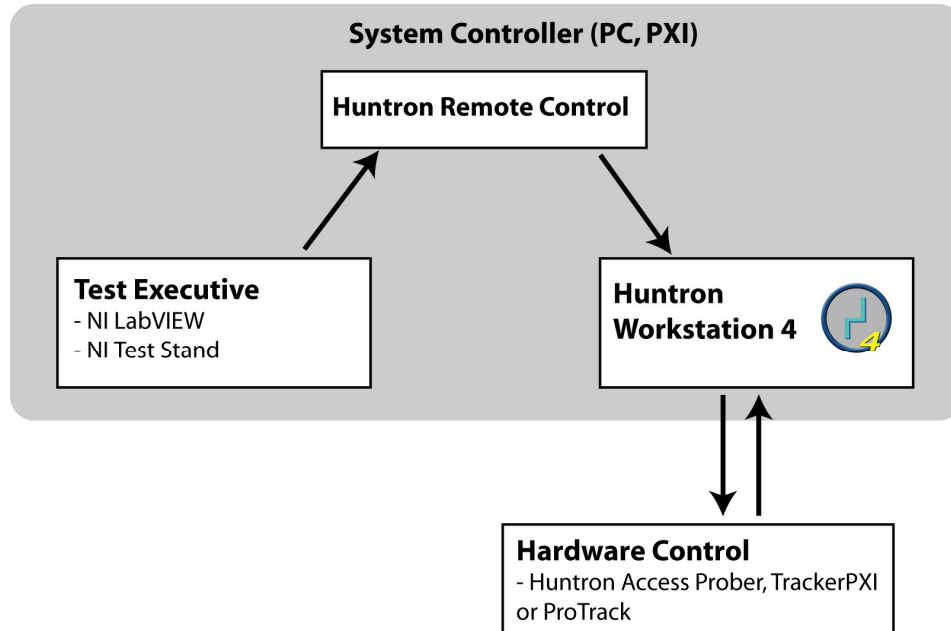
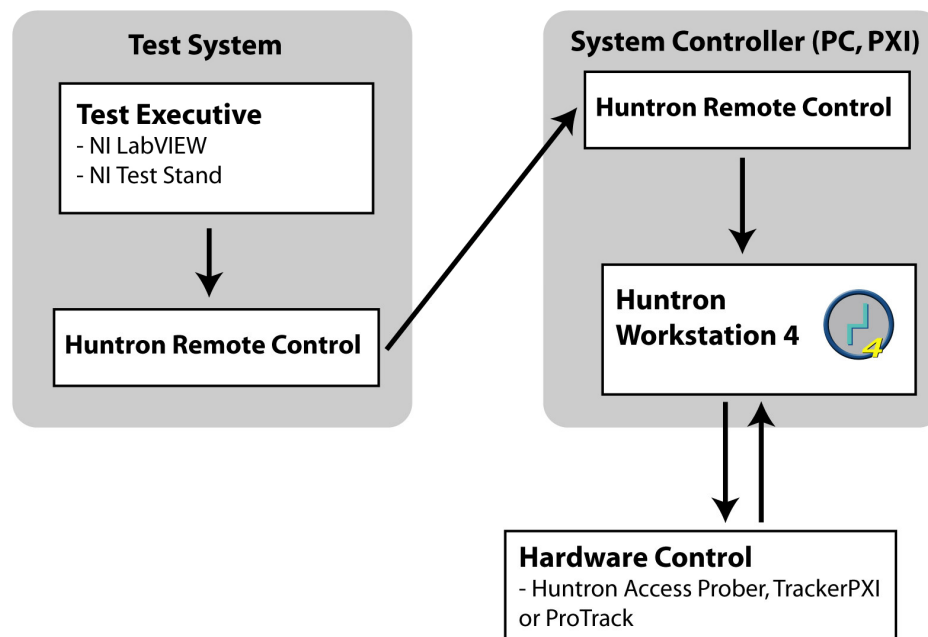


Huntron Workstation Remote Control

The Huntron Workstation optional Remote Control feature allows control of the software from other programs. Its main purpose is to allow scans of sequences and components using a Tracker with a Scanner or a Prober. Tests are created and verified in Huntron Workstation and then “controlled” by other programs. Test results can be produced in an ASCII file or generated PDF files. In the future information could be provided to allow accessing test information from the Huntron Workstation MDB file.



Remote Control through a single Controller



Remote Control through a Test Executive on a separate controller

Other features include controlling a Prober to put the pin down on a pin to take a measurement with another tester, capturing a camera image over a selected pin and retrieving scan and reference signature data for the selected pin.

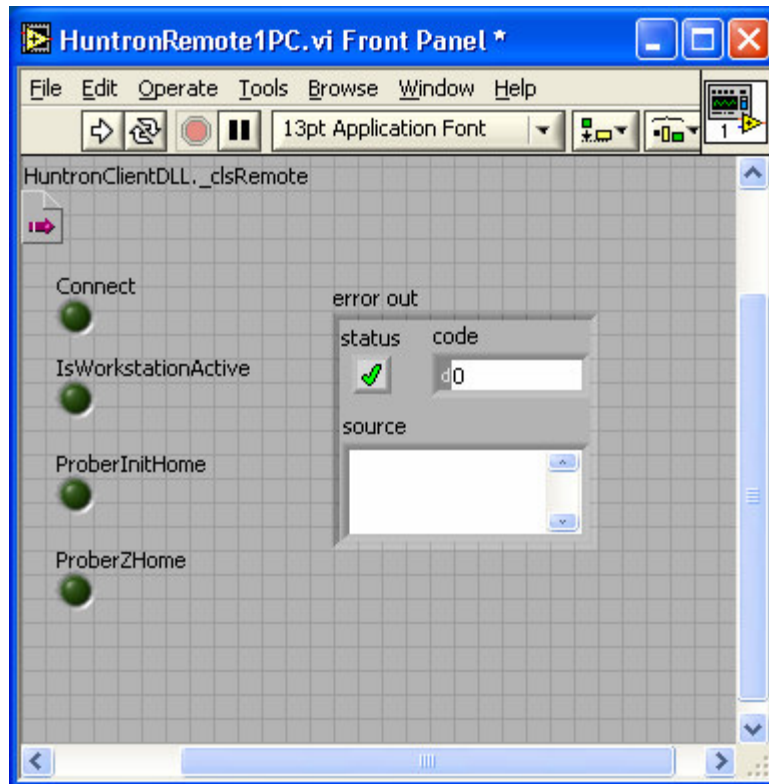
The process of adding Huntron Tracker and Prober capabilities to other programs and testers using drivers requires a lot of programming by the customer. Huntron Workstation Remote Control makes this a lot easier by providing most of the functionality needed with minimal programming.

Remote Control is used by programs talking to the Huntron Client VB.NET DLL (HuntrulClient.dll). The DLL exposes functions that are called by the programs to control Huntron Workstation.

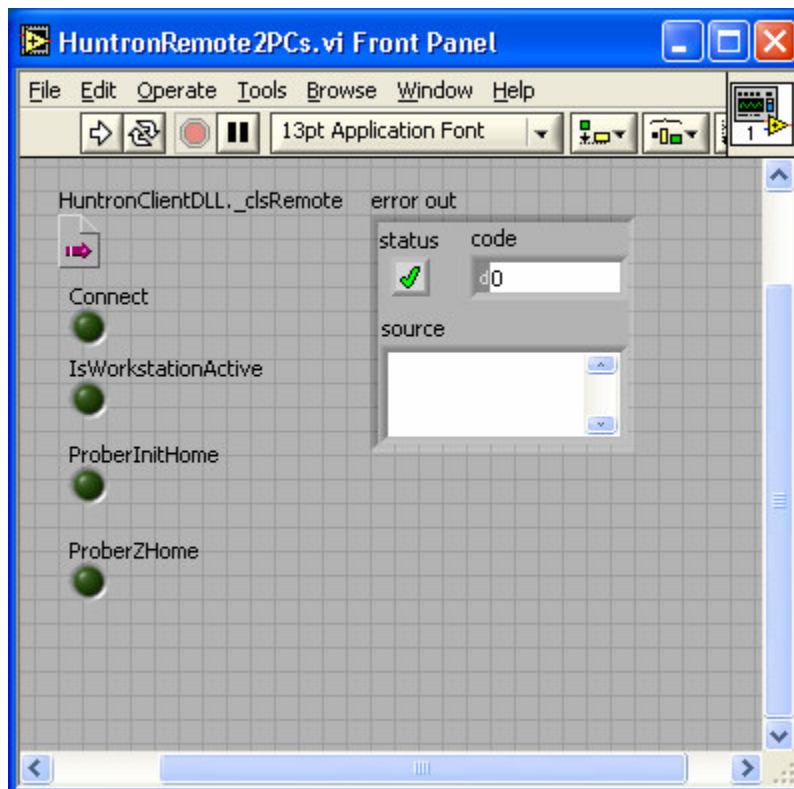
Below are screens captures of the sample programs and a detailed listed of the functions available.

The screenshot shows a Windows application window titled "Huntron Workstation Remote Control Sample Application". The interface is divided into several sections with buttons and input fields. On the left, there are buttons for "Connect", "Start Workstation", "Open File", "Select Sequence", "Align Prober", "Scan Sequence", "Select Component/Net", "Select Pin", "Get Pin Signatures", "Get Ref Pin Signatures", "Stop Workstation", and "Disconnect". The "Connect" button is checked, and the "localhost" text box is visible. The "Start Workstation" button is checked, and the "Minimized" checkbox is also checked. The "Open File" button is unchecked, and the text box shows "z:\Huntron\Boards\Test Board.MD". The "Select Sequence" button is unchecked, and the text box shows "TEST". The "Align Prober" button is unchecked. The "Scan Sequence" button is unchecked, and the text boxes show "Serial Number: 12345", "Operator:", and "Failed: 0". The "Select Component/Net" button is unchecked, and the text box shows "U4". The "Select Pin" button is unchecked, and the text box shows "3". The "Get Pin Signatures" button is unchecked, and the text boxes show "134" and "2". The "Get Ref Pin Signatures" button is unchecked, and the text boxes show "0" and "2". The "Stop Workstation" button is unchecked. The "Disconnect" button is unchecked. On the right, there are buttons for "Prober Home", "Prober Z Home", "Prober Pin Down", "Camera Image", "Scan List", "Scan Component", and "Scan Pin". The "Prober Home" button is unchecked. The "Prober Z Home" button is unchecked. The "Prober Pin Down" button is unchecked. The "Camera Image" button is unchecked, and the text box shows "z:\Huntron\Huntronlc" and the file type "BMP". The "Scan List" button is unchecked, and the text box shows "z:\Huntron\Lists\Test". The "Scan Component" button is unchecked. The "Scan Pin" button is checked. At the bottom right, there is a large empty rectangular area, likely for a camera image or scan results.

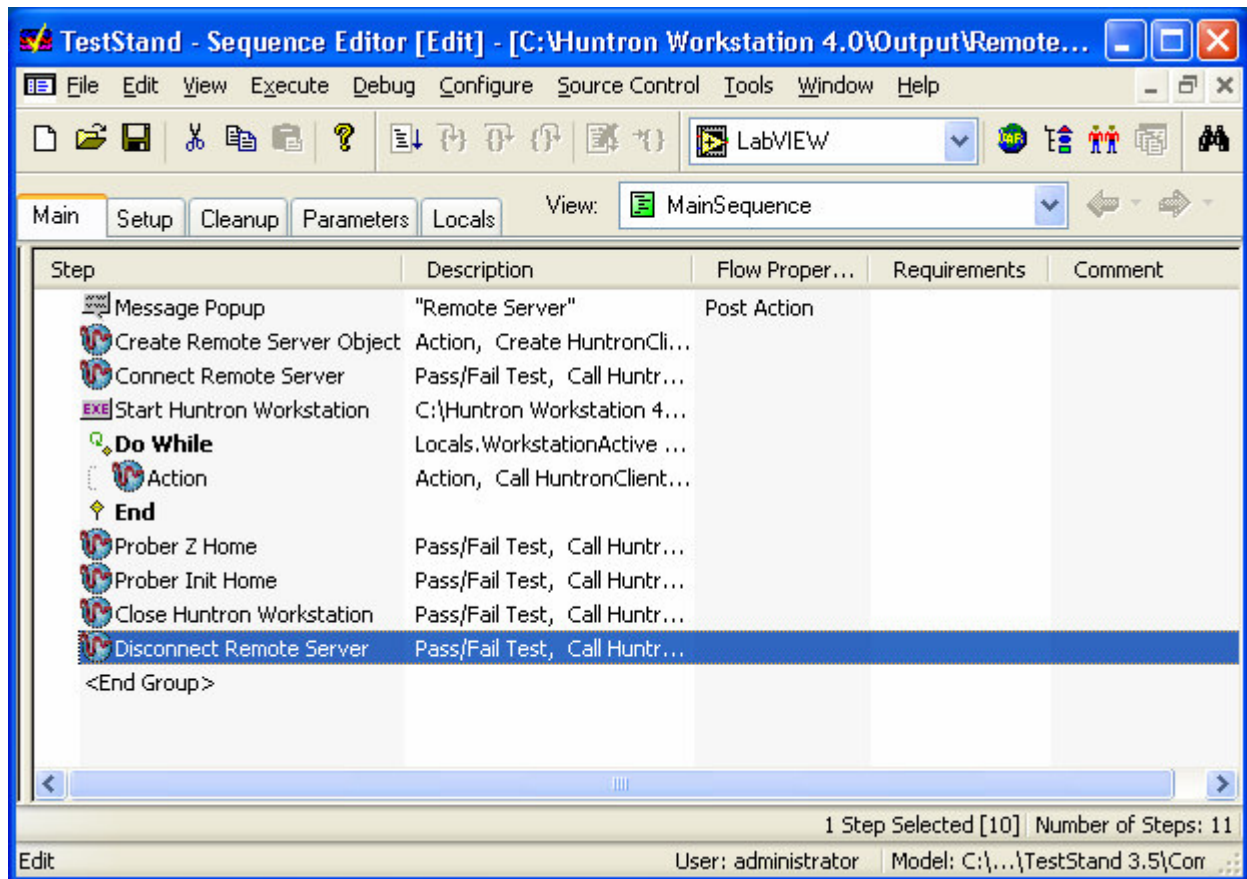
Huntron Remote Control Sample VB.Net Program (HuntronRemoteApp.exe)



Huntron Remote One PC Sample LabVIEW Program (HuntronRemote1PC.vi)



Huntron Remote Two PC Sample LabVIEW Program (HuntronRemote1PC.vi)



Huntron Remote Sample TestStand Program (RemoteControl.seq)

Huntron Client DLL Function List:

Function Connect(ByVal sIPAddress As String) As Boolean

Connects to the Huntron Remote Server. To connect to the server on the same PC, sIPAddress should be set to "localhost". To connect to the server on another PC, sIPAddress should be set to the IP address of that PC. The Huntron Remote server runs on the PC where Huntron Workstation is running.

Function Disconnect() As Boolean

Disconnects from the Huntron Remote Server

Function OpenFile(ByVal MDBPath As String) As Boolean

Loads a Huntron Workstation created MDB board database file into Huntron Workstation. Set MDBPath to the full path name of the MDB file (i.e. "C:\Documents and Settings\username\My Documents\Huntron\Boards\Test.mdb").

Function SelectSequence(ByVal SequenceName As String) As Boolean

Selects a sequence of the loaded board. SequenceName should match one of the sequence names on the Sequences grid in Huntron Workstation.

Function SelecComponentNet(ByVal ComponentNetName As String) As Boolean

Selects a Component or Net of the selected sequence. ComponentNetName should match one of the Component or Net names on the Component/Net grid in Huntron Workstation.

Function SelectPin(ByVal PinNumber As String) As Boolean

Selects a Pin of the selected component or net. PinNumber should match one of the Pin numbers on the Pin grid in Huntron Workstation.

Function ScanSequence(ByVal SerialNumber As String, ByVal Operator As String, ByRef iFailed As Integer) As Boolean

Scans the selected sequence in Huntron Workstation. SerialNumber should be set to the serial number of the board being scanned. Operator should be set the name of the operator running the test. iFailed will be set to the number of components that failed during the scan.

Function ScanComponent(ByVal SerialNumber As String, ByVal Operator As String, ByRef iFailed As Integer) As Boolean

Scans the selected Component/Net in Huntron Workstation. SerialNumber should be set to the serial number of the board being scanned. Operator should be set the name of the operator running the test. iFailed will be set to the number of components that failed during the scan.

Function ScanList(ByVal SerialNumber As String, ByVal Operator As String, ByVal ListPath As String, ByRef iFailed As Integer) As Boolean

Scans the selected sequence using the provided scan list in Huntron Workstation. SerialNumber should be set to the serial number of the board being scanned. Operator should be set the name of the operator running the test. ListPath should be set to the full path of the scan list file to be used (i.e. "C:\Documents and Settings\username\My Documents\Huntron\Lists\Test.lst"). iFailed will be set to the number of components that failed during the scan.

Function ProberAlign() As Boolean

Uses the Huntron Workstation Auto Align feature to align the board in the Prober for scanning. Make sure that Auto Align performs successfully in Huntron Workstation before using it through Remote Control.

Function ProberPinDown() As Boolean

Moves the Prober probe tip down on to the selected pin. PinNumber should match one of the Pin numbers on the Pin grid in Huntron Workstation.

Function ProberZHome() As Boolean

Moves the Prober probe tip all the way up.

Function ProberInitHome() As Boolean

Moves the Prober probe tip all the way up and to the back right corner.

Function CameraPicture(ByVal Filepath As String, ByVal FileType As String) As Boolean

Captures an image from the Prober camera at the location of the probe tip. FilePath should be the full file path of the location for the image file. FileType should be set to "BMP", "JPEG" or "PNG". Anything else defaults to "BMP". The FilePath filename extension should match the FileType (.bmp for "BMP", .jpg for "JPEG" and .png for "PNG").

Function CloseWorkstation() As Boolean

Closes Huntron Workstation. This should be done before disconnecting.

Function IsWorkstationActive() As Boolean

Checks to see if Huntron Workstation in running and available.

Function GetPinSignatures(ByRef baSigData() As Byte, ByRef iRanges As Integer) As Boolean

Gets the signature data for all the ranges of the currently selected pin from the last scan. bsSigData returns an array of bytes. Its length is equal to the value of iRanges * 200. iRanges is set to the number of ranges that there are signatures for in baSigData. The first 100 bytes of the signature data is the horizontal waveform and the second hundred bytes are the vertical waveform. To display a signature, plot the corresponding horizontal and vertical bytes in XY.

Function GetReferencePinSignatures(ByRef baSigData() As Byte, ByRef iRanges As Integer) As Boolean

Gets the signature data for the reference signatures for all the ranges of the currently selected pin from the last scan. bsSigData returns an array of bytes. Its length is equal to the value of iRanges * 200. iRanges is set to the number of ranges that there are signatures for in baSigData. The first 100 bytes of the signature data is the horizontal waveform and the second hundred bytes are the vertical waveform. To display a signature, plot the corresponding horizontal and vertical bytes in XY.

Function ScanPin(ByVal SerialNumber As String, ByRef iFailed As Integer, ByRef baSigData() as Byte, ByRef iRanges as Integer, ByRef baRefSigData() as Byte) As Boolean

Scans the selected Pin in Huntron Workstation. SerialNumber should be set to the serial number of the board being scanned. iFailed will be set to the number of components that failed during the scan. iRanges will be set to the number of ranges that there are signatures for in baSigData. A scan is not created in Huntron Workstation.