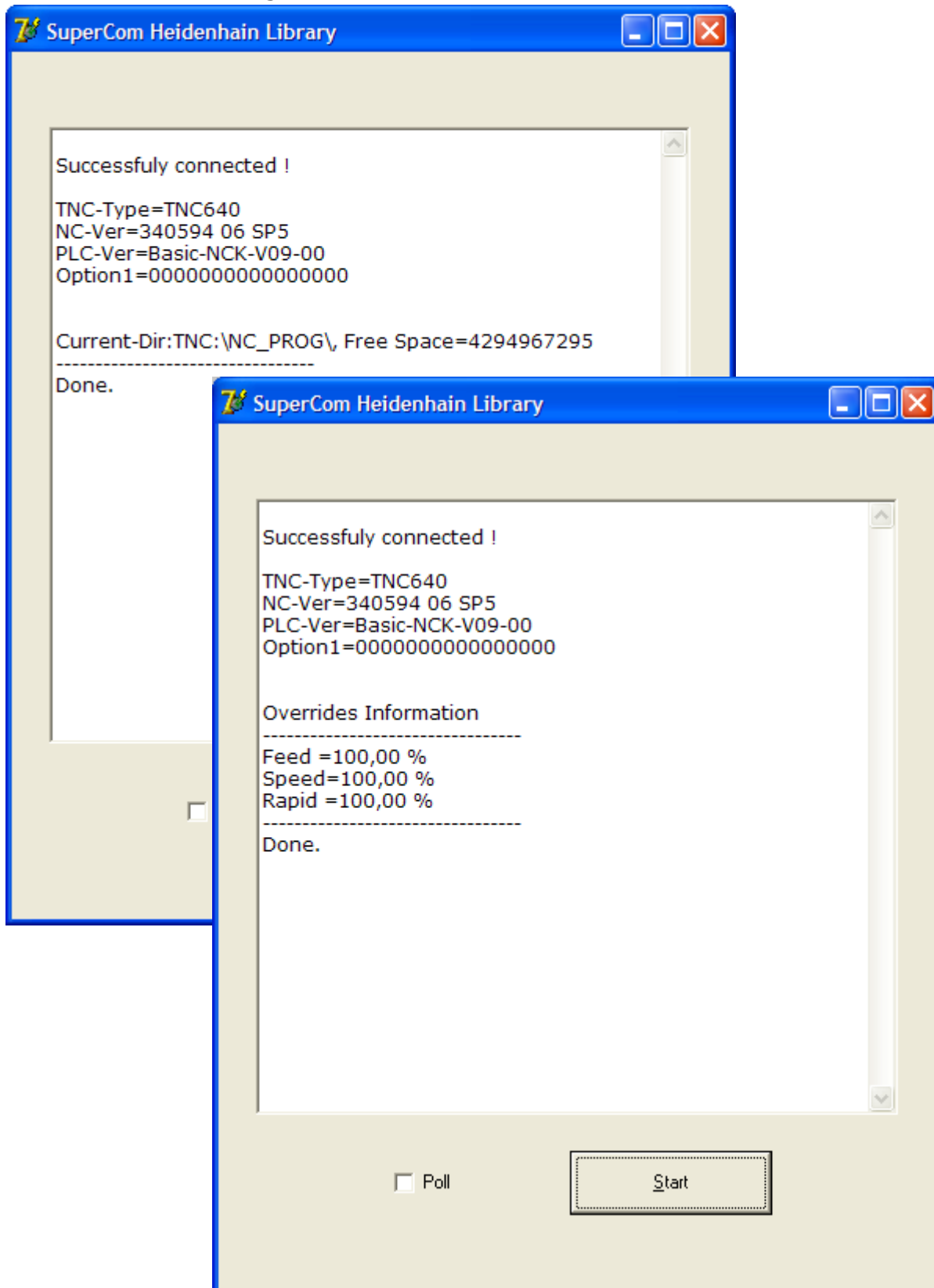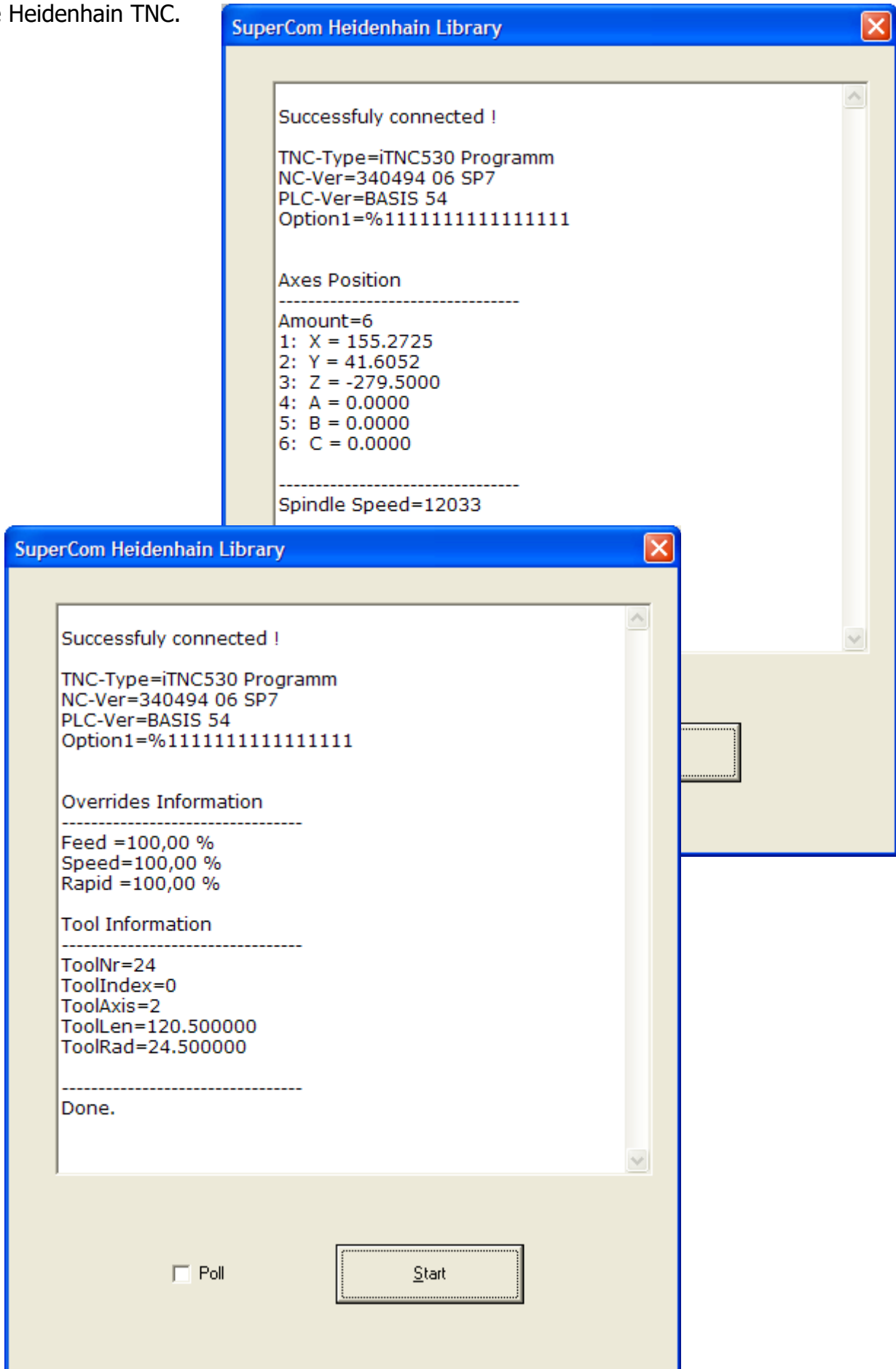# SuperCom Heidenhain Library

Outputs from sample programs

Reading the machine type information, the current directory and free space information and actual override settings of the Heidenhain controller.
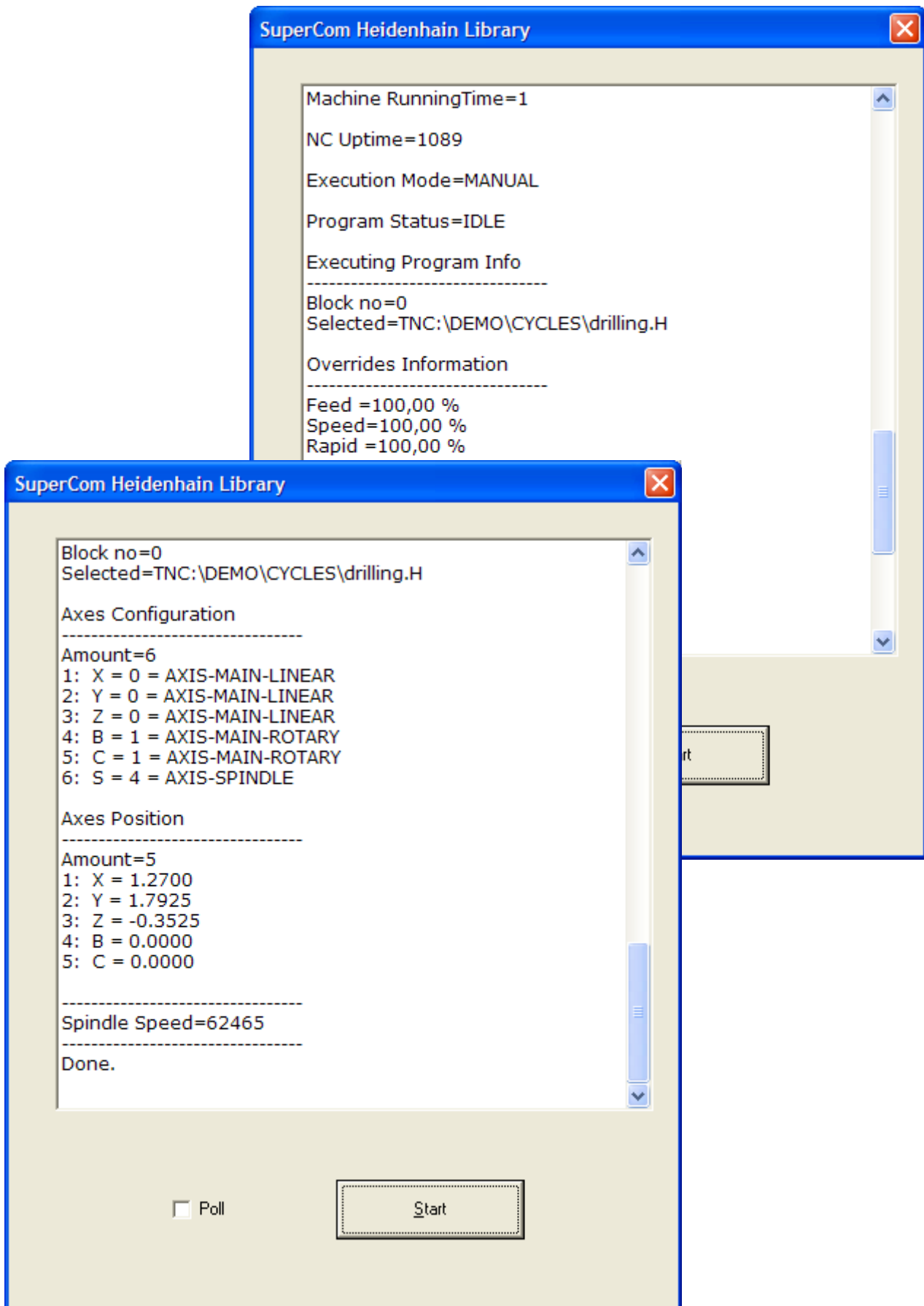
iTNC530

Reading override information, tool information, axes data and the actual spindle speed of the Heidenhain TNC.

SuperCom Heidenhain Library

Successfuly connected !

TNC-Type=iTNC530 Programm
NC-Ver=340494 06 SP7
PLC-Ver=BASIS 54
Option1=%1111111111111111

Axes Position

Amount=6
1: X = 155.2725
2: Y = 41.6052
3: Z = -279.5000
4: A = 0.0000
5: B = 0.0000
6: C = 0.0000

Spindle Speed=12033

SuperCom Heidenhain Library

Successfuly connected !

TNC-Type=iTNC530 Programm
NC-Ver=340494 06 SP7
PLC-Ver=BASIS 54
Option1=%1111111111111111

Overrides Information

Feed =100,00 %
Speed=100,00 %
Rapid =100,00 %

Tool Information

ToolNr=24
ToolIndex=0
ToolAxis=2
ToolLen=120.500000
ToolRad=24.500000

Done.

☐ Poll   Start

iTNC530
Reading override information and axes data of the Heidenhain controller.

SuperCom Heidenhain Library

```
Machine RunningTime=1

NC Uptime=1089

Execution Mode=MANUAL

Program Status=IDLE

Executing Program Info
---------------------------------
Block no=0
Selected=TNC:\DEMO\CYCLES\drilling.H

Overrides Information
---------------------------------
Feed =100,00 %
Speed=100,00 %
Rapid =100,00 %
```

SuperCom Heidenhain Library

```
Block no=0
Selected=TNC:\DEMO\CYCLES\drilling.H

Axes Configuration
---------------------------------
Amount=6
1:  X = 0 = AXIS-MAIN-LINEAR
2:  Y = 0 = AXIS-MAIN-LINEAR
3:  Z = 0 = AXIS-MAIN-LINEAR
4:  B = 1 = AXIS-MAIN-ROTARY
5:  C = 1 = AXIS-MAIN-ROTARY
6:  S = 4 = AXIS-SPINDLE

Axes Position
---------------------------------
Amount=5
1:  X = 1.2700
2:  Y = 1.7925
3:  Z = -0.3525
4:  B = 0.0000
5:  C = 0.0000


---------------------------------
Spindle Speed=62465
---------------------------------
Done.
```
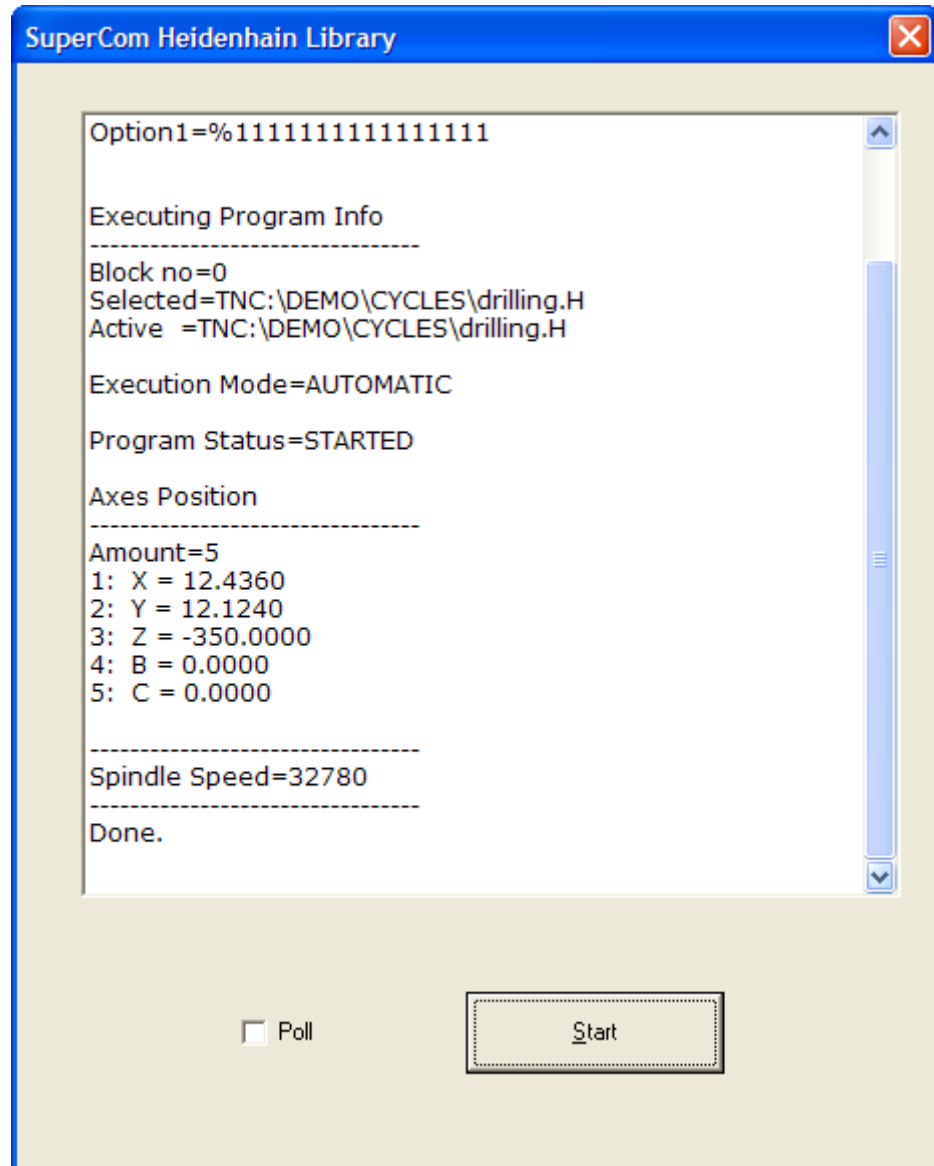
□ Poll   Start

TNC620

Reading the actual program information, execution mode, programs status and some axes data of the Heidenhain TNC.

SuperCom Heidenhain Library
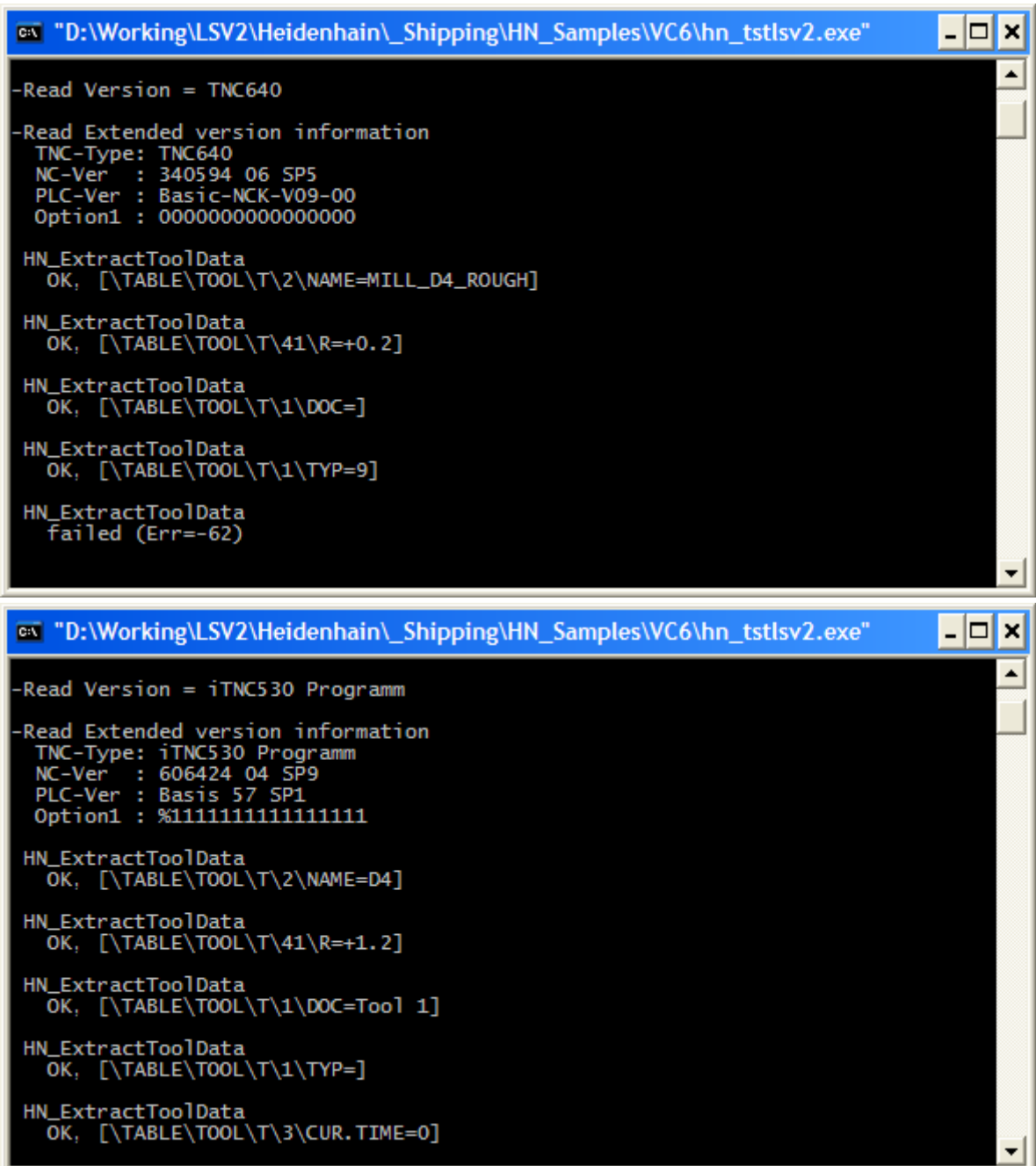
```
Successfuly connected !

TNC-Type=TNC620
NC-Ver=817604 04
PLC-Ver=No version given
Option1=0000000000000000


Execution Mode=AUTOMATIC

Program Status=STARTED

Executing Program Info
-----------------------------------
Block no=27
Selected=TNC:\nc_prog\demo\Bauteile_components\1_Bohr
en_drilling.H
Active
=TNC:\nc_prog\demo\Bauteile_components\1_Bohren_drilli
```

SuperCom Heidenhain Library

```
ng.H

Axes Configuration
-----------------------------------
Amount=10
1:  X = 0 = AXIS-MAIN-LINEAR
2:  Y = 0 = AXIS-MAIN-LINEAR
3:  Z = 0 = AXIS-MAIN-LINEAR
4:  A = 3 = AXIS-AUX-ROTARY
5:  B = 1 = AXIS-MAIN-ROTARY
6:  C = 1 = AXIS-MAIN-ROTARY
7:  U = 2 = AXIS-AUX-LINEAR
8:  V = 2 = AXIS-AUX-LINEAR
9:  W = 2 = AXIS-AUX-LINEAR
10:  S = 4 = AXIS-SPINDLE

Axes Position
-----------------------------------
Amount=5
1:  X = 25.000000
2:  Y = 35.000000
3:  Z = -101.958841
4:  B = 0.000000
5:  C = 0.000000
--------------------------+-----
Done.
```

☐ Poll   Start

iTNC530

Reading the actual program information, execution mode, programs status and some axes data of the Heidenhain controller.

```
SuperCom Heidenhain Library                              [X]

 Option1=%1111111111111111


 Executing Program Info
 ---------------------------------
 Block no=0
 Selected=TNC:\DEMO\CYCLES\drilling.H
 Active  =TNC:\DEMO\CYCLES\drilling.H

 Execution Mode=AUTOMATIC

 Program Status=STARTED

 Axes Position
 ---------------------------------
 Amount=5
 1:  X = 12.4360
 2:  Y = 12.1240
 3:  Z = -350.0000
 4:  B = 0.0000
 5:  C = 0.0000

 ---------------------------------
 Spindle Speed=32780
 ---------------------------------
 Done.


              [ ] Poll        [   Start   ]
```

HN_ExtractToolData demonstrating extracting fields out of the tool table of the Heidenhain TNC machine.
A returned error code -62 means a field we looked for does dot exists in the tool table.

```
"D:\Working\LSV2\Heidenhain\_Shipping\HN_Samples\VC6\hn_tstlsv2.exe"

-Read Version = TNC640

-Read Extended version information
  TNC-Type: TNC640
  NC-Ver   : 340594 06 SP5
  PLC-Ver  : Basic-NCK-V09-00
  Option1  : 0000000000000000

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\2\NAME=MILL_D4_ROUGH]

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\41\R=+0.2]

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\1\DOC=]

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\1\TYP=9]

 HN_ExtractToolData
   failed (Err=-62)
```

```
"D:\Working\LSV2\Heidenhain\_Shipping\HN_Samples\VC6\hn_tstlsv2.exe"

-Read Version = iTNC530 Programm

-Read Extended version information
  TNC-Type: iTNC530 Programm
  NC-Ver   : 606424 04 SP9
  PLC-Ver  : Basis 57 SP1
  Option1  : %1111111111111111

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\2\NAME=D4]

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\41\R=+1.2]

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\1\DOC=Tool 1]

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\1\TYP=]

 HN_ExtractToolData
   OK, [\TABLE\TOOL\T\3\CUR.TIME=0]
```
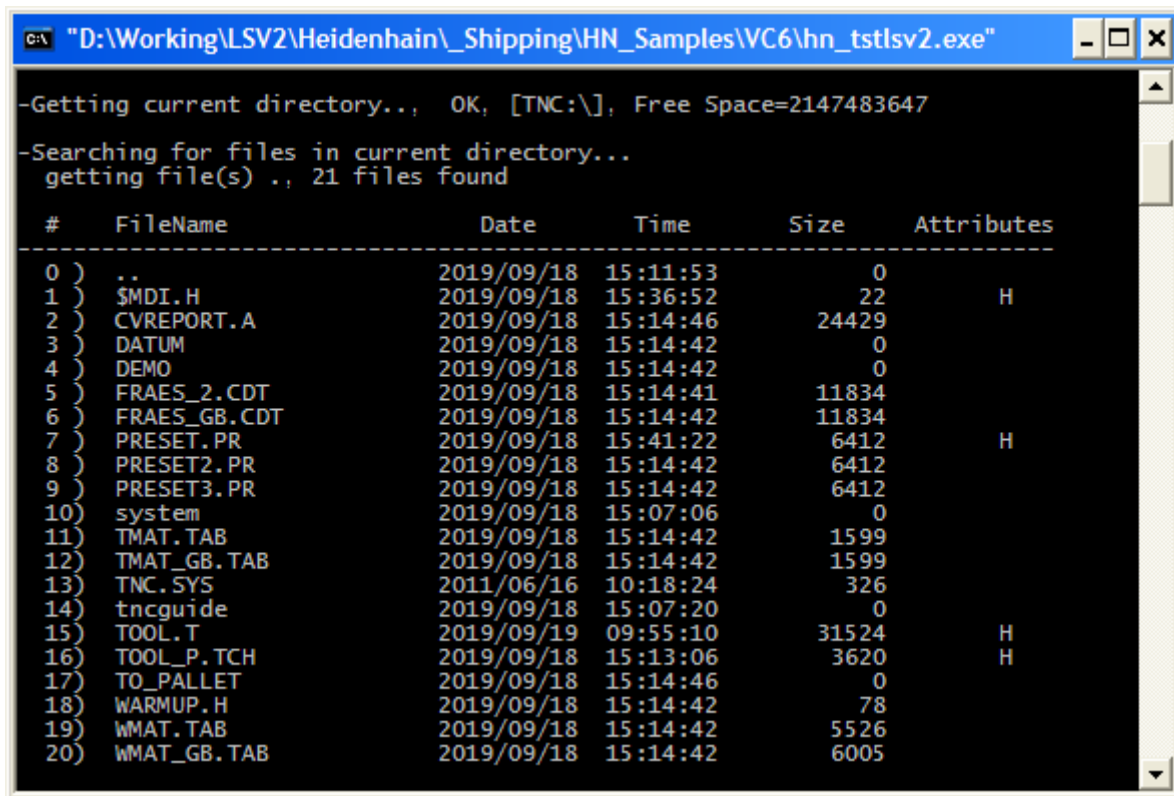
Listing the remote directory of the Heidenhain TNC.

```
C:\ "D:\Working\LSV2\Heidenhain\_Shipping\HN_Samples\VC6\hn_tstlsv2.exe"        _ □ ×

-Getting current directory..,  OK, [TNC:\], Free Space=2147483647

-Searching for files in current directory...
  getting file(s) ., 21 files found

 #    FileName              Date        Time       Size    Attributes
--------------------------------------------------------------------------
 0 )  ..                  2019/09/18  15:11:53         0
 1 )  $MDI.H              2019/09/18  15:36:52        22         H
 2 )  CVREPORT.A          2019/09/18  15:14:46     24429
 3 )  DATUM               2019/09/18  15:14:42         0
 4 )  DEMO                2019/09/18  15:14:42         0
 5 )  FRAES_2.CDT         2019/09/18  15:14:41     11834
 6 )  FRAES_GB.CDT        2019/09/18  15:14:42     11834
 7 )  PRESET.PR           2019/09/18  15:41:22      6412         H
 8 )  PRESET2.PR          2019/09/18  15:14:42      6412
 9 )  PRESET3.PR          2019/09/18  15:14:42      6412
10)   system              2019/09/18  15:07:06         0
11)   TMAT.TAB            2019/09/18  15:14:42      1599
12)   TMAT_GB.TAB         2019/09/18  15:14:42      1599
13)   TNC.SYS             2011/06/16  10:18:24       326
14)   tncguide            2019/09/18  15:07:20         0
15)   TOOL.T              2019/09/19  09:55:10     31524         H
16)   TOOL_P.TCH          2019/09/18  15:13:06      3620         H
17)   TO_PALLET           2019/09/18  15:14:46         0
18)   WARMUP.H            2019/09/18  15:14:42        78
19)   WMAT.TAB            2019/09/18  15:14:42      5526
20)   WMAT_GB.TAB         2019/09/18  15:14:42      6005
```

TNC 7

Reading the actual program information, execution mode, programs status of the Heidenhain controller.

```
SuperCom Heidenhain C# example
SuperCom v10.60  -  HN Lib 4.70

Contacting a Heidenhain TNC,  TCP/IP, Connected

Getting TNCVersion... OK [TNC7]
Extended Version:
  TNC-Type: TNC7
  NC-Ver  : 817625 18
  PLC-Ver : Basic-TNC7-V17-0
  Option1 : No version given
  Option2 : 11111111111000110

Getting current directory... OK
[TNC:\nc_prog\], Free Space=4.294.967.295,00 Bytes
EXECUTION MODE AUTOMATIC(4)
PROGRAM STATUS IDLE(7)
EXECUTION POINT BlockNr=0;NameSelectedProgram=TNC:\nc_prog\demo\Start_demo.h;
OVERRIDES INFO
  Feed=10000
  Speed=10000
  Rapid=10000

Press [Enter] key to close ...
```
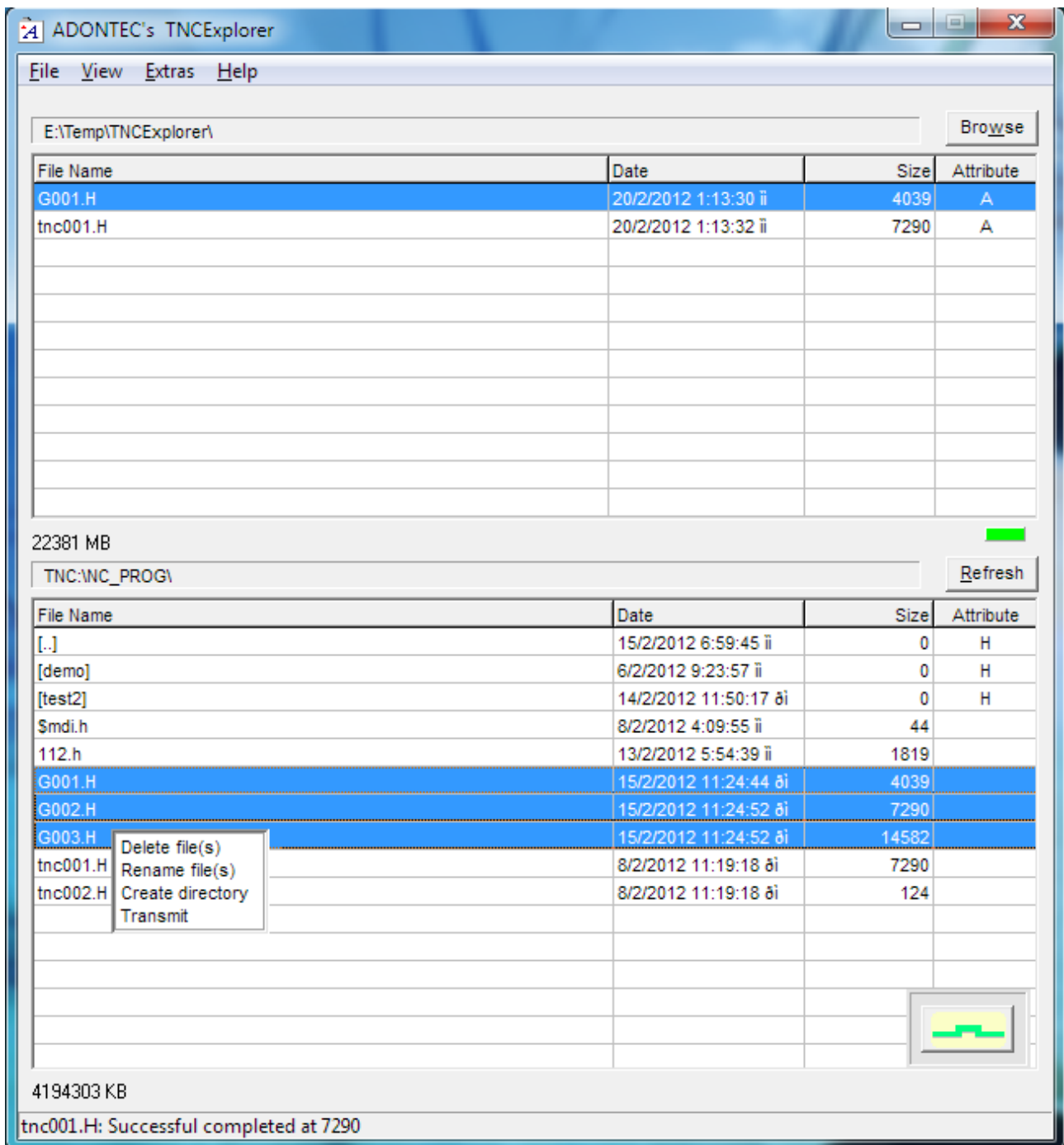
TNC Explorer Application

Browse through the Heidenhain controller directories and transfer files.

The SuperCom Heidenhain Library

Summary

The SuperCom Heidenhain Library enables fast and accurate data acquisition of machine and process data from Heidenhain controlled machines.

The SuperCom Heidenhain Library contains functions to build stable and fast data connections to one or more Heidenhain controllers.

The functions contained in the SuperCom Heidenhain Library support data communication to different Heidenhain controler like TNC7, TNC640, TNC620, iTNC530, TNC426, TNC430, TNC360, TNC320, MANUALplus, DataPilot CP 620, DataPilot CP 640, DataPilot MP 620, DataPilot 4110, DataPilot 4290 etc.

The data communication occur via a serial line or the TCP/IP protocol (Ethernet connection). The connection can be made locally within the factory or over a large distance via Modem, Internet or ISDN connection.

The SuperCom Heidenhain Library enables monitoring Heidenhain controller status, machine states or process data is. Several functions enable fast data acquisition of the machine data. Collect data from the Heidenhain TNC machines (data collection software) or monitor the machine status (Machine Monitoring Software) of multiple machines simultaneously.

Sample programs
Many example programs for C, C++, C#, Delphi, Pascal, Visual Basic, VB net are included with the product.