XTRAMUS

NuDOG-MPT

User's Manual

V 1.0.0

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CONTENTS

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.

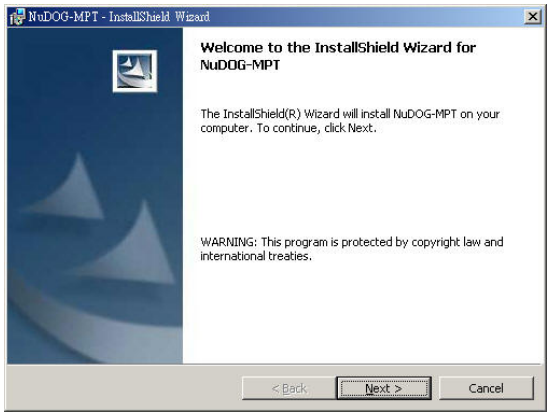
Test Name	Test Item
Forwarding Test	FW_10H (10M Half Duplex) FW_10F (10M Full Duplex) FW_100H (100M Half Duplex) FW_100F (100M Full Duplex)
Flow Control Test	FC_10F_100F (10M Full ↔100M Full) FC_100F_10F (100M Full ↔10M Full)
Broadcast Test	BC_10H BC_10F

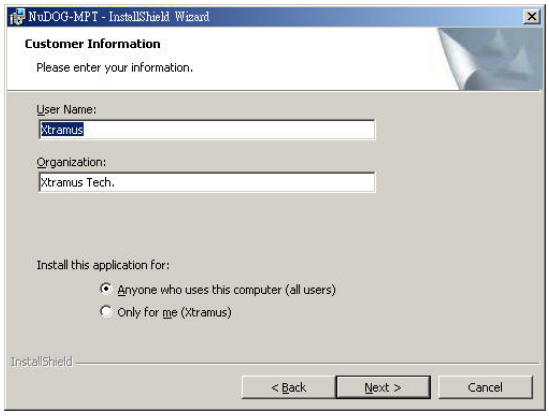
	BC_100H BC_100F
Filter Test	FT_10H FT_10F FT_100H FT_100F
CRC Error Test	CRC_10H CRC_10F CRC_100H CRC_100F
Ping Test	Ping (A→B) Ping (B→A) Ping (A→N) Ping (B→N)

2. Software Installation and Uninstallation

2.1 Installation

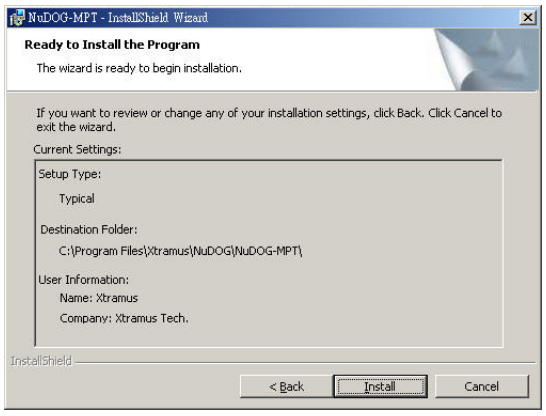
Double click **NuDOG-MPT_setup.exe**  .

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



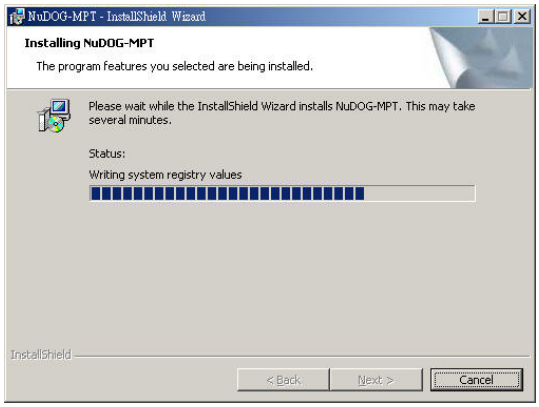
Input user's information.

Then click **Next** for next step.

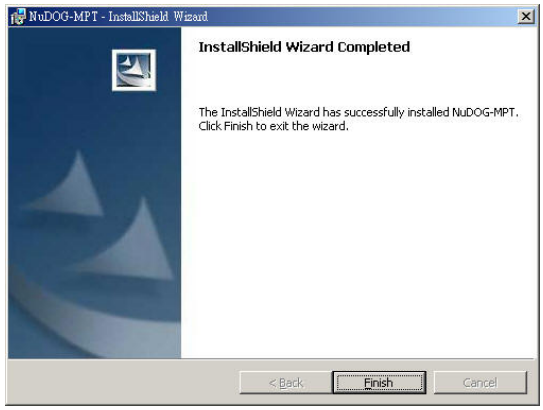


Confirm and review installation settings.

Click **Install** for next step.



NuDOG-MPT Installation is in progress.



NuDOG-MPT has been Installed successfully. Click **Finish** to exit the Wizard.

2.2 Uninstallation

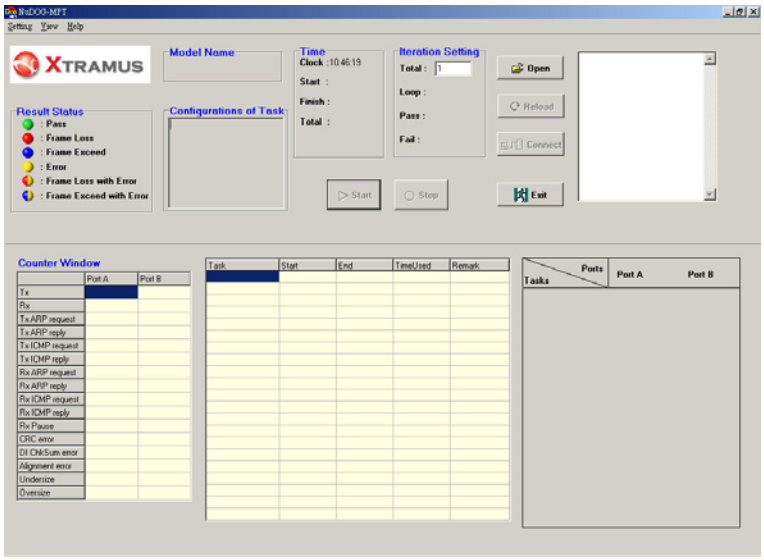
If applications do not work properly, it may be necessary to uninstall them. Or before updating a new version of the software, the previous version must be uninstalled first.

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

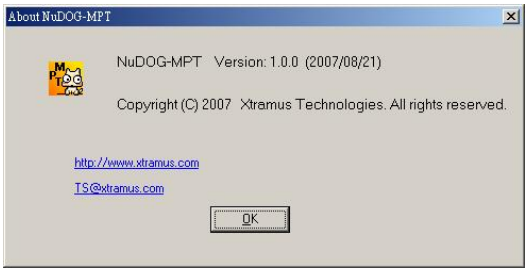
The choices for the **Setting Menu** are described in the table below:

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	 Show the system version of NuDOG device.

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	 Show information of NuDOG-MPT version.

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.

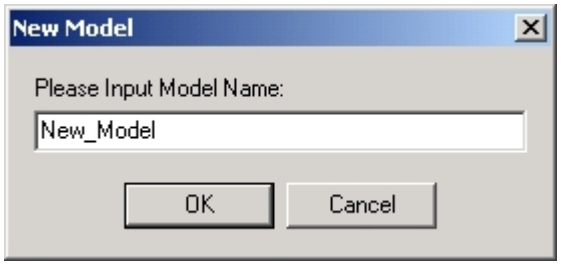
Item	Description

Open	Loads settings of the model corresponding to DUT.
Reload	Reloads the same model if the parameters have been modified.
Connect	Connects to NuDOG.
Start	Starts testing.
Stop	Stops testing.
Exit	Exits the program.

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

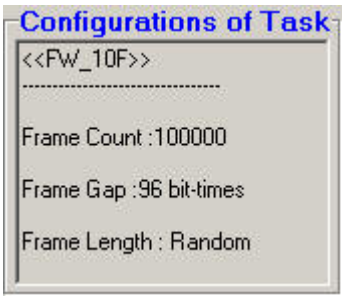
3.2.3 Model Name

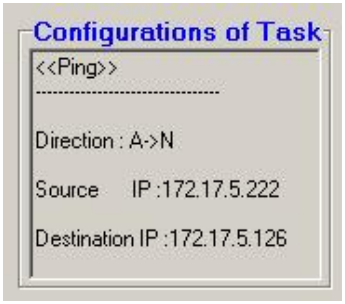
Go to **Setting** menu and click **New Model** to bring out the window below.



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

3.2.4 Configurations of Task



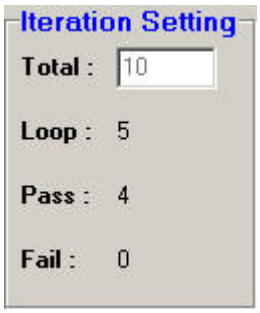


Showing information of current parameters for Frame test including server address, frame length, frame count, frame gap, and for Ping test including direction, source IP and destination IP.

3.2.5 Time

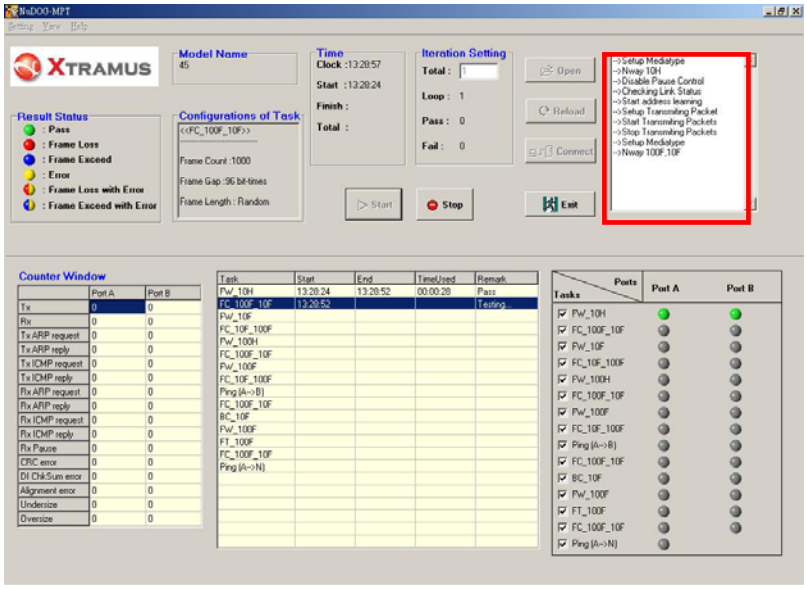
Time table displays the clock (the current time), what time the test starts and finishes, and the total time the test takes.

3.2.6 Iteration Setting



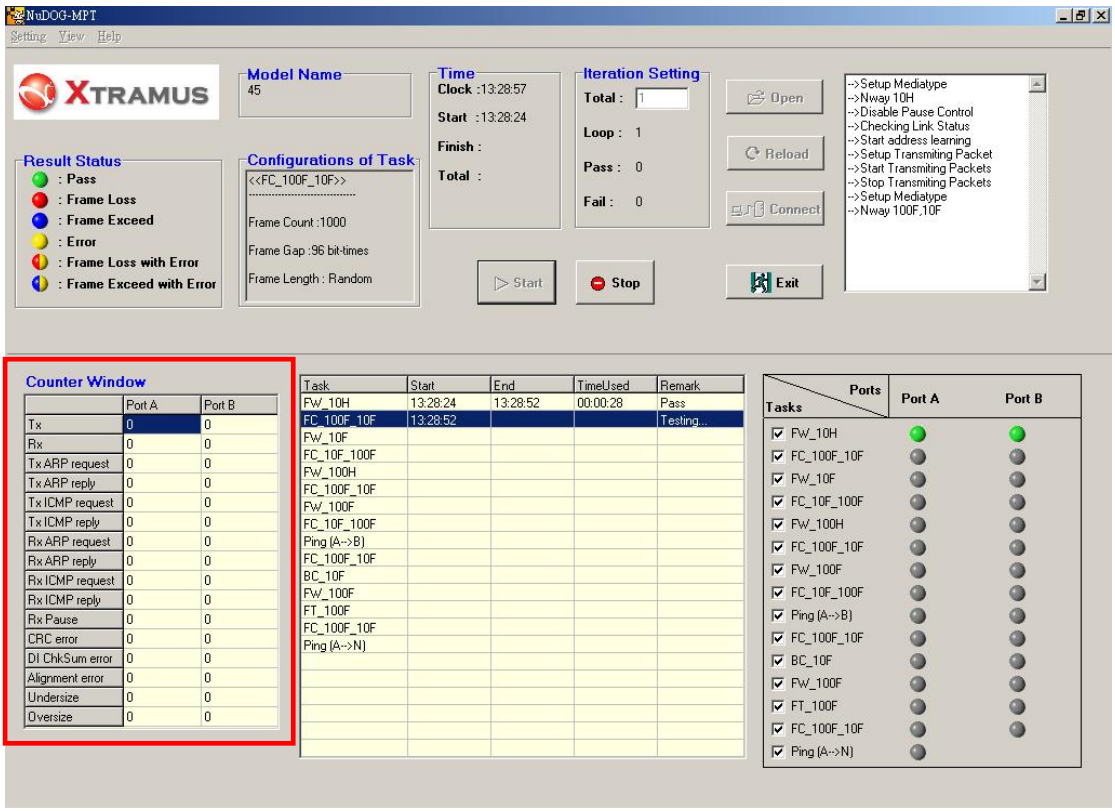
Input the total number of times the test to be run, including total loop, loop for current, pass time and fail time.

3.2.7 Memo



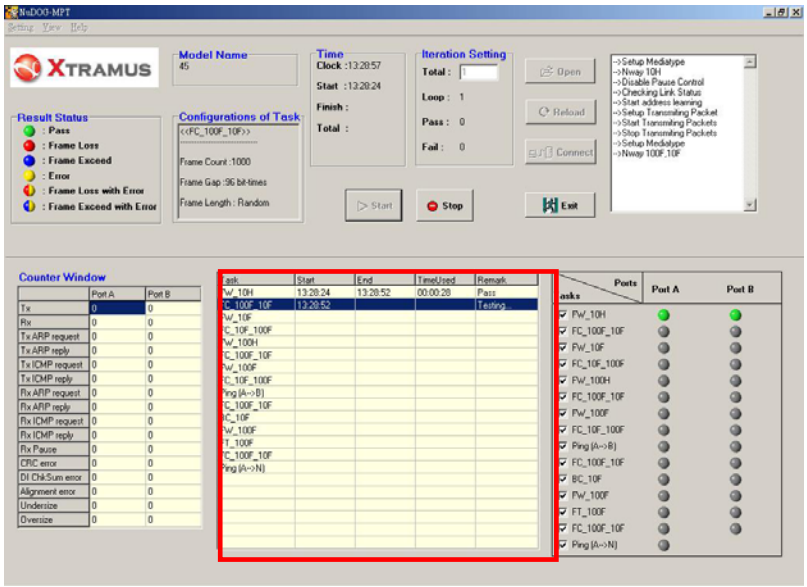
Memo box on the upper right corner shows step by step as each process carries out.

3.2.8 Counter Window



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

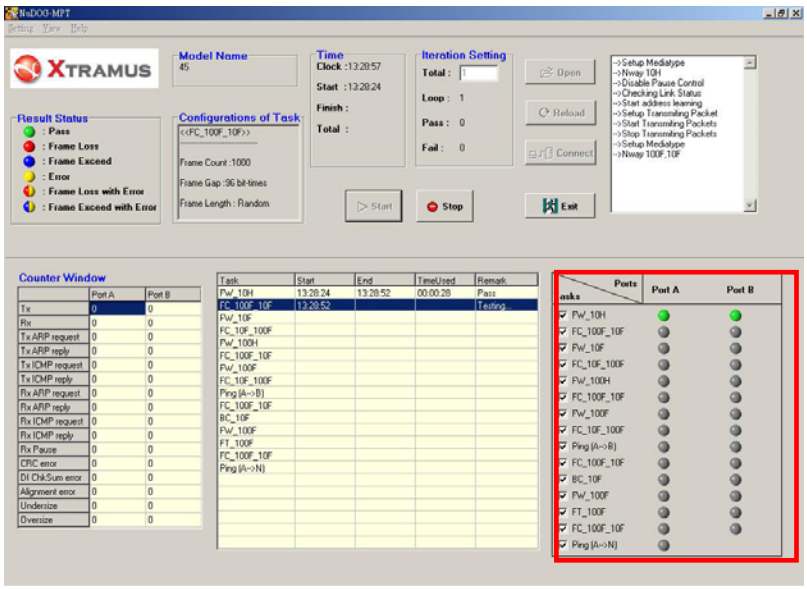
3.2.9 Task Table



The 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

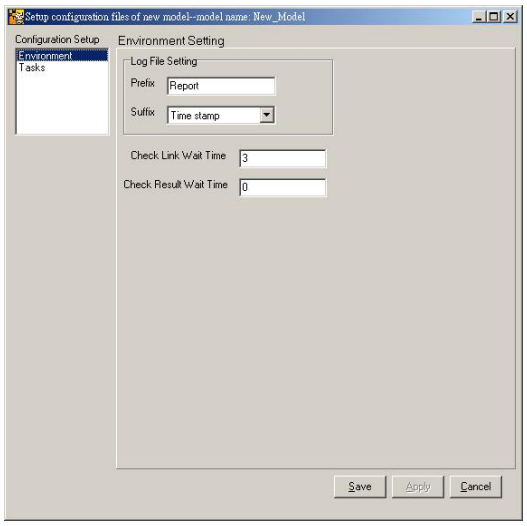


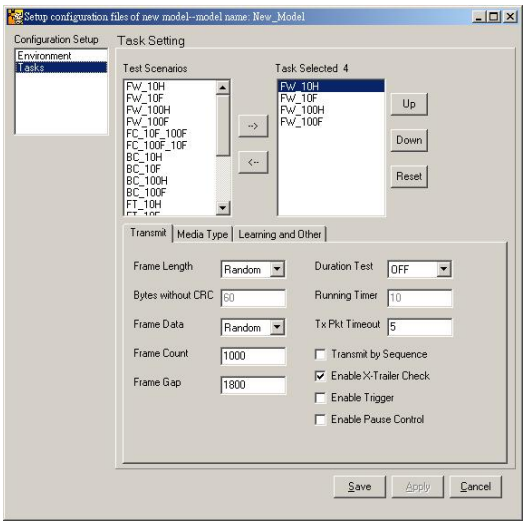
LED panel on the lower right shows every task result.
Gray light means frame is not chosen to be tested or not tested yet; green light means frame tests pass; red light means frame tests fail.

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

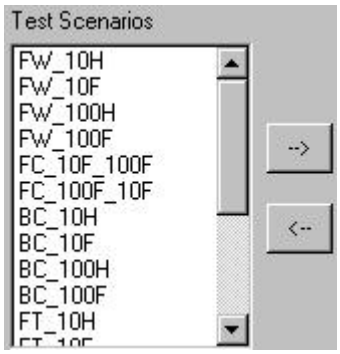
Configuration Setup includes two settings, **Environment** and **Tasks**.

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**.

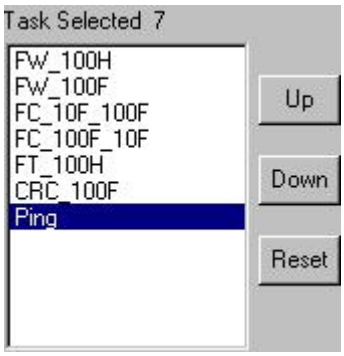
4.1.2 Task Setting

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.

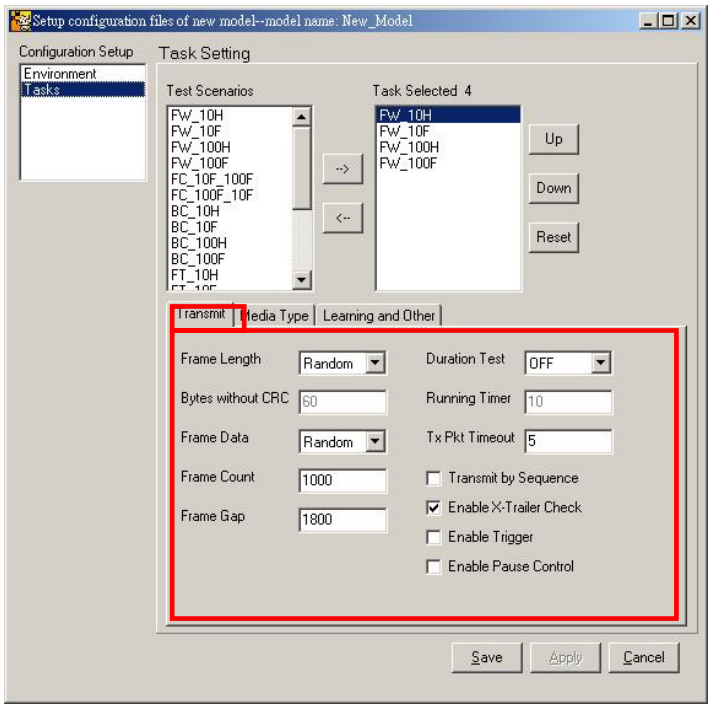
4.1.2.2 Task Selected #



The column of **Task Selected** # shows what tests are chosen to be tested in order. Click the desired test and then click **Up** button Up or **Down** button Down to arrange the selected tasks in order. Click **Reset** Reset button to clear all tasks selected.

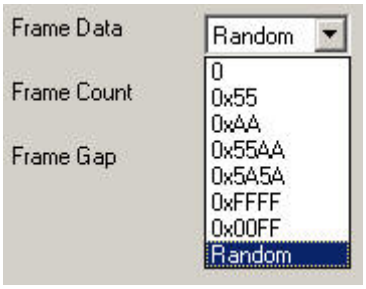
When the settings complete, make sure to click **Apply** button Apply to enable all the settings and then click **Save** button Save to save settings and go to the next step.

4.1.2.3 Transmit



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

There are two options for frame length: Random and Fixed.
The bytes of frame length range from 60 to 1514 without CRC.



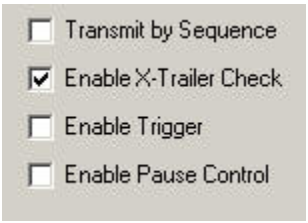
There are eight types of frame pattern to choose from: 7 pre-set ones and Random as left display. Scroll down to click mouse to complete choosing.

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

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

In order to send packets every certain period of time, choose ON for duration.
Assign the number of seconds to determine the interval to send packets.

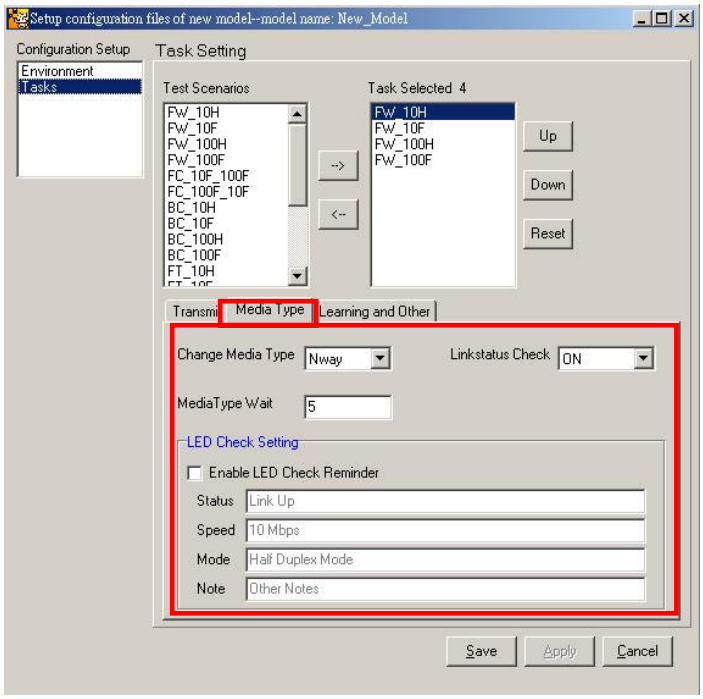
Assign time limit in seconds for every transmission.



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”.

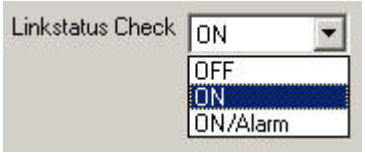
Check the boxes to activate the corresponding functions.

4.1.2.4 Media Type

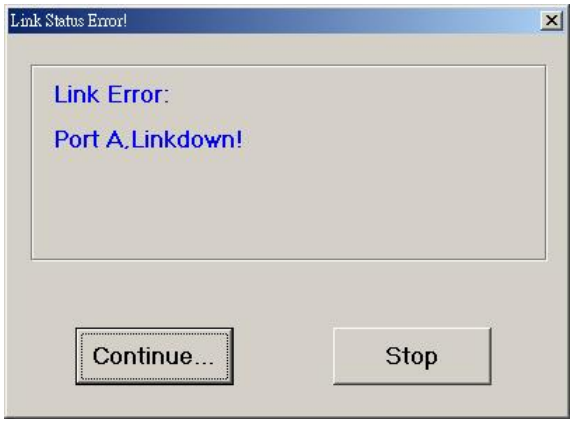


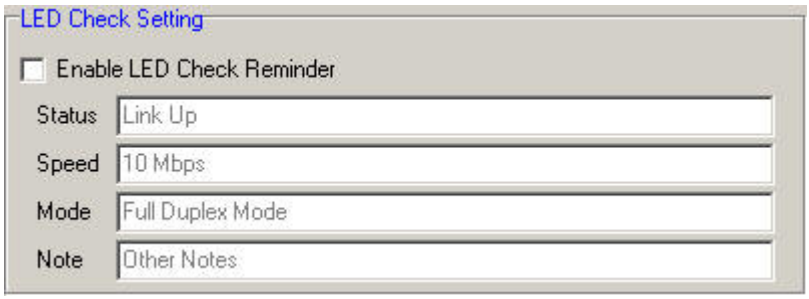
Change Media Type allows changing media type in Nway or in Force. Or simply select OFF to stay with the default.

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



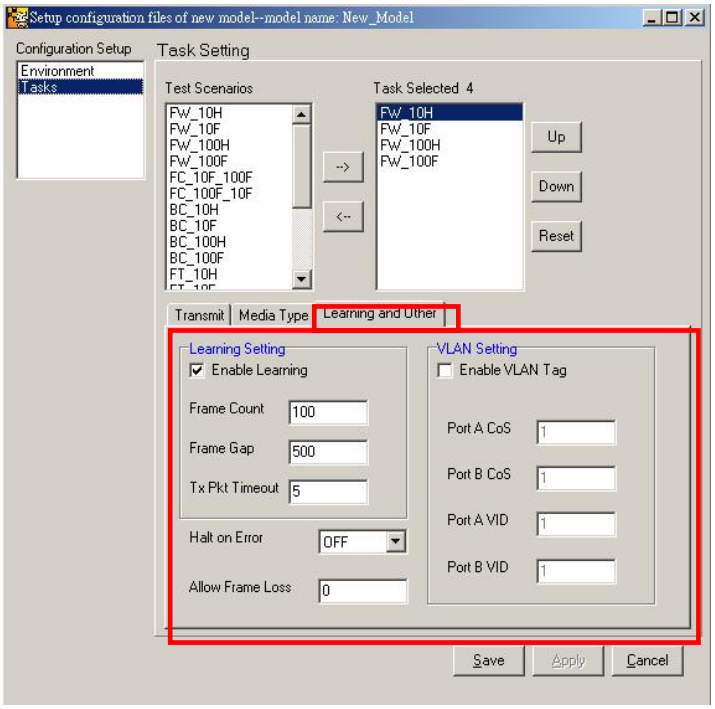
There are three types for link status. **OFF** is to run the tasks without checking the link status, **ON** is to check if the link status is normal and then run the tasks, **ON/Alarm** means to check if the link status is normal and an error window as below would appear if not.



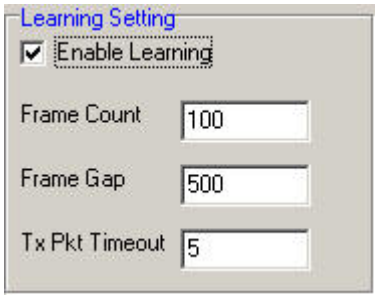


In **LED Check Setting,** check the box of **Enable LED Check Reminder** to activate the four default settings. A message window will pop up every time before test to inquire about LED indicators being accurate.

4.1.2.5 Learning and Other



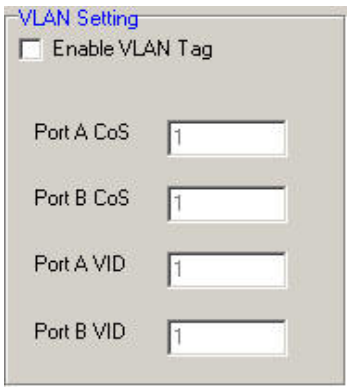
Select **Learning and Other** tab to set up Learning parameters and VLAN Tag setting.



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.

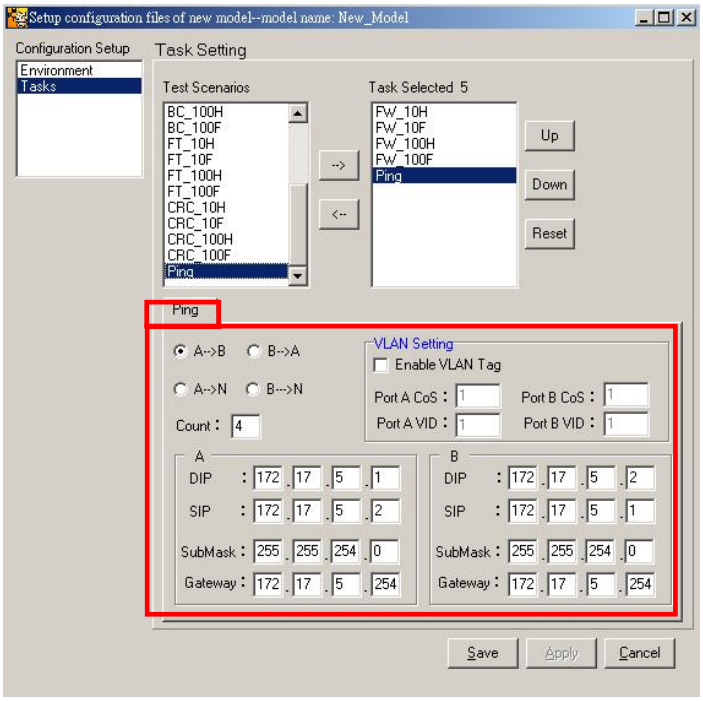
Halt on Error determines whether the test should be carried on or stopped when an error occurs.

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



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

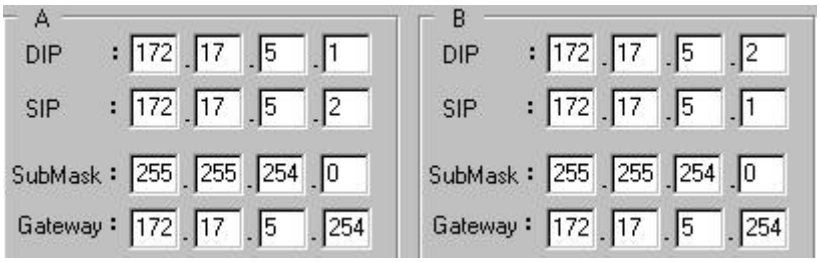


When Ping task is selected, the lower half appears the settings for Ping. The connection directions are available from Port A to Port B, from Port B to Port A, or from Port A or B to a connected switch or a network device.

4.1.3.1 VLAN Setting

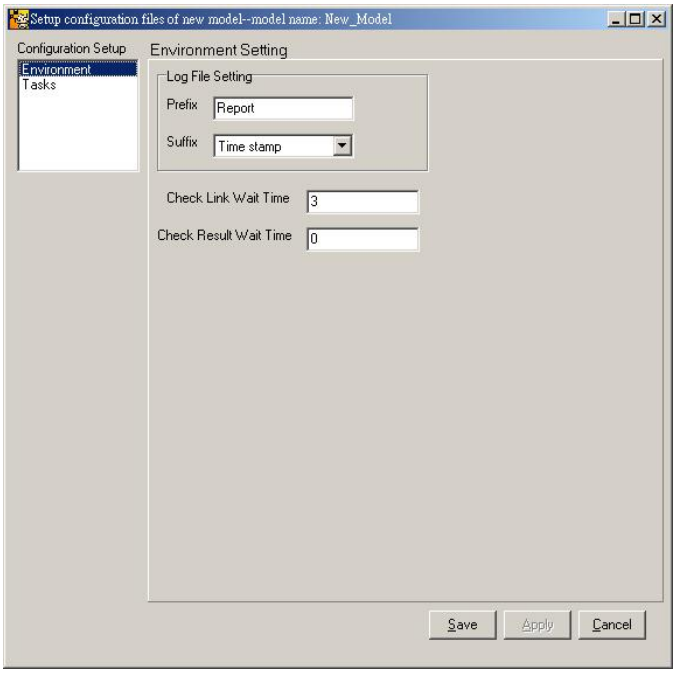
Check the box of **Enable VLAN Tag** to activate and input the numbers.

4.1.3.2 IP Addresses, SubMask and Gateway

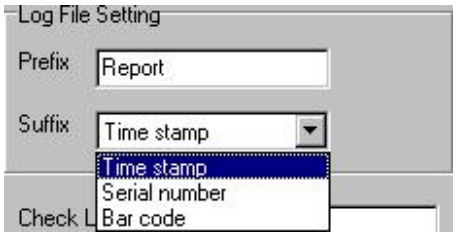


Set up Port A and Port B's IP addresses. Port A's DIP (B) is the same as Port B's SIP (B), and so is Port A's SIP (A) as Port B's DIP (A).

4.1.4 Environment Setting

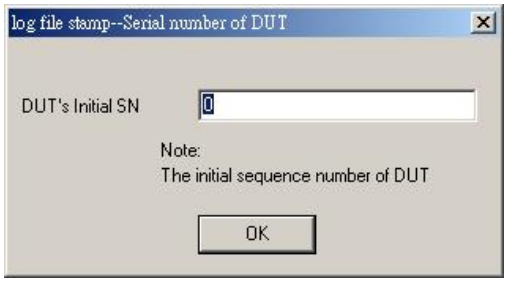


Environment setting includes Log File Setting, Check Link Wait Time and Check Result Wait Time to apply to the configuration.

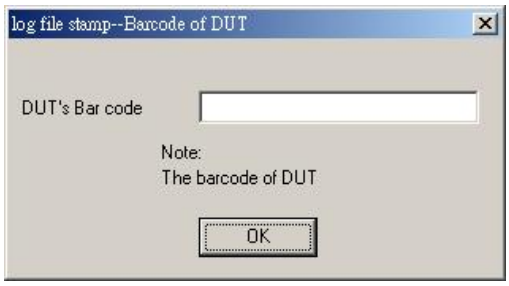


Assign **Prefix** and **Suffix** in **Log File Setting**. **Prefix** refers to put a header (default: Report) in a log filename. **Time stamp** indicates the time recorded for saving the log file, **Serial number** is the initial sequence number of a DUT, and **Bar code** is the barcode of a DUT.

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.

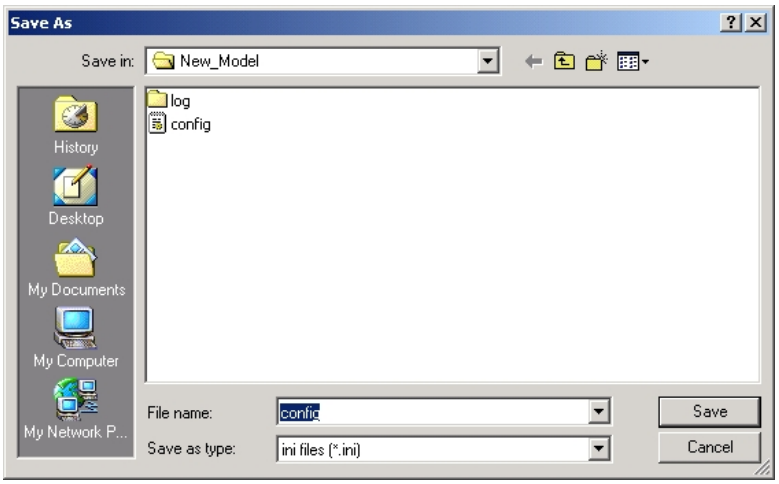


Assign the number of seconds to wait before checking the link status.

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

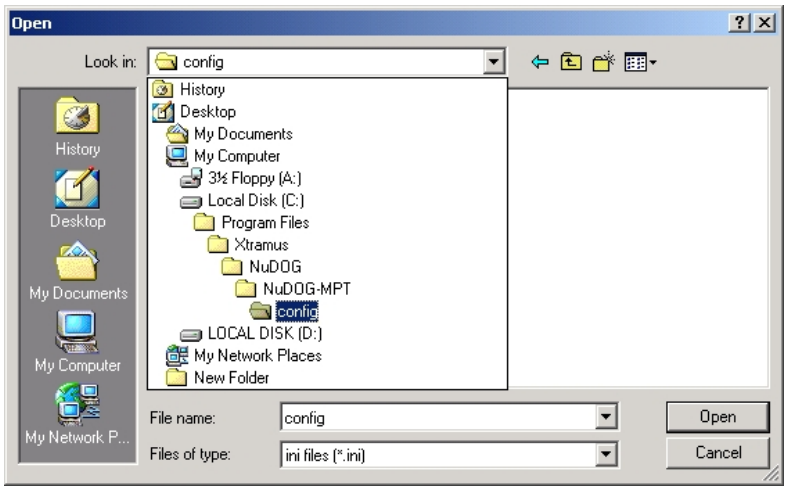
When modify the settings through this dialog and save new settings. The new configurations will not be applied until clicking the **Reload** button 

.



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

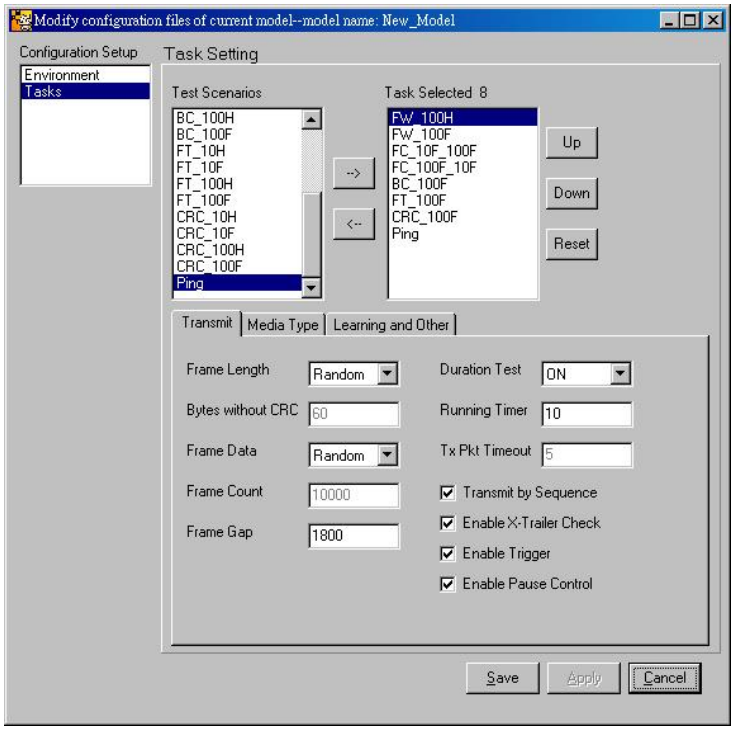
4.2 Load Model



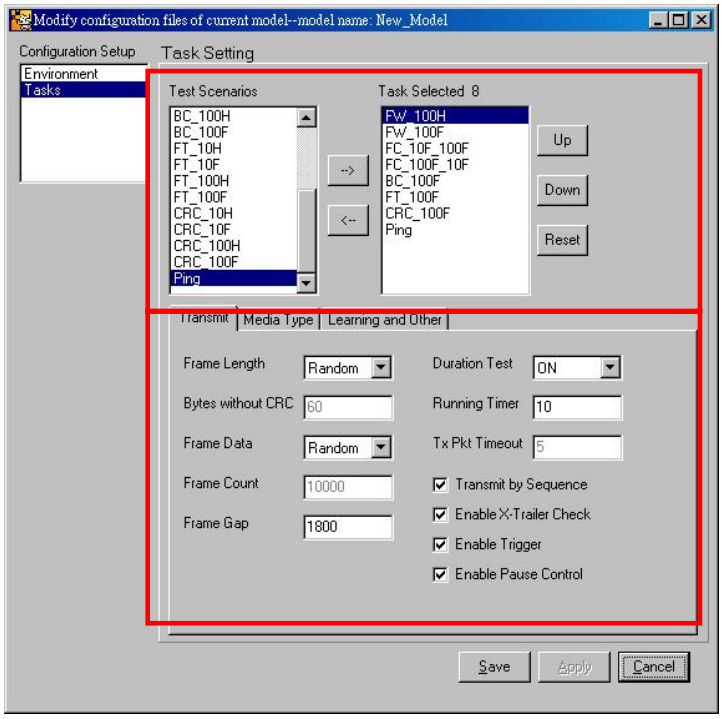
Load the model corresponding to DUT before test. Click the **Open** button 

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).

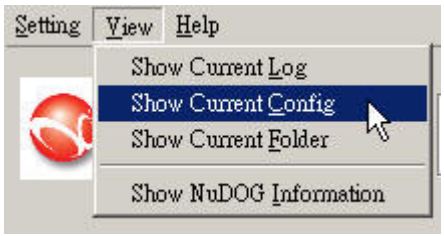
```
===<< SUMMARY >>=================================================================
Model              : New_Model
DogMPT             : v1.0.0
Loop               : 1/1
Time Start         : 10:20:00 24/07/2007
Time End           : 10:21:32 24/07/2007
Time Used          : 00:01:32
---------------------------------------------------------------------------------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

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

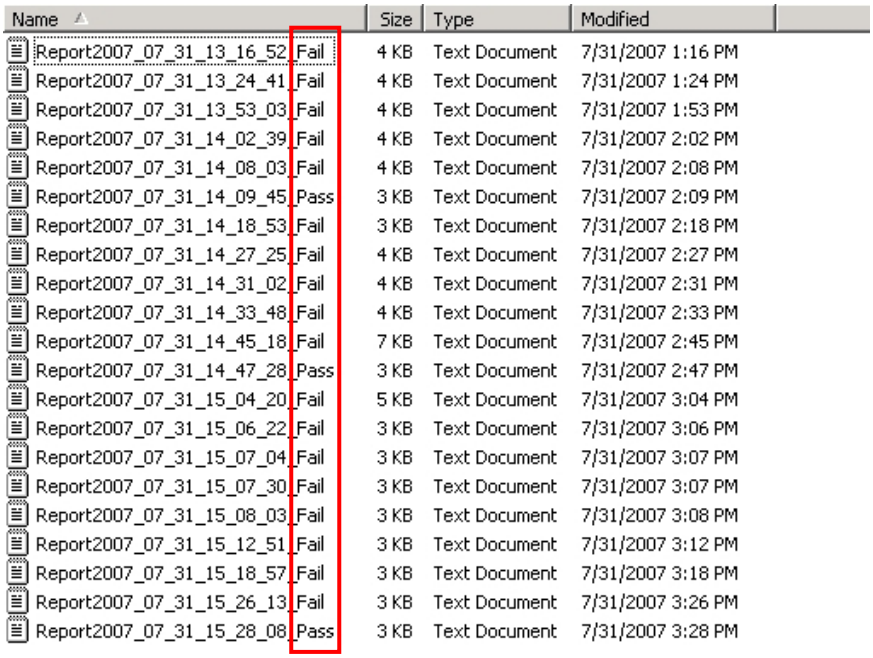


Show Current Config is to open a notepad for the current configuration file (*.ini) of a loaded model to show its environment and detailed parameters of each task.

```
[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.



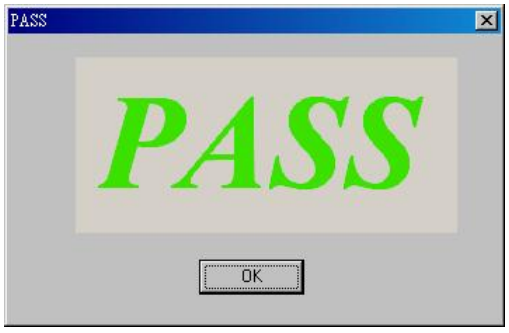
Name	Size	Type	Modified
Report2007_07_31_13_16_52_Fail	4 KB	Text Document	7/31/2007 1:16 PM
Report2007_07_31_13_24_41_Fail	4 KB	Text Document	7/31/2007 1:24 PM
Report2007_07_31_13_53_03_Fail	4 KB	Text Document	7/31/2007 1:53 PM
Report2007_07_31_14_02_39_Fail	4 KB	Text Document	7/31/2007 2:02 PM
Report2007_07_31_14_08_03_Fail	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.