

Agilent ENA Series RF Network Analyzers

# Max Hold VBA Function Operation Manual

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## Sample Program

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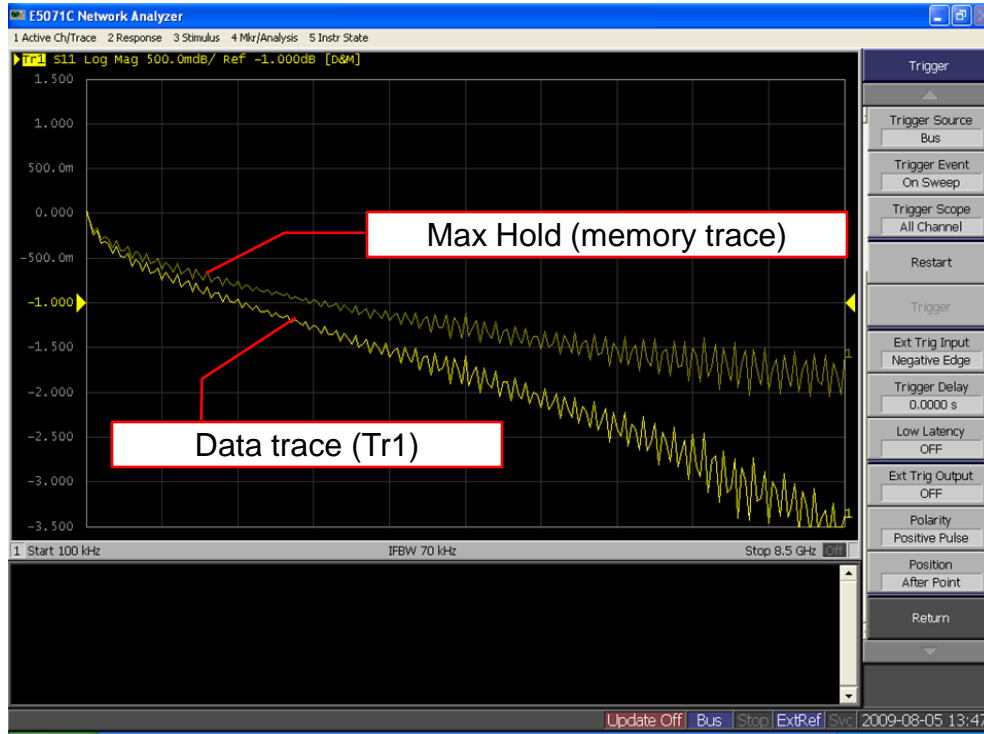
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# Overview

The VBA sample program provides the Max Hold function on E5071C ENA Vector Network Analyzers. The function displays the maximum of any given active measurement simultaneously with the real-time data. The held data is displayed as a memory trace.

There are two VBA Macros in the sample program. The “Start GUI MaxHold.vba” is used when you operate the Max Hold function on the front panel. The “Setup MaxHold.vba” is used when you control the Max Hold function remotely.

# Max Hold Function – Operations by using GUI



• Functional description on each button



Start GUI MaxHold.vba

	Description
①	Trigger continuously and hold the Max values on the memory trace until another button is pressed
②	Move to normal sweep mode
③	Clear the Max Hold memory trace and restart the Max Hold. The button is enabled when the Max Hold is ON.
④	End the VBA program

## [Notes]

1. When you are modifying any ENA settings, stop the Max Hold process by pressing the OFF button on the GUI. Because the VBA program controls continuous sweeps with BUS triggers, any change in measurement settings could conflict with the BUS triggers.
2. The GUI is hidden when you operate any ENA softkey. To show the Max Hold GUI again, click the “Max Hold” task button at the bottom Taskbar.

# Max Hold Function – Remote Control via GPIB

## (Setting on PC)

When you control the Max Hold functions remotely via GPIB, you need to send the following settings.

#1. Start up: Load, set and run the Max Hold VBA Macro with the following SCPI commands

Syntax	Description
:MMEMory:LOAD:PROGrama <string>	Load a VBA project
:PROGrama[:SElected]:NAME <string>	Set/Get a VBA Macro*
:PROGrama[:SElected]:STATe {STOP RUN}	Set/Get the control/state of the VBA Macro selected with :PROG:NAME

\* Use the VBA Macro name (“ModuleName.ProcedureName”) at the <string> of the “:PROGrama[:SElected]:NAME” command. (e.g. “Module1.main”)

#2. You can set Max Hold functions by sending the Max Hold commands with the Display Title SCPI command.

Syntax	Description
:DISPlay:WINDow{[1]-160}:TITLe:DATA <string>	Sets/Gets the title label displayed in the title area of selected channel

Max Hold commands which is sent as a variable of the Display Title SCPI command

Variables	Description
MaxHold ON	Trigger continuously and hold the Max values on the memory trace until another button is pressed
MaxHold OFF	Move to normal sweep mode
MaxHold Restart	Clear the Max Hold memory trace and restart the Max Hold. The button is enabled when the Max Hold is ON.
MaxHold END	End the VBA program

### [Note]

- Do not use [Macro Run] or [Macro Break] hard key to start or stop the remote-controlled Max Hold VBA Macro. Send “:PROG:STAT RUN” to start the Macro and send “:DISP:WIND{[1]-160}:TITL:DATA “MaxHold END”” to stop it.
- Do not change measurement settings with softkey when your are running the remote-controlled VBA Macro because it could cause a processing conflict. Send “:DISP:WIND{[1]-160}:TITL:DATA “MaxHold END”” command before manual operations.

# Max Hold Function – Remote Control via GPIB

## (Setting on the ENA)

### • Verify References setting in case the Max Hold function via GPIB does not work

When you run the Max Hold function remotely, the reference to MaxHold DLL should be available.

Select [Tools] -> [References] under the VBA Editor menu on the ENA.

If the Max Hold reference does not exist under the Available References in the References dialogue box, click [Browse...] in the References dialogue box and open the MaxHold.dll file from the “C:\Program Files\Agilent Technologies\MaxHold\DLL” folder.

Confirm that the MaxHold reference is checked in the Available References, click [OK] in the References dialogue box. This ends the reference setting process.

### Sample Source Code (Setup MaxHold.vba)

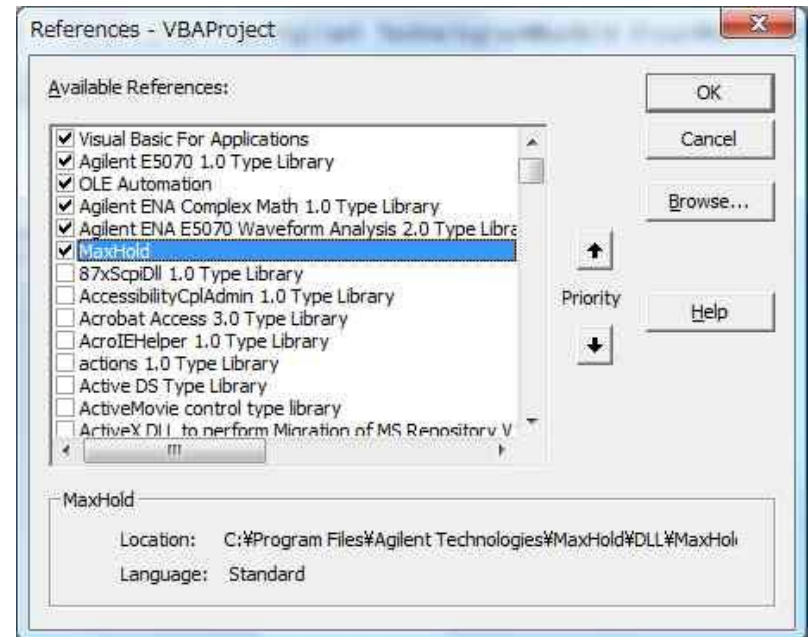
#### Option Explicit

```
Private TrMaxHold As New classMaxHold
```

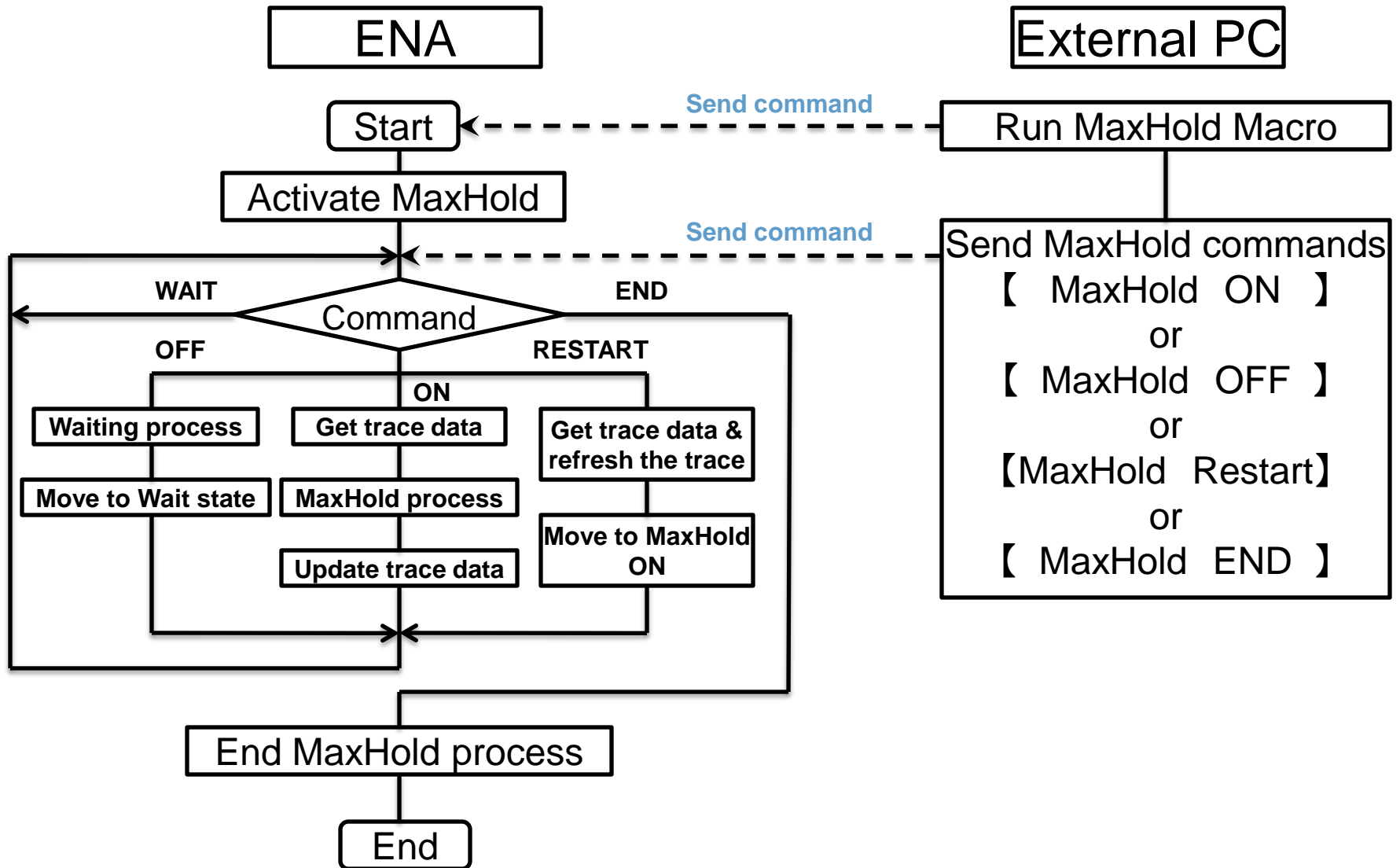
#### Sub Main

```
TrMaxHold.MaxHold 'Execute MaxHold
```

#### End Sub



# Max Hold Function Control Algorithm via GPIB



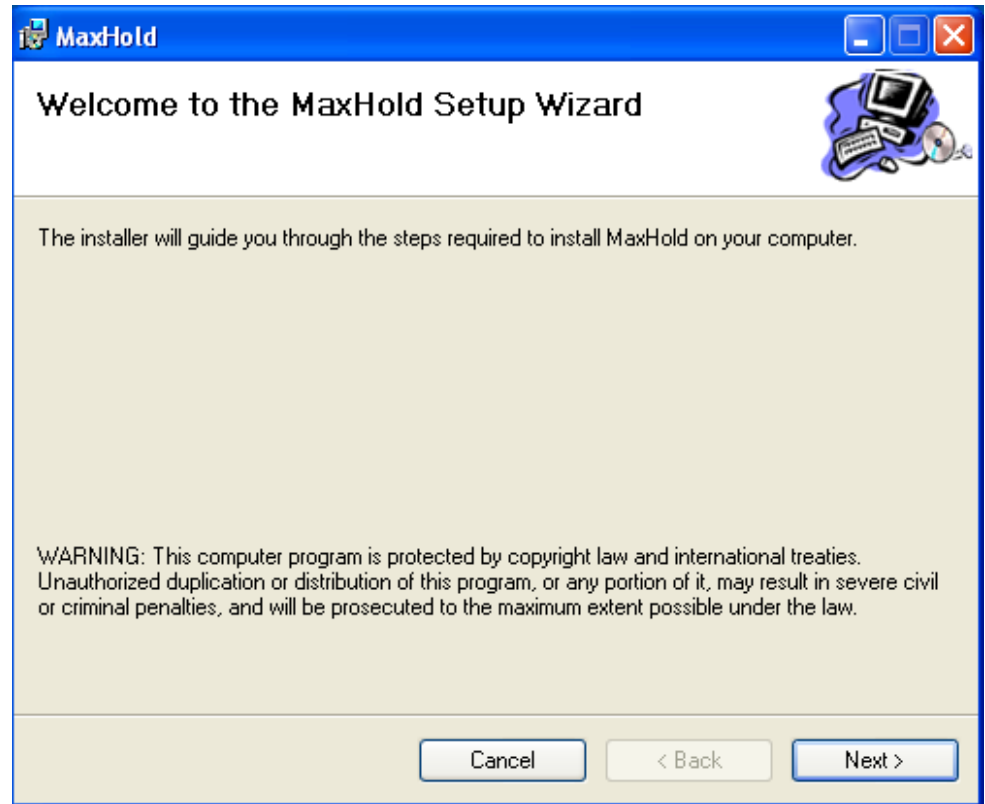


# Max Hold VBA Installation Procedure #1

Execute “Setup MaxHold.msi” located in the MaxHold Installer folder.

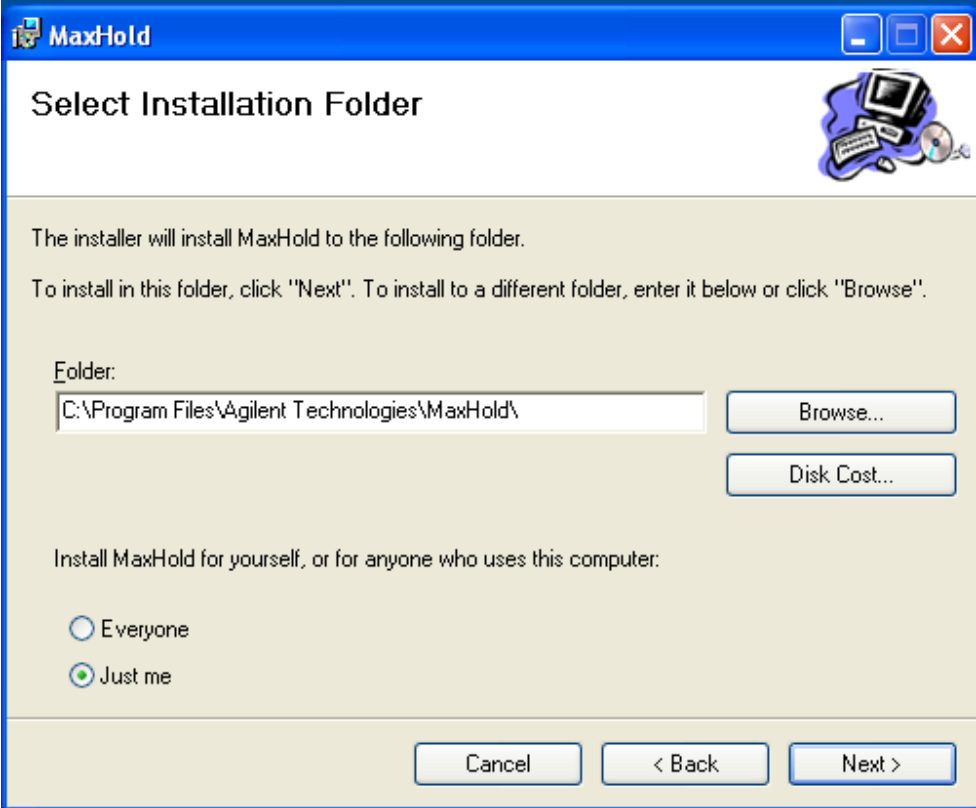


Execute



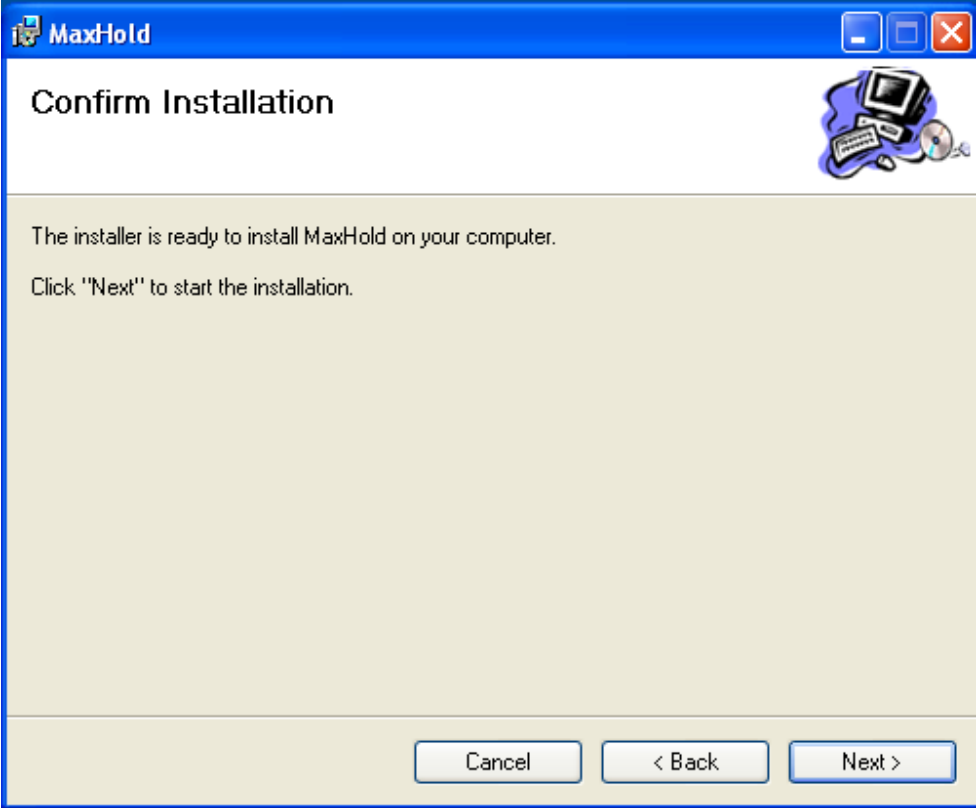
Click [Next >].

# Max Hold VBA Installation Procedure #2



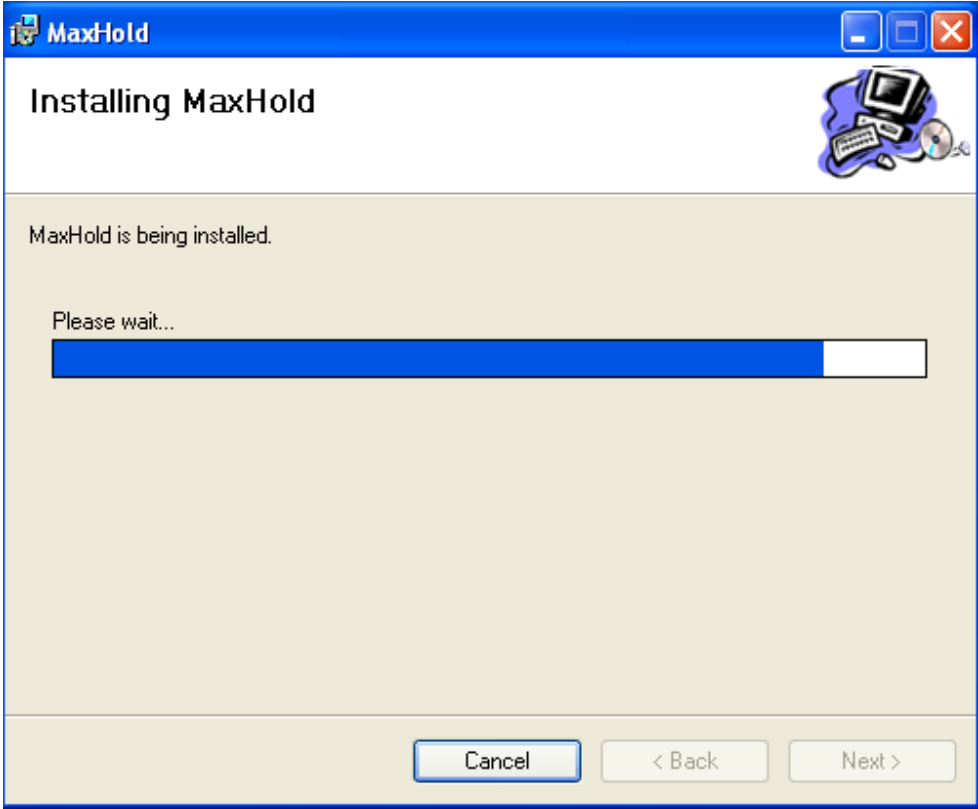
**Select the folder to be installed and click [Next >].**

# Max Hold VBA Installation Procedure #3



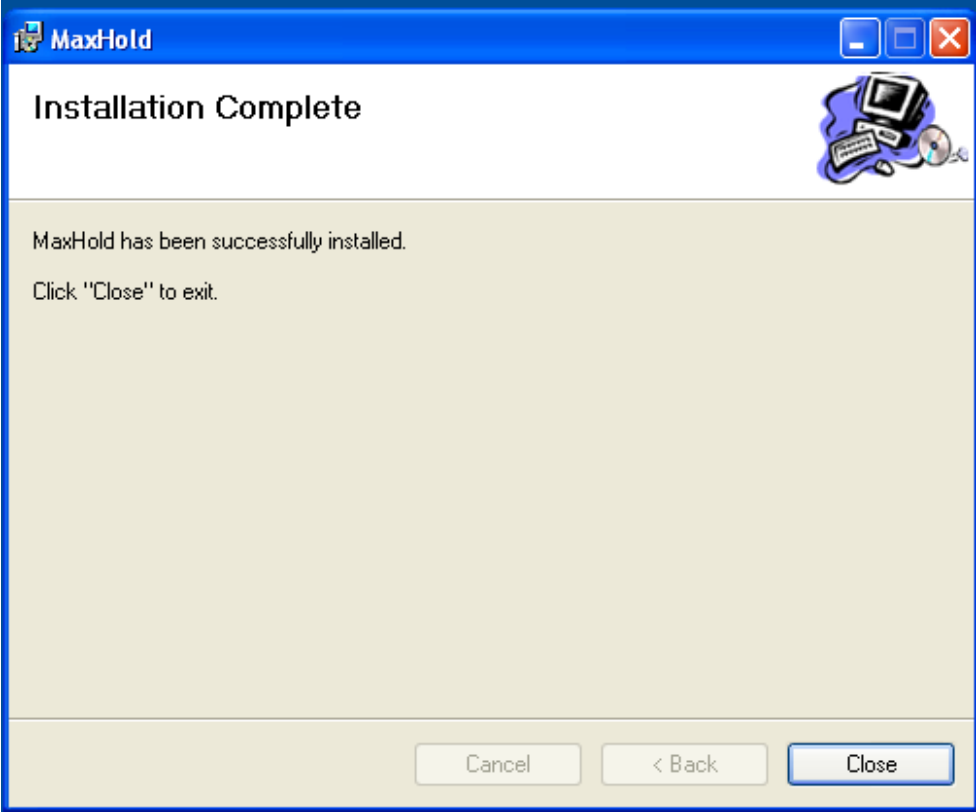
**Click [Next >].**

# Max Hold VBA Installation Procedure #4



**The installation process is executed.**

# Max Hold VBA Installation Procedure #5



**When the installation is complete, Click [Close].**

# Location of the Installed Files

