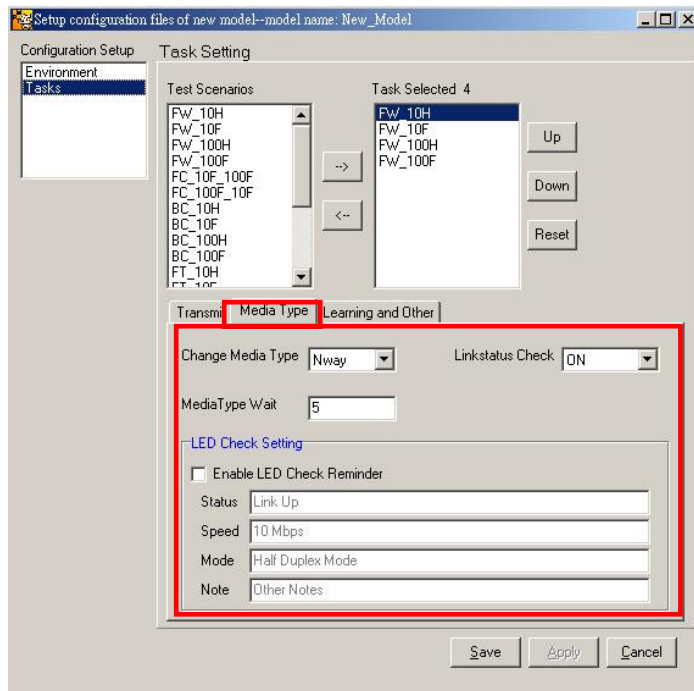


Transmit by Sequence  
 Enable X-Trailer Check  
 Enable Trigger  
 Enable Pause Control

These four additional settings help to enforce advanced frame functions. **Transmit by Sequence** refers to transmit frames one by one, **Enable X-Trailer Check** enables data integrity checking with X-trailer and it is the checksum computed on the contents of the frame. **Enable Trigger** is to add a trigger in the Tx frames, and **Enable Pause Control** enables the “flow control”.

Check the boxes to activate the corresponding functions.

#### 4.1.2.4 Media Type



**Change Media Type** allows changing media type in Nway or in Force. Or simply select OFF to stay with the default.

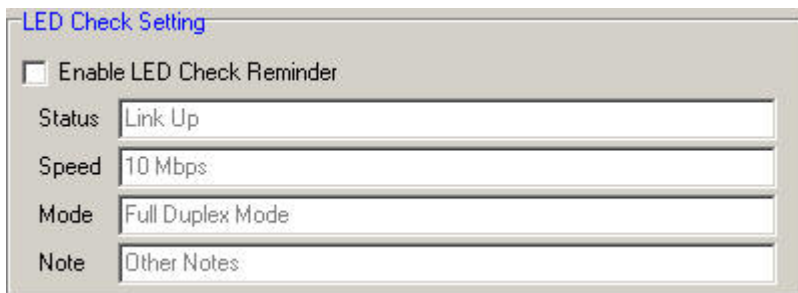
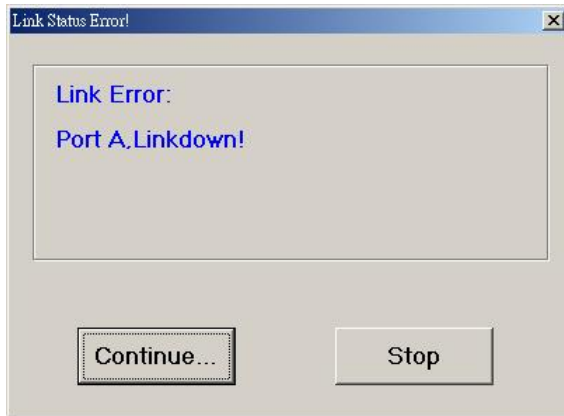


Assign duration in seconds to wait for media type being changed. The time may vary with DUT type.



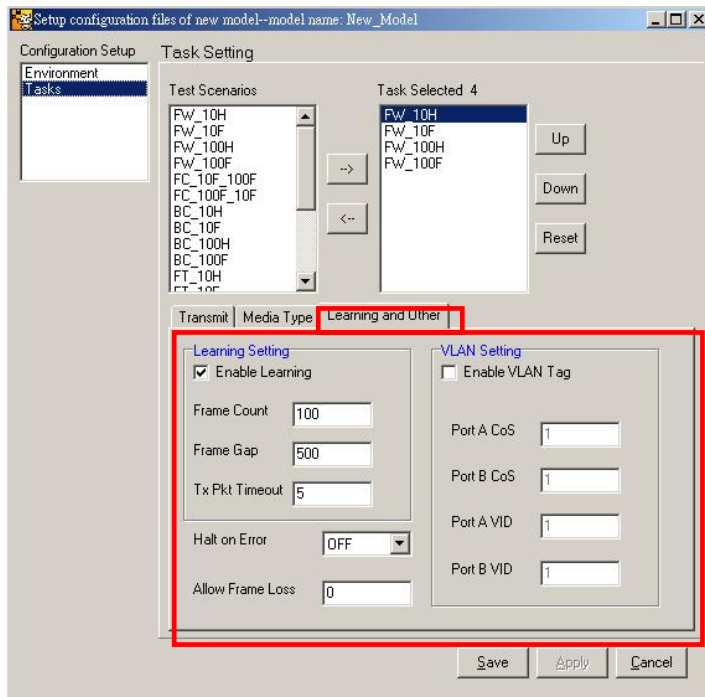
There are three types for link status. **OFF** is to run the tasks without checking the link status, **ON** is to check if the link status is normal and then run the tasks, **ON/Alarm** means to check if the link status is normal and an error window as below would appear if not.





In **LED Check Setting**, check the box of **Enable LED Check Reminder** to activate the four default settings. A message window will pop up every time before test to inquire about LED indicators being accurate.

#### 4.1.2.5 Learning and Other



Select **Learning and Other** tab to set up Learning parameters and VLAN Tag setting.

**Learning Setting**

Enable Learning

Frame Count

Frame Gap

Tx Pkt Timeout

In **Learning Setting**, check the box of **Enable Learning** to set up Frame Count, Frame Gap and Tx Pkt Timeout for sending learning packets before task.

Halt on Error

Allow Frame Loss

**Halt on Error** determines whether the test should be carried on or stopped when an error occurs.

Allow Frame Loss

**Allow Frame Loss** determines the number of frame loss allowed to establish test criterion.

**VLAN Setting**

Enable VLAN Tag

Port A CoS

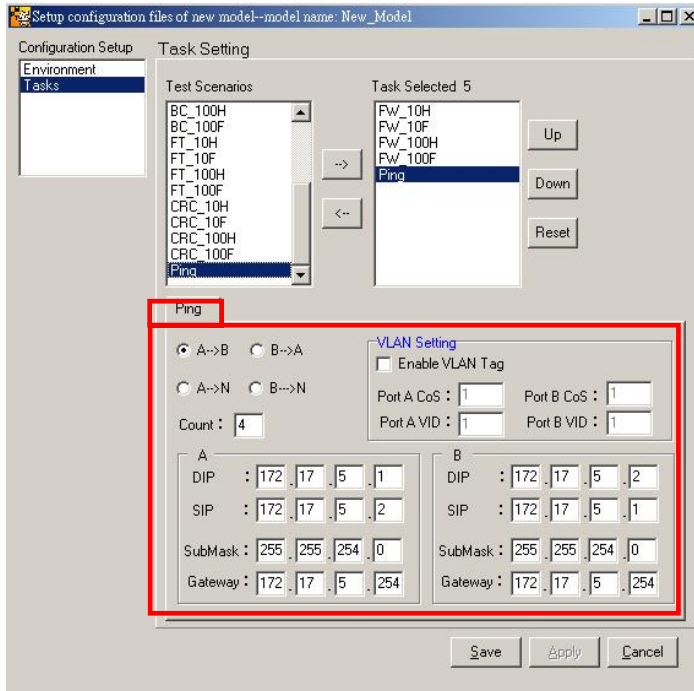
Port B CoS

Port A VID

Port B VID

In **VALN Setting**, check the box of **Enable VLAN Tag** to enables to set up VLAN Tag as the four listed items.

### 4.1.3 Task Ping



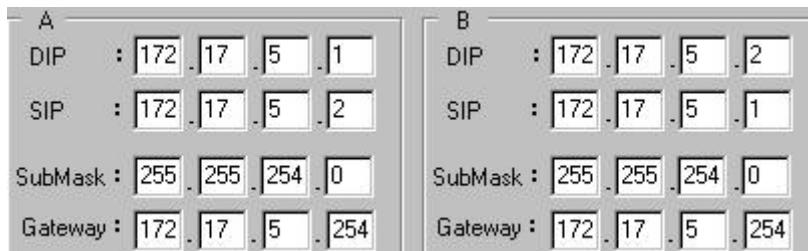
When Ping task is selected, the lower half appears the settings for Ping. The connection directions are available from Port A to Port B, from Port B to Port A, or from Port A or B to a connected switch or a network device.

#### 4.1.3.1 VLAN Setting



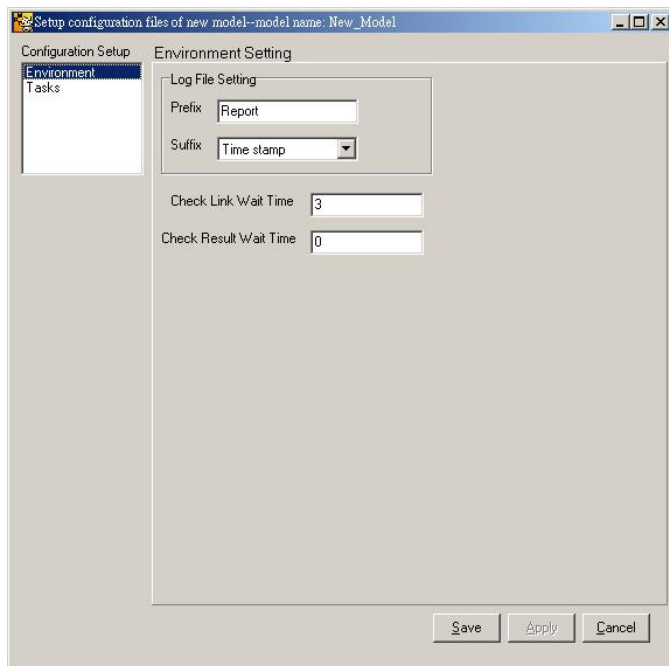
Check the box of **Enable VLAN Tag** to activate and input the numbers.

#### 4.1.3.2 IP Addresses, SubMask and Gateway

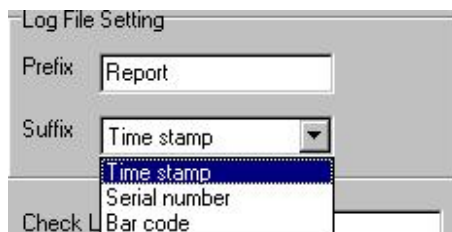


Set up Port A and Port B's IP addresses. Port A's DIP (B) is the same as Port B's SIP (B), and so is Port A's SIP (A) as Port B's DIP (A).

## 4.1.4 Environment Setting

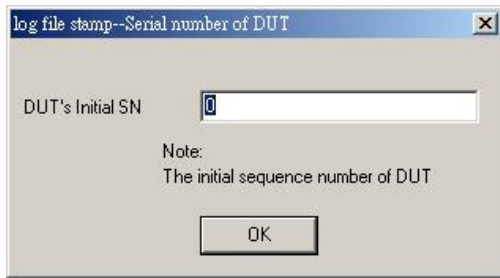


Environment setting includes Log File Setting, Check Link Wait Time and Check Result Wait Time to apply to the configuration.

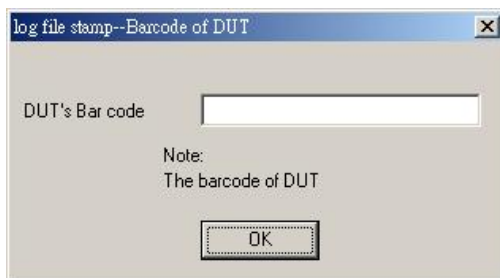


Assign **Prefix** and **Suffix** in **Log File Setting**. **Prefix** refers to put a header (default: Report) in a log filename. **Time stamp** indicates the time recorded for saving the log file, **Serial number** is the initial sequence number of a DUT, and **Bar code** is the barcode of a DUT.

After the configuration settings are applied and saved, the tasks can be started. A window will pop up as below if Serial Number is chosen in Suffix. Input a number (0~9,999,999,999) and the number increases by one automatically in the same model.




A window as below will pop up if Bar code is chosen in Suffix. Input the bar code of the DUT in blank and click OK to exit.

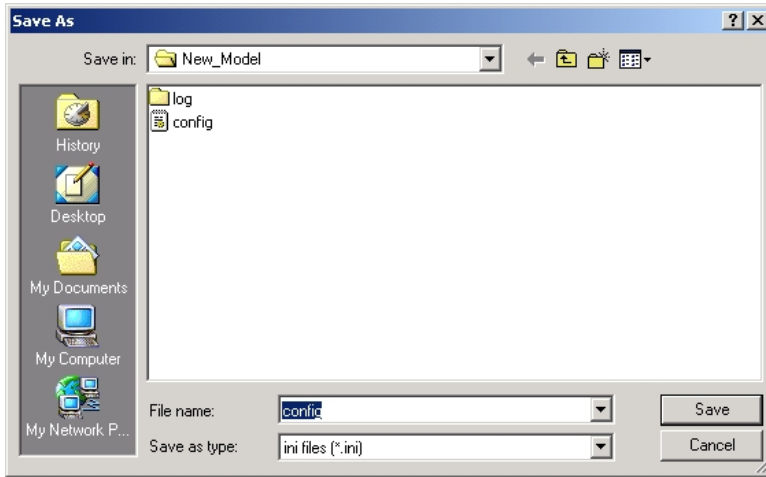


Assign the number of seconds to wait before checking the link status.



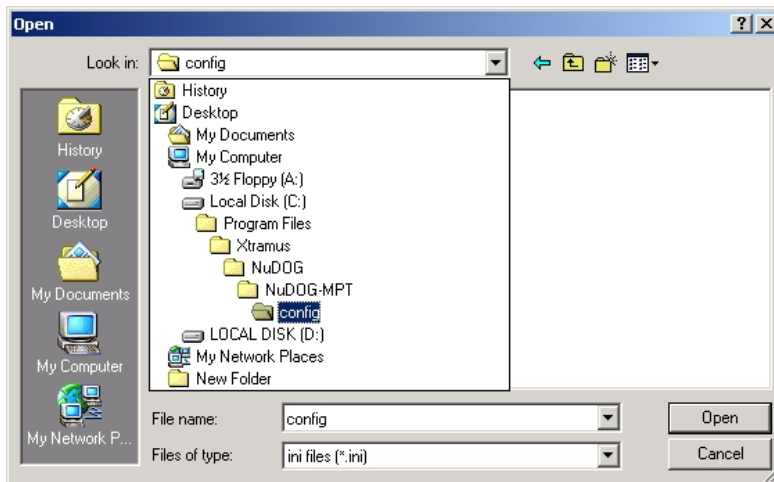
Assign the number of seconds to wait to check with the result.

When modify the settings through this dialog and save new settings. The new configurations will not be applied until clicking the **Reload** button .

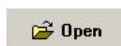


File name config is usually set as default for a new file name. Remember to save the config file after renewing a model.

## 4.2 Load Model

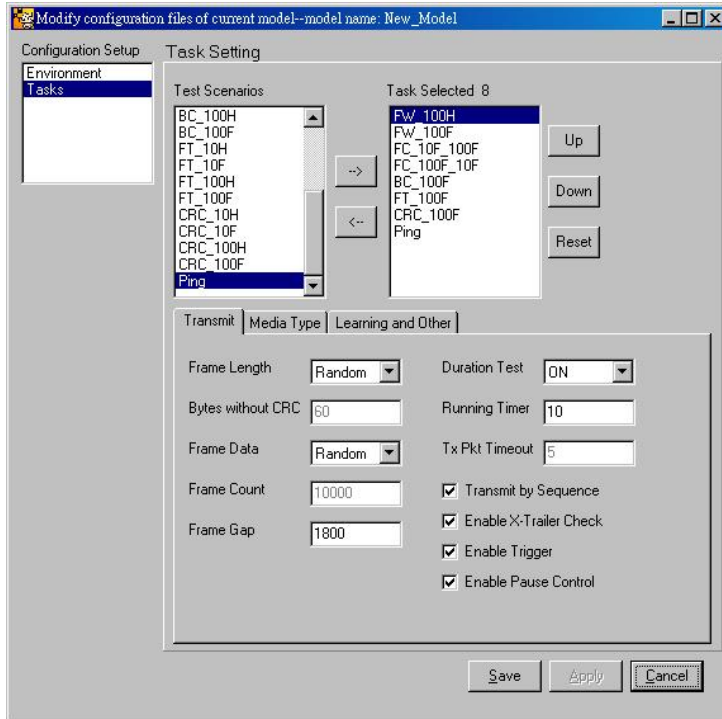


Load the model corresponding to DUT before test. Click the **Open** button

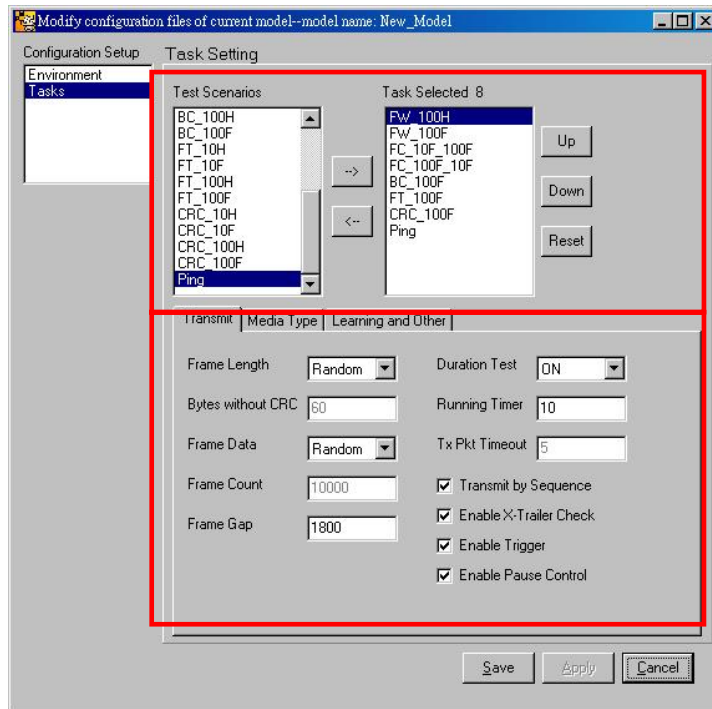


to open a \*.ini file.

## 4.3 Modify Model



After loading a model, Click **Setting** on the top menu and choose **Modify Model**. Its main purpose is to bring out existing configuration files to choose and to modify previous frame settings. As the same with New Model, there are two sections in **Configuration Setup: Environment and Tasks**.



In Task Setting, there are **Test Scenarios** and **Task Selected #**.

## 4.4 Modify Configuration



When the test is finished, the result is saved in a log file. Click **Show Current Log** to read the log information in notepad.

There are two parts in log files: **SUMMARY** and **DETAIL**.

Summary shows all information including model name, version, start time, use and end time, and all the tasks performed. In Detail, it shows every task name, time used, setting parameters (including frame count, frame gap, frame length, loss and pause control or count, direction, source IP and destination IP for Ping), result (performance test and link check), and final result status (including port, Tx frame, Rx frame, pause, CRC error, checksum error, Alignment error, undersize, oversize and trigger or Tx/ Rx request/ reply for Ping).



```

====<< SUMMARY >>====
Model          : New_Model
DogMPT        : v1.0.0
Loop          : 1/1
Time Start    : 10:20:00 24/07/2007
Time End      : 10:21:32 24/07/2007
Time Used     : 00:01:32

-----
Total Iteration : 1
Pass            : 1
Fail           : 0

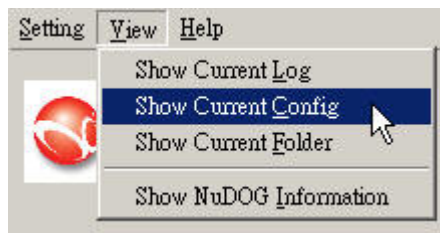
-----
Task            Start            End              Time Used       Remark
-----
FW_10H         10:20:00         10:20:23        00:00:23       Pass
FW_10F         10:20:23         10:20:46        00:00:22       Pass
FW_100H        10:20:46         10:21:09        00:00:23       Pass
FW_100F        10:21:09         10:21:32        00:00:22       Pass
-----

====<< DETAIL >>====
*****
Task Name      FW_10H
Time Used     00:00:23

Setting:
-----
Frame count   : 1000
Frame gap     : 1800 bit-times
Frame length  : Random
Allow Loss    : 0
Pause Ctrl1   : OFF

-----
Result:
-----
Performance Test: Pass
Link Check      : Pass

```



**Show Current Config** is to open a notepad for the current configuration file (\*.ini) of a loaded model to show its environment and detailed parameters of each task.

```


[Environment]
ModelName=New_Model
LogName=Report
LogStamp=0
Num_Task=4
CheckLink_Wait=3
CheckResult_Wait=0
NuOutlet_ChassisID=2
NuOutlet_BoardID=2
NuOutlet_PortID=1
[Task1]
Task=FW_10H
FrameLength=random
FrameData=random
FrameCount=1000
FrameGap=1800
DurationTest=0
RuninTimer=10
MediaType_Change=1
MediaTypeWait=5
TxPktWait=5

AllowableError=0
HaltFlag=0
Learn_Enable=1
Learn_Count=100
Learn_Gap=500
Learn_Wait=5
Learn_SEQ=0
LinkCheck_Enable=1
LedCheck_Enable=0
LedCheck_Status=Link Up
LedCheck_Speed=10 Mbps
LedCheck_Mode=Half Duplex Mode
LedCheck_Note=Other Notes
Transmit_SEQ=0
Trigger_Enable=0
XTrailer_Enable=1
Pause_Enable=0
SwapMDI_Enable=0
NuOutlet_Enable=0
NuOutlet_Voltage_High=0
NuOutlet_Voltage_Low=0

```




Click **Show Current Folder** to open the current folder, which saves log files in the same model.

Click **Open** button  to bring out the window for the list of \*.log files.

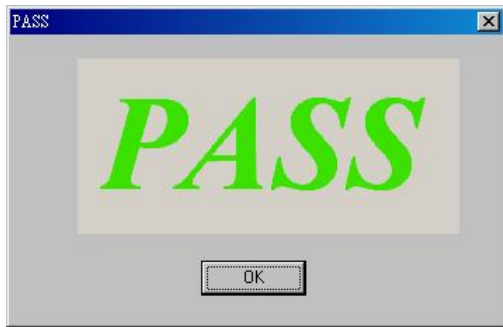
Name ▲	Size	Type	Modified
Report2007_07_31_13_16_52_Fail	4 KB	Text Document	7/31/2007 1:16 PM
Report2007_07_31_13_24_41_Fail	4 KB	Text Document	7/31/2007 1:24 PM
Report2007_07_31_13_53_03_Fail	4 KB	Text Document	7/31/2007 1:53 PM
Report2007_07_31_14_02_39_Fail	4 KB	Text Document	7/31/2007 2:02 PM
Report2007_07_31_14_08_03_Fail	4 KB	Text Document	7/31/2007 2:08 PM
Report2007_07_31_14_09_45_Pass	3 KB	Text Document	7/31/2007 2:09 PM
Report2007_07_31_14_18_53_Fail	3 KB	Text Document	7/31/2007 2:18 PM
Report2007_07_31_14_27_25_Fail	4 KB	Text Document	7/31/2007 2:27 PM
Report2007_07_31_14_31_02_Fail	4 KB	Text Document	7/31/2007 2:31 PM
Report2007_07_31_14_33_48_Fail	4 KB	Text Document	7/31/2007 2:33 PM
Report2007_07_31_14_45_18_Fail	7 KB	Text Document	7/31/2007 2:45 PM
Report2007_07_31_14_47_28_Pass	3 KB	Text Document	7/31/2007 2:47 PM
Report2007_07_31_15_04_20_Fail	5 KB	Text Document	7/31/2007 3:04 PM
Report2007_07_31_15_06_22_Fail	3 KB	Text Document	7/31/2007 3:06 PM
Report2007_07_31_15_07_04_Fail	3 KB	Text Document	7/31/2007 3:07 PM
Report2007_07_31_15_07_30_Fail	3 KB	Text Document	7/31/2007 3:07 PM
Report2007_07_31_15_08_03_Fail	3 KB	Text Document	7/31/2007 3:08 PM
Report2007_07_31_15_12_51_Fail	3 KB	Text Document	7/31/2007 3:12 PM
Report2007_07_31_15_18_57_Fail	3 KB	Text Document	7/31/2007 3:18 PM
Report2007_07_31_15_26_13_Fail	3 KB	Text Document	7/31/2007 3:26 PM
Report2007_07_31_15_28_08_Pass	3 KB	Text Document	7/31/2007 3:28 PM

Task results are directly footnoted in file names.

## 5. Testing

After all the settings and configurations are modified, click **Start** button  in the middle on the main window for the program to run tasks.

If all the tasks complete and pass, the window of **PASS** will pop up as follows:



However, if any of the tasks fails, then the window of **FAIL** will pop up.



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