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Function ReadExternalDevice(cCalc, cParent, fTarget1, bChnlSt,
cConfig)


If cConfig.DUTPrs(1).GetParamData(5) =1  Then Exit Function 'Prevent
Recursive Calls

AbortCheck
If cCOMPASS.SystemAbort Then Exit Function

'Only update when function is called for the first DUT
temp = cParent.SN
If temp <> cConfig.DUTPrs(1).RangeMain.GetParent.SN Then
      Exit Function
End If

If cCalc.GetParamData(2) =1  Then Exit Function

cConfig.DUTPrs(1).SetParamData 5,1    'Set the Reading DUT flag

If cCalc.GetParamData(0) = 0 Then
     'First initialize the setup
      port = GetVal(cConfig.DUTPrs(1).RangeMain.GetParent.ParamID)
      If port <1 Then port = 8

      For i = 1 To cCONFIG.DUTPrs.Count
            temp = cConfig.DUTPrs(i).RangeMain.GetParent.SN
            label = cConfig.DUTPrs(i).RangeMain.FinalText
            cDebug.LogStatus "DUT " & i & ") SN" & temp & " Label:" &
Label & "   Port Setup"

            Set Obj = CreateObject("Fluke.RemoteIO.clDHIIO_Net")

            cDebug.LogStatus "DUT SN:" & temp & " Port target:" & port
            StatusDisplay "DUT SN:" & temp & " Port target:" & port

            Obj.cRS232.RS232Port = port
            '19200,N,8,1
            Obj.cRS232.BaudRate = 19200
            Obj.cRS232.Parity = 0  '0,1,2 None, Odd,Even
            Obj.cRS232.DataBits = 8
            Obj.cRS232.StopBits = 1
            Obj.ReadTimeout = 2000
            Obj.ShowError = False

            cDebug.LogStatus "DUT SN:" & temp & " Interface Init"

            AbortCheck
            If cCOMPASS.SystemAbort Then
                cConfig.DUTPrs(1).SetParamData 5,0  'Clear Reading DUT
Flag
                Exit Function
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            End If

            If Obj.InitializeInterface() Then
                Reply = ""
                Reply = Obj.ioDirectWriteRead("*SERIALNUM",True)
                cDebug.LogStatus "DUT SN Response:" & reply
                SN = qextract(Reply,1,0,"=")
                If SN <> "" Then
                    cConfig.DUTPrs(i).RangeMain.GetParent.SN = SN
                End If
                StatusDisplay "DUT " & i & ") SN: Query" & SN

                'Init Command Poll
                If instr(Ucase(label),"PRESSURE") <> 0 Then
                    Obj.ioDirectPoll "*READING" '<=======COMMAND THAT
IS POLLED
                    StatusDisplay "DUT " & i & ") Poll Command:
*READINGS"
                Else
                    Obj.ioDirectPoll "*COUNTS" '<=======COMMAND THAT
IS POLLED
                    StatusDisplay "DUT " & i & ") Poll Command:
*COUNTS"
                End If

                cDebug.LogStatus "DUT SN:" & temp & " Poll defined"

                'Only poll the first DUT automatically.
                If i = 1 Then
                    Obj.ioPoll = True
                Else
                    Obj.ioPoll = False
                End If

                cDebug.LogStatus "DUT SN:" & temp & " Poll initiated "

                Set cConfig.DUTPrs(i).Obj1 = Obj
                cDebug.LogStatus "DUT SN:" & temp & " COMPLETE
Port=:" & Obj.cRS232.RS232Port

            Else
                cCOMPASS.SystemAbort = True
                msgbox "Failed to initialize DUT SN:" & temp & " on
COM:" & Port, vbCritical, "Test Aborting"
                cDebug.LogStatus "DUT SN:" & temp & " ERROR"
                cCOMPASS.SystemAbort = True

            End If

            Port = Port + 1
            cCOMPASS.TimeDelay 0.1
        Next
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      'Flag that the initialization is complete...
      cCalc.SetParamData 0,1
      cConfig.DUTPrs(1).SetParamData 5,0  'Clear Reading DUT Flag
      Exit Function

End If


'Activate/De-activate I/O Poll based on
'system state.  Always poll DUT#1.  Poll
'other DUTs during Dwell and Avg.
If cCalc.GetParamData(1) = 1 Then
      Max = cCONFIG.DUTPrs.Count

      If cCOMPASS.RunMode = 1  Then
            Select Case cCOMPASS.CurrentTestStep
                  Case 310, 320
                        'Dwell and average are only cases to poll

                  Case Else
                        ActivatePoll False
                        cCalc.SetParamData 1, 0

            End Select

      Else
            'Manual tests do not change the poll rate
            'N/A
      End If

Else
      Max = 1
      If cCOMPASS.RunMode = 1  Then
            'When Running a Test
            'ONly poll after all data files are created
            'and the Dwell has begun
            Select Case cCOMPASS.CurrentTestStep
                  Case 310, 320
                        'Dwell and average are only cases to
                        'turn on Poll when it is off
                        ActivatePoll True
                        cCalc.SetParamData 1, 1

                  Case Else

            End Select

      Else
            'Manual Test can poll after all devices are initialized..
            If (cCOMPASS.COMPASSRunState And 2^5) <> 0 Then
                  ActivatePoll True
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                cCalc.SetParamData 1, 1
            End If


        End If

End If


AbortCheck
If cCOMPASS.SystemAbort Then
        cConfig.DUTPrs(1).SetParamData 5,0   'Clear Reading DUT Flag
        Exit Function
End If

If Max>1 Then
        'Always stop poll prior to reading
        ActivatePoll False
End If

For i = 1 To Max
    temp = cConfig.DUTPrs(i).RangeMain.GetParent.SN
    label = cConfig.DUTPrs(i).RangeMain.FinalText

    cDebug.LogStatus "*******************************************"
    cDebug.LogStatus "DUT " & i & ") SN" & temp

        AbortCheck
        If cCOMPASS.SystemAbort Then
            cConfig.DUTPrs(1).SetParamData 5,0   'Clear Reading DUT Flag
            Exit Function
        End If

        reply = cConfig.DUTPrs(i).Obj1.LastResponse()
        cDebug.LogStatus "Response: " & reply

        If instr(Ucase(label),"COUNTS") <> 0 Then
            'Make sure response is OK
            'Receive: *COUNTS=20.1,100,200<CR><LF>  (temp,low,high
sensor)
            If instr(reply,"=") > 0 Then
                'Good to process the value
                reply = qextract(reply,1,0,"=") 'remove "="

                fTemp = GetVal( qextract(reply,0,1,","))   'first
response
                fLoCnts = GetVal(qextract(reply,1,2,","))
                fHiCnts = GetVal(qextract(reply,2,3,","))

                'cDebug.LogStatus "Temperature: " & fTemp
                'cDebug.LogStatus "Lo Counts: " & fLoCnts
                'cDebug.LogStatus "Hi Counts: " & fHiCnts
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                cConfig.DUTPrs(i).EventBlock = True

                cConfig.DUTPrs(i).RawOutput2 = fLoCnts
                cConfig.DUTPrs(i).RawOutput4 = fTemp
                cConfig.DUTPrs(i).EventBlock = False
                cConfig.DUTPrs(i).RawOutput1 = fHiCnts

            End If

      Else
            '*READINGS
            If instr(reply,"=") > 0 Then
                'Good to process the value
                reply = qextract(reply,1,0,"=") 'remove "="

                fPrs = GetVal( qextract(reply,0,1,","))   'first
response
                fAmb  = GetVal(qextract(reply,1,2,","))

                'cDebug.LogStatus "Pressure: " & fPrs
                'cDebug.LogStatus "Ambient: " & fAmb

                cConfig.DUTPrs(i).RawOutput1 = fPrs
                cConfig.DUTPrs(i).RawOutput2 = fAmb
            End If

      End If
      cCOMPASS.TimeDelay 0.1

Next


If Max>1 And cCalc.GetParamData(1) >0  Then
      'Activate poll when read is complete.
      ActivatePoll True
End If

cConfig.DUTPrs(1).SetParamData 5,0  'Clear Reading DUT Flag

End Function


'Change I/O poll state of all remaining DUTs.
Sub ActivatePoll(PollON)
On Error Resume Next

cDebug.LogStatus "Changing I/O POll State"
cDebug.LogStatus "Run Mode:" & cCOMPASS.RunMode
cDebug.LogStatus "Run State:" & cCOMPASS.COMPASSRunState
cDebug.LogStatus "Test Step:" & cCOMPASS.CurrentTestStep
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For i = 2 To cCOMPASS.cConfig.DUTPrs.Count
      cCOMPASS.cConfig.DUTPrs(i).Obj1.ioPoll = PollOn
Next

End Sub


Sub AbortCheck()
      On Error Resume Next

      If cCOMPASS.SystemAbort Then
            AbortDUTIO
      End If

End Sub
```