

ArbEditor User Manual

Waveform Creation and Editing Tool

Version V2.5.2014.4

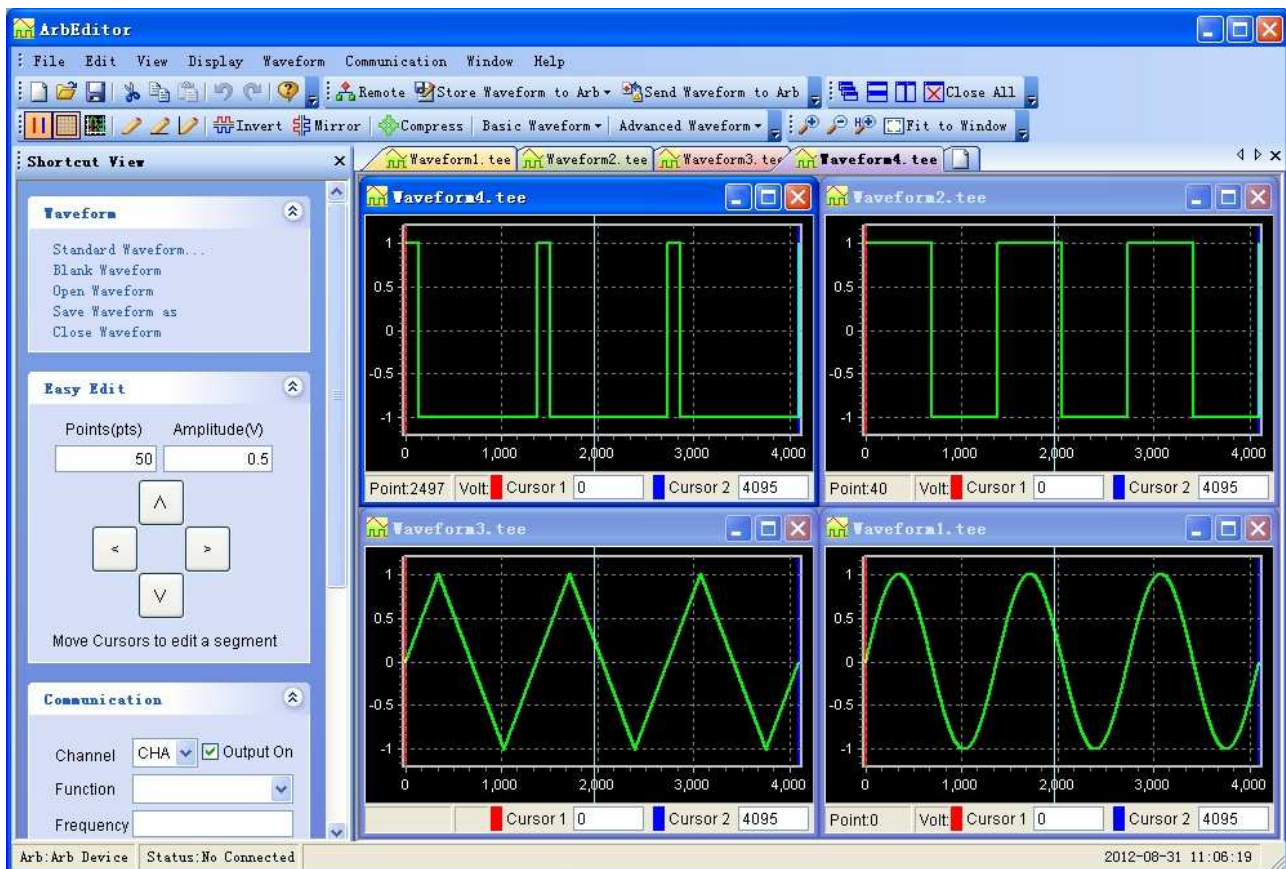
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Brief Introduction

ArbEditor- arbitrary waveform editing software, based on PC platform, passes the test of Windows XP and Windows7 only, and has not been tested on other platforms yet.

ArbEditor generates arbitrary waveform signal and downloads it to arbitrary waveform instrument, users can create and edit arbitrary waveforms with ArbEditor, which supports different editing modes, such as free draw, horizontally draw, vertically draw, mirror image, compress, copy, cut and paste, etc. Users can download the edited waveforms to arbitrary waveform instrument through remote control mode. Now, ArbEditor supports creation of multiple standard waveforms: Sine, Square, Triangle, Pulse, Noise, DC, Log Rise, Exp Rise, Sinc, Half Sine, Sine Limit. Of course users can edit the standard waveforms which have been created already too.



Configuration

Platform: Windows XP, Windows 7

Pentium III @ 800 MHz or more advanced

256 MB memory

300 MB hard disk space

800 X 600 resolution and above

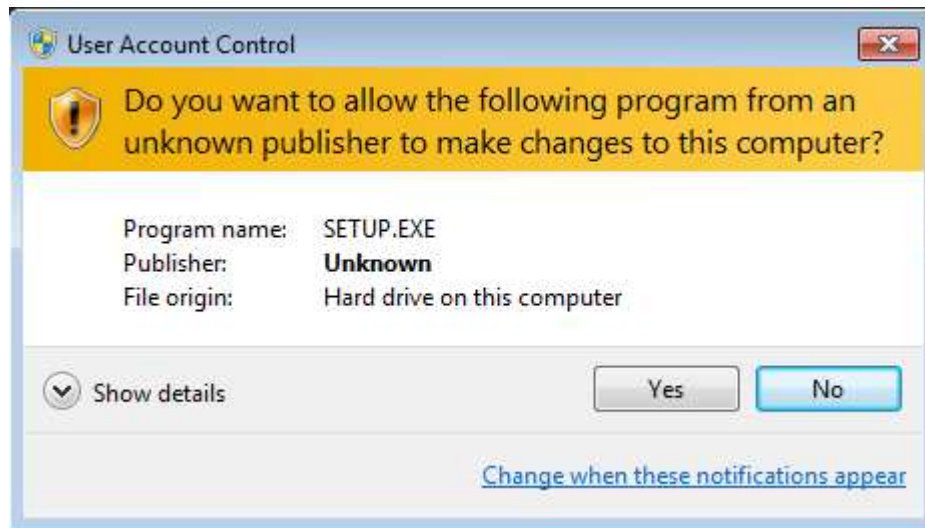
Installation

This section introduces how to install USB Driver and ArbEditor, refer to below installation step and diagrams.

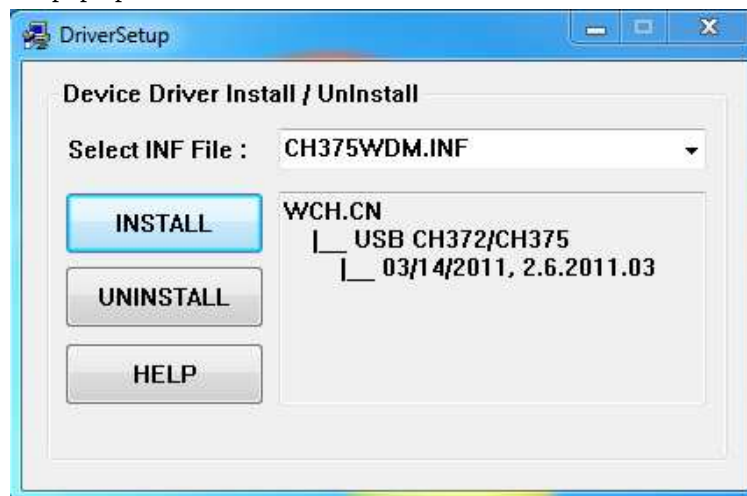
1. USB Driver Installation

This USB driver is applicable for Windows XP/Vista/Win7/Win8 32/64 bits systems, please follow the below steps to install it.

Double click the setup named “CH372DRV.EXE”, which pop up the window as:



Select option “Yes”, which pop up the window as:

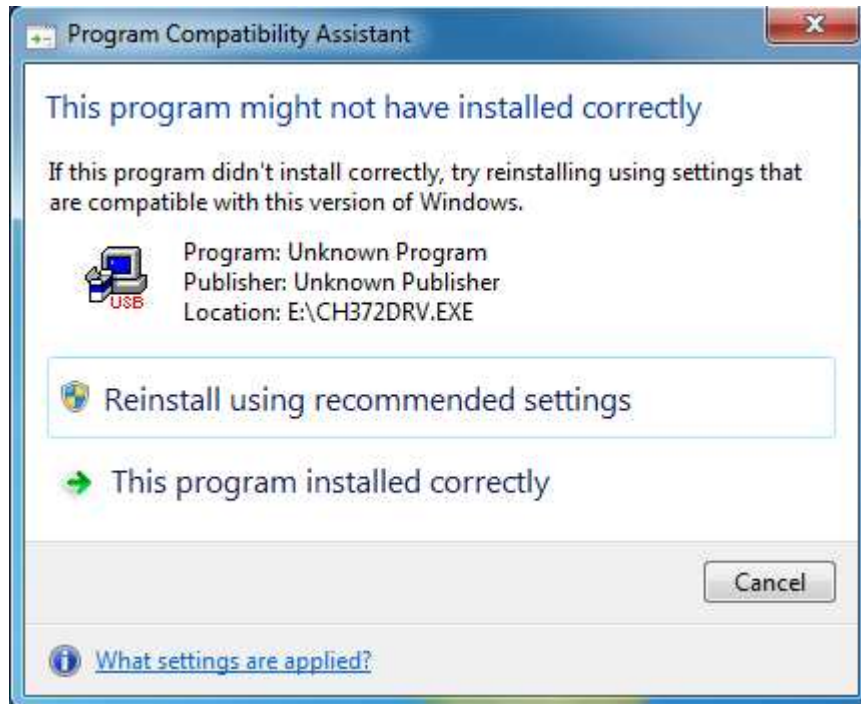


Click the button “INSTALL”, which pop up the window as:



Click the option “OK” to finish the installation.

Once pop up the window as:



Just select “This program installed correctly” to finish the whole installation.

2. ArbEditor Installation

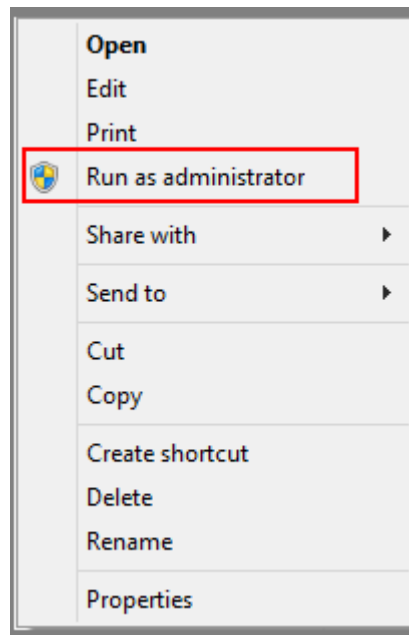
Firstly find the file named Register in folder of ‘ ArbEditor’ and open it.



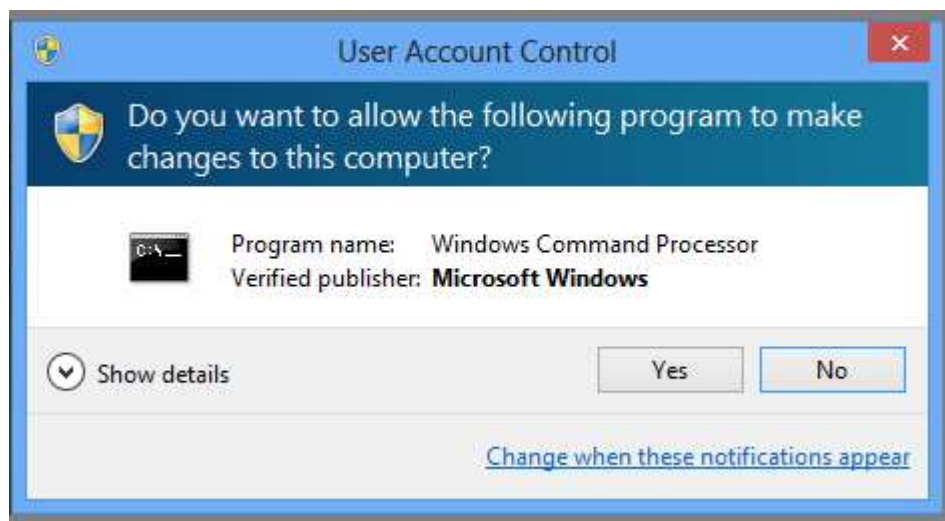
In this file, there is a batch processing setup named “Register.bat” as below figure shown:



Right click Register.bat to pop up the menu as:



Select “Run as administrator”, which pop up the window as:



Click Yes to execute registration, dos window will pop up during the registration process but just ignore it. If pop-up blocker such as antivirus software and firewall pop up to prevent process, just allow to run them.

1. Run Software

Find ArbEditor folder and open it.



And run ArbEditor.exe just like below Figure shown.



2. Software Interface

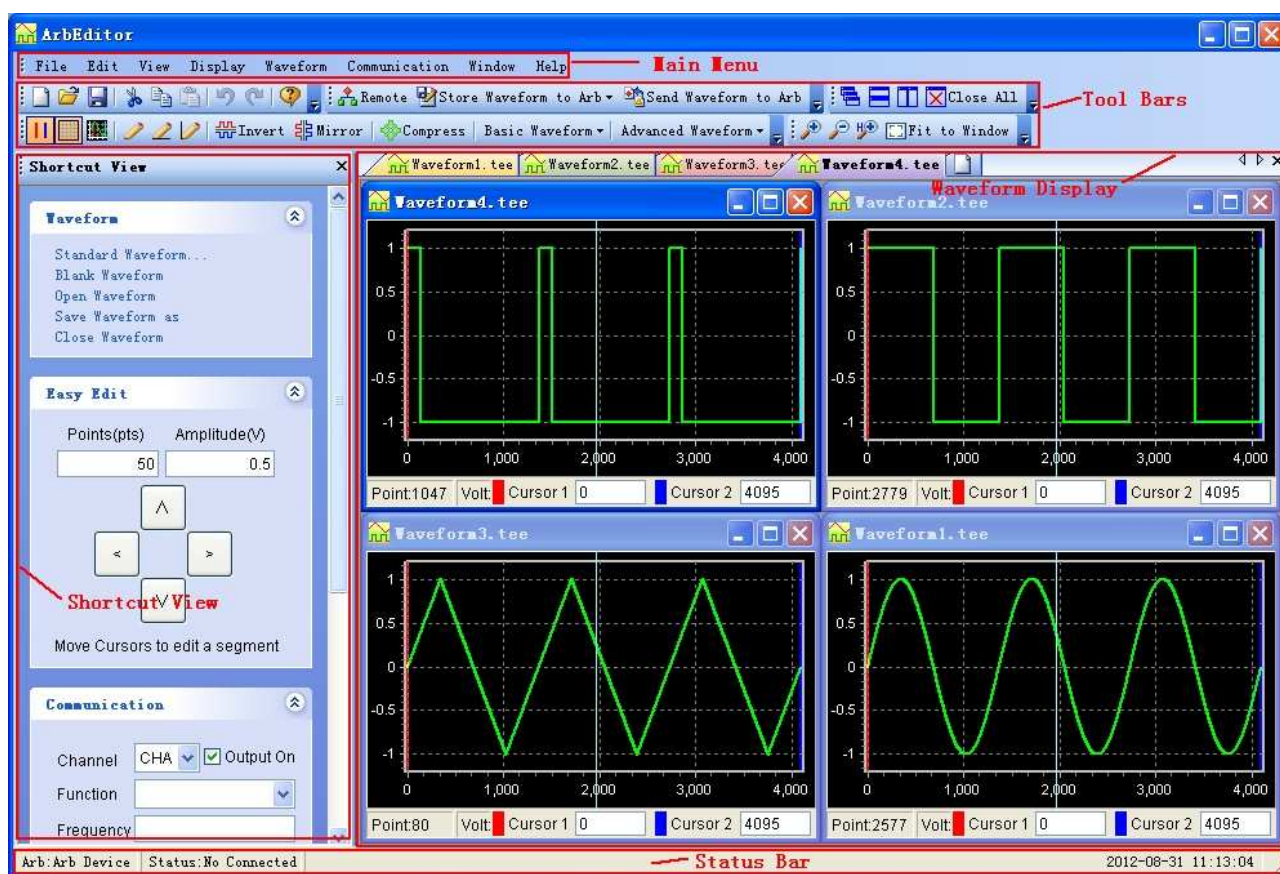


Figure 2.1 Software interface

Software interface includes Main Menu, Tool Bars, Shortcut View, Waveform Display, Status Bar.

Waveform display area has multi-window function, in which includes child windows. The selected child window is activated if reverse video, while the unselected ones are displayed with gray.

2.1 Main Menu

Main Menu includes all the menu items, for each descriptions, please see below table.

2.1.1 File

Menu selection	Description
Blank Sheet	Opens a blank waveform file.
Standard Waveform	Opens the Standard Waveform dialog box and select from 11 standard waveforms. Also you can set amplitude, offset, period, phase and so on.

Open	Opens a waveform file (.tee) or CSV File (.csv), which will show in area of activated child window. If no child window in display area, the software will create a new child window to display waveform.
Close	Closes an open waveform file, meanwhile appear the dialog to query whether to save.
Save	Saves changes to the currently open waveforms as .tee file or .csv file.
Exit	Exit ArbEditor

2.1.2 Edit

Menu selection	Description
Undo	Undoes the last operation performed on a waveform in child window.
Redo	Redo Redoes the last operation performed on a waveform in child window.
Cut	Cuts the portion of a waveform that is between cursors
Copy	Copies the portion of a waveform that is between cursors
Paste	Displays the paste options allowing you to choose where to paste. There are two paste modes and five locations to select.
Invert	Inverts the portion of a waveform between the cursors.
Mirror	Mirrors the portion of a waveform between the cursors
Compress	Compress the portion of a waveform between the cursors.
Free Hand	Draws a waveform along the path you trace
Horizontal Draw	Allows drawing only horizontally
Vertical Draw	Allows drawing only vertically

2.1.3 View

Menu selection	Description
Show/Hide Shortcut View	Displays and hides the shortcut view
Standard Toolbar	Displays and hides the standard toolbar
Waveform Toolbar	Displays and hides the waveform toolbar
Zoom Toolbar	Displays and hides the zoom toolbar
Instrument Bar	Displays and hides the remote, control toolbar
Point Draw Bar	Displays and hides the point draw toolbar (not available)
Window Bar	Displays and hides the windows bar
Status Bar	Displays and hides the status bar

2.1.4 Display

Menu selection	Description
Zoom In	Zooms in to the area selected
Zoom Out	Zooms out from the point selected
Horizontal Zoom In	Zooms in horizontally from the point selected
Fit to Window	Restores the view to the state that is was before the first zoom operation
Cursor	Shows or hides the cursors
Cursor Position	Set position of Cursor1 and Cursor2.
Graticule	Shows or hides the graticule for the waveform
Properties	Displays the properties color, line style of the selected waveform and cursor.

2.1.5 Waveform

Menu selection	Description
----------------	-------------

Sine	Creates a sine wave
Square	Creates a square wave
Triangle	Creates a triangular wave
Pulse	Creates a pulse wave
Noise	Creates a noise wave
DC	Creates a DC wave
Log Rise	Creates a Log Rise wave
Exp Rise	Creates a Exp Rise wave
Since	Creates a Since wave
Half Sine	Creates a Half Sine wave
Sine Limit	Creates a Sine Limit wave

2.1.6 Communication

Menu selection	Description
Remote	Remote control, and waveform type, frequency, amplitude and offset can be set.
Store Waveform to Arb	Save present waveforms, and 5 locations in total: User1 User2 User3 User4 User5
Send Waveform to Arb	Sends the activated waveform to instrument.

2.1.7 Window

Menu selection	Description
Cascade	Arranges the open windows in the application lower-right so that they overlap one another.
Title Horizontally	Arranges the open windows horizontally in the application client area without overlapping
Title Vertically	Arranges the open windows vertically in the application client area without overlapping
Close all	Closes all open windows in the client area

2.1.8 Help

Menu selection	Description
About	About

2.2 Tool Bars

Tool bars select some common menu items in main menu and classify, mainly including Standard Toolbar, Waveform Toolbar, Zoom Toolbar, Instrument Toolbar and Window Toolbar. For detail description, please refer to Main Menu in 2.1.

2.3 Shortcut View

Shortcut View occupies some common shortcut options, you can keep the shortcut view open by simply selecting or setting to perform relative operation.

2.3.1 Waveform

Includes five shortcut view options – create, open, save, close and standard waveform. For detail information, please refer to Main Menu in section 2.1.

2.3.2 Easy Edit

The waveform between Cursor1 and Cursor2 can be operated fast, and allows you to shift or rotate the waveform. And confirm the shift position by setting Points and Amplitude.

2.3.2 Communication

Allows you to set channel, waveform type, frequency, amplitude and offset by remote controlling, also to save waveform. There are 5 locations in total and separately is

User1, User2, User3, User4, User5.

2.3.3 Window

Allow you to perform the operations of Cascade, Title Horizontally and Title Vertically.

2.4 Waveform Display

The waveform display area can display multiple different waveforms through multiple child windows. The created waveform can be edited by Tool Bar. Each waveform includes two cursors which are used to select the edit area, meantime edit box in right bottom display the cursor position, or change the cursor position by enter value in edit box.

The activated child window is reverse video and rest ones with dark shades, as shown in Figure. 2.2.

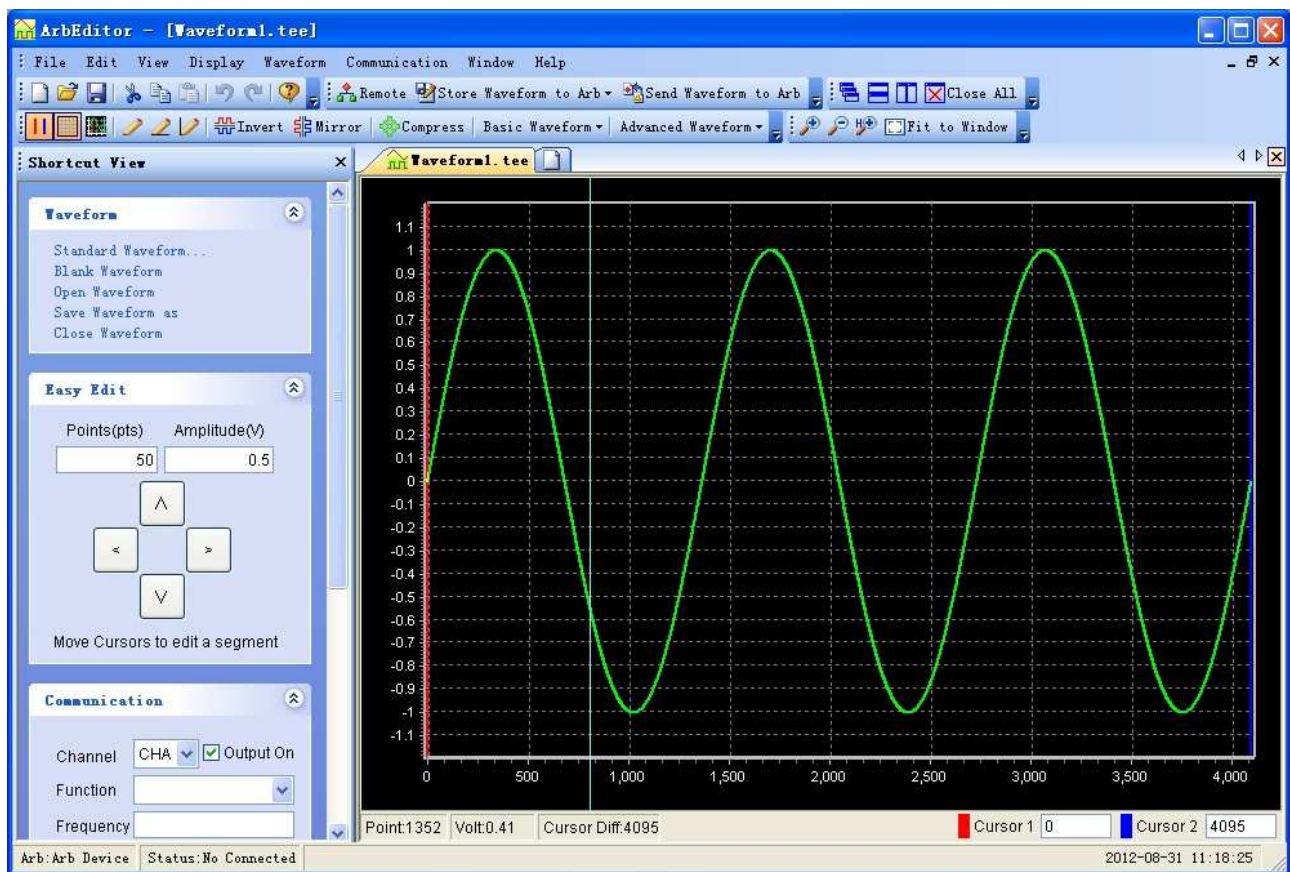


Figure 2.2 Waveform display area

2.5 Status Bar

Status bar displays connecting device, connecting state and system time.

3. Waveform Creation and Editing

3.1 Create Waveforms

You can create waveforms using menu bar, toolbar or Blank Waveform of shortcut window. Default created waveform is DC wave. Also you can create using Standard Waveform, by which you can select waveform type and set amplitude, offset in volts, period, phase and so on, as shown in Figure 3.1.

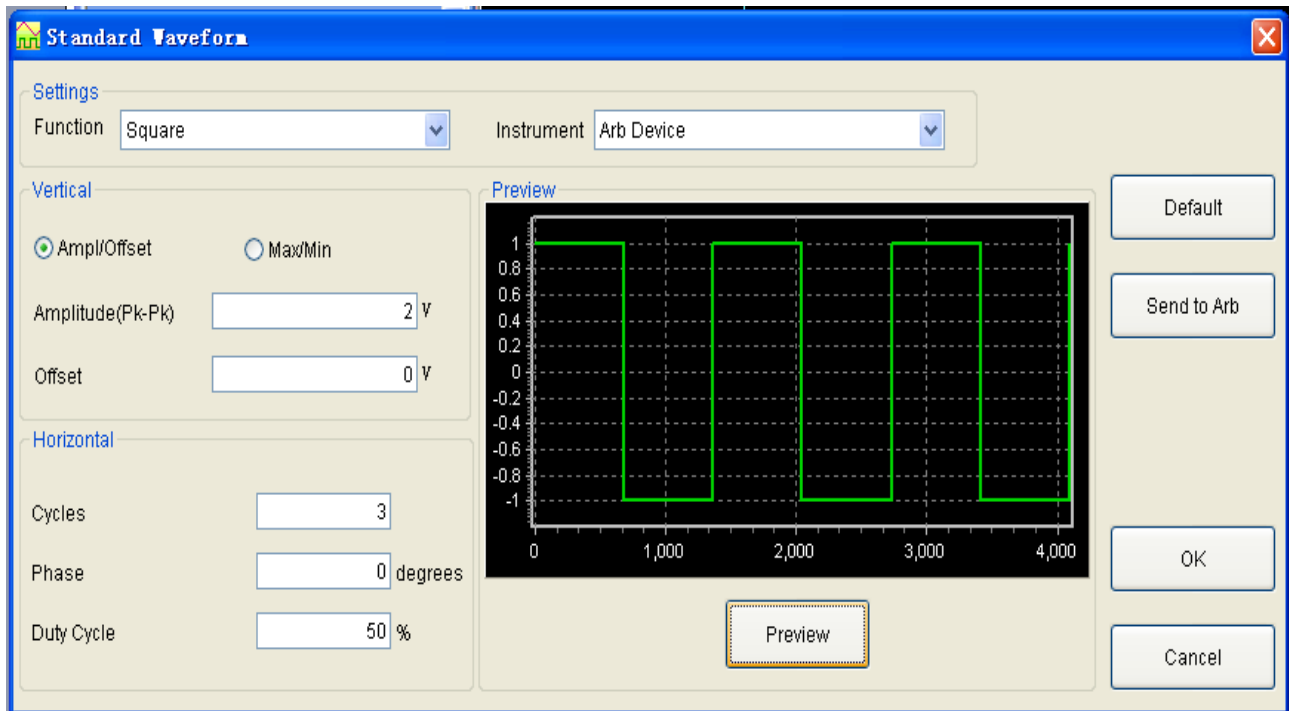


Figure 3.1 Standard Waveform Setting Screen

After setting, you can click Preview button to preview waveform. If needed, you can click Send to Arb button to transfer the waveform to instrument. This button is only enabled after clicking Preview button.

Click Default button to restore the default values for the parameters. Click OK button to display a new waveform window as you set in Waveform Display area. Click cancel button to exit.

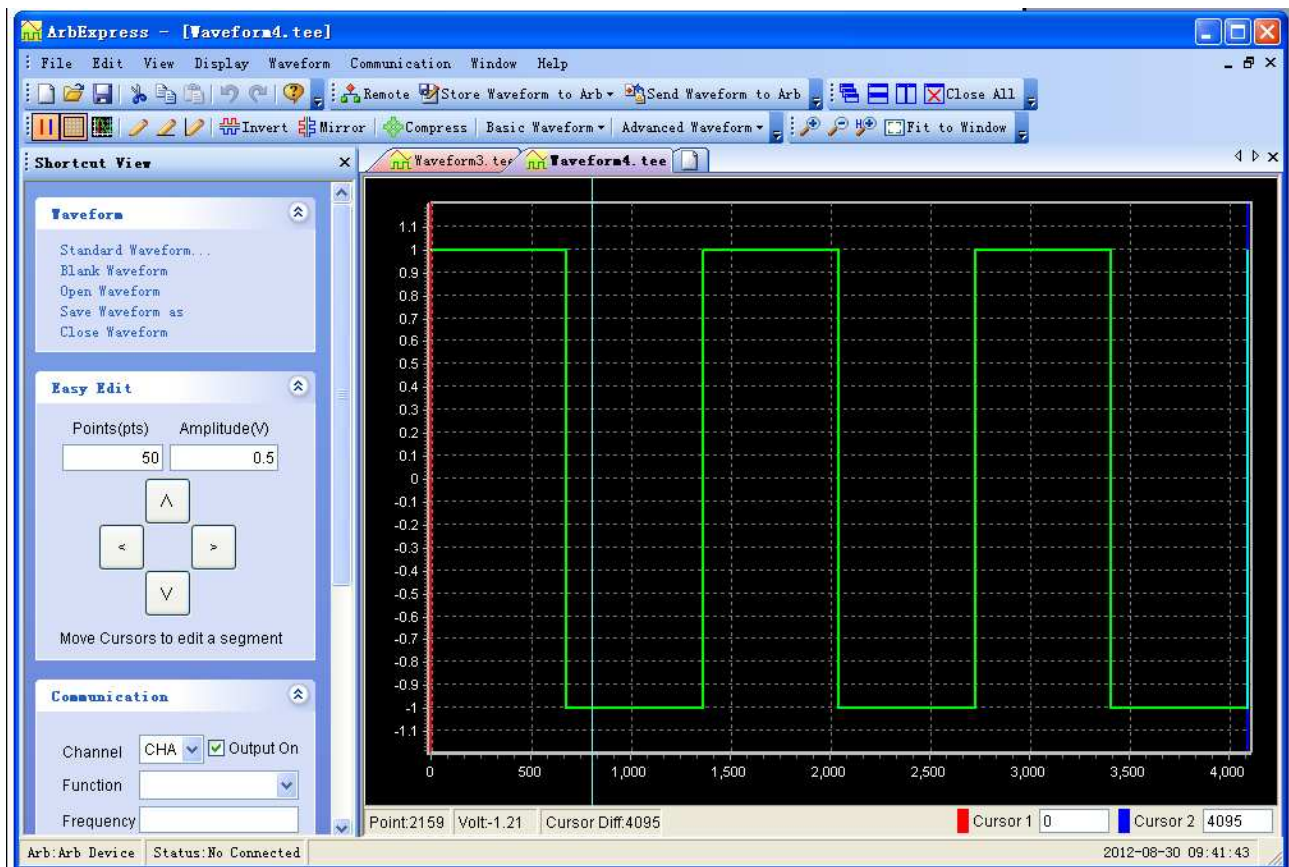


Figure 3.2 click OK to display waveform in a new window of main screen

3.2 Edit Waveforms

3.2.1 Select Edit Area

Under unedited mode, you can move the two cursors by mouse to select edit area, as shown in Figure 3.3.

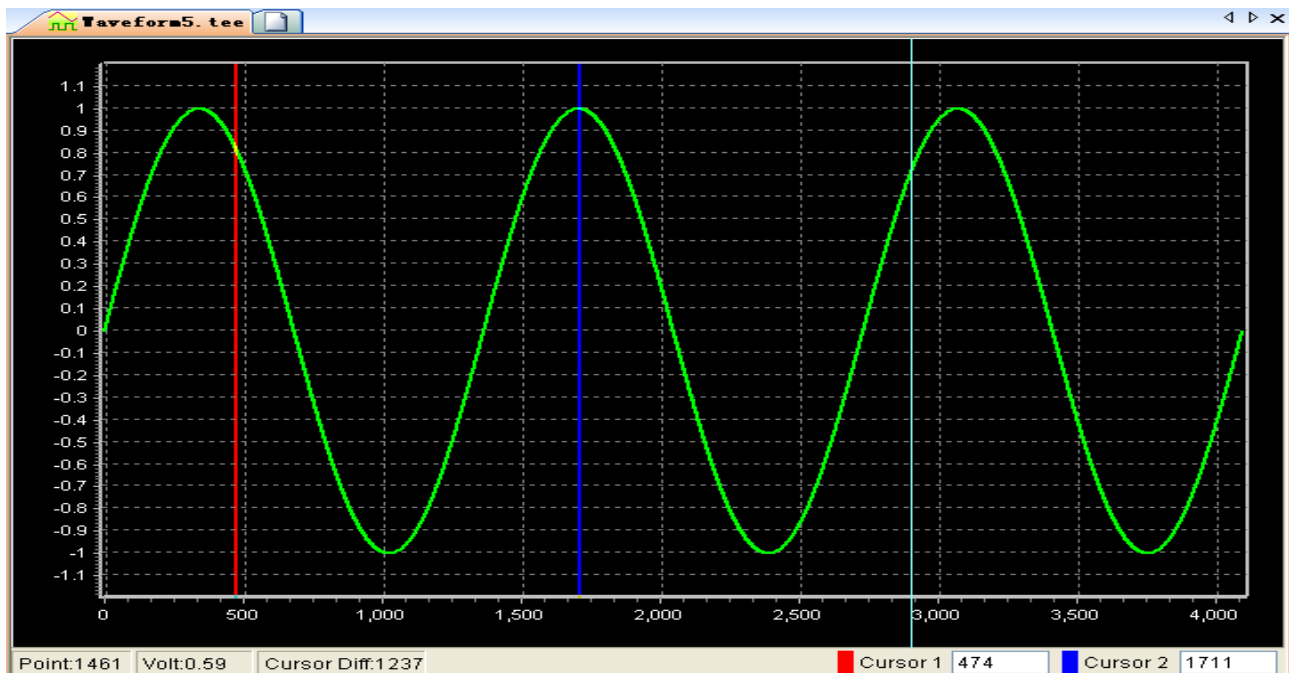


Figure 3.3 Select cursor area

Status bar will show cursor information of mouse position. Also you can read the data in the right-down Cursor 1

and Cursor 2 edit frame to confirm cursor position.

3.2.2 Draw Waveforms

You can click  icon from the toolbar to enter into draw mode. Cancel the draw tool to turn off draw mode. Under draw mode, you can select freehand, horizontal draw and vertical draw. Take freehand for example, click  icon to select freehand. Place the mouse in the waveform window, hold left-click and move to draw a waveform as tracking, as shown in Figure 3.4.



Figure 3.4 Freehand draw waveform

3.2.3 Edit Waveforms

a) Invert and Mirror: click  icon from toolbar to invert or mirror a portation of current waveform.

b) Compress waveform: click  icon from toolbar to display compress dialog box. You can set the ratio of horizontal or vertical to compress the waveform, as shown in Figure 3.5.

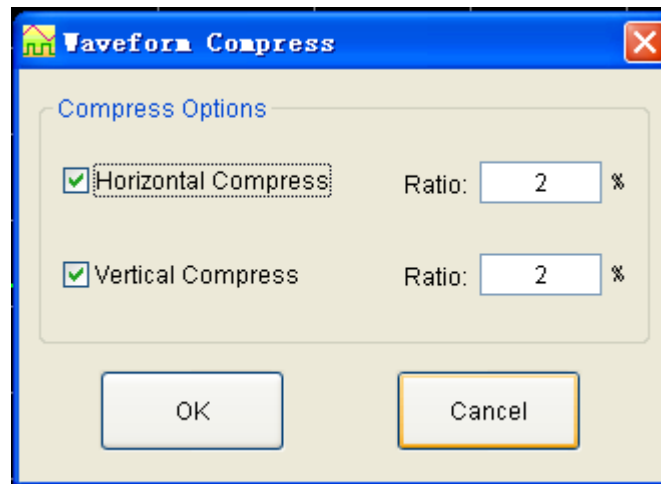


Figure 3.5 Compress waveform

c) Zoom waveform: click  icon from toolbar to zoom waveform.

d) Copy, Cut and Paste: click  icon from toolbar to copy, cut and paste selected portion of waveform within two cursors. You can paste in one waveform or between different waveforms. Click Paste to appear paste options dialog box. You can select paste mode from 5 options and two modes. Cover mode will cover the following points from paste start. Add to mode will add new points from paste start and all following points move behind, once over 4096, which will be deleted, as shown in Figure 3.6.

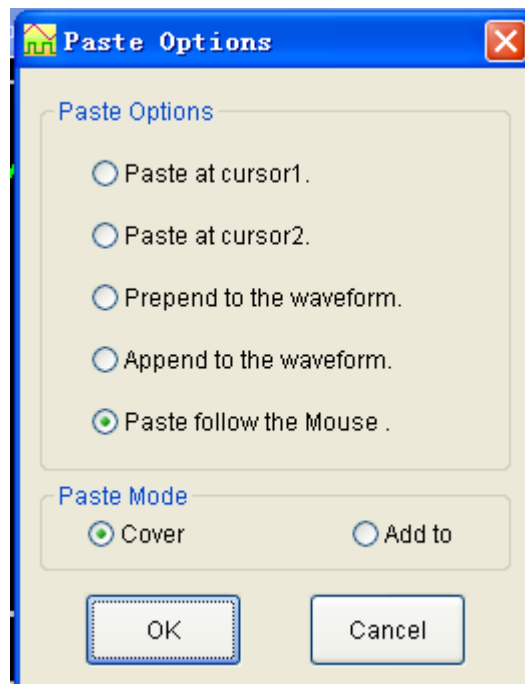


Figure 3.6 Paste options

After paste operation, as shown in Figure 3.7.

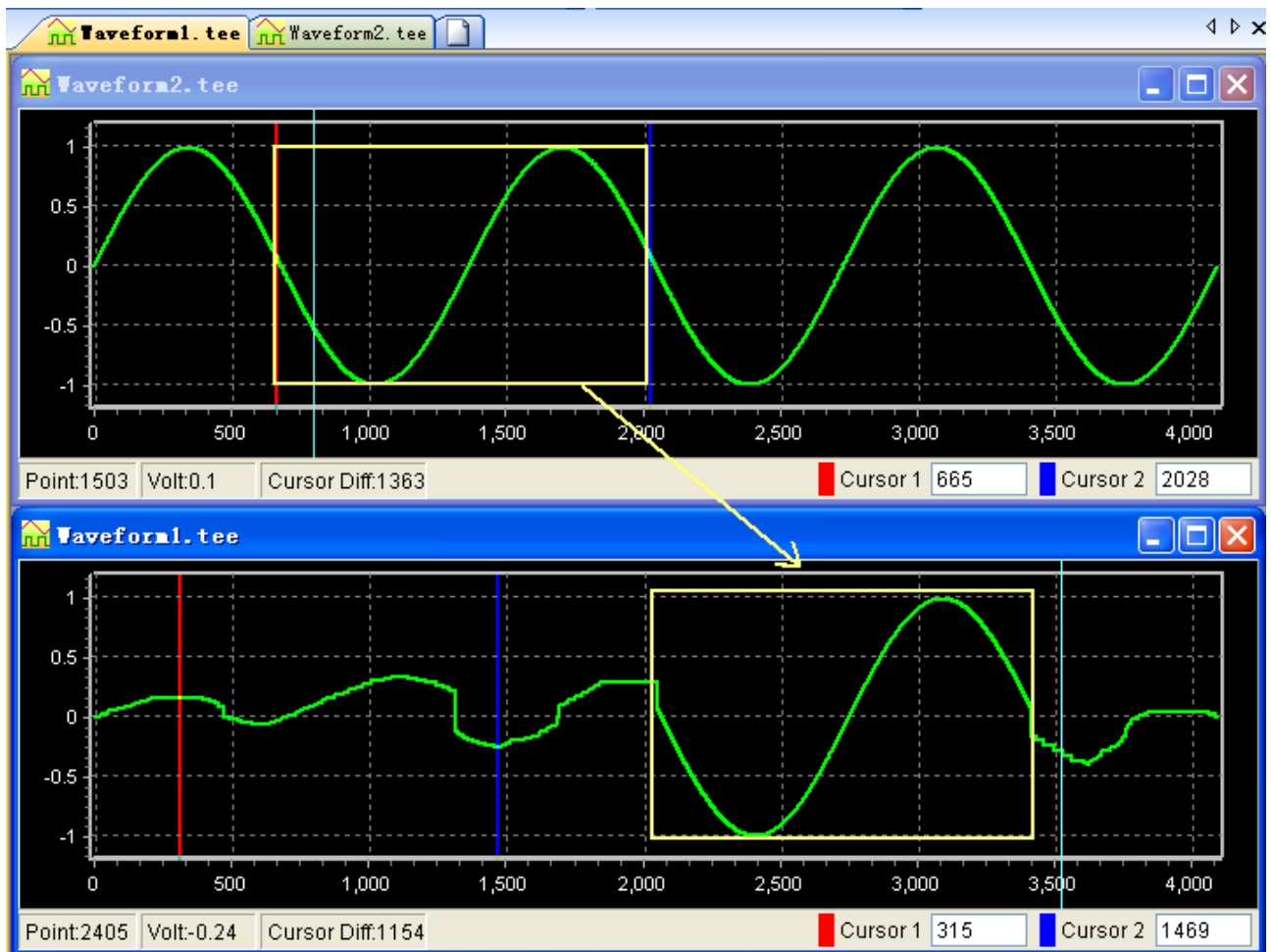


Figure 3.7 Waveform paste

e) Move waveform: you can move the waveform within cursors using Easy Edit window, as shown in Figure 3.8.

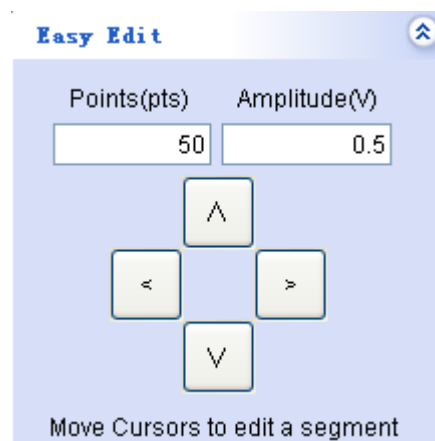


Figure 3.8 Move waveform

Also you can select from menu of right-clicking on waveform to enable the move, as shown in Figure 3.9.

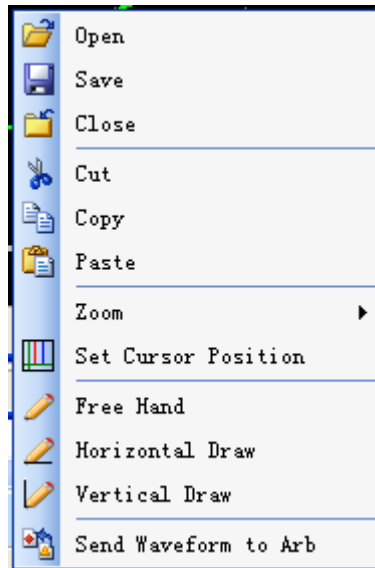


Figure 3.9 Right-click menu

You can click  icon from toolbar to undo or redo all the operation except of zoom.

4. Remote Operation

4.1 Remote Control

Click  from the toolbar to pop up remote dialog box, users can set channel, function, frequency, amplitude, offset and remote command defined by your own. As shown in Fig. 4.1.

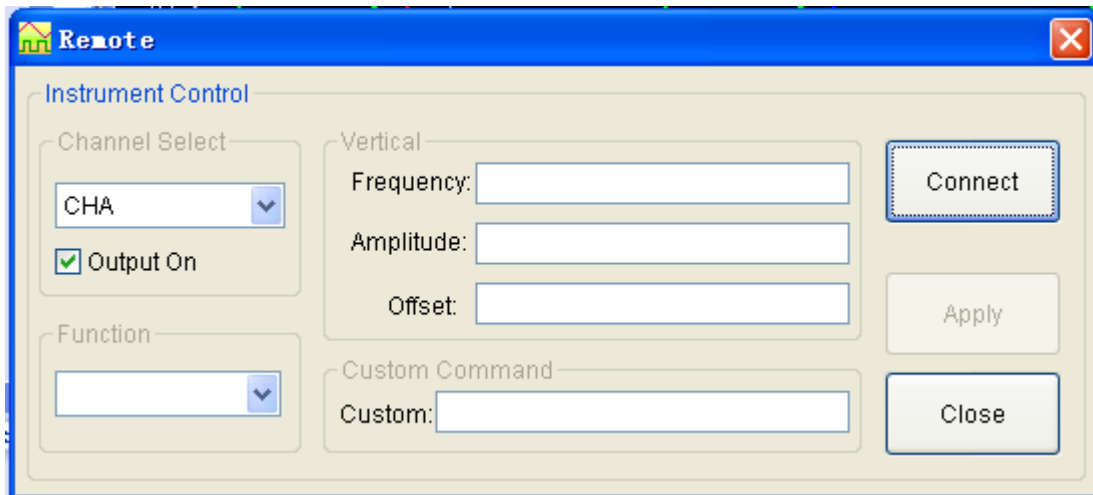
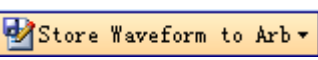


Fig. 4.1 Remote dialog box

Click Connect button to connect to remote end instrument, the Connect button will change to Disconnect if remote was connected successfully, in this case, click it to disconnect remote control connection. Click Apply button to send setting value to instrument end to realize remote control to the instrument.

Click  in the toolbar to select storage location User1~User5, users can store existing waveforms in the instrument end to specified location.

4.2 Download Waveform

Click  in the toolbar or select this option in the context menu of the waveform, to

download the waveform data in active state to instrument end. Users can also download waveform by clicking Send to Arb button when set and preview in the Standard Waveform window, as shown in Fig. 4.2.

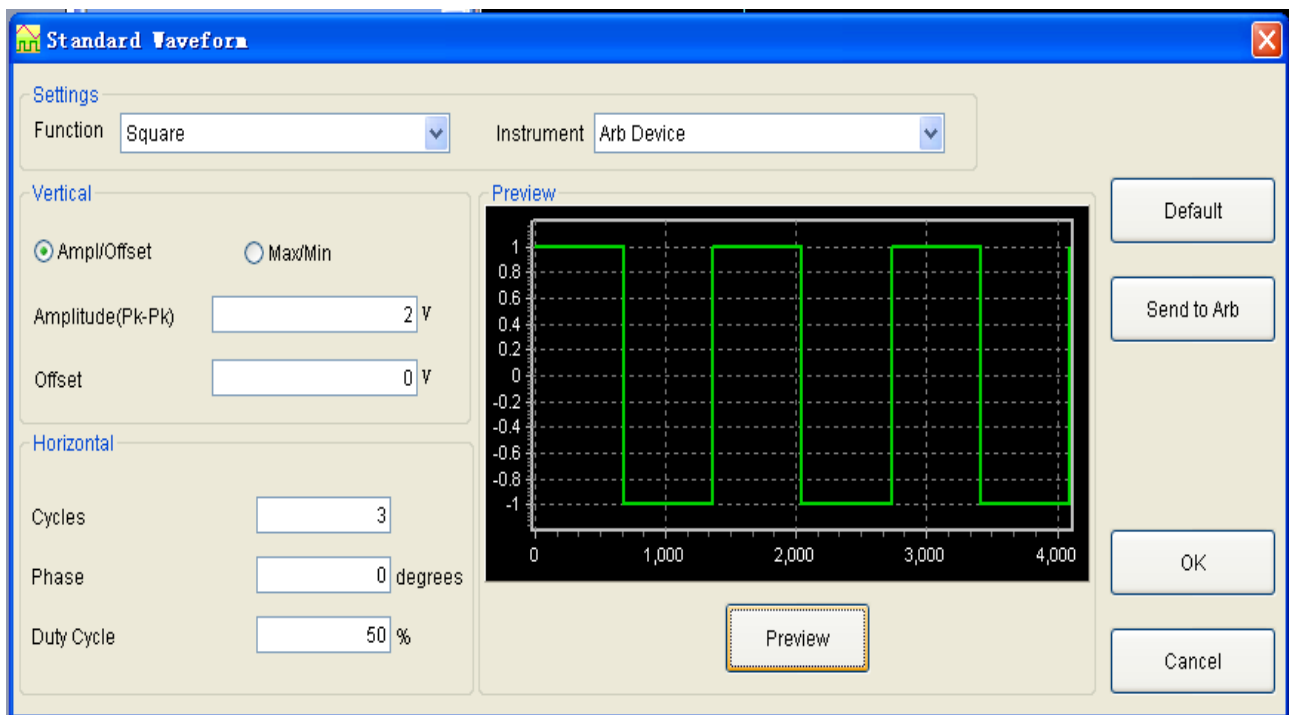


Fig. 4.2 Standard waveform window

After setting parameters, click Preview to preview waveform, click Send to Arb button to download waveform to instrument.

Notice: Must click Preview to preview waveform before sending actual waveform to instrument end.