Global® Specialties

GS-PCLA32

32 Channel PC Logic Analyzer

Instruction Manual

Revision: 12/2010

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Chapter 1 Product Description

1-1 Product Overview

The GS-PCLA32 is a fault-free digital signal analyzer with 32Channel, 100~250MHz sampling rate and 100MHz, which enables real-time tracking and capture of targeted signals on an independent instrument, but also stores, visualizes and analyzes the printed waveforms. So, it's a perfect tool for analysis and debugging, helping you to complete your task for rapid troubleshooting and product development.

List of included accessories:

• 16CH signal capture cable • USB Cable

1-2 Safety Notes

All operations, maintenance and servicing must adhere to the following safety notes and precautions. Our company shall not assume any responsibility for any unexpected results arising from misuse of the instruments due to failure of following the safety notes.

1.Don't use tins instrument nearby combustible gas or flame.
2.Don't remove the instrument housing during operation, or adjust and replace spare parts in order to avoid malfunction and unnecessary danger.

WARNING!
This symbol warns you of the danger. Failure to correct operation or compliance with the operating procedure may lead to personal injury. Continuous use is prohibited unless the operating procedure is fully understood.

CAUTION!
Tins symbol reminds you of the danger. Failure to correct operation or compliance with the operating procedure may lead to instrument damage. Continuous use is prohibited unless the operating procedure is fully understood.

1-3 Product Specifications

Item		Specification
		GS-PCLA32
Time Sequence Analysis(capture frequency)		250MHz.Max(4ns)
Stale Analysis (External clock)		100MHz(Max)
Bandwidth		100MHz
Channel		32CH
Memory	Total memory	2MByles
	Memory depth	512k bits x 32CH
Trigger	Trigger number	1-255
	Trigger mode	Pattern/Edge / AND / OR
	Trigger channel	32CH
	Advance/delay trigger	YES
	Trigger PAT	3 (Edge or Pattern)
	Continuous/non-continuous Trigger	YES
	Trigger output	YES(TTL Level)
	Trigger pulse width	YES
	Bus analysis	YES
	Glitch capture	YES
Reference Voltage	Range	-4V~*4V
	Accuracy of reference voltage	± 50mV
Maximum Input Voltage		± 30V
Input Impedance		100KΩ shunted by ≈ 10pF
Temperature	Operating Temperature	0°C-45°C(32°F - 113°F)
	Storage Temperature	-40*C~75*C(-56°F- I67°F)
Data skew		4ns typical
PC Link interface		USB 2.0
Power Supply		USB
Dimensions	Length x Width x Depth	6.8” x 3.6” x 1.5”
	Weight	8.5 oz

1-4 Accessories List

After getting the package of the logic analyzer, please check if the standard accessories are complete according to the under list at once:

	Item	Quantity	Description
1	GS-PCLA32	1	Instrument
2	Signal capture cable	2(16CH)	
3	CD-R	1	Includes software, driver and manual
4	USB Cable	1	
5	Package acceptance form	1	Listing product package content

* Check if the accessories and quantities are complete according to the above list.

1-5 Optional Components

• 16CH signal capture cable • USB Cable

1-6 System Requirements

1.Operating system Microsoft Windows 2000 Microsoft Windows XP Microsoft Vista 32

2.CPU
Windows 2000, Windows XP Home, Pro: 300MHZ or above

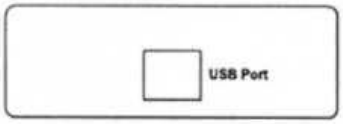
3.Memory
Win2000 Pro: 128MB or above
(Win XP Home, Pro: 256MB or above)

4.Hard Disk Space Requirements
Minimum 50MB available hard disk space

1-7 Appearance and Function Descriptions

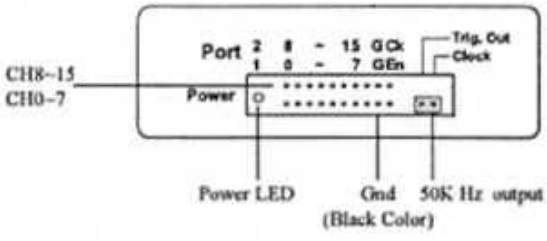
1. Logic analyzer main unit 2. USB cable

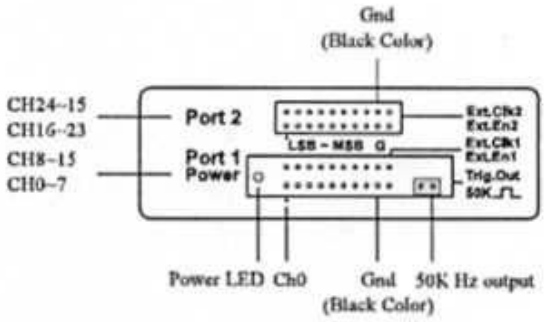
3. Signal lead set 4. Back panel (USB port)



5. Front panel

Description of GS-PCLA32 Front Panel





2. Pre-installation Check

2-1 Check the following prior to Installation

- Instruments are tested and checked prior to shipment. Please unpack and check to ensure the instruments are free of damage which may have occurred during shipment

- Check if the accessories and quantities are complete according to the list in section 1-4

3. Installation and Execution

3-1 Software Installation

1.Software is used to capture signal waveforms of analyzer for saving, visualization, searching and printing.

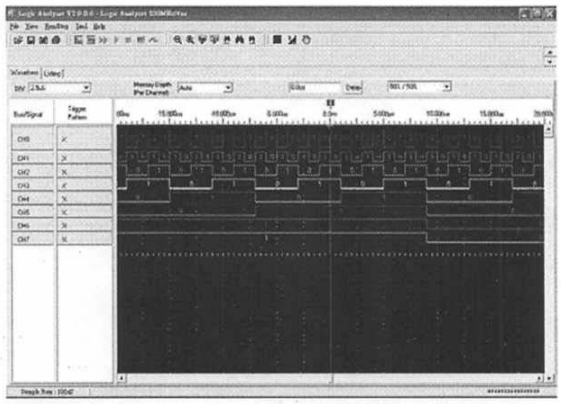
2.The software utilizes USB 2.0 communication interface, and therefore a USB driver will be installed.

3.The application software attached to the GS-PCLA32 will be installed onto the PC: After the program is unzipped, an installation key will pop up, carefully observe this key and follow the steps on the PC display for proper installation.

4.After the installation procedure is complete, a “LA” button will appear at PC desktop. This indicates that the installation is complete.

3-2 Software Operation

Click the GS-PCLA32’s “LA” button on the PC and enter into analyzer’s operating display as follows:



3-3 Software System Requirements

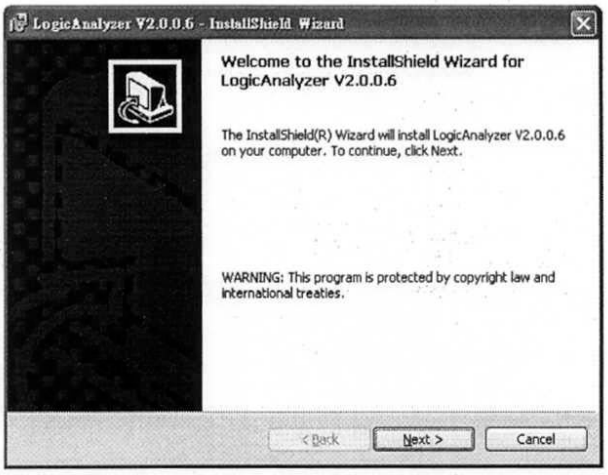
- CPU: 3.0GHz or higher
- Ram: at least 512MB
- HD: 50MB.
- Port supporting USB2.0.

3-4 Software Installation Instructions

Step1: Close all running programs.

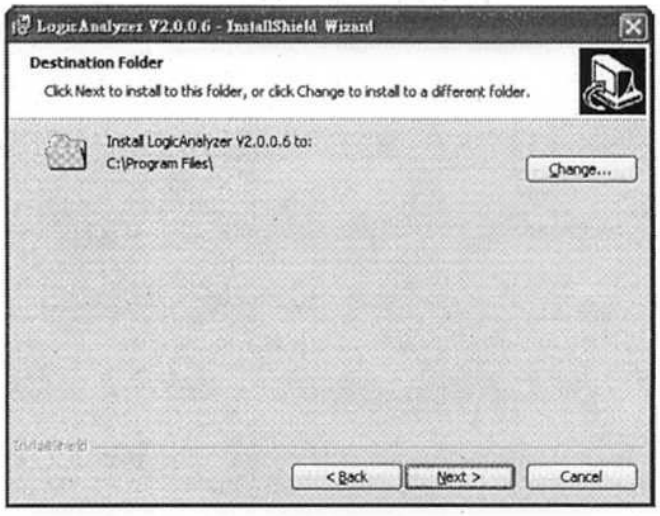
Step2: Place CD in the optical drive, and install by the following steps.

If auto-play of the optical drive is activated, the following dialog box will appear:



If the disc doesn't automatically start, press the Windows "Start" button, then press "Execute. Enter "D":\setup.exe" (assuming the optical drive is:"D: \") in the "Activate" field.

Step 3: Press "Next", the option display of installation path will appear.



Step4: Start installation by pressing "Next", and then press "Finish"

3-5 Hardware Installation Instructions

Step 1: The Logic Analyzer is linked to PC via USB. When it is first installed, the following display will appear:

Select "No, do not connect to the internet now"

Step 2: the following display appears press "Next".

Select "Install from list or specific location"

Step 3: the following display appears press "Next"

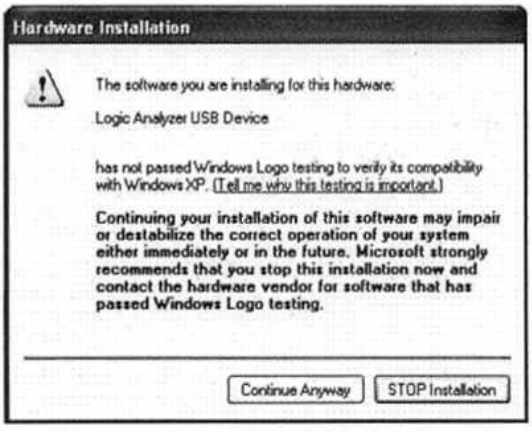
Select "this location is included during search", and press "review"

There is a "Driver" folder under the installed data folder (preset as: c:\program files\Logic Analyzer V2.0\); select the data and press "Confirm".

Step 4: after pressing "Confirm", select "Next" to start installation of the intended Driver.

The following warning window will appear during installation:

Select "Continue Anyway" for completion of Driver installation.

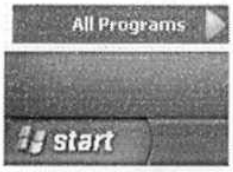


Step 5: After completion of installation, press "Finish".

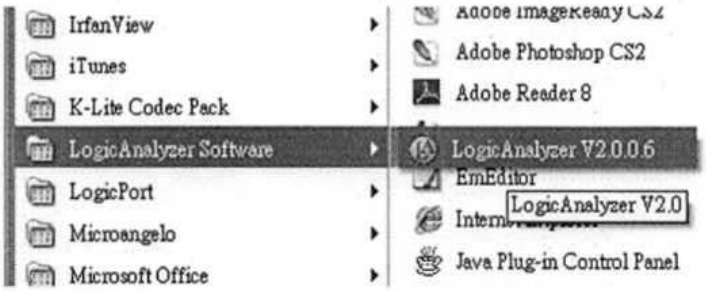
3-6 Software Execution

Method 1:

1. Press "Start" function key, select "all programs"



2. Start the software by selecting LogicAnalyzer Software - LogicAnalyzer V2.0

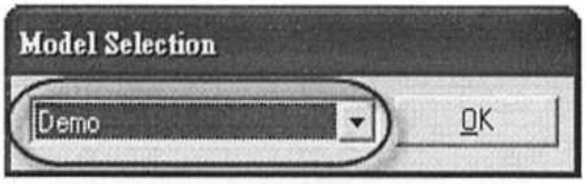


Method 2:

1. Start the software by checking the software icon on the desktop

3-7 PC/Instrument Interface

3-7-1 Model Selection

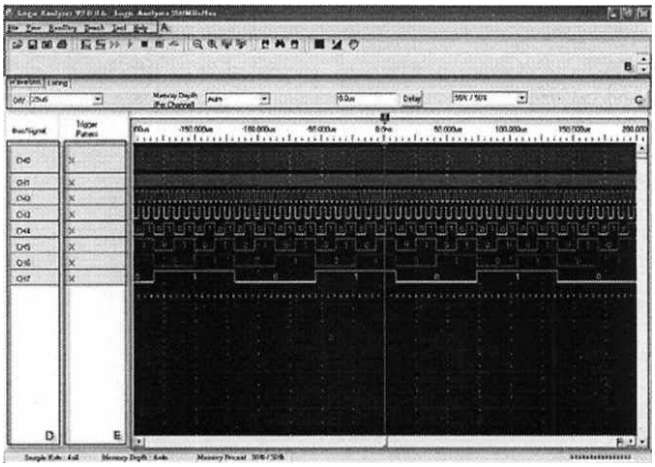


Select type by pull-down menu.

3-7-2 Operating Interface

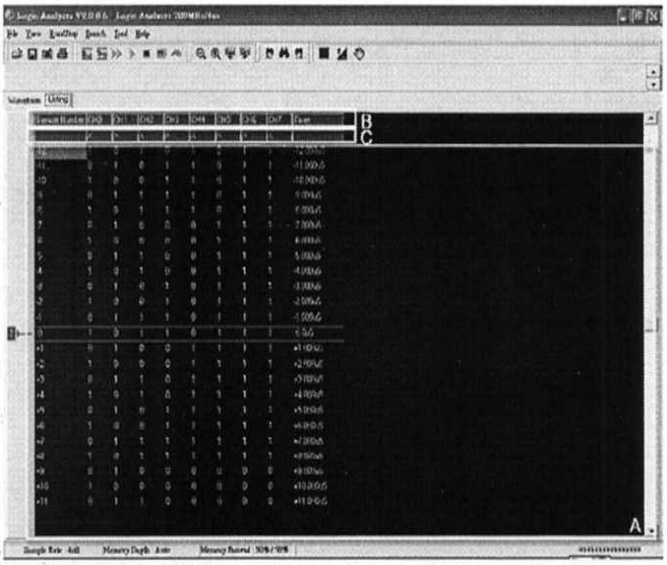
1. Window

(1) .Waveform window



A: Functional option list B: Tool list
C: Message list D: Display of channel names
E: Display of trigger mode F: Waveform display area

(2). State Mode



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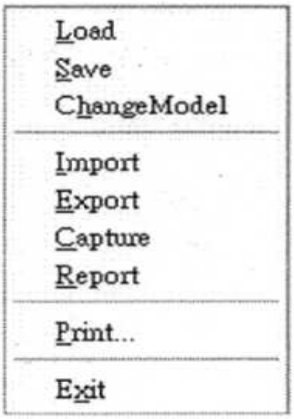
A: State mode display area. B: Display of channel names. C: Display of trigger mode

2. Menu

(1). File menu



Load: Load the files saved in PC.
Save: Save the existing data into file.
ChangeModel: Switch different model.
Import: Import the data of host computer to PC.
Export: Export PC data to the host computer.
Capture: Capture the existing display into file.
Report: Put the existing data into report.
Print: Print the existing waveform.
Exit: Close the existing programs.

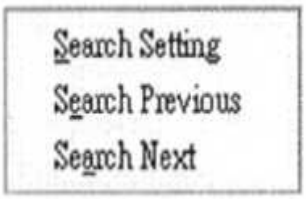
(2). View menu

HandShift: Move waveform by mouse. **Zoom In**: Zoom-in waveform. **Zoom Out**: Zoom-out waveform. **Grid Style**: Grid style switching**. B/W**: Background color switching.

(3). Run/Stop menu

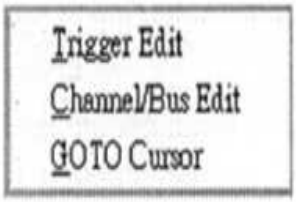
Auto Scale: Auto-search.
Run: Continuous sampling.
Single Run: Single sampling.
Auto Store: Auto-saved.
Erase: Erase screen.
Stop: Stop.

(4). Search menu



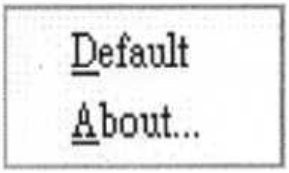
Search Setting: Start search function dialog box. **Search Previous**: Search previous date. **Search Next**: Search next date.

(5). Tool menu



Trigger Edit: set trigger conditions.
Channel/Bus Edit: Set Channel/Bus.
GOTO Cursor: Position the cursor.

(6). Help menu

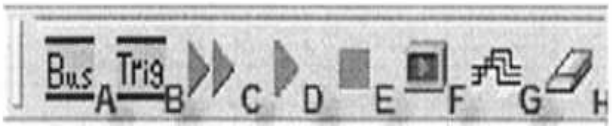


Default: Ex-factory setting.
About: Software information.

3. List of Operations
(1). File function list

A: Load. B: Save.
C: Capture display. D: Print.

(2).Advanced function list



A: Call BUS setting dialog box.
B: Call Trigger setting dialog box.
C: Continuous sampling.
D: Single sampling.
E: Stop
F: Auto scale.
G: Auto store.
H: Erase

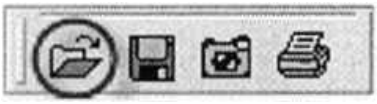
(3).Utility operation list

A: G: Search next.
B: Zoom-out.
C: New cursor.
D: Cursor spacing display.
E: Search previous.
F: Search setting.
G: Search next.
H: Grid style.
I: Background white.
J: Handshift

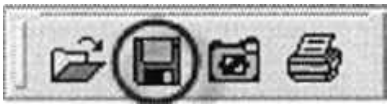
3-8 Detailed Operating Instructions

3-8-1 File Functions

1. Load
   Method 1:
   Select "File" menu and then "Load".
   Method 2:
   Click the file folder icon on the tool menu



2. Save Method 1:
   Select "File" menu and then "Save".
   Method 2:
   Click the disc icon on the tool menu

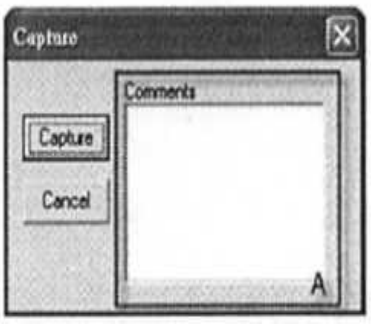


3. Export
   (1). Connect Logic Analyzer with PC via USB.
   (2). Select "File" menu and “Export”, to export data to Logic Analyzer.

4. Import
   (1). Connect Logic Analyzer with PC via USB.
   (2). Select "File" menu and “Import”, to import data from Logic Analyzer to PC

5. Capture
   Method 1:
   Select "File" menu and then "Capture" to call capture dialog box.

   Method 2:
   Click and select the camera icon on the tool menu to enable the “Capture” dialog box



Capture dialog box: Any input comments will be automatically added to left upper corner.

6. Report Print-out

Select "File" menu and then "Report Out" to enable the "Report Out Dialog Box".

Report Out Dialog Box

A: Route selection
B: File selection
C: File name entry box
D: Name of test personnel
E: Selection of export range

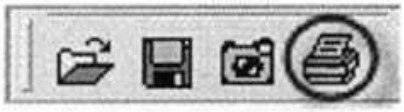
7. Print

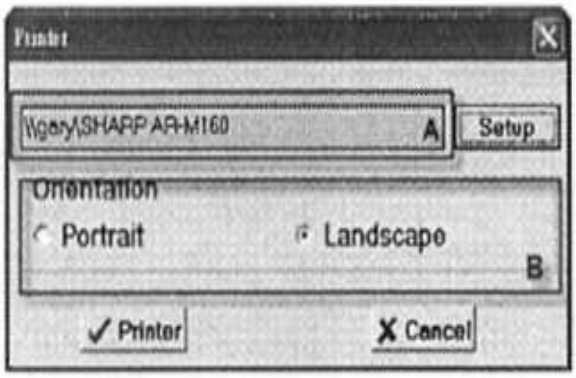
Method 1**:**

Select "File" menu and then "Print" to enable the Print dialog box.

Method 2:

Click and select the “Printer” icon on the tool menu to enable the print dialog box





Print dialog box:
A: Printer currently selected
B: Portrait or landscape

3-8-2 Waveform Capture

1. Continuous sampling

Method 1:

Select "Run/Stop" menu and then "Run" to continuously capture the waveform data.

Method 2:

Click dual arrow pattern on the tool list to continuously capture the waveform data.

2. Single sampling

Method 1:

Select "Run/Stop" menu and then "Single Run" to individually capture the waveform data.

Method 2:

Select the single arrow icon on the tool menu to individually capture the waveform data.

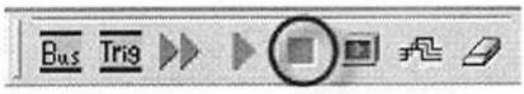
3. Stop

Method 1:

Select "Run/Stop" menu and then "Stop" to stop all operations.

Method 2:

Select the red square icon on the tool menu to stop all operations.



4. Auto-scale

Method 1:

Select the "Run/Stop" menu and then "Auto Scale" to search automatically for “waveform data and to set system parameters.

Method 2:

Select the display icon on the menu to search automatically for waveform data and set system parameters.

5. Auto store Method 1:
Select the "Run/ Stop" menu and then "Auto Store" to automatically store the waveform.

Method 2:
Select the waveform icon on the tool menu to automatically store the waveform

6. Erase screen
Method 1:
Select the "Run/Stop" menu and then "Erase" to erase the screen.

Method 2:
Select the "Erase" icon on the tool menu to erase the screen.

3-8-3 Waveform Analysis

1. Grid style
Method 1:
Click the "View" menu and then "Grid Style" to change the grid display mode.

Method 2:
Select the Grid icon on the tool menu to change the grid display mode.

2. Background color

Method 1:

Click the "View" menu and then "B/W" to change the background color.

Method 2:

Select the B/W icon on the tool menu to change the background color.

3. Handshift

Method 1:

Click the "View" menu and then "Handshift" to change the Handshift.

Method 2:

Select the Palm icon on the tool menu to change the Handshift.

4. Waveform Zoom-Out

Method 1:

Click the "View" menu and then "Zoom Out" to zoom-out the waveform.

Method 2**:**

Select the Zoom-Out icon on the tool menu to zoom-out the waveform.

5. Waveform Zoom-In

Method 1:

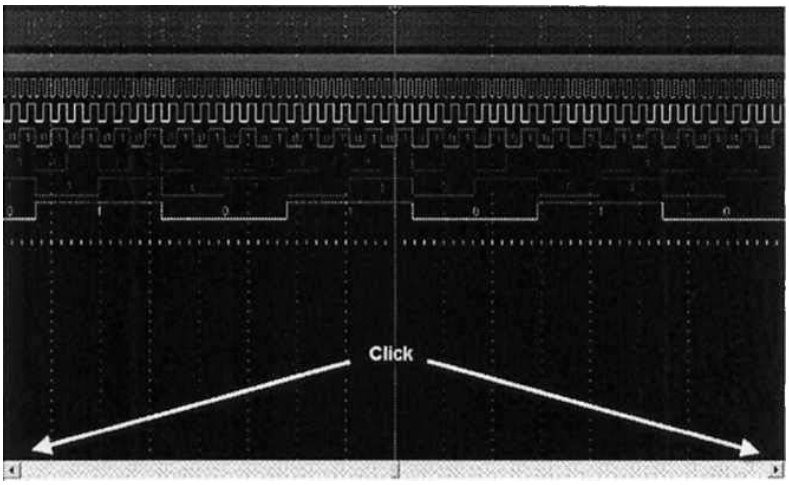
Click the "View" menu and then "Zoom In" to zoom-in the waveform.

Method 2:

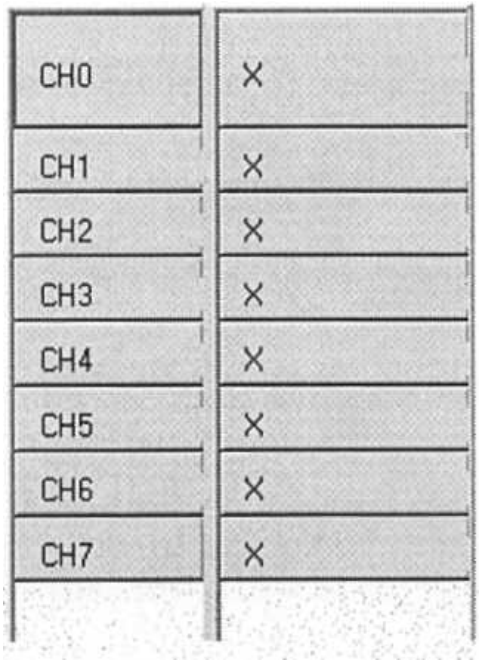
Select the Zoom-In icon on the tool menu to zoom-in the waveform.

6. Waveform shift

Drag the scroll axle below the waveform display to shift the waveform or use the HandShift to drag left or right.



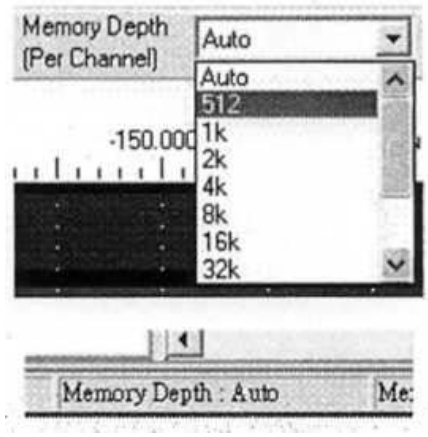
7. Adjusting the waveform position



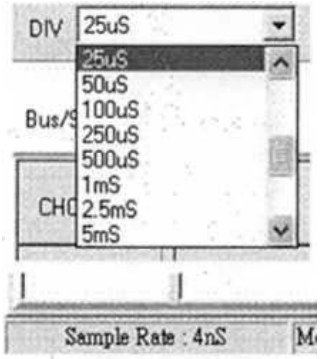
Press and drag the left mouse button on the left side to adjust the position of waveform. The selected channel is highlighted in red.

3-8-4 Settings

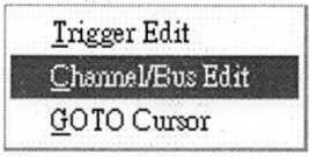
1. Setting of Interval Time
   Click the Tool List pull-down menu under "waveform window". The setting is an interval of the scale in the picture. After setting, the display value will correspond to the sampling frequency in the left corner.



2. Setting the Memory Depth
   The memory depth will be displayed in the left corner of the display window. Please note that a larger memory depth at low sampling frequencies will cause a longer data capture rate time. To solve this, select the "Auto" option to enable the automatic memory depth setting for faster data capture. After setting, the corresponding memory depth will be displayed in the left corner.



3. Setting of the Channel/BUS
   Method 1:
   Click the "Tool" menu and then "Channel/Bus Edit" to enable the Channel/BUS Edit dialog box.



Method 2:

(1). Click the right mouse button in the waveform display window under Waveform Mode, Select "Advance BUS" from the pull-down menu to enable the Channel/BUS edit dialog box

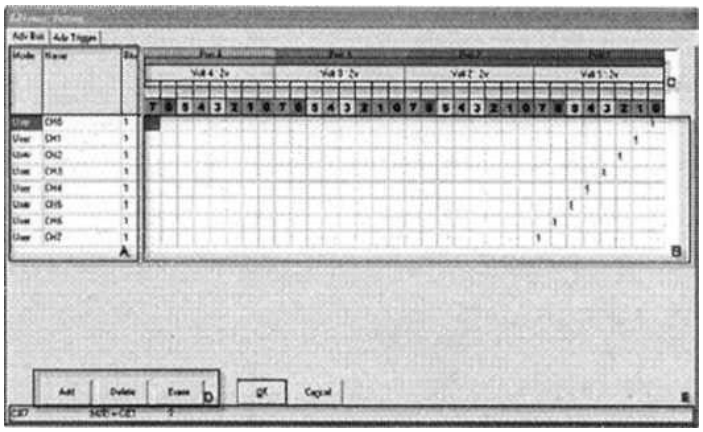
(2). Click the right mouse button in the Data area under the State Mode, and select "Advance BUS" from the pull-down menu to enable the Channel/BUS edit dialog box.

Method 3:

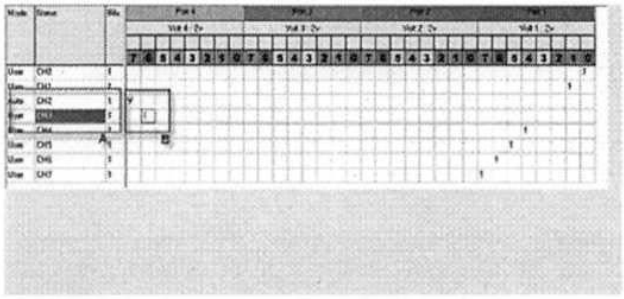
Select the "Bus" icon on the Action menu to enable the Channel/BUS edit dialog.

(1). BUS setting page

A: Channel state; "Mode", "Name" and "Bits in Channel" from left to right.
B: Channel/BUS Setting Zone
C: PORT Voltage Display
D: Function key
E: State Display Zone



(2). Setting Channel

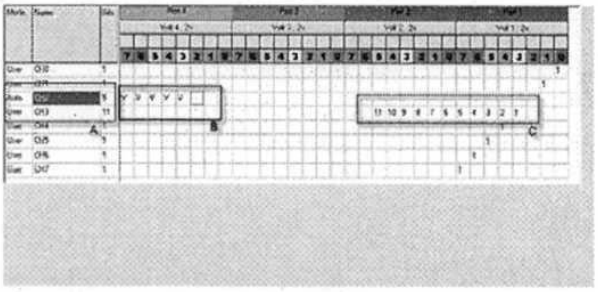


A: Current State;
This setting is valid only when the channel is set to “BUS”. The Bits indicate the quantity of Bit/(Channel) in the channel, where 1 is single channel, 0 is shut-off; others larger than 1 is BUS.

B: Since the "Auto" and "User" modes are valid only when the channel is BUS, the channel setting is not affected even if Channel is displayed by numerical value or selection.

(3). Bus Setting

BUS, or Channel is set by clicking the left mouse button and dragging into the Channel/BUS setting zone.



A: Current state;
Auto represents an Auto-Judgment mode and is a user-defined mode.
Bits indicate the quantity of Bit/(Channel) in the channel, where 1 is single Channel, 0 is shut-off; anything larger than 1 is BUS.

B: BUS display under Auto mode

Auto mode

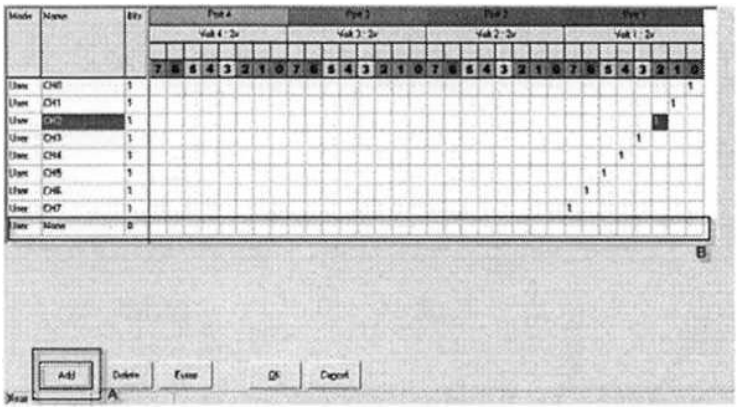
Since no predefined parameter exists in Auto Mode, it will be displayed from MSB to LSB and will be arranged from left to right. .
Switch "Auto" by clicking "User".

C: BUS display under User mode.

User mode

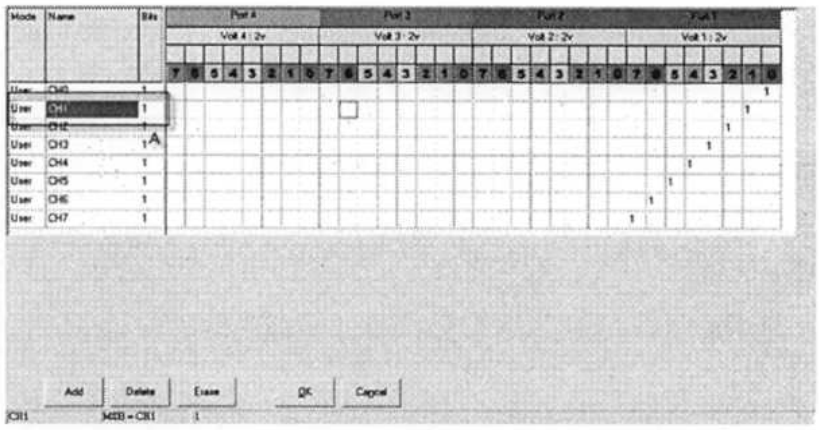
The BUS parameter is user-defined for numerical display. A small indication of BUS value indicates MSB, otherwise it will LSB.
Switch to "User" by clicking "Auto”.

(4). New Channel



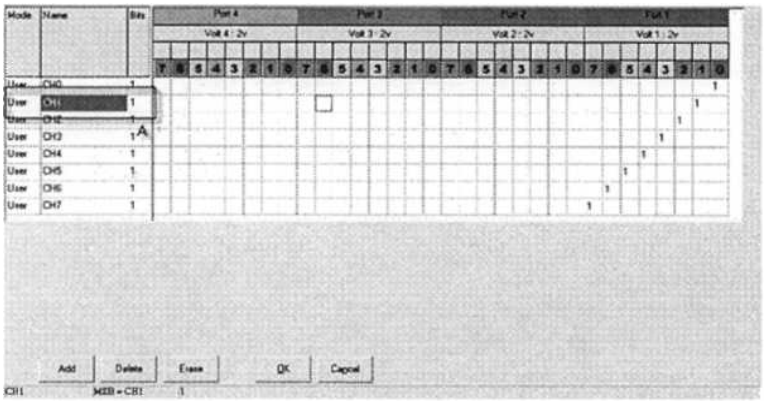
A: Select "Add" at the bottom of the dialog box.
B: Add a new Void channel in the lowest user channel position

(5). Delete Channel

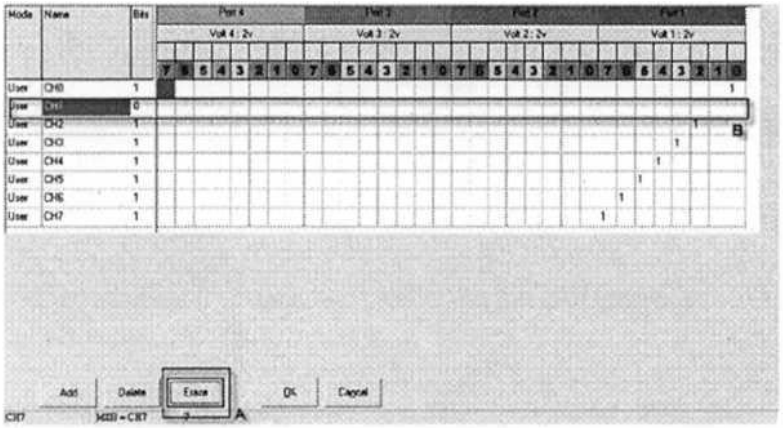


First, select the channel to be deleted.
A: Click "Delete" at the bottom of the dialog box to delete the selected channel.

(6). Erase Channel



First, select the channel to be erased.



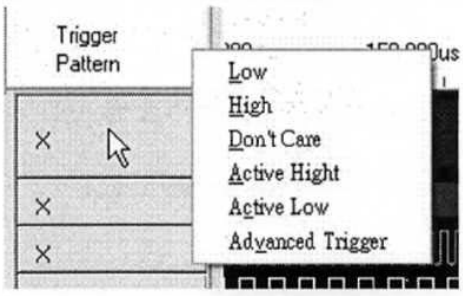
A: Click "Erase" at the bottom of the dialog box to erase the selected channel.

4. Trigger Setting

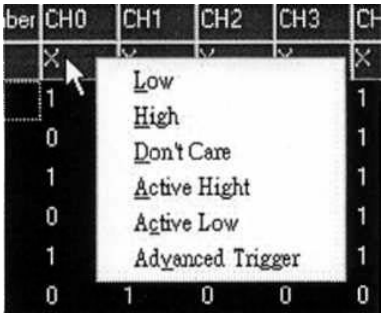
Simple Trigger setting

Method 1:

Select drop-down menu by right clicking the mouse over the "Trigger/Pattern" field of the "waveform" window.

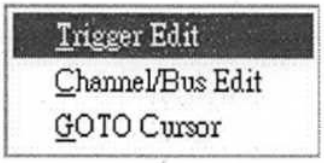


Method 2:
Select the drop-down menu right clicking the mouse over the "Sample/Trigger" field of “State Mode” Channel window.



Advanced Trigger setting

Method 1:
Select the "Tool" menu and then "Trigger Edit" to enable the Channel/Bus Edit dialog box.



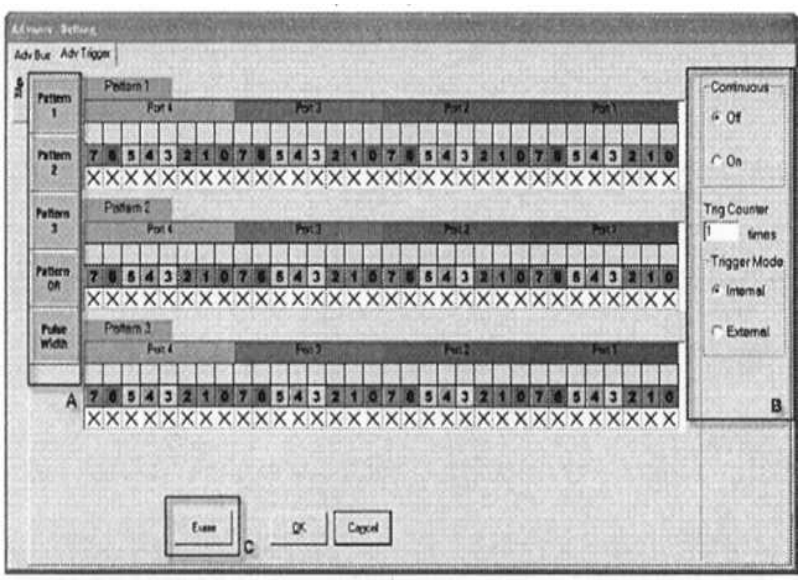
Method 2:
Click the right mouse button of waveform display window and select "Advanced Trigger" from pull-down menu to enable the Trigger Edit dialog box.

Press right mouse button in the data zone under the state mode window and select "Advanced Trigger" from pull-down menu to enable the Trigger Edit dialog box.

Method 3:

Select the "Trig" icon on the tool menu to enable the Channel/Bus edit dialog box.

(1). Trigger Setting Procedure



A: Pattern mode switching

B: Trigger Counter, continuous/non-continuous and internal/external trigger setting

C: Erase key

.

(2). Erase Pattern setting

Press the "Erase" button to erase all existing Pattern settings;

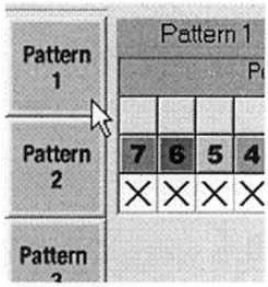
All Trig states reset to "Don't Care" under the Pattern mode.

The settings are set as "CH0" "High" "<" "1" "us" under the Pulse Width Mode.

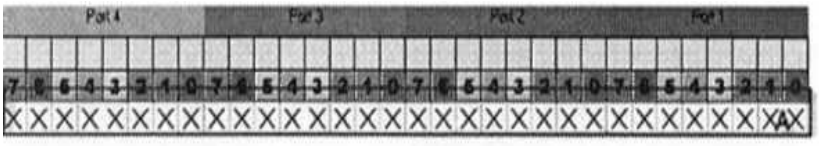
Pattern

(1). Pattern Switching

Click the left Pattern button to switch modes

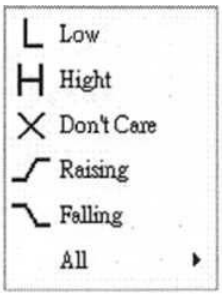


(2). Pattern Setting



Pattern State Zone

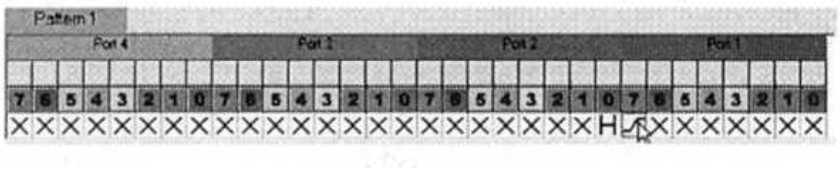
To change the Patter's Trigger Mode, select the state menu by using the right mouse button:



The channel' state can be set by selecting the desired state.

a. To quickly select between "Low", "High" and "Don't Care" settings, simply press and hold the left mouse button and drag to set the desired trigger state

b. To set between "Raising" and "Falling", press and hold the left mouse button on the desired state, then drag to shift to the desired position.



Note:

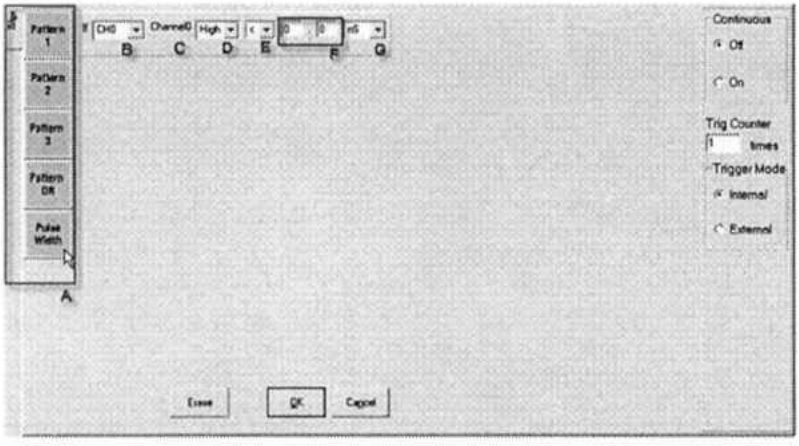
***Only "Low", "High" and "Don't Care" trigger states can be selected under Pattern 2 and Pattern 3.**

***Either "Raising" or "Falling" can be set under Pattern 1 and Pattern OR.**

***Under Pattern 2 and Patten 3, the next Pattern is compared only when the state setting of previous Pattern is already achieved. The Trigger is effected when the setting state of all Patterns are met.**

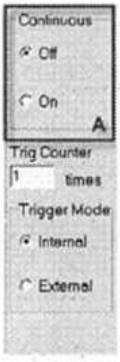
***Under Pattern OR mode, Trigger is affected if either Pattern 1 or Pattern OR state is set.**

Pulse Width



A: Switch to the Pulse Width setting page by selecting the "Pulse Width" button
B: Select channel. (CH0~CH31)
C: Channel name (auto-display)
D: Select logic level, (Low, High)
E: Select condition. (<, =, >)
F: Enter time
G: Select time unit

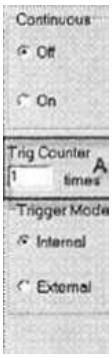
Continuous and Non-continuous



Select "On" and "Off" in the "Continuous" area of the dialog box.

- This function is effective only in only the "Pattern2" and "Pattern3" settings.
- If continuous/non-continuous is set as "On", the trigger is effective only if Pattern2 and Pattern3 match continuously. Pattern state, without the combination of other states, otherwise

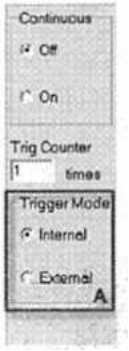
Trigger Counter



Enter the desired time interval, within the range of 1-255 in the "Trig Counter" section.

- If the entry exceeds 255, the default will set the value to 255

Internal/External Trigger

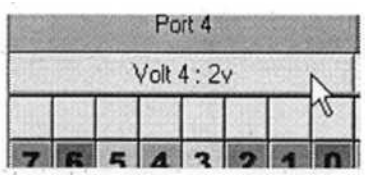


- If the trigger is set to " Internal", the trigger will be set to the sampling frequency.
- If the trigger is set to "External", the sampling frequency will be set to the external CLOCK.

Caution!

- Use the last channel (CH31) as the analyzer's external clock input.

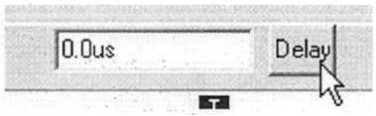
5. Setting Voltage



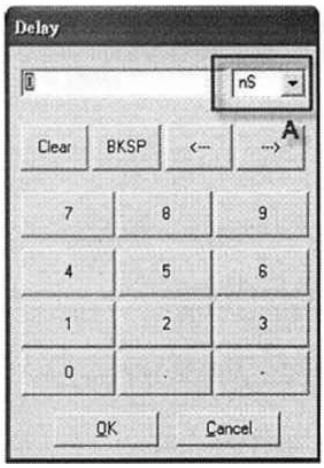
Enable the Voltage Setting dialog box by clicking the upper voltage display zone of the BUS setting window.

A: Click this option, all Port voltages are set consistently, otherwise set individually.
B: Standard voltage setting: "TTL", "ECL" and "CMOS".
C: User defined: user-defined voltage logic level.

6. Delay



Enable the delay entry dialog box by clicking the "Delay" button on the tool menu.

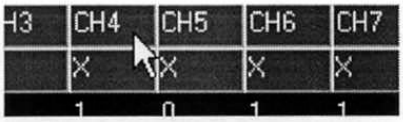


Unit Selection.
BKSP: Delete a character by cursor.
Clear: Clear the contents in the entry box.
"«-----“, “----->»": Left and right cursor shift.

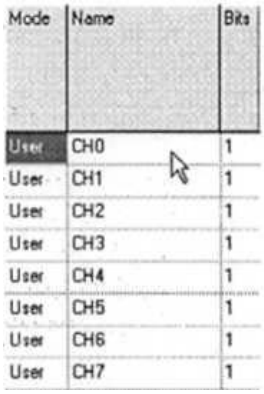
7. Renaming the Channel

Method 1**:**
Under the "waveform window", double click the channel name to enable the name setting dialog box.

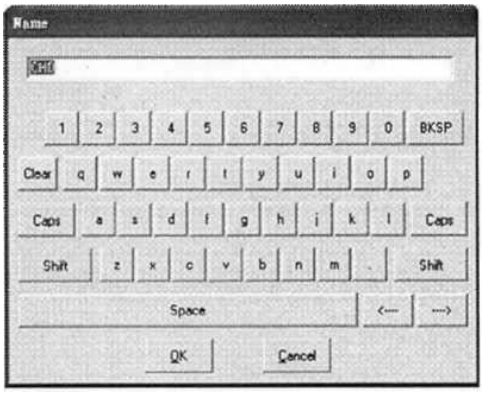
Method 2:
Under the "state mode", double-click the channel name to enable the name setting dialog box.



Method 3:
In the "BUS" setting dialog box, double-click the channel name to enable the name setting dialog box.

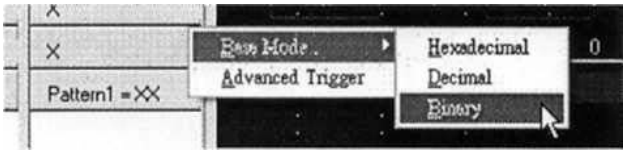


Name Setting Dialog Box:



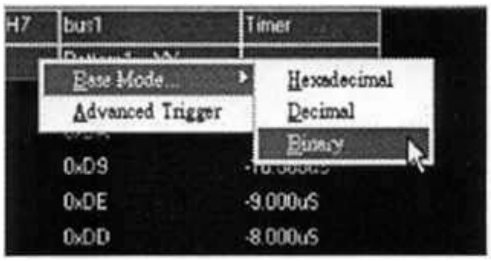
BKSP: Delete a character with cursor.
Clear: Clear the contents in the entry box.
Caps: Toggle between caps and small letters
Shift: Character/symbol switching.
“«-----", “----->”: Left and right cursor shift.

8. Switching the BUS Numerical Display Mode
Method 1:
Under the "waveform window", double click the "Sample/Trigger" field to enable numerical display options.



Hexadecimal: Display value in hexadecimal.
Decimal: Display value in decimal.
Binary: Display value in binary.

Method 2:
Under the "state mode window", double click the "Sample/Trigger" field to enable numerical display options.



Hexadecimal: Display in hexadecimal format.
Decimal: Display in decimal format.
Binary: Display in binary format.

9. Setting the Cursor

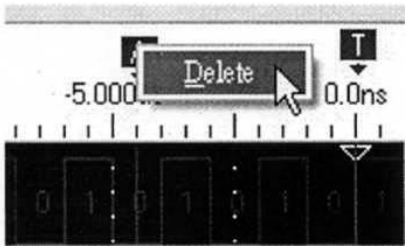
(1). Add new cursor

To add a new cursor into "waveform window" or "state mode" by clicking the "Add" icon on the tool list.

*** The quantity of cursors is limited to 26.**

(2). Deleting the Cursor

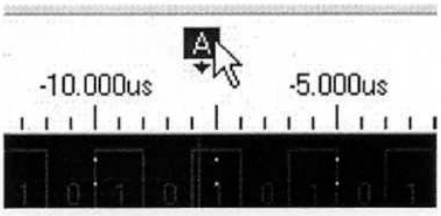
Click the right mouse button on the cursor to be deleted.



Delete the selected cursor by clicking "Delete".

(3). Shifting the Cursor

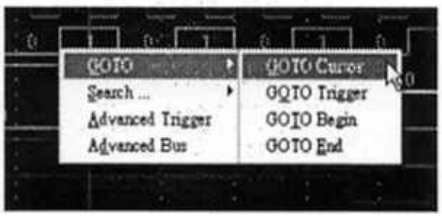
Press and hold left mouse button on the desired cursor, drag cursor the desired position.



(4). Cursor Look-up

Method 1**:**

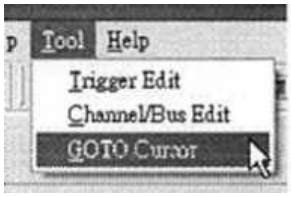
Enable the cursor look-up by clicking right mouse button in the "waveform display area" in "waveform window"



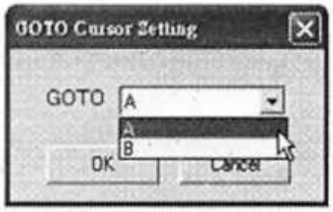
Method 2:

Enable the cursor look-up function options by clicking the right mouse button on "state display area" in the "state mode".

Method 3:
Select the "Tool" menu and then "GOTO Cursor" to enable the Channel/BUS edit dialog box.

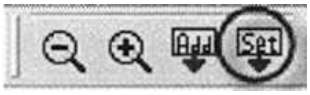


a. Click "GOTO Cursor" to enable the cursor and search the dialog box.

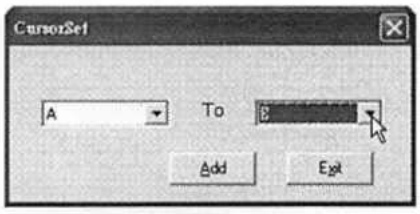


b. Select the cursor to be searched from the pull-down menu.
c. Enable the central point to align the trigger cursor by clicking "GOTO Trigger".
d. Enable the central point to align the starting point of data by clicking "GOTO Begin".
e. Enable the central point to align the ending point of data by clicking "GOTO End".

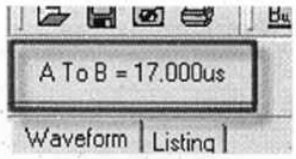
(5). Cursor time



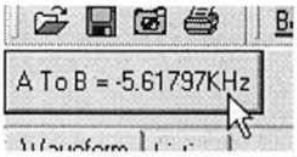
Enable the “cursor time” dialog box by clicking the "Set" icon from the tool menu.



A new cursor time display is added to the tool list by selecting the starting and ending cursors and then clicking "Add".

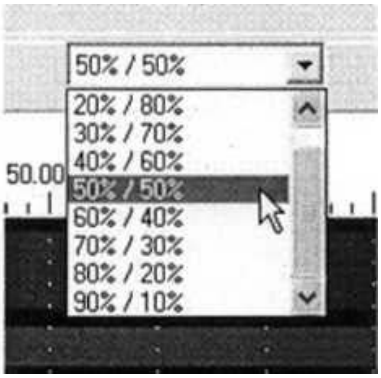


Click the left mouse button on the cursor time prompt to switch between "cursor time" and "cursor frequency".

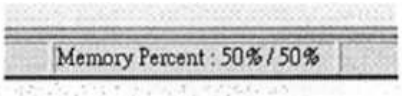


10. Display Percentage Setting

Click the pull-down menu in the waveform window's tool list.



After the setting is complete, the position of hollow point will switch according to the displayed percentage value. The final percentage value will be displayed in the left corner



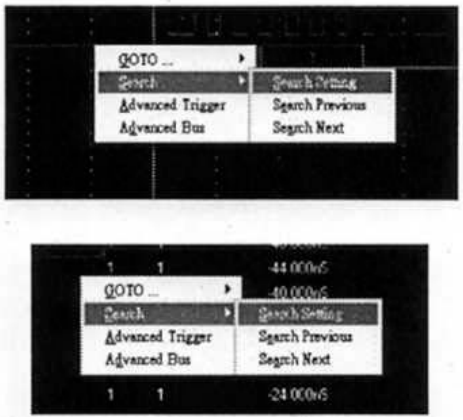
11. Data Search

Method 1:

Select the binocular icon on the tool menu to enable the information survey dialog box.

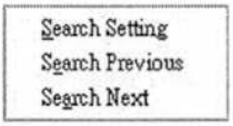
Method2:

Click the right mouse while in the "waveform window" or "state mode" to enable the information survey dialog box. Selecting "Search" and then "Search Setting ".

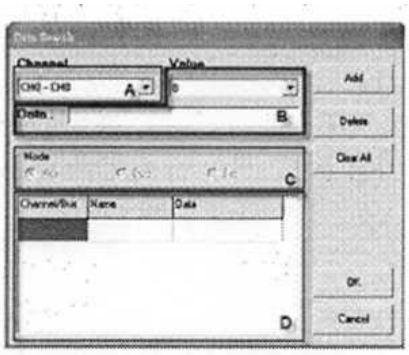


Method 3:

Click the "Search" function list, and then select "Search Setting" to enable the information survey dialog box.

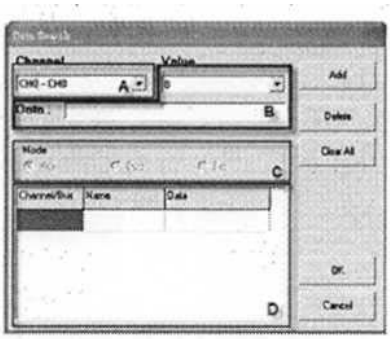


1. Data Search dialog box



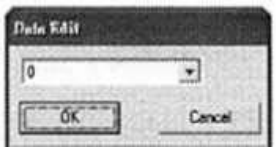
A: Select Channel
B: Information Search
C: Displayed State Information (Can be only used if bus is the channel)
D: Searching List

2. Change Search Information Criteria
Double click on the data column to enable the information edit dialog box.



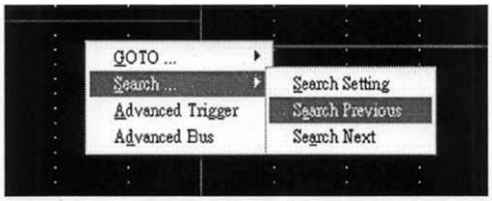
Double click on the data column to enable the information edit dialog box.

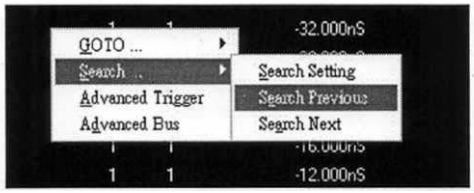
(1). BUS Focus Window (2). Channel Focus Window



3. Jump to Next and Previous
Method 1:
Select the "Previous" or "Next" icons on the tool menu as desired.

Method 2:
Click the right mouse button over the "waveform window" or "state mode" and select "search" and then "Search Next" or "Search Previous".

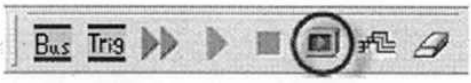




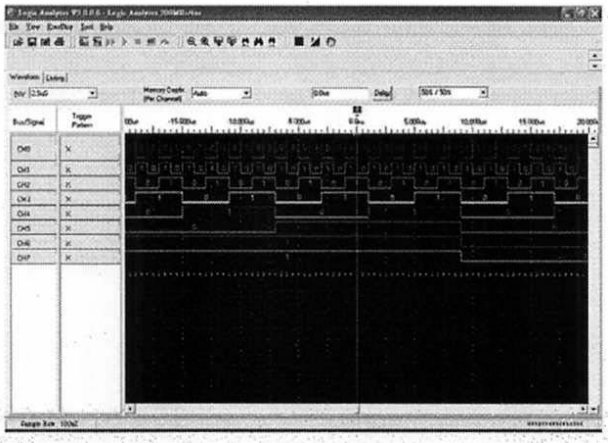
3-9 Process Flow Shortcut

1. Link the Logic Analyzer to computer.
2. Switch the Logic Analyzer to PC Link mode.
3. Perform Logic Analyzer PC software.
4. Select device.

4. Auto-search
Select the Auto-Search button on the tool menu.

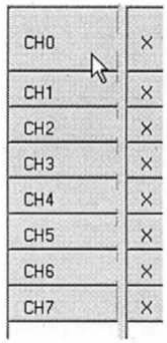


"Auto-search" automatically detects if it's possible to capture signals, auto-scale sampling frequency and memory depth. The waveform will automatically appear if it's captured.

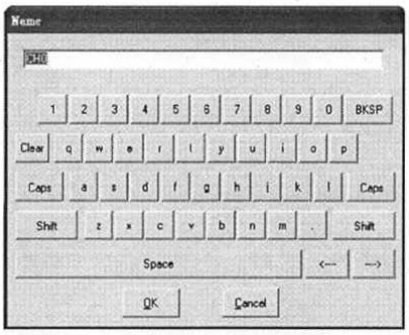


5. Renaming the Channel

(1). Call the name setting dialog box by double clicking the name display area.

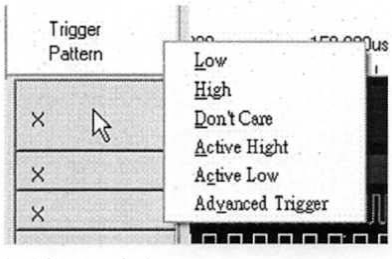


2). Enter desired name the in the entry field of the Name dialog box.

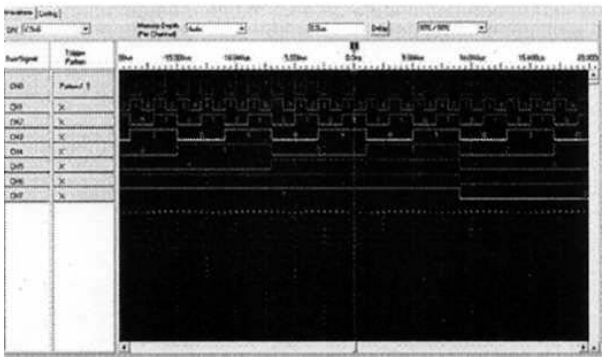


6. Trigger Setting

(1). Enable simple trigger options by double clicking the "Trigger / Pattern" field.

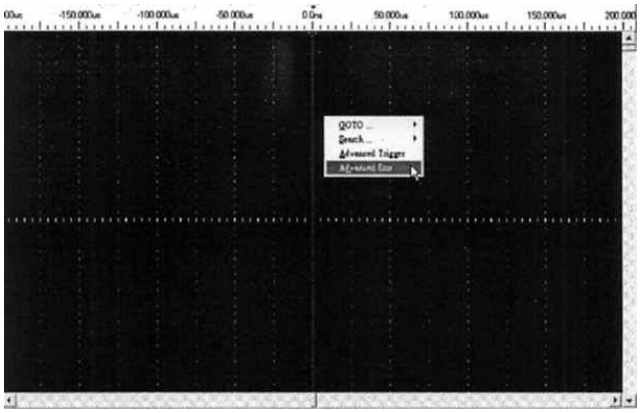


(2). The waveform will now be triggered according to the set trigger state.

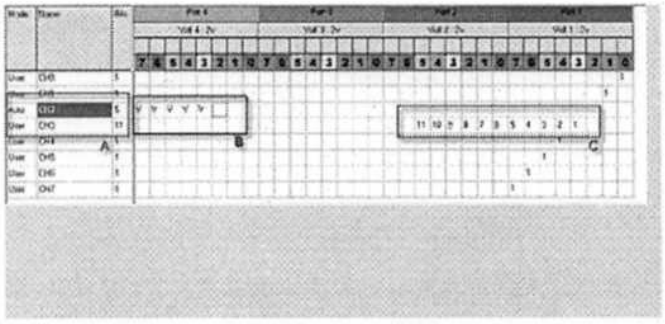


7. Manual Setting

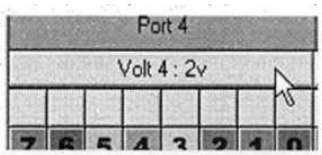
(1). If the auto-search feature is not used, the channel can be set by pressing right button in the waveform display area.



(2). BUS combination and Channel assignments are achieved by dragging to the desired area.

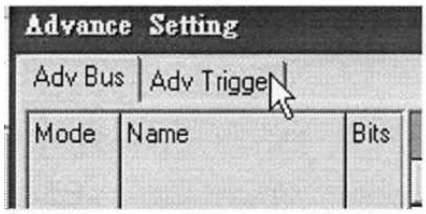


(3). Enable the voltage setting dialog box by clicking the left mouse button over the voltage display area.

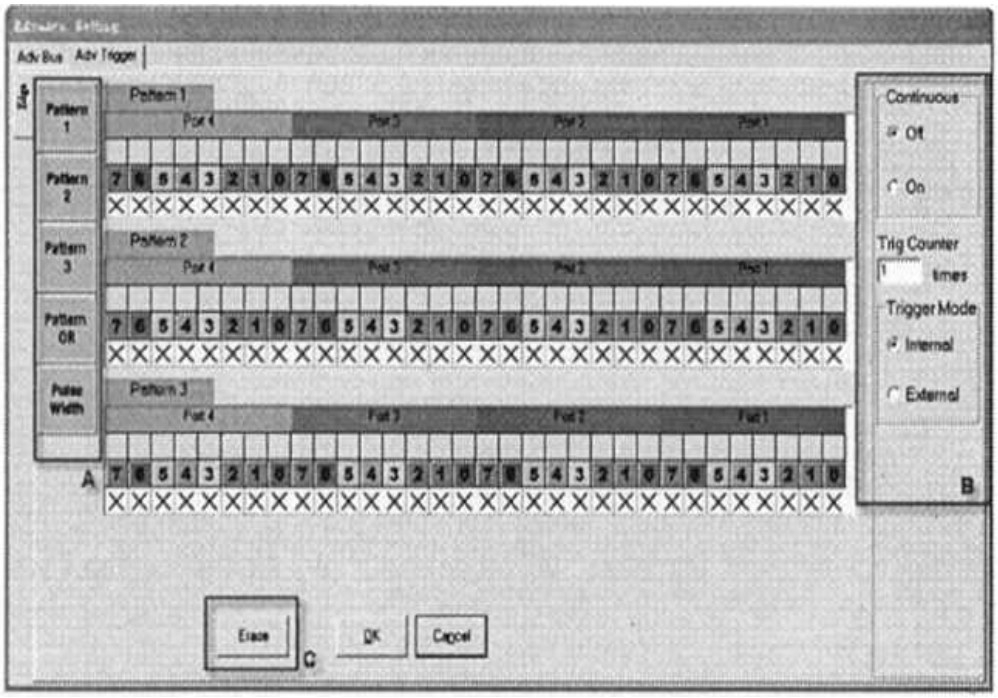


(4). Set voltage level in the dialog box as shown below.

(5). Switch to the trigger page by selecting the Trigger subpage

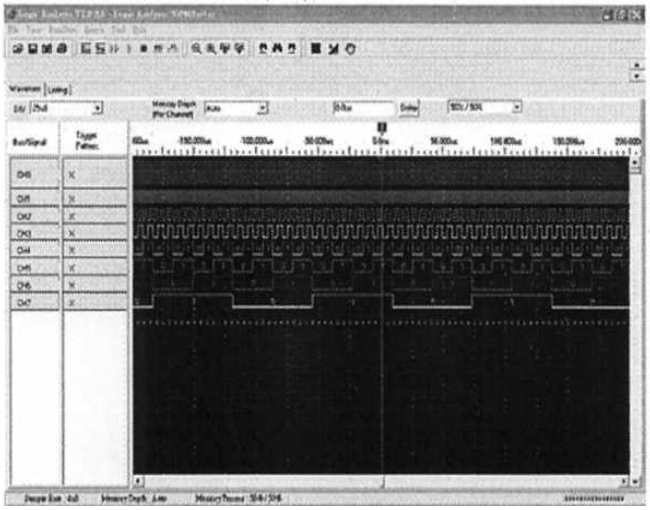


(6). Set advance trigger in the Trigger page.

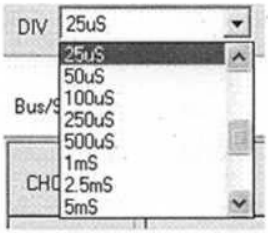


(7). Return to the waveform window, and capture the waveform by pressing the dual-arrow on the upper tool menu.

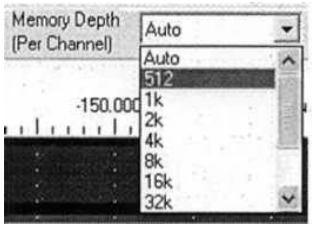
(8). After data capture, set trigger by repeating the above 6~7 steps.



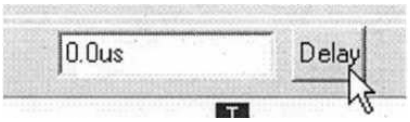
8. Return to the waveform window and set the sampling frequency by clicking "DIV " pull-down menu within the tool menu.



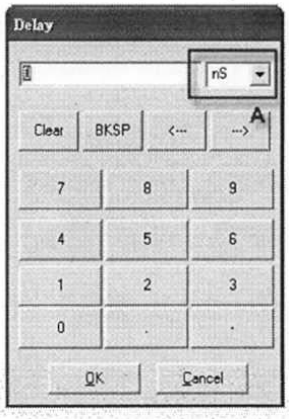
9. Set the memory depth by clicking "Memory Depth" pull-down menu on the tool list



10. Enter the delay value by selecting the "Delay" button on the tool menu.



Enter Delay value into the dialog box with Delay.



WARRANTY

Limited One-Year Warranty

Global Specialties, LLC warrants to the original purchaser that this product and its component parts will be free from defects in workmanship and materials for a period of one year from the date of purchase.

Global Specialties, LLC will without charge, repair or replace, at its' option, defective product or component parts. Returned product must be accompanied by proof of the purchase date in the form a sales receipt.

To obtain warranty coverage, this product must be registered by visiting www.globalspecialties.com/warranty.php and completing the online registration form within fifteen (15) days of purchase.

Exclusions: This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alternations or repairs. Warranty is void if the serial number is altered, defaced or removed.

Model Number: _____ **Date Purchased:**_____

Service Information

Prior to sending any unit in for warranty or non-warranty repair, the user must obtain a Return Merchandise Authorization (RMA) number from the factory. Please use the information below for the most convenient method of contact. After receipt of the RMA, return all merchandise to Global Specialties, LLC with pre-paid shipping.

Warranty Service: Please return the product in the original packaging with proof of purchase to the below address. Clearly state in writing the performance problem and return any leads, connectors and accessories that you are using with the device.

Non-Warranty Service: Return the product in the original packaging to the below address. Clearly state in writing the performance problem and return any leads, connectors and accessories that you are using with the device. For the most current repair charges contact the factory before shipping the product.

Global Specialties, LLC
22820 Savi Ranch Parkway
Yorba Linda, CA 92887
Phone: 800-572-1028
Facsimile: 714-921-6422
Email: service@globalspecialties.com
Include with the instrument your complete return shipping address, contact name, phone number and description of problem.

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