

xMasterSlave supports Master and Slave End protocols of DNP3, DNP3 TCP/IP, Modbus, Modbus TCP/IP, Modbus Plus, etc. xMasterSlave supports up to 32 instances/slaves in a Master Application, support up to 200 instances/Master-End-Connections in a DNP3 slave application/simulator, etc. xMasterSlave HMI application provides process monitoring, visualization and control, data logging and graphic display, historical trending, alarming, recipe handling, data archiving and much, much more in one complete package. xMasterSlave also can be a Simulator of Master and Slave (i.e. DNP3, Modbus, etc.). Slave simulator offers you Hand-free commissioning, Controls(DO&AO)-Details/Action/scripts, Auto/Manual Data Presetting, Log/Protocol Messages and Raw Rx/Tx bytes, TCP/IP connections monitoring, RTU functioning(i.e. Control Enable/Disable, Point Online/Offline), etc. You also can build an Embedded PC based RTU when you configure and run xRTU18 application in xMaster.

***** LIABILITY_STATEMENT *****

This software program is written by JH.

Neither this software program nor programmer has any liabilities for any risks and damages and lost might caused by this software program. And neither this software program nor outcomes of its runtime does prove anything at all that you might want to. ANY COMMENTS WELCOME!

1. You will be asked for the software registration when xMasterSlave is being installed. Please send the file of xMasterSlaveReg.txt to where you download the software. The xMasterSlaveReg.txt is located the same directory (c:\xMaster) where the program is placed. You will get the registration file with an Active Key from the xMasterSlave designer. Otherwise the program will be running at the mode of the TRIAL of software. Attention:
If you change PC hardware/Hard drive/OS you have to re-register xMasterSlave!
2. The default password is xmaster for xMaster, xslave for xSlave.

The latest version of xMaster and xSlave is 2.2019.1.22.

!!!There are two sections for xMaster Revision and xSlave Revision below!!!
To go to the xSlave section, please search by the key word of =xSlave=

=xMaster=====

xMaster Revision Notes:

173. 2019-Jan-01
 - a. The Latest version is 2.2019.1.22.
 - b. Fixed a bug for Status/Metering Display Layout.
 - c. Added a warning when you test sending a control.
 - d. Added registration information in xMaster.
172. 2018-Sept-28
 - a. The Latest version is 2.2018.9.28.
 - b. Added a button of [Integrity Poll] in Status Display.
 - c. Added a button of [Metering Display] in Status Display.
 - d. Added a button of [Alarm Panel Display] in Status Display.
 - e. Added a button of [Integrity Poll] in Analog/Metering Display.
 - f. Added a button of [Status Display] in Analog/Metering Display.
 - g. Added a button of [Alarm Panel Display] in Analog/Metering Display.
 - h. It will set a watchdog flag : w when the associaied device (e.g. PLC, RTU, IED etc.) watchdog timer alarm is ON. Refer to the Entry below.
LINK_WDT_FAILURE_SETS_POINT_OFFLINE = YES

```
ENTRY      DEV_LINK      = TCP/IP
           MB_DEV11      = 0, 11, 127.0.0.1  502, 51, 150
           MB_DEV22      = 1, 22, 127.0.0.1  502, 51, 150
           LINK_WDT_FAILURE_SETS_POINT_OFFLINE = YES
           END
```

- i: The current Status/Alm point can set the associaied device (e.g. PLC, RTU, IED etc.) watchdog timer alarm is ON when its longname has a sub-string of "WDT_ALM" or "Watchdog Timer Alarm For".

171. 2018-July-28
 - a. The Latest version is 2.2018.7.28.
 - b. Added command Ctrl+Alt-B to save the current HMI display into a bitmap file (*.bmp).
 - c. Changed the layout of the panel fo HMI Page Path (command F1). You can review the current HMI display (bmp file/screenshot) when you select a HMI page/path.

170. 2018-June-24
 - a. The Latest version is 2.2018.6.24.
 - b. improved PLC Runtime simulataion application.
 - c. fixed a bug on DNP3 I-Poll for a mismatched database defintion.
 - d. In Database window and Metering display window, added an option of []Enable displaying a flag if want display a flag indicating the current Telemetering/Analog Input Value is ~ Value GoDown, ^ GoUp, < GoDwon over 20%, > GoUp over 20%.
 - e. If want test a control, user can expend the panel to a large size window/display for controls: Pulse-R/L, Latch On/Off, SBO-Trip/Close.
 - f. Added an embedded IE Web Browser in troubleshooting window.
 - g. Added an option for the HMI Shape Object of [2 State Switch Panel], can be either Vertical (Option=0) or Horizontal (Option=1)
 - h. Refer to Section 7.3.12, a Text hint can be decoded by DT_STAMP to display the current HMI point's Date and Time Stamp. For an AI point, Change-Flag/Info (refer to d above) will be attached at the end of Stamp.
 - i. Design notes for (refer to section 7.3.21 in the manual and Note#120 below).
 - 1) If the current HMI Point is an AI and its AI History is defined (refer to 1.4.13) MemoBox HMI Object will load the AI History file every 5s.

- 2) if the 1st line in contents of the current MemoBox HMI Object is one of definitions as follows.
 [xxx] is an option.
 ddd is 000,001,..., 999.
 FileName is a full path of file.
 - a) DT_STAMP [HMI Point Name]
 display the Date and Time Stamp of the current HMI point or the point defined in [xxx].
 - b) METER ddd
 display Metering#ddd.
 - d) LOG
 Copy and display the content of Alarm Log from the current HMI Log.
 (refer to Section 3.10)
 - e) LOAD-FILE:FileName
 Load and display the content of the file of FileName.
 - f) ALARM-LIST
 Copy and display the content of Alarm Log from Alarm Mananger.
 (refer to Section 6.3)

169. 2018-May-18
 - a. The Latest version is 2.2018.5.18.
 - b. Press buttons of Status & Metering, popup display a Status/Meter window directly.
 - c. Moved options of main alarm panel to the main alarm window.
 - d. Changed text-Button of [ACK Current] to a graphic button in a popup alarm panel.
168. 2018-April-28
 - a. The Latest version is 2.2018.4.28.
 - b. The station information can be a series of Bitmap(BMP) file. To browse BMP files, click on either the left or the right edge of the current picture. To enter the HMI display screen, click on the middle of picture. The following is a sample.

```
ENTRY      STATION_INFO
myStationInfo.bmp
END
```

You must prepare files as follows:

```
c:\xMaster\xMasterAppl\bmp\myStationInfo.bmp
c:\xMaster\xMasterAppl\bmp\myStationInfo_0.bmp
c:\xMaster\xMasterAppl\bmp\myStationInfo_1.bmp
...
c:\xMaster\xMasterAppl\bmp\myStationInfo_x.bmp
```

- c. Added Web Browser embedded into a HMI display and troubleshooting window.
 To open a display of Web browser, define a hint of PAGE=WEB:www.xxxx X Y W H for a Button HMI Object. Refer to Note #69 below.
 A sample: PAGE=WEB:10.100.85.11 100 100 600 400, Web window is located at
 (X,Y)=(100,100) Width=600, Height=400.

167. 2018-March-18
 - a. The Latest version is 2.2018.3.18.
 - b. Added buttons on Caption Title bar when display in full screen.

166. 2018-Jan-31
 - a. The Latest version is 2.2018.1.31.
 - b. Improved performance on Multi-application-frame (a very large point database).
 - c. User can directly setup/download a multipoint (max. 256 consecutive points) into RTU or PLC. The follow is a sample.

define a hint for a button with:

Are you sure to download the table ?!; FROM PSD_POINT=DL230KV_G2_PT 5 W
 a table starting with a PSD HMI SV point: DL230KV_G2_PT.
 the size (how many consecutive points in the current table) is 5.
 The data format is W: a Word (16-bit Word).

A button in HMI *.txt is to download a table with 5 (points) in size

```
ENTRY= 52
SHAPE= BUTTON
SHAPEOPTION= 0
LEFT= 858
TOP= 550
WIDTH= 92
HEIGHT= 22
CAPTION= Download - SY
HINT= Are you sure to download the table ?!; FROM PSD_POINT=DL_OL_G2_PT 5 W
FONTCOLOR= WINDOWTEXT
A_COLOR= RED
F_COLOR= YELLOW
FONTNAME= MS Sans Serif
FONTSIZE= 8
DB_PNT= SY_OL_G2_PT AO_16 WOCP 61 0 32768 16
ENDE
```

PSD HMI SV points in point database.

```
ENTRY      NAME      = DL_OL_G2_PT
           LONGNAME   = PSD:HMI_SV
```

```

        FORMAT      = PSD_AI
        PNT_ADDR    = 0
        D_TYPE      = AI
        PROCTYPE    = AI
        PSD_AI_DEFAULT_PV = 0000
        RANGE       = 65535 ms 16BIT_REG
;
ENTRY      NAME      = DL_OL_G3_PT
        LONGNAME    = PSD:HMI_SV
        FORMAT      = PSD_AI
        PNT_ADDR    = 0
        D_TYPE      = AI
        PROCTYPE    = AI
        PSD_AI_DEFAULT_PV = 4000
        RANGE       = 65535 ms 16BIT_REG
;
ENTRY      NAME      = DL_OL_G4_PT
        LONGNAME    = PSD:HMI_SV
        FORMAT      = PSD_AI
        PNT_ADDR    = 0
        D_TYPE      = AI
        PROCTYPE    = AI
        PSD_AI_DEFAULT_PV = 6000
        RANGE       = 65535 ms 16BIT_REG
;
ENTRY      NAME      = DL_OL_G5_PT
        LONGNAME    = PSD:HMI_SV
        FORMAT      = PSD_AI
        PNT_ADDR    = 0
        D_TYPE      = AI
        PROCTYPE    = AI
        PSD_AI_DEFAULT_PV = 8000
        RANGE       = 65535 ms 16BIT_REG
;
ENTRY      NAME      = DL_OL_G6_PT
        LONGNAME    = PSD:HMI_SV
        FORMAT      = PSD_AI
        PNT_ADDR    = 0
        D_TYPE      = AI
        PROCTYPE    = AI
        PSD_AI_DEFAULT_PV = 10000
        RANGE       = 65535 ms 16BIT_REG
;

```

d. added a new PSD DI Function:COMP_A_TABLE.

```

        PSD_DI_VAR1 = the starting point of table 1
        PSD_DI_VAR2 = the starting point of table 2
        PSD_DI_FUNC = COMP_A_TABLE
        PSD_DI_CTRL1 = length of table, mask, deadband
        PSD_DI_WDT  = interval to check the difference

```

It is to compare two data table/buffer. The current PSD DI will be set as ON
if a different data is checked. the following is a sample.

```

ENTRY      NAME      = PSD_PT_MM
        LONGNAME    = PSD_DI PY SY Timer PT table Mismatched
        FORMAT      = PSD_DI
        PNT_ADD     = 0
        PSD_DI_VAR1 = PY500KV_G2_PT
        PSD_DI_VAR2 = SY500KV_G2_PT
        PSD_DI_FUNC = COMP_A_TABLE
        PSD_DI_CTRL1 = 23, 65535, 0
        PSD_DI_WDT  = 10000
        ALARM       = YES
;

```

165. 2017-Dec-10

- a. The Latest version is 2.2017.12.10.
- b. Popup a message while loading a bad bmp file.
- c. User can set and select multi-line for the current session. Refer to a sample below.

```

ENTRY      DNP_LINK  = TCP/IP
        DNP_Dev#1   = 0, 11, 10.1.2.11, 20000
        DNP_Dev#1   = 0, 11, 10.1.2.12, 20000
        DNP_Dev#1   = 0, 11, 10.1.2.13, 20000
        DNP_Dev#1   = 0, 11, 127.0.0.1, 20000
        DNP_Dev#1   = 0, 11, 10.1.2.14, 20000

```

164. 2017-Oct-22

- a. The Latest version is 2.2017.10.22.
- b. Popup a message while loading a bad bmp file.

163. 2017-June-21

- a. The Latest version is 2.2017.6.21.
- b. The interval of event-poll for TCP/IP connection cannot be over 10s.
- c. Added a filter option. Right click on [Status Display] in a separated window of Status Display to setup the option.

162. 2017-Jan-11

- the current button/image is visible.
if "VISIBLE!xxxxxx" is found in its Hint and if point xxxxxx is zero (Logic OFF),
the current button/image is visible.
- e. If "?! " at the 1st place of the string of HINT, the current control will be executed
when an alert popup window of "Are you sure?" is confirmed.
- f. Demo/sample file is updated with ON/OFF switch with image/bmp attached.
- g. Added a button to run WatchSerialComm.exe. It can monitor Multi-Serial ports.
The port you select is the 1st port, up to Com#32.
- h. You can open the window of OS firewall to change the settings.

159. 2016-Oct-18

- a. The Latest version is 2.2016.10.18.
- b. Fixed a bug in the version of 2016.9.28: the point # is not changed in a DI/Status
display popup window.

158. 2016-Sep-28

- a. The Latest version is 2.2016.9.28.
- b. Display Analogue/Meeting ...f... when the current point is offline.

157. 2016-Aug-16

- a. The Latest version is 2.2016.8.16.
- b. Increased the max. point from 8192 to 16384.

156. 2016-July-12

- a. The Latest version is 2.2016.7.12.
- b. Fixed a bug when install xMasterSlave with non English language.

155. 2016-June-18

- a. The Latest version is 2.2016.6.18.
- b. Added a solution of HMI monitoring multi site data from a Data concentrator.
For example, a data concentrator is talking to 64 pole top RTUs (i.e. F6 Recloser) running
the protocol of DNP3. Each RTU (DNP slave) has an identical DNP3 Slave point database
(i.e. 55 DI points, 32 DO points and 25 AI points). The DNP3 point database in the data
concentrator, DI point #0-54 is of the DI points of pole top RTU#1, DI point #55-109 is of
the DI points of pole top RTU#2, and so on. The same points arrangement is made for DO and AI
points. Normally a user has to build all points and 64 displays for 64 pole top RTUs (so
called 64 HMI sites) in a HMI system, now instead, user can just design a single HMI display
to monitor/control with the HMI points for the 1st pole top RTU.

In HMI Page Path, there is a Tab to show the list of HMI site.

A pseudo AI point (LONGNAME = PSD:HMI_SPD_ID) is to define the current Site id:

```
ENTRY      NAME      = PSD_SiteID
           FORMAT    = PSD_AI
           LONGNAME   = PSD:HMI_SPD_ID
           METER      = *
           PNT_ADDR   = 0
;
```

To select a HMI site either use HMI object: RadioGroup/ComboBox, or go to HMI Page Path
HMI-Site Tab to select a HMI Site. The RadioGroup/ComboBox list item is defined by a new entry
as follows:

```
ENTRY      HMI_SITE = SITE_ID SITE_NAME~SITE_INFO
or
ENTRY      HMI_SITE = SITE_ID SITE_NAME~SITE_INFO~SITE_HMI_Page
~SITE_HMI_Page is an option to define it's associated HMI page in the folder of
C:\xMaster\xMasterAppl\HMI (*.HMI files)
```

Note: Alarm points will be added for each site as named with SiteName_xxxxxxx.

If the site name is SW0099 and the current (short) point name is BatFail,
for example, an alarm point of SW0099_BatFail will be added. The length of
short name is 16. The extra char will cut off. And the Long Name (alarm description)
will be SW0099_Switch Battery Fail.

If you do not want to add these point automatically, you can sent an entry to disable it
as follows:

```
ENTRY      HMI_SITE = DISABLE_AUTO_ADDING_ALARM_POINT
```

for an example:

```
ENTRY      HMI_SITE = 01 SW0001~Tech Support call xxx-xxx-xxxx
ENTRY      HMI_SITE = 02 SW0002~Tech Support call xxx-xxx-xxxx~DEV_B
... ..
ENTRY      HMI_SITE = 64 SW0064~Tech Support call xxx-xxx-xxxx
```

To define the point range/offset for each point type, added new entries described below
where xxxx is the 1st point Max=1024, yyy is the size/offset max 1024.

Normally xxxx is set as 0.

The following is the calculation formula of point number/index in the RAW point database.
if xxxx>0

```
then [Point Index] = [Point Index] + xxxx
else [Point Index] = [Point Index] + yyy * (SITE_ID-1)
```

```
ENTRY DI_SITE_PARTITION = xxxx, yyy
ENTRY DO_SITE_PARTITION = xxxx, yyy
ENTRY AI_SITE_PARTITION = xxxx, yyy
ENTRY AO_SITE_PARTITION = xxxx, yyy
ENTRY CNT_SITE_PARTITION = xxxx, yyy
ENTRY BRS_SITE_PARTITION = xxxx, yyy
ENTRY FR_SITE_PARTITION = xxxx, yyy
```

```
ENTRY 9X_SITE_PARTITION = xxxx, yyy
ENTRY TDI_SITE_PARTITION = xxxx, yyy
ENTRY TAI_SITE_PARTITION = xxxx, yyy
ENTRY FPAO_SITE_PARTITION = xxxx, yyy
ENTRY DWAO_SITE_PARTITION = xxxx, yyy
```

There are two reserved TEXT/Label as follows:

HMI_SITE_NAME is to show the current HMI site name.

HMI_SITE_INFO is to show the current HMI site info.

User can define/configure HMI_SITE_NAME or HMI_SITE_INFO in a HMI Shape object of TEXT/Label to show the current HMI site info.

Note:

The MAX HMI Site is 100.

Selected control operation and Control Panel will be canceled and closed when new HMI site ID is assigned.

The following is another sample.

```
; In a DNP3 data concentrator polling 100 PoleTop RTUs (F6 recloser)
; Each F6 has 16 DI points, and 16 DO points, and 16 AI points so that
; the RTU DNP3 slave application has been assigned 160 DI points and
; 160 DO points and 160 AI points.
; Only one HMI display is configured to monitor 100 F6 Reclosers
;
;In HMI point database, only define the 1st site/device's HMI point,
;PNT_SITE must be defined as 0
```

```
;
ENTRY DI_PNT_SITE_PARTITION_PNT_DB = 0, 16
ENTRY DO_PNT_SITE_PARTITION_PNT_DB = 0, 16
ENTRY AI_PNT_SITE_PARTITION_PNT_DB = 0, 16
;
ENTRY      NAME      = PSD_SiteID
          FORMAT      = PSD_AI
          LONGNAME     = PSD:HMI_SPD_ID
          METER        = *
          PNT_ADDR     = 0
;
ENTRY      NAME      = SW001_ON
          LONGNAME     = The 1st Reclose F6 DI/DO point.
          FORMAT       = DI
          PNT_ADDR     = 0
          CTRL_ADDR    = 0
          PNT_SITE     = 0
          ALARM_GROUP  = 10
;
; ... ...
ENTRY      NAME      = SW010_ON
          LONGNAME     = The 10th Reclose F6 DI/DO point.
          FORMAT       = DI
          PNT_ADDR     = 144
          CTRL_ADDR    = 144
          ALARM_GROUP  = 10
;
ENTRY      NAME      = SW001_AMP
          LONGNAME     = The 1st Reclose F6 metering Current AMP.
          FORMAT       = AI
          PNT_ADDR     = 0
          PNT_SITE     = 0
;
; ... ...
ENTRY      NAME      = SW010_AMP
          LONGNAME     = The 10th Reclose F6 metering Current AMP.
          FORMAT       = AI
          PNT_ADDR     = 144
```

when PSD_SiteID = 10;

the current HMI graph object point data/control (SW001_ON) will be linked to the data of SW010_ON automatically, and the current HMI display will be refreshed.

154. 2016-March-25
 - a. The Latest version is 2.2016.3.25.
 - b. Fixed a bug in the process of the multi-session of UDP
 - c. Fixed a bus in the process of shutdown application in xMaster.exe.
153. 2016-March-6
 - a. The Latest version is 2.2016.3.6.
 - b. Changed the way to register xMasterSlave. It generates a Text based file: c:\xMasterSlaveReg.txt. In xMaster window [xDesktop] User can go to the Tab of Registration to check and active the registration for the current installation. The existing *.aut and *.Key are still supported.
 - c. User can open and edit and re-load the current HMI point database file in the window of Troubleshooting.
 - d. In DNP Master SOE Viewer User can enable polling Class(object#60 - Event) data when Just Poll Object is configured (Entry: READ_DNP_OBJ_RESPECTIVELY = YES).
152. 2016-Jan-29

- a. The Latest version is 2.2016.1.29.
- b. re-compiled for upgrading xSlave.

151. 2016-Jan-2

- a. The Latest version is 2.2016.1.2.
- b. Added a new ENTRY as follows:
ENTRY HMI_BUF_DIR = z:\xMasterHMI\
It is to define the HMI data buffer folder. It can be a RAM drive.

150. 2015-Oct-28

- a. The Latest version is 2.2015.10.28.
- b. Added the menu command to retrieve the MAC of the current IP in PING IP menu.
- c. In the window of Page Path, added a menu command of "Operating Prohibited".
It is to Prohibit operating the current page.

149. 2015-Sept-28

- a. The Latest version is 2.2015.9.28.
- b. Added DNP Objec #21, Var#5 (32bit Frozen Counter with time) and
DNP Objec #21, Var#6 (16bit Frozen Counter with time). The following is the table of
DNP3 Objects supported currently.

DNP3 Obj01 Var01	/* binary input w/o flag	*/
DNP3 Obj01 Var02	/* binary input w/ flag	*/
DNP3 Obj02 Var01	/* binary input change w/o time	*/
DNP3 Obj02 Var02	/* binary input change w/ time	*/
DNP3 Obj02 Var03	/* binary input change w/ rel time	*/
DNP3 Obj10 Var01	/* binary output status	*/
DNP3 Obj10 Var02	/* binary output status	*/
DNP3 Obj12 Var01	/* binary output control block	*/
DNP3 Obj12 Var02	/* pattern control block	*/
DNP3 Obj12 Var03	/* pattern mask	*/
DNP3 Obj20 Var01	/* 32-bit counter w/ flag	*/
DNP3 Obj20 Var02	/* 16-bit counter w/ flag	*/
DNP3 Obj20 Var05	/* 32-bit counter w/o flag	*/
DNP3 Obj20 Var06	/* 16-bit counter w/o flag	*/
DNP3 Obj21 Var01	/* frozen 32-bit counter w/ flag	*/
DNP3 Obj21 Var02	/* frozen 16-bit counter w/ flag	*/
DNP3 Obj21 Var05	/* frozen 32-bit Counter w/ frozen time	*/
DNP3 Obj21 Var06	/* frozen 16-bit Counter w/ frozen time	*/
DNP3 Obj21 Var09	/* frozen 32-bit counter w/o flag	*/
DNP3 Obj21 Var10	/* frozen 16-bit counter w/o flag	*/
DNP3 Obj22 Var01	/* 32-bit Counter change w/o time	*/
DNP3 Obj22 Var02	/* 16-bit Counter change w/o time	*/
DNP3 Obj22 Var05	/* 32-bit Counter change w/ time	*/
DNP3 Obj22 Var06	/* 16-bit Counter change w/ time	*/
DNP3 Obj23 Var01	/* frozen 32-bit Counter change w/o time	*/
DNP3 Obj23 Var02	/* frozen 16-bit Counter change w/o time	*/
DNP3 Obj23 Var05	/* frozen 32-bit Counter change w/ time	*/
DNP3 Obj23 Var06	/* frozen 16-bit Counter change w/ time	*/
DNP3 Obj30 Var01	/* 32-bit Analog input w/ flag	*/
DNP3 Obj30 Var02	/* 16-bit Analog input w/ flag	*/
DNP3 Obj30 Var03	/* 32-bit Analog input w/o flag	*/
DNP3 Obj30 Var04	/* 16-bit Analog input w/o flag	*/
DNP3 Obj30 Var05	/* short float Analog input w/ flag	*/
DNP3 Obj32 Var01	/* 32-bit Analog input change w/o time	*/
DNP3 Obj32 Var02	/* 16-bit Analog input change w/o time	*/
DNP3 Obj32 Var03	/* 32-bit Analog input change w/ time	*/
DNP3 Obj32 Var04	/* 16-bit Analog input change w/ time	*/
DNP3 Obj32 Var05	/* float Analog input change w/o time	*/
DNP3 Obj32 Var07	/* float Analog input change w/ time	*/
DNP3 Obj34 Var01	/* 16-bit Analog deadband	*/
DNP3 Obj34 Var02	/* 32-bit Analog deadband	*/
DNP3 Obj34 Var03	/* float Analog deadband	*/
DNP3 Obj40 Var01	/* 32-bit analog output status	*/
DNP3 Obj40 Var02	/* 16-bit analog output status	*/
DNP3 Obj40 Var03	/* short-float analog output status	*/
DNP3 Obj41 Var01	/* 32-bit Analog output control block	*/
DNP3 Obj41 Var02	/* 16-bit Analog output control block	*/
DNP3 Obj41 Var03	/* short float Analog output ctrl block	*/
DNP3 Obj50 Var01	/* system time and date Variation	*/
DNP3 Obj51 Var01	/* store synchronized CTO	*/
DNP3 Obj51 Var02	/* store unsynchronized CTO	*/
DNP3 Obj60 Var01	/* Class0 data	*/

```

DNP3 Obj60 Var02      /* Class1 data          */
DNP3 Obj60 Var03      /* Class2 data          */
DNP3 Obj60 Var04      /* Class3 data          */

DNP3 Obj80 Var01      /* IIN packed Binary    */

```

148. 2015-July-29
- The Latest version is 2.2015.7.29.
 - if you do not have a HMI display page, you can define a user application (*.exe) for the entry of "ENTRY HMI_FILE = ".
The following is a sample.
ENTRY HMI_FILE = C:\Program Files (x86)\Google\Chrome\Application\chrome.exe
147. 2015-May-22
- The Latest version is 2.2015.5.22.
 - In troubleshooting window, added a option for the button of Re-Open Comm Link to swap PY IP Address with SY IP Address and make a new connection.
 - Added a new entry of FRAO_NO_OFFSET.
It is to define whether to set an offset of DNP AO(Setpoint) point index for all floating AO points. If it is set to NO (default), the floating AO point index is set just after the non-floating-AO point. For example, if MAX_AO=32 and MAX_FRAO=32, then the 1st floating AO point index is 32 (0 to 31 are the non-floating AO points).
If FRAO_NO_OFFSET = YES, refer to above sets, the 1st floating AO point index is 0.
The following is a sample.

```

;
ENTRY      DNP_LINK      = TCP/IP
           CONTROL_TIMEOUT = 7
           LINK_TIMEOUT  = 6000
           FRAO_NO_OFFSET = YES
;
           FRAO_NO_OFFSET = NO
           ... ..
           END
;
ENTRY      DNP_DATABASE = SIZE
           ... ..
           MAX_AO      = 32
           MAX_FRAO    = 32
           ... ..
           END

```

146. 2015-April-10
- The Latest version is 2.2015.4.10.
 - Added a new ENTRY of DO_USING_O12V1Q27 = YES to force using DO object O12V1Q27 (16bit as a point index) to issue a DO control command. The default is NO, which means if the point index under 256, uses O12V1Q17 (8bit as a point index), otherwise uses O12V1Q27. The following is a sample.

```

ENTRY      DNP_DATABASE = SIZE
           ... ..
           DO_USING_O12V1Q27 = YES
           ... ..
           END

```

145. 2015-Feb-11
- The Latest version is 2.2015.2.11.
 - Added one more way to process/access pseudo data.
Refer to "FROM PSD_POINT= XXXX"
"FROM 2PSD_POINTS" is to access two consecutive HMI Points.
In the HMI point database, for example, you define the following two points.

```

ENTRY      NAME          = PY_Loc_Trip_Lo
           LONGNAME       = PSD:HMI_SV
           FORMAT         = PSD_AI
           PNT_ADD        = 0
           METER          = *
           ENG_UNIT       = HEX
;
ENTRY      NAME          = PY_Loc_Trip_Hi
           LONGNAME       = PSD:HMI_SV
           FORMAT         = PSD_AI
           PNT_ADD        = 0
           METER          = *
           ENG_UNIT       = HEX
;

```

In a HMI display, for example, you configure a Button as follows:

```

SHAPE= BUTTON
SHAPEOPTION= 0
LEFT= 339
TOP= 570
WIDTH= 132
HEIGHT= 57
CAPTION= LOCAL~RAS TRIP
HINT= Are you sure?!; FROM 2PSD_POINTS=PSD_Loc_Trip_Lo CTRLLEN=PSD_MATRIXLOCAL
FONTCOLOR= RED
A_COLOR= RED
F_COLOR= YELLOW
FONTNAME= MS Sans Serif

```


FONTSIZE= 12
FONTBOLD= +
DB_PNT= 11_22 REG_WR WOCP 249 0 1 32
ENDE

The value (32-bit) of PY_Loc_Trip_Lo + PY_Loc_Trip_Hi*65536 will be downloaded/written into the register of 4x0249 and 4x0250 in both device (PLC) #11 and #22.

144. 2014-Dec-22
a. The Latest version is 2.2014.12.22.
b. re-compiled for upgrading xSlave.
143. 2014-Oct-10
Added a option for the entry of CONTROL as follows:
CONTROL = DISABLE_HMI_CTRL
refer to note #43.d (2008-November-27)
it is to disable HMI controls (Control via clickOn Handler.
(i.e. via a button, BMP/ICON, etc).
You can Set or Reset it by the button of [BntCtrl] (F12) in the Function Button Bar.
To Set, set the control level as -1 and password is the current system password.
To Reset, set the control level > or = 0 and password is the current system password.
The current system password can be default or set in xMaster.exe.
142. 2014-July-2
a. The Latest version is 2.2014.7.2.
b. Added two buttons in xMaster.exe to Enable or Disable Window Key.
c. In Main HMI display window, the button of [Page ACK] (function Key F5) can also ACK all alarm points.
d. In Alarm (Panel) Display, the button of [ACK Current] can also ACK all alarm points.
141. 2014-May-28
a. The Latest version is 2.2014.5.28.
b. Added two task command for schedule task definition as follows:
1. TRANSFER_DATA HMI_PNT=xxxxx SV=dddd1 dddd2 ... dddd256
transfer data (max 256) to HMI pseudo point starting from xxxxx.
2. PRINT_ARCHIVE xxxx.xxx
print the current file and archive it named as xxxx_Date&Time.xxx
Refer to section 1.4.15 Entries for Event/Schedule driven task in the file of
xMaster_Manual.pdf. The following is a sample: transfer the real data AI_001 and AI_002
to pseudo point PSD_AI01 and PS_AI02 every minute.
- ...
- ```
ENTRY NAME = PSD_AI01
 FORMAT = PSD_AI
 LONGNAME = PSD:HMI_SV
 METER = *
 PNT_ADDR = 0
;
ENTRY NAME = PSD_AI02
 LONGNAME = PSD:HMI_SV
 FORMAT = PSD_AI
 PNT_ADDR = 0
 METER = *
;

... ..

ENTRY XMYTASK
 TASK_ID = 6
 TASK_NAME = OnCall#6
;
 TASK_TYPE = EVERY_HOUR_AT_MINUTE
 TASK_TYPE = EVERY_MINUTE_AT_SECOND
MY_TASK = 1 TRANSFER_DATA HMI_PNT=PSD_AI01 SV=AI_001 AI_002
;
 TASK_MINUTE = 1
 TASK_SECOND = 1
END
```
140. 2014-April-28  
a. The Latest version is 2.2014.4.28.  
b. Added a new ENTRY as follows:  
ENTRY LOAD\_SUB\_CFG\_FILE = x:\xxxx\xxxxxx.txt  
user can define a common configuration as a Sub-config to the current configuration.
139. 2014-April-9  
a. The Latest version is 2.2014.4.9.  
b. Fixed a bug in the version of 2.2014.3.30.
138. 2014-March-30  
a. The Latest version is 2.2014.3.30.  
b. Re-designed and located the button of [lock computer directly] in xMaster.  
c. Added a button of [Lock HMI Computer] in the main menu of xxx\_Master.
137. 2014-March-22  
a. The Latest version is 2.2014.3.22.  
b. Added a memo of LOO in the windows of Alarm-panel display.

```

136. 2014-Feb-28
a. The Latest version is 2.2014.2.28.
b. Added option/definition for UDP Link as follows:
ENTRY DEV_LINK = UDP/IP 10.2.2.90

 |
 |--> the local (Master End) IP Address
...
Dev1 = 0, 8500, 10.2.2.53 0.0.0.0, 20000

 | |
 | |--> the Remote End IP Port=20000, also will be
 | bindinged to the local Port with 10.2.2.90
 |--> the Remote End IP address.
...
END
Note: multi-Session may not working as expected due to the Slave-End UDP IP binding.

135. 2014-Jan-18
a. The Latest version is 2.2014.1.18.
b. Changed/corrected some appearance/caption of windows and buttons.

134. 2013-Dec-4
a. The Latest version is 2.2013.12.4.
b. Added option: [] Display Addr. of Addr & Pnt
In Status (DI) display you can display address of Slave Device and Point.

133. 2013-Nov-22
a. The Latest version is 2.2013.11.22.
b. Enabled SOE Viewer (DNP3 & IEC60870-5-101/103/104 raw data/event with timestamp from
the remote-end directly).

132. 2013-Nov-12
a. The Latest version is 2.2013.11.12.
b. Added a new feature of auto (test) controls. In the window of Control Operation,
Right-Click on control point name or on the label of "Control:" user can Periodically
and continuously execute control commands (i.e. Do pulse output, SBO-Trip &
Close, etc). Testing can go for the next control point automatically.
c. In xRTU18 application, user can select&Paste a Point Name from a list into the pseudo
point definition.
d. In xRTU18 application, user can paste a list of point name (i.e Copy a Col of point
name from Excel Point Assignment) into the table point database. To do so, first,
user can copy a (list of) point name from other place, for example, an Excel Point
Assignment, then double-click on the starting point in the table of Point database.

131. 2013-Nov-4
a. The Latest version is 2.2013.11.4.
b. Added a new entry of "ENABLE_READING_PLC_STATE"
refer to a sample below
ENTRY DNP_DATABASE = SIZE
 ENABLE_DO_CTRL_FEEDBACK_POLL = YES
 MODBUS_32BIT = NO
 ENABLE_READING_PLC_STATE = YES
 MAX_DI = 12
...
 END
c. fixed a bug in TeleComm Close.

130. 2013-Oct-18
a. The Latest version is 2.2013.10.18.
b. Change the default setting of Function Button Bar from Left side to right.
c. Modbus application is able to read the state of Run-Stop.
d. Added encode information for Text as follows. Refer to the section of 7.3.12 in
xMasterSlave manual. if the current PLC is not Running (Stop/Program), the State
Text will be "Not Running".

129. 2013-Sept-18
a. The Latest version is 2.2013.9.18.
b. Added three buttons in the main window of xMaster to uncheck/Add/Remove application
line(s) into/from RunTimeGroup--RTG.

128. 2013-Sept-8
a. The Latest version is 2.2013.9.8.
b. xMaster xRTU18 application makes easier for user to define a pseudo point.
c. Changed the appearance of installation program.

127. 2013-Aug-8
a. The Latest version is 2.2013.8.8.
b. An IP address can be assigned for Master End (one of local IP address).
The following is a sample.
ENTRY DNP_LINK = TCP/IP 10.101.12.221
 CONTROL_TIMEOUT = 7
 LINK_TIMEOUT = 6000
; RTU190 = 0, 1100, 10.2.12.50, 20000

```

```

;
; |
; | LAN Device
; | Name
; |
; | DNP
; | Link
; | Session
; | Number
; |
; | DNP
; | Address
; |
; | IP Address. IP Port
;
DNP_Dev#1 = 0, 11, 10.101.12.21, 20000
DNP_Dev#2 = 1, 22, 10.101.12.21, 20000
END

```

It assigns the IP address of 10.101.12.221 as Master End.  
Normally, it is not necessary to do so unless multi IP address assigned in PC and slave end filters/check Master End IP.

126. 2013-July-23
  - a. The Latest version is 2.2013.7.23.
  - b. Added the Screen\_Layout settings file in the list of Archived files.
125. 2013-July-08
  - a. The Latest version is 2.2013.7.8.
  - b. Added an application: xBridger, which can bridger SCADA connections between LAN and Serial or LAN and LAN (different IP address and port).  
You can find a button of xBridger in xMaster.exe (located below xSlave buttons).
124. 2013-June-16
  - a. The Latest version is 2.2013.6.16.
  - b. Changed default setting of Raise/Lower from 0x41/0x81 to 0x01/0x01.  
If want to change, you can double-click on Code in the window of Control Panel to change/set the DNP3 control code manually.
123. 2013-May-15
  - a. The Latest version is 2.2013.5.15.
  - b. Added Qty=0x27 as deault setting for DNP control command.
122. 2013-May-09
  - a. The Latest version is 2.2013.5.09.
  - b. Changed the graph of the Button of Control.
121. 2013-April-23
  - a. The Latest version is 2.2013.4.23.
  - b. Added a definition of CTRLLEN=PointName for Hint when you configure a HMI Control function. For example, you define a Hint for a Button as follows:  
HINT: PAGE=POPUP:MYCTRLHMIDISPLAY CTRLLEN=RTU\_REMOTE  
if the state of the point of RTU\_REMOTE is on(1), user can click on the current Button to popup a HMI dispaly of MYCTRLHMISPLAY.HMI.
  - c. Added a menu of Window:Center-Half (Ctrl-Alt-V).  
It will force the Main HMI display window to be placed in the center of Screen.  
The size of window will be changed to the half of the current Screen.
120. 2013-April-15
  - a. The Latest version is 2.2013.4.15.
  - b. Added filter1/2/3 for the ALARM-LIST function in MEMOBOX HMI Object as follows:  
ALARM-LIST FILTER1=\*FILTER2=\*FILTER3=\*  
Refer to the section 7.3.21 in the user manual.
119. 2013-April-01
  - a. The Latest version is 2.2013.4.1.
  - b. For DNP Master, added Object#21 Var#5.
118. 2013-March-24
  - a. The Latest version is 2.2013.3.24.
  - b. Fixed compatibility for buttons of [Device Manager] and [OnScreen KB] and [Add an IP Addr]/[Delete an IP Addr] in xMaster running in Win7.
117. 2013-FEB-28
  - a. The Latest version is 2.2013.2.28.
  - b. Changed some captions of button in xMaster.
116. 2013-FEB-11
  - a. The Latest version is 2.2013.2.11.
  - b. Added a checkbox to find/load Test Pattern files in Matrix Editor window.
115. 2013-Jan-25
  - a. The Latest version is 2.2013.1.25.
  - b. Fixed a Bug in MB Master DCA using mutl-command configuration. Refer to Note#104 below.
114. 2013-Jan-12
  - a. The Latest version is 2.2013.1.12.
  - b. Added a button of [DCA Point Database] in HMI Main menu.
113. 2012-Dec-8
  - a. The Latest version is 2.2012.12.8. Re-compiled.

b. Optimized sharing data with xSlave. You can use the point short name (Tagname) in Control Action scripts when you configure xRTU18 application.

112. 2012-Nov-18  
a. The Latest version is 2.2012.11.18. Re-complied.

111. 2012-Nov-11  
a. The Latest version is 2.2012.11.11.  
b. Added a button in xRTU18 configuration window to open its runtime.

110. 2012-Oct-28  
a. The Latest version is 2.2012.10.28.  
b. Added a setting of "SCALING\_FACT=" for transferring floating data to 32-bit binary data in xRTU18 (xMaster.exe) application. The scaling fact must be an integer. The following is a sample.  
PNT\_DB = BRL 33 M11-FR-4x500 M11-FR-4x500 SCALING\_FACT=10  
Load floating data of M11-FR-4x500 and tims 10 before feeding into the current 32-bit interger data.

109. 2012-Oct-20  
a. The Latest version is 2.2012.10.20.  
b. To copy Point Name/LongName to hint, double-click on the label of Point Name/LongName in HMI Point Configuration window.

108. 2012-Oct-15  
a. The Latest version is 2.2012.10.15.  
b. Added Comm Statistics Table in DCA Window/LogTab.

107. 2012-sept-23  
a. The Latest version is 2.2012.9.23.  
b. Added new an option to automatically display alarms in the window of alarm manager and display panel.  
c. If finds the file of c:\xMaster\xFont.60 or .65 or .70 or .80 or .85 or .90 or .95 or .100, the size of font of the HMI Object shape: String Grid will be adjusted accordingly.

106. 2012-sept-15  
a. The Latest version is 2.2012.9.15.  
b. Added an entry to enable multi-LAN-IP AUTO SWITCH as follows:  
;  
ENTRY DEV\_LINK = TCP/IP  
MULT\_LAN\_IP\_AUTO\_SWITCH = YES  
... ..  
END  
c. Added an entry to enable running an independent TCP/IP Telecomm channel application as follows:  
;  
ENTRY DEV\_LINK = TCP/IP  
TELECOMM\_CH = YES  
... ..  
END

105. 2012-sept-08  
a. The Latest version is 2.2012.9.8.  
b. Added new entry as follows to enable/disable Control Feedback Poll. Before default is YES, now changed to NO.  
  
ENTRY DEV\_DATABASE = SIZE  
SESSION = 0  
...  
MAX\_DO = 128  
ENABLE\_DO\_CTRL\_FEEDBACK\_POLL = YES or NO  
...  
END  
c. changed the layout of the window of the HMI Shape Object configuration.  
d. The window of the AO Setpoint shows the selection of 32-bit AO.  
e. Refer to the section 7.3.12, you can define the text string in Hint by using "=?" when you display Int or float. For example, if you define Hint is 5L32\_MW==?, and the point name for the data of 5L32\_MW is defined, then the current Text HMI shape Object will be shown as 5L32\_MW=123.45. Where "=?" will be replaced by the data.

104. 2012-Sept-3  
a. The Latest version is 2.2012.9.3.  
b. Allow mutl-command of modbus by using the entry of MB\_CMD as follows:  
Leading = PntNo MB-DataTypes MB-DataAddress TotalPnt ScanFrequency  
MB\_CMD = X 0X,1X,3X,4X StartFrom1 Max.1024 100 - 4294967295 ms  
Note:  
1. TotalPnt: 1-Bit/DI is 1024, 16-Bit is 112, 32-bit is 56, for DI 1x/0x is 16 based:16,32...  
2. ScanFrequency: if assign too many polling with the same ScanFrequency, it may be slowing down the ScanFrequency.  
3. Must define the index of session by using the entry of SESSION = xx.  
4. If use MB\_CMD, the settings defined in Rev Note 103, will be ignored.  
The following is a sample:  
ENTRY DEV\_DATABASE = SIZE  
SESSION = 0  
;  
;

```

MAX_DI = 256
MB_CMD = X, 1x, 1, 64, 1000
MB_CMD = X, 0x, 1, 64, 1000
MB_CMD = X, 4x, 100, 128, 1000
;

MAX_DO = 128
MB_CMD = X, 0x, 1, 64
MB_CMD = X, 4x, 200, 64
;

MAX_AI = 200, 1
MB_CMD = X, 3x, 200, 100, 2000
MB_CMD = X, 4x, 300, 50, 2000
MB_CMD = X, 4x, 400, 50, 2000
;

MAX_BR32 = 50, 1
MB_CMD = X, 4x, 300, 30, 2000
MB_CMD = X, 4x, 400, 20, 2000
;

MAX_AO = 100
MB_CMD = X, 4x, 300, 60
MB_CMD = X, 4x, 600, 40
;

MAX_FR = 100, 2
MB_CMD = X, 4x, 800, 50, 3000
MB_CMD = X, 4x, 900, 50, 3000
;

MAX_FRAO = 100, 2
MB_CMD = X, 4x, 800, 50
MB_CMD = X, 4x, 900, 50
;

END
;
;
ENTRY DEV_DATABASE = SIZE
 SESSION = 1
;

MAX_DI = 256
MB_CMD = X, 1x, 1, 64, 1000
MB_CMD = X, 0x, 1, 64, 1000
MB_CMD = X, 4x, 100, 128, 1000
;

MAX_DO = 128
MB_CMD = X, 0x, 1, 64
MB_CMD = X, 4x, 200, 64
;

MAX_AI = 200, 1
MB_CMD = X, 3x, 200, 100, 2000
MB_CMD = X, 4x, 300, 50, 2000
MB_CMD = X, 4x, 400, 50, 2000
;

MAX_BR32 = 50, 1
MB_CMD = X, 4x, 300, 30, 2000
MB_CMD = X, 4x, 400, 20, 2000
;

MAX_AO = 100
MB_CMD = X, 4x, 300, 60
MB_CMD = X, 4x, 600, 40
;

MAX_FR = 100, 2
MB_CMD = X, 4x, 800, 50, 3000
MB_CMD = X, 4x, 900, 50, 3000
;

MAX_FRAO = 100, 2
MB_CMD = X, 4x, 800, 50
MB_CMD = X, 4x, 900, 50
;

END
;

```

103. 2012-Aug-5

a. The Latest version is 2.2012.8.5.

b. Enabled the setting to change the scan-frequency:

Scan Frequency Setting 0: <1s(as fast as possible), 1:1s, 2:2s, 3:3s, 4:30s, 5:1m, 6:3m, 7:30m, 8:1h, 9:8h";

```

; *****
; * DNP DATABASE SIZE *
; *****
;
ENTRY DEV_DATABASE = SIZE
 SESSION = 0
;

```

```

;DI 3x, 4x registers scan-frequency setting is 1s, default is 1.
DI_MB_1X_START = 1 6
DI_MB_0X_START = 1 7
DI_MB_3X_START = 100, 2

```

```

 DI_MB_REG_START = 100
;
 MAX_AI = 200 , 2
;AI 3x, 4x registers scan-frequency setting is 2s, default is 1.
 AI_MB_3X_START = 200, 58
 AI_MB_REG_START = 200
;
 MAX_CNT = 64 , 1
;CNT 3x, 4x registers scan-frequency setting is 1s, default is 1.
 CNT_MB_3X_START = 300, 32
 CNT_MB_REG_START = 300
;
 MAX_BR16 = 64 , 1
;BR16 3x, 4x registers scan-frequency setting is 1s, default is 1.
 BR16_MB_3X_START = 400, 32
 BR16_MB_REG_START = 400
;
 MAX_BR32 = 64 , 2
;BR32T 3x, 4x registers scan-frequency setting is 2s, default is 1.
 BR32_MB_3X_START = 500, 32
 BR32_MB_REG_START = 500
;
 MAX_FR = 100 , 3
;FR 3x, 4x registers scan-frequency setting is 3s, default is 1.
 FR_MB_3X_START = 600, 30
 FR_MB_REG_START = 600
;
 MAX_DO = 256
 DO_MB_0X_START = 1 7
 DO_MB_REG_START = 700
;
 MAX_AO = 100
 AO_MB_REG_START = 800
;
;
 END
;

102. 2012-July-15
a. The Latest version is 2.2012.7.15.
b. Added a new ENTRY (TIME_SYNC = YES or NO) in the section of database for DNP Master
 as follow.
 It is to enable sending TIME SYCN command to the RTU. The default is changed to NO.
; *****
; * DNP DATABASE SIZE *
; *****
ENTRY DNP_DATABASE = SIZE
 MAX_DI = 512
 MAX_DO = 64
 MAX_AI = 256
 MAX_AO = 32
 MAX_CNT = 32
 MAX_BR16 = 0
 MAX_BR32 = 0
 MAX_FR = 0
; READ_DNP_OBJ_RESPECTIVELY = YES
 TIME_SYNC = YES
 END
;

101 2012-June-23
a. The Latest version is 2.2012.6.23.
b. Added a button of [ACK] in (Main) Alarm Panel.
c. You can use the following Shortcut key:
 Alt-L: Open/close Log window.
 Ctrl-H: Open Point Database.
 Ctrl-D: Open Troubleshooting window.
 Ctrl+Alt-O: Zoom out.
 Ctrl+Alt-I: Zoom in.
 Ctrl-E: Editor Tools window.
 Ctrl-A: Select All.
 Ctrl-W: Lock window.
 Ctrl-U: unLock window.
 Ctrl-R: refresh window.
 Ctrl-M: xMaster System menu.

100 2012-May-27
a. The Latest version is 2.2012.5.27.
b. Added using PTA file for Master/Slave application in In BExRTU application in
 xMaster.exe. The folder is named as \xRTU and \xRTU\PTA.
c. Fixed a bug on processing the setting of DI_3X_START in MB_Master.exe
d. There are up to 120 Alarm-Point-Display in the Alarm Panel. It depends the size of
 the current screen.
e. The Default Alarm Sound WAV file name is set as DefaultAlarmSound.WAV.
f. Added a button to test alarm sound/speak in the window of Alarm Manager.

99 2012-Apr-15

```

- a. The Latest version is 2.2012.04.15.
- b. Added Remote/Local switch in In BExRTU application in xMaster.exe.

98 2012-Apr-9

- a. The Latest version is 2.2012.04.9.
- b. To support protocol bridge (i.e. serial RS232/422/485 bridge to the Modbus TCP/IP LAN) and Mult-Drop OVER RS422/485 Link, user has to define the entry of "" after TCP/IP LINK.

Refer to following sample and the revision note #32 below:

```
ENTRY DEV_LINK = TCP/IP
 MULTI_DROP_TIME_DELAY = 20
 MB_DEV11 = 0, 11, 12.10.100.1 502
 MB_DEV22 = 1, 22, 12.10.100.1 502
 MB_DEV33 = 2, 33, 12.10.100.2 502
 MB_DEV44 = 3, 44, 12.10.100.3 502
```

In above sample, MB\_DEV11 and MB\_DEV22 share the same MB TCP/IP bridge (IP: 12.10.100.1 / 502) and are connected with a mult-drop link (RS422/485).

97 2012-Apr-1

- a. The Latest version is 2.2012.04.1.
- b. Added a HMI control function: Run a xMaster or user application.  
Refer to section 7.2.5 in the manual.  
To run a DNP\_Master application, define a string in the HINT as follows:"DNP3 xxxx".  
To run a MB\_Master application, define a string in the HINT as follows:"MB xxxx".  
To run a MBP\_Master application, define a string in the HINT as follows:"MB+ xxxx".  
To run a LG\_Master application, define a string in the HINT as follows:"LG xxxx".  
To run a PLC\_Master application, define a string in the HINT as follows:"PLC xxxx".  
To run user application, define a command line string in the HINT as follows:"c:\..\..\aaaaa.exe pppppp".  
where "xxxx" is the xxx\_Master Application configuration file \*.TXT located in the folder of "c:\xMaster\xMasterAppl\TXT".  
By using this HMI control function, you can design some icons/buttons in the display with a background BMP of either system overview diagram or map. Users can click on an icon/button to launch its associated applications (i.e dialup to connect a remote IED.) where "c:\..\..\aaaaa.exe pppppp" is to define the exe file and path and its param-str.

96 2012-Mar-11

- a. The Latest version is 2.2012.03.11.
- b. xMaster/[Local IP List] support add/delete a consecutive IP Address by set the TCP IP Address as x.x.x.sss-eee where eee must great than sss.  
For example: 10.1.1.20-51,  
it to add/delete IP Address: 10.1.1.20, 10.1.1.21, 10.1.1.22,...,10.1.1.51,

95 2012-Mar-03

- a. The Latest version is 2.2012.03.03.
- b. xMaster xRUT18 application can support up to 8192 points (was 4096) in total.

94 2012-Feb-28

- a. The Latest version is 2.2012.02.28.
- b. DNP Master can support concurrent mult-sessions fully.

93 2012-Feb-14

- a. The Latest version is 2.2012.02.14.
- b. Added new extries for configuring Modbus point database.  
When you define modbus register address, the following new Entry goes to 3xxx (Input register).

```
DI_MB_3X_START
FR_MB_3X_START
BR32_MB_3X_START
BR16_MB_3X_START
CNT_MB_3X_START
AI_MB_3X_START
```

And the following existing Entry goes to 4xxx (Holding register).

```
DI_MB_REG_START
AI_MB_REG_START
CNT_MB_REG_START
BR16_MB_REG_START
BR32_MB_REG_START
FR_MB_REG_START
```

please refer to section 1.4.9 in the manual. The following is a sample.

```
ENTRY DEV_DATABASE = SIZE
;
 MAX_DI = 256
;
 DI_MB_1X_START = 1 6
 DI_MB_0X_START = 1 7
 DI_MB_REG_START = 100
;it will poll 4x0100 to 4x0102
;
 MAX_DO = 256
 DO_MB_0X_START = 1 7
 DO_MB_REG_START = 300
;
 MAX_AI = 200
 AI_MB_3X_START = 100
;it will poll 3x0100 to 3x0299
```

```

;
 MAX_AO = 100
 AO_MB_REG_START = 200
;
 MAX_CNT = 64
 CNT_MB_REG_START = 300
;it will poll 4x0300 to 4x0427 (32bit/per CNT point, 64*2=128)
;
 MAX_FR = 100
 FR_MB_REG_START = 400
;it will poll 4x0400 to 4x0599 (32bit/per FR (real data) point, 100*2=200)
;
;
 END
;

```

92 2012-JAN-28  
a. The Latest version is 2.2012.01.28.  
b. re-compiled.

91 2012-JAN-15  
a. The Latest version is 2.2012.01.15.  
b. Made changes on Window/Screen layout.  
c. Fixed a bug in where the troubleshooting Window open all the time if the current application is a Dialup system.

90 2012-JAN-02  
a. The Latest version is 2.2012.01.02.  
b. You can enable the TCP-Server of remote-alarming in Alarm Manager.

89 2011-NOV-22  
a. The Latest version is 2.2011.11.22.  
b. A Popup menu will be up when right-click on the control point name in Control operation window.  
[Operating Periodically] allows you to continuously operate the current controls. You will be asked to define the interval. If the current control is AO setpoint, the AO PV will be added with ONE. It is acting as a running watch counter.

88 2011-OCT-28  
a. The Latest version is 2.2011.10.28.  
b. In MB/MBP Master you can configure how to form 32bit data. Add new entry item in the DEV\_LINK as follows:  
MODBUS\_32BIT = YES or  
MODBUS\_32BIT = NO  
If YES, the 2nd Word(16bit) is the Bit31-24 of 32bit data, otherwise is Bit15-00 of 32bit data. The following is a sample.

```

ENTRY DEV_LINK = TCP/IP
 MB_DEV1 = 0, 22, 10.2.2.22, 502
 MODBUS_32BIT = YES
 END

```

87 2011-OCT-1  
a. The Latest version is 2.2011.10.1.  
b. In xMaster.exe, popup a menu of LAN related commands when you Right click the SkyBule panel of buttons in the Tab of Local IP List.

86 2011-AUG-28  
a. The Latest version is 2.2011.8.28.  
b. In xMaster.exe, add []Force updating realtime Info in the tab of Sumarry Run-time.  
c. Upgraded Winsock to winsock2.

85 2011-JULY-18  
a. The Latest version is 2.2011.7.18.  
b. Asking YESNO to exit xMaster.  
c. Added an Entry in the section of (DNP3) Data Acquisition communication as follows:  
DO\_CTRL\_MODE = NOACK  
;Direct Control Operation without ACK

or  
DO\_CTRL\_MODE = YESACK  
;Direct Control Operation with ACK. It is default setting.

or  
DO\_CTRL\_MODE = SBO  
;DO Control (Pulse, Latch, Raise/Lower) Command uses Select Before Operation  
The folowing is a sample.

```

ENTRY DNP_LINK = TCP/IP
 CONTROL_TIMEOUT = 7
 LINK_TIMEOUT = 6000
 DNP_Dev#1 = 0, 11, 127.0.0.1, 20000
 POLL_INTERVAL = 450 300000
 ; Poll events/Class 1-2-3 per 450ms. Poll Class-0 5 per 5 minutes
 DO_CTRL_MODE = NOACK
 ;Direct Control Operation without ACK
 END

```

d. Added an Entry as follows:



Entry      FREE\_MEM = YES

or

Entry      FREE\_MEM = NO

This entry is for embedded application not to use Paging file. You must change the system settings and HKEY to match this entry.

84      2011-JUNE-18

- a.      The Latest version is 2.2011.6.18.
- b.      Embedded the Hardware watchdog timer operation for JetBox8150 and UNO-1170. Please email/call the developer for details.
- c.      Expanded the entry for DNP3 Data Acquisition Application as follows:  
POLL\_INTERVAL = xxxx [yyyy]  
where xxxx is in ms to define the Event-Poll interval. The default integrity-poll interval is 5 minutes. If xxxx is 0, DCA is doing Integrity-Poll only and yyyy is in ms to define the Integrity-poll interval. The Min setting is 1000ms.  
The following is a sample.

ENTRY      DNP\_LINK      = TCP/IP  
            CONTROL\_TIMEOUT = 7  
            LINK\_TIMEOUT = 6000  
            DNP\_Dev#1    = 0, 11, 127.0.0.1, 20000  
            POLL\_INTERVAL = 0 2000  
            END

83      2011-JUNE-9

- a.      The Latest version is 2.2011.6.9.
- b.      In the xMaster.exe added checkBox to En/Dis-able reboot when all ONLINE DCA watchdog Timers failed.

82      2011-JUNE-1

- a.      The Latest version is 2.2011.6.1.
- b.      The deinined alarm in the Alarm Summary can be disabled/enabled in the Alarm Manager.
- c.      Fixed bug:can not repeately popup a display.

81      2011-MAY-10

- a.      The Latest version is 2.2011.5.10.
- b.      xMaster can display how long xMaster has been running.

80      2011-APRIL-5

- a.      The Latest version of x\_Master.exe is 2.2011.4.5.
- b.      Changed AI&AO scaling fact:the default settings for Hi&Lo Raw Data to 32767.0/-32768.0.
- c.      Running Multi-Instance of xMaster with default settings is not allowed.

79      2011-FEB-25

- a.      The Latest version of x\_Master.exe is 2.2011.2.25.
- b.      Added a button of [Reboot] in xMaster.exe.
- c.      Added functions of coping point name in the window of HMI Object Editor.

78      2011-Jan-10

- a.      The Latest version of x\_Master.exe is 2.2011.1.10.
- b.      You can enter password: "BExRTU" in the tab of "Security" in the xMaster.exe. It turns the xMasterSlave is running as a Data Concentrator. It means that the hardware platform running xMasterSlave software (i.e. PC, embedded PC, etc.) is working as a RTU. Refer to the section 13 in the xMasterSlave user manual. The Tab of "BExRTU Configuration" shows up in the xMaster.exe. You can configure your xRTU applications. You can use you laptop PC to run xMasterSlave software, which can connect to the remote end (i.e embedded PC running xMasterSlave as well). You can test and simulate the xRTU application locally and transfer (Upload) the xRTU configuration to the real xRTU application platform. After transferring the configuration successful, you can start running xRTU applications when you press button of "Runtime Remote" in the SubTab of "Runtime Group" in the Main Tab of "Main(Launcher)".

77      2010-Dec-13

- a.      The Latest version of x\_Master.exe is 2.2010.12.13.
- b.      Added an entry of " LG\_RTU\_AO\_TO\_BIN24DO " for L&G Master to transfer AO to Bin24-DO. Ref the section 1.4.9 in the user manual.  
Sample:  
LG\_RTU\_AO\_TO\_BIN24DO = 62  
The Control command AO point #62 will be transferred to Bin24 block #0 output.  
The Control command AO point #63 will be transferred to Bin24 block #1 output.  
The Control command AO point #64 will be transferred to Bin24 block #2 output.  
... ..
- c.      Added an entry of " PSD\_DI\_FUNC = CTRL\_FAILED " for Pseudo DI point to indicate the latest control command was failed. Ref the section 1.4.14 in the user manual.

76      2010-Noveber-18

- a.      The Latest version of x\_Master.exe is 2.2010.11.18.
- b.      Added a button of [New List] in xMaster.exe to start with a new list of xMasterSlave applications.
- c.      You can scan IPs on the network in xMaster.exe. Click on the Col of No. to change/define the name of pont. if the name is X0-DI-9xdddd.bb for DI, or X0-DO-9xdddd for DO, or X0-AI-9xdddd for AI, or X0-AO-9xdddd for AO the data source is PLC CMD runtime data area 9xdddd.

75      2010-September-8

- a.      The Latest version of x\_Master.exe is 2.2010.9.10.
- b.      Auto-adjust the size (width-Height) of the window of Trouble-shoot/ Diagnosis

(you can press [Ctrl]+[D] to open it directly).

- 74 2010-August-8  
a. The Latest version of x\_Master.exe is 2.2010.8.8.  
b. Added a feature to popup the alarm manager for the HMI control function:  
LOAD\_HMIPAGE.  
The hint of HMI Shape Object(i.e. button) is PAGE=POPUP:ALARM-MANAGER.  
c. before Checking alarm history you can check out the current alarm point first  
(click on /select the current point in the Alarm-List). So it makes very easily to  
check the current alarm history directly.
- 73 2010-July-18  
a. The Latest version of x\_Master.exe is 2.2010.7.18.  
b. To specify how many decimal point digits needed for the current AI (metering) point,  
you can use the entry of ENG\_UNIT = xxxxd where the 'd' (3,4,5,6) is indicating the  
decimal. The default setting still is 2 for normal, 3 for floating point data.  
c. Press [Ctrl]+[Mouse Left key] on the HMI Page Path, a Tip-Window show the file  
information refer to 7.1.1.  
d. Press [Ctrl]+[Mouse Left key] on the list of Applications in xMaster Launcher,  
a Tip-Window show the file information.
- 72 2010-June-18  
a. The Latest version of x\_Master.exe is 2.2010.6.18.  
b. Added a Check-Box for [ACKPage] (key F5) to indicate whether ACK all points or just  
ACK points in the current Page.  
c. When the window is locked out, you can double the main HMI display window to unlock.  
d. In Main HMI Display window, [Ctrl]+[W] to lock out the Window desktop,  
[Ctrl]+[U] to unlock the Window desktop.
- 71 2010-May-28  
a. The Latest version of x\_Master.exe is 2.2010.5.28.  
b. In HMI Editor mode, you can select ALL HMI Shape Objec(s) by pressing key [Ctrl]+[A].  
To close/open the window editor functions press key [Ctrl]+[E].
- 70 2010-May-18  
a. The Latest version of x\_Master.exe is 2.2010.5.18.  
b. You will be asked for the options copying Matrix data from PLC.  
c. You can check whether there is any invalid HMI Point Name by press the button of  
"The List".  
d. In main HMI display, you can drag and press [Ctrl]+[Alt] to Popup a zoomed  
area-display.
- 69 2010-April-18  
a. The Latest version of x\_Master.exe is 2.2010.4.18.  
b. Popup A balloon when you move (hover) the cursor pointing to a HMI Object that is  
found alarming.  
c. Display the data acquisition log when you start up xMaster at very beginning.  
d. Added a feature to popup a window of iExplore/URL for the HMI control function:  
LOAD\_HMIPAGE.  
refer to the section 7.2.5 and 7.3.11 and Note "15 2007-August/f".  
The url address is following the key word:"PAGE=URL:" in the hint of the current HMI  
Object configuration. The following is a sample.  
PAGE=URL:http://www.MSN.COM
- 68 2010-Feb-28  
a. The Latest version of x\_Master.exe is 2.2010.2.28.  
b. Added a setitng for Shape-Option in the Editor Window.  
c. You can check out the samples from HMI Page Path window directly. So you can make a  
black-copy from sample HMI display into your owner display.  
d. Updated files of samples of HMI display.  
e. You can open LAN information in the window of Troubleshooting if the data acquisition  
is a LAN based.  
f. For BCH L&G, you can select R/L for the control of Pulse-Output.
- 67 2010-JAN-30  
a. The Latest version of x\_Master.exe is 1.10.1.30.  
b. Changes the definition HI\_SCALE, LO\_SCALE as follows:  
The HI\_SCALE is to define the Max of the Raw data. The Lo\_SCALE is to define the Min  
of the Raw data. HI\_SCALE default is 32767. Lo\_SCALE default is -32768.  
c. Added feature to build the xMaster Application Map. You can define the Map(\*.BMP).  
You can define a Object/Shape to represent the associated Unit/device data  
polled/connected to the defined xMaster Application (either dialup, or direct RS232  
or via the TCP/IP). It is a Kind of GIS application for the distribution engineering.  
To define the map, in the Tab of RuntimeGroup, double-click on the xMaster On Earth  
to load a BMP file. To open the map press the button: [xMaster Appl Map].  
d. Added a Tab of security in xMaster. You can locked xMaster when you are leaving.  
e. Refer to the section 1.13, you can add one more option (M=X-Y) for the entry:  
PROCTYPE = ANALOG MINUTE\_HISTORY M=X-Y.  
You can monitor the position of the object located by two consecutive HMI AI points.  
The first one is for X position. The second one is for Y position. You can check the  
HMI sample: DNP\_Master\_Sample.txt/HMI\_Sample\_Button.HMI.  
f. if the current Device(a status) is defined by ALARM\_GROUP as the sample shown  
as follows:
- |       |          |                    |
|-------|----------|--------------------|
| ENTRY | NAME     | = DI_0001          |
|       | LONGNAME | = Digital Input #1 |
|       | FORMAT   | = DI               |
|       | PROCTYPE | = ONOFF            |
|       | STATCONV | = NO               |

```
PNT_ADDR = 0
CTRL_ADDR = 0
PNT_DEV = 11
ALARM_GROUP = 1
```

A 'A' will be shown beside when the alarm group #1 is active. If you open its Control-Operation panel, you can double-click the bottom status information string-bar and the associated alarms will be shown.

- g. You can press key [ALT-CTRL-O] and [ALT-CTRL-I] to zoom out/in the current HMI display.

66 2009-DEC-12

- a. The Latest version of x\_Master.exe is 1.9.12.12.
- b. Added the feature to Save/Load the Network configuration/settings in the xMaster.exe.
- c. Added the feature to Enable/Disable the Network Diagnostics for xMaster in the xMaster.exe.
- d. Added buttons to show/unshow the panel of the operation-button in the windows of Matrix Monitor/Editor.
- e. Added a tab of DCA Log Files in the Troubleshooting window.

65 2009-NOV-11

- a. The Latest version of Master.exe is 1.9.11.11.
- b. Added the feature to ADD/DELETE a static IP Address.

65 2009-NOV-1

- a. The Latest version of x\_Master HMI software is 1.9.11.1.
- b. if the current item in the LISTBOX is checked its color is changed to the color defined/configured by ALARM-COLOR in the window of HMI Shape Object configuration.
- c. Added one entry for Matrix as follows:  
HMI\_DISPLAY = xxxxxx  
it is to popup a HMI Display that is related to the current matrix function.  
If the HMI display file exists, a button so called "HMI" will show up in the Matrix Editor window.
- d. Added a feature that allows you to set and load the current screen layout for HMI Display, Status/Analog/Alarm-Panel, Matrix. Two buttons are located on the window of HMI Page Path.  
You can press function key F1 to open the window of the HMI Page Path.
- e. Max the window of xMaster Launcher and go to the Tab of Run-time. You can find two buttons as follows:
  - 1. [LockWin]: to Lock/Unlock Windows.
  - 2. [STOP ALL Appls]: to stop all running xMasterSlave applications.

65 2009-Oct-9

- a. The Latest version of x\_Master HMI software is 1.9.10.9.
- b. Added a Tab of IP List in xMaster.

64 2009-September-6

- a. The Latest version of x\_Master HMI software is 1.9.9.9.
- b. To enable serial communication flow-control, you can use a new Entry (FLOW\_CONTROL) as follows:

```
ENTRY DEV_LINK = SERIAL
 PORT = 8
 BAUDRATE = 2400
; CONTROL_TIMEOUT = 6
; LINK_TIMEOUT = 15000
 ADDR = 23
 FLOW_CONTROL = YES
```

END

The current serial port won't send messages until RTS is active. The Timeout of RTS inactive is 1000ms.

63 2009-Aug-13

- a. The Latest version of x\_Master HMI software is 1.9.8.13.
- b. Add one window page(TabSheet) in Troubleshooting.

62 2009-July-27

- a. The Latest version of x\_Master HMI software is 1.9.7.27.
- b. If the HI-SCALE=65535 and Lo-SCALE=0, the raw data (i.e for AI) range is 0 to 65535 (16 bit word).  
If the HI-SCALE=4095 and Lo-SCALE=0, the raw data (i.e for AI) range is 0 to 4095 (12 bit word).  
The default raw data range is 16-bit integer (-32768 to 32767).

61 2009-July-8

- a. The Latest version of x\_Master HMI software is 1.9.7.8.
- b. You can drag Page path into Hint in the HMI Object configuration window when you configure to POPUP a display.
- c. You can drag a point name from the HMI Point List in the HMI Object configuration window.
- d. Added a menu item of "Move To Top Line" in the popup menu of the Application List (Right-Click on it to see it).
- e. Allowed you to define only A point in the window of the Wizard to make up a new one and add it into c:\xMaster  
when you want to add a new one in the xMaster Launcher.
- f. Added a button in the main menu to either close window or reboot OS or cancel.

60 2009-June-28

- a. The Latest version of x\_Master HMI software is 1.9.6.28.
  - b. Fixed bug in restore the info of windows.
- 59 2009-May-28
- a. The Latest version of x\_Master HMI software is 1.9.5.28.
  - b. If Install\_xMasterSlave.exe finds the file:xMasterSlaveUserApplications.ex\_ it will install it.
  - c. Enable recording the latest information of windows of Locations and size. The windows will be opened and located as being closed by shutdowning xMaster.
- 58 2009-May-18
- a. The Latest version of x\_Master HMI software is 1.9.5.18.
  - b. Added two buttons on the windows of Matrix Editor/display. Two buttons are to load local Emergency RAS Matrix Plan A and B directly and respectively.
- 57 2009-May-8
- a. The Latest version of x\_Master HMI software is 1.9.5.8.
  - b. display information of sharing HMI Point in HMI Database Window. refer section 11.3 in the manual.
  - c. display offset X/Y of screen in HMI Editor window.
- 56 2009-April-18
- a. The Latest version of x\_Master HMI software is 1.9.4.18.
  - b. You can Add, Copy and Add and Make a new one and Add in xMaster.exe.
  - c. If the size of screen is in 1024X600 two buttons(Next&Last) will be shown up top in Status Display.
  - d. Added 3 HMI Shape Objects as follows:  
CBK\_D1\_CB\_D2  
FDR\_D1\_CB\_D2\_D3  
FDR\_D3\_D2\_CB\_D1  
You can set Param=1(default) or Param=2 to select the shape for DSC.  
Modified some HMI Shape Objects as follows:  
Disconnecter  
Triangle  
Triangle\_Left  
Triangle\_Right  
Triangle\_Top  
Capacity\_Horizontal  
Capacity\_Vertical  
Fuse\_Horizontal  
Fuse\_Vertical  
CT\_Horizontal  
CT\_Vertical  
2StateConnector\_Horizontal  
2StateConnector\_Vertical  
if draw above shapes from Up-Right to Low-Left, Low-Left to Up-Right or Low-Right to Up-Left, the shape will be changed accordingly.
  - e. Modify HMI\_Sample.pge and added a new HMI display:  
HMI\_Sample\_Shape\_ElectricityPowerSystem.hmi.
  - f. Added a NEW entry as follows for Data Matrix (refer to the section 1.4.10 and 8.0)  
DISPLAY\_MODE = Horizontal  
or  
DISPLAY\_MODE = Vertical
- 55 2009-March-23
- a. The Latest version of x\_Master HMI software is 1.9.3.23.
  - b. Allowed the baud to be set by as low as 300.
- 54 2009-March-15
- a. The Latest version of x\_Master HMI software is 1.9.3.15.
  - b. You can preview your HMI display and force the value of HMI Point.  
To preview: right-click the button of Open in the window of HMI Editor.  
right-click on the page and execute the menu of Preview in the popup menu.  
To force value: Open the window of the HMI Points Database (refer to the section 3.9 in the manual) and right-click on the item of the column of PV and input the value.
- 53 2009-March-6
- a. The Latest version of x\_Master HMI software is 1.9.3.6.
  - b. Fixed a bug on HMI Editor/Undo.
  - c. Added more delay/silence (up to 3 seconds) before and after sending +++ to disconnect phone line.
- 52 2009-February-28
- a. The Latest version of x\_Master HMI software is 1.9.2.28.
  - b. Added a new entry as follows:  
LABEL\_CONST       xxxxxx   yyyyyyyyyy  
Where the xxxxxx is a label-- A Key Word (- and ~ are not allowed) that you can use it in the configuration (i.e. Hint, Caption of Text, StringGrid, Matrix, Point LongName, etc) and will be scanned and replaced with yyyyyyyyyy.
- 51 2009-February-19
- a. The Latest version of x\_Master HMI software is 1.9.2.19.
  - b. The MASTER\_WATCHDOG and SLAVE\_WATCHDOG can be 0. Before it was ranged within 1-32767. refer to the section 1.4.6 to 1.4.8 in the manual.
- 50 2009-February-8

a. The Latest version of x\_Master HMI software is 1.9.2.8.  
b. Enabled checking the limit of reasonability when you send the AO (Analogue Output) command (i.e Setpoint, refer to the section 5.2 in the manual).  
c. if the entry of "LINK\_TIMEOUT" is longer than 45s, it will be also assigned to the time-out of the modem connection when the system is dialup.

49 2009-February-2  
a. The Latest version of x\_Master HMI software is 1.9.2.2.  
b. Change the cursor of the button when you copy logs and upgrade software and return to the default when finish jobs. refer to Note #47.

48 2009-January-27  
a. The Latest version of x\_Master HMI software is 1.9.1.27.  
b. In the list of the HMI Control (refer to the section 7.2.5, Note 2 for Figure 7-14), Changed FUTURE5 to LATCH-ON (for DNP3, the control code is 3).  
Changed FUTURE6 to LATCH-OFF (for DNP3, the control code is 4).

47 2009-January-22  
a. The Latest version of x\_Master HMI software is 1.9.1.22.  
b. Added three new features in the troubleshoot window as follows:  
[ ] AllowToReboot  
(you have to Max the troubleshoot window to see it)  
It allows you reboot the embedded PC after 3 minutes when the communication link has been retried and is found failed. The default is false.  
If the xMaster HMI software is auto-started up in Windows StartUp group, the default is true.  
Button:[Copy Logs].  
It copy all log files in the c:\xMaster\Log into a Drive  
(i.e USB Storage Device \xMasterSlave\Log\)  
Button:[Upgrade Software].  
To upgrade xMasterSlave software and configurations(i.e. \*.HMI, \*.TXT, etc.) from a drive (i.e USB Storage Device \xMasterSlave\Upgrade\_xMasterSlave\).  
c. You can archive/copy HMI and its files (i.e. \*.HMI, \*.TXT, etc.) into a drive (i.e USB Storage Device \xMasterSlave\Upgrade\_xMasterSlave\)  
in the HMI Page Path window (Refer to Note 41. and the section 7.1.1 in the manual)

46 2009-January-17  
a. The Latest version of x\_Master HMI software is 1.9.1.17.  
b. Added new Hint-Decode feature in Load Page as follows:  
Page=POPUP:MATRIX  
to popup the window of Matrix Editor.  
c. For HMI Shape Object:Button,if "VISIBLE=xxxxxx" is found in its Hint and if point xxxxxx is not zero, the current button is visible.

45 2009-January-1  
a. The Latest version of x\_Master HMI software is 1.9.1.1.  
b. Added new tab in the xMaster.exe.  
c. Updated xMasterSlave Local database structure.  
d. Added a new entry for Data Acquisition Application as follows:  
POLL\_INTERVAL = 100  
It defines the interval of polling data/events. For Serial link the default is 200ms.  
For TCP/IP LAN and Modbus Plus the default is 100ms.

44 2008-Decemberr-2  
a. The Latest version of x\_Master HMI software is 1.8.12.2.  
b. Added a new Option in the Matrix as follows. Refer to the section 8 in the manual.  
[ ] ACT16..1  
it is to display ACT16 to ACT1 from Left to Right on the screen. Default is to display the ACT1 at the left first on the screen.  
c. Added samples demonstrating features of H\_GAUGE Animation:  
Horizontal Gauge / Vertical Gauge for the shape of Rectangle.  
It shows a Door Open/Close when you click on the switch in the display.  
d. Added a new entry as follows:  
ENTRY SETUP\_UNSOLICITED\_CMD = Y/N  
If YES, DNP Master will send DNP3 UNSOLICITED command (FC=20 & 21)  
e. Added a feature for a PSD DI (refer to the section 1.4.14 in the manual) as follows:  
A PSD DI can trigger actions where a HMI Ai point (i.e. PSD\_AI) INC or DEC by a setting until reach Up/Down to another setting. This feature can be enabled by the KEY: "INC:AI:" in the HMI Point Long Name and followed by a valid HMI Point Name and entries of PSD\_DI\_WDT(interval), PSD\_DI\_VAR1(data) and PSD\_DI\_VAR2(the end data).  
Note: if you define PSD\_DI\_CTRL1 = 65535 32767 65535, the PSD\_DI will be turned off automatically when the PSD\_AI reach the end data.  
The following is samples:  
ENTRY       NAME       = PSD\_DI02  
             FORMAT    = PSD\_DI  
             LONGNAME   = It is a PSD\_Status #2 INC:AI:PSD\_AI01  
             STATCONV   = NO  
             PSD\_DI\_FUNC = HMI\_SV  
             PSD\_DI\_WDT  = 1000  
;the interval is 1000ms  
             PSD\_DI\_VAR1 = 3000  
;Inc by 3000 every 1000ms when PSD\_DI02 is ON.  
             PSD\_DI\_VAR2 = 32767  
;Until reaches up to 32767  
             PNT\_ADDR   = 0  
             ALARM       = NO  
;  
;

```

ENTRY NAME = PSD_DI03
 FORMAT = PSD_DI
 LONGNAME = It is a PSD_Status #3 DEC:AI:PSD_AI01
 STATCONV = NO
 PSD_DI_FUNC = HMI_SV
 PSD_DI_WDT = 1000
;the interval is 1000ms
 PSD_DI_VAR1 = 3000
;Dec by 3000 every 1000ms when PSD_DI02 is ON.
 PSD_DI_VAR2 = -32768
;Until reaches down to -32768
 PSD_DI_CTRL1 = 65535 32767 65535
;Turn PSD_DI03 off when reach down to -32768
 PNT_ADDR = 0
 ALARM = NO

```

43 2008-November-27

- a. The Latest version of x\_Master HMI software is 1.8.11.27.
- b. Corrected Note b. in the revision 42 as follows:  
 Added one argument x3 for the entry DEV\_LINK = MODEM x1 x2 x3  
 refer to the section 1.4.6.  
 For the DNP Master, if x1 or x2 or x3 is NO\_UNSOLICITED\_REPORT, the DNP Master does not send DNP command FC=20 & 21 (Enable/disable Unsolicited Message).  
 The following is the samples.  
 DEV\_LINK = MODEM NO\_UNSOLICITED\_REPORT  
 DEV\_LINK = MODEM ATE0Q0 NO\_UNSOLICITED\_REPORT  
 DEV\_LINK = MODEM ATC1Q0E0S12=20S30=60 ATS37=6 NO\_UNSOLICITED\_REPORT
- c. Added a new entry as follows:  
 DIRECTLY\_ENTER\_HMI\_FILE = xxxxxxxx.pge  
 It is similar to HMI\_FILE (refer to the section 1.4.4 in the manual) with addition feature as described below. xMaster will not display the "STATION INFO" defined by the entry of "STATION\_INFO" and directly enter the first HMI display instead.
- d. Added a new entry as follows:  
 ENTRY CONTROL = YES/NO xOption.  
 YES to enable control  
 NO to disable control  
 The xOption of SINGLE-SBO is to make a Single-SBO. refer to revision 42 Note f.  
 The xOption of MULTI-SBO is to make a Multi-SBO. refer to revision 42 Note f.  
 The following is the sample:  

```

ENTRY DNP_LINK = TCP/IP
 CONTROL_TIMEOUT = 7
 LINK_TIMEOUT = 6000
 DNP_Dev#1 = 0, 11, 127.0.0.1, 20000
 END
;
ENTRY CONTROL = YES MULTI-SBO
;

```
- e. Added samples demonstrating features of H\_GAUGE Animation: Horizontal Gauge for the shape of Triangle and Triangle\_Up and V\_GAUGE Animation: Vertical Gauge for the shape of Triangle\_Right and Triangle\_Left.

42 2008-November-12

- a. The Latest version of x\_Master HMI software is 1.8.11.12.
- b. Added one argument x3 for the entry DEV\_LINK = MODEM x1 x3 x2  
 refer to the section 1.4.6.  
 For the DNP Master, if x1 or x2 or x3 is NO\_UNSOLICATED\_REPORT, the DNP Master does not send DNP command FC=20 & 21 (Enable/disable Unsolicited Message).
- c. Fixed a bug. If the caption of Button is either ON, OFF, ONOFF and the HMI Point is NONE the caption does not change. Before it was changed to "ON".
- d. If the caption of the Button is BMP=xxxxxxx.bmp, the button will become Bitmap graphic button. It gives you more flexible to make up a button. You can define the caption by BMP? when you are asked to input/change the caption of the button and you can select a BMP file from the folders of  
 c:\xmaster\xmasterappl\ or c:\xmaster\xmasterappl\bmp\.
- f. You can select the option not to be asked when you execute ESO (HMI control command Execute\_Selected\_Operation) command. If you want to resume it you can click on the button of "BntCtrl" in the Function Key Bar (hint:you can press key HOME to open this bar) and enable the option: Enable DNP\_Multi\_SBO\_Option.

41 2008-November-2

- a. The Latest version of MB\_Master/PLC\_Master HMI software is 1.8.11.2.
- b. The Control Point Number is tied to the current DI Point. You do not have to load and save all HMI display file (\*.HMI) when you change the control point number (CTRL\_ADDR = dddd) in the configuration file (i.e. DNP\_Master\_xxxx.txt).

40 2008-October-22

- a. The Latest version of MB\_Master/PLC\_Master HMI software is 1.8.10.22.
- b. The PSD AI and PSD DI that configured as HMI\_SV (refer to the section 1.4.13 and 1.4.14) will be saved and be retrieved when you run the HMI display where the PSD AI and PSD DI point are configured and used.
- c. When you make a block-copy, you can generate a HMI display template by a right-click on the button of Paste located the right side of Working-Mode Copy. All template will be named as 0\*\_Lib\_\*.HMI. 0\_Lib\_\*.HMI will be added into the current HMI display. 00\_Lib\_\*.HMI will be opened in the HMI display editor window.
- d. Added two TabSheets in the HMI Page Path window (Refer to the section 7.1.1 in the manual)  
 1. Archiving -- list all files that you need to archive for the current HMI displays.

2. HMI Display Template -- list all 0\*\_Lib\_\*.HMI.  
Above TabSheets appear only when you edit the HMI display.

- 39 2008-October-10  
a. The Latest version of DNP\_Master HMI software is 1.8.10.10.  
b. Change the max. of device address from 9999 to 65500.
- 38 2008-September-28  
a. The Latest version of MB\_Master/PLC\_Master HMI software is 1.8.9.28.  
b. Modified the Cursor of Shape-Editor.  
c. Added two functions as follows in the Align  
(Refer to the section 7.2.3 in the manual)  
1. Replace  
It is to find and replace Text-String (i.e. HMI Point Name, Hint, Caption, List, etc) in the selected HMI Shape Object.  
2. Find Text  
It is to find Text-String (i.e. HMI Point Name, Hint, Caption, List, etc) in the selected HMI Shape Object.  
if the Text\_To\_Find is empty then picks up all selected HMI Shape Object(s).  
All found HMI Shape Object(s) will be framed. And you can press the button of "Reset Frame" to reset.
- 37 2008-September-12  
a. The Latest version of MB\_Master/PLC\_Master HMI software is 1.8.9.12.  
b. Added two entries for the configuration RAS Matrix application.  
MATRIX\_AI\_PT = dd  
ACTION\_AO\_SETPOINT =dd  
So that RAS Matrix can retrives data from AI data area, instead of DI data area defined by the entry of MATRIX\_DI\_PT. And you can use DNP AO command to directly send the RAS Action pattern 16-bit (one AO point) or 32-bit (two AO points), instead of DO command defined by the entry of ACTION\_BIN\_DO\_PT. The following is a sample.
- ENTRY DATA\_MATRIX = EDITOR  
TITLE = Data Matrix Test  
MATRIX\_AI\_PT = 1  
ACTION\_AO\_SETPOINT = 1  
CONTINGENCY\_PULSE\_PT = 1  
COUNT = 48  
; SESSION = 0 1  
CONTINGENCY\_INFO = 01 TE01 aaa aaaaaaaaaa  
CONTINGENCY\_INFO = 02 TE02 bbb bbbbbbbbbbbb  
... ..  
CONTINGENCY\_INFO = 47 TE47 (FUTURE)  
CONTINGENCY\_INFO = 48 TE48 (FUTURE)  
ACTION\_INFO = 01 AAA AAAAA  
ACTION\_INFO = 02 BBB BBBBB  
... ..  
ACTION\_INFO = 15 OOO OOOOO  
ACTION\_INFO = 16 PPP PPPPP  
END
- d. In the HMI Object configuration Window refer to the section 7.2.5 and Figure 7-14 in the xMaster manual. Right Click on the [ DBI=???? ] to popup a menu to add HMI PSD DI or AI point (refer to the section 1.4.13 and 1.4.14).
- 36 2008-September-4  
a. The Latest version of MB\_Master/PLC\_Master HMI software is 1.8.9.4.  
b. No Limit on the length of log information. It was 200 char.
- 35 2008-August-1  
a. The Latest version of MB\_Master/PLC\_Master HMI software is 1.8.8.1.  
b. Fixed the bug and Add extra timeout (5000ms) for the first polling.
- 34 2008-July-22  
a. The Latest version of xMaster HMI software is 1.8.7.22.  
b. Fixed the bug in the definition of the default HMI Point Database (refer to the entry: ENDALL\_AND\_BUILD\_A\_DEFAULT\_HMI\_POINT\_DB ).  
c. Refer to Revision Note #33, those Auto-detect feature will apply to the point list when you use the entry: ENDALL\_AND\_BUILD\_A\_DEFAULT\_HMI\_POINT\_DB Status\_List.txt, Analog\_List.txt. Refer to the section 1.4.12 in the manual of xMaster. Beside, it also auto-detect the 1st "\_" in the point name to find the meter name as follows
- 12F412\_Ph\_A\_AMP  
12F412\_Ph\_B\_AMP  
12F412\_Ph\_C\_AMP  
12F412\_Ph\_A\_MW  
12F412\_Ph\_B\_MW  
12F412\_Ph\_C\_MW  
12F412\_Ph\_A\_MVR  
12F412\_Ph\_B\_MVR  
12F412\_Ph\_C\_MVR  
12F412\_Fault\_AMP  
12F413\_Ph\_A\_AMP  
12F413\_Ph\_B\_AMP  
12F413\_Ph\_C\_AMP  
12F413\_Ph\_A\_MW  
12F413\_Ph\_B\_MW  
12F413\_Ph\_C\_MW  
12F413\_Ph\_A\_MVR  
12F413\_Ph\_B\_MVR

```

12F413_Ph_C_MVR
12F413_Fault_AMP
12F414_Ph_A_AMP
12F414_Ph_B_AMP
12F414_Ph_C_AMP
12F414_Ph_A_MW
12F414_Ph_B_MW
12F414_Ph_C_MW
12F414_Ph_A_MVR
12F414_Ph_B_MVR
12F414_Ph_C_MVR
12F414_Fault_AMP

```

It will generate following three meters: 12F412, 12F413 and 12F414. And the meter item name will be Ph\_A\_AMP, Ph\_B\_AMP, Ph\_C\_AMP, Ph\_A\_MW, Ph\_B\_MW, Ph\_C\_MW, Ph\_A\_MVR, Ph\_B\_MVR, Ph\_C\_MVR and Fault\_AMP.

```

33 2008-July-4
a. The Latest version of xMaster HMI software is 1.8.7.4.
b. Added Auto-detect the AI Scaling Fact as follows:
 if "AMP" is found in the AI Meter Name, the default scaling is X1.
 if "KV" is found in the AI Meter Name, the default scaling is X100.
 if "MW" is found in the AI Meter Name, the default scaling is X100.
 if "MX" is found in the AI Meter Name, the default scaling is X100.
 if a current Meter Unit is found in the Meter Name, the unit info won't be displayed.
 If entries are:
 ENG_UNIT = MX
 ENG_NAME = PH_B_MX
 RANGE = 3276.7 MX 16
 for example, the ENG_UNIT ("MX") won't be displayed.
c. Added a new entry of the definition of DCA Database.
 DEFAULT_AI_SCALING = INT16 dddd.dd sss
 DEFAULT_AI_SCALING = BIN16 dddd.dd sss
 DEFAULT_AI_SCALING = INT32 dddd.dd sss
 DEFAULT_AI_SCALING = BIN32 dddd.dd sss
 where INT16/INT32 is 16/32 bit integer raw data
 (-32768 to +32767 or -2147483648.0 to 2147483647.0).
 where BIN16/BIN32 is 16/32 bit binary raw data (65535 to 0 or 4294967295 to 0).
 where dddd.dd is the ranage of the Engineering Value.
 where sss is the metering unit (i.e KV/V/A/KG, etc.)
 Mainly this ENTRY is for when you make a default HMI Point database by using the
 entry: ENDALL_AND_BUILD_A_DEFAULT_HMI_POINT_DB.
 The following is an example.
ENTRY DEV_DATABASE = SIZE
 SESSION = 0
 MAX_DI = 0
 MAX_DO = 0
 MAX_AI = 8
 AI_MB_REG_START = 1
 MAX_BR16 = 8
 BR16_MB_REG_START = 1
 MAX_CNT = 0
 MAX_AO = 0
 DEFAULT_AI_SCALING = BIN16 10.0 V
 END

```

```

32 2008-June-28
a. The Latest version of xMaster HMI software is 1.8.7.1.
b. Fixed some bugs and Added a sample of Modbus Master RS485/422 Multi-Drop link.
c. The default of the timeout of the DNP Application is 10s. The default of the timeout
 of the link of MB/PLC Master is 3s.
d. DI_MB_1X_START = X Y
 DI_MB_0X_START = X Y
 DO_MB_0X_START = X Y
 where x is the No. of Channel I/O module. Where Y is the count of channel. There are
 16 points per channel.
c. Added a setting of time delay for the link of multi-drop/RS422/485.
 MULTI_DROP_TIME_DELAY = dddd
 Where dddd is time delay in ms between different devices connected by RS422/485.
 The following is a sample
ENTRY DEV_LINK = SERIAL
 PORT = 12
 BAUDRATE = 9600
 MULTI_DROP_TIME_DELAY = 20
 SESSION = 0 1
; Session 0 MB_Addr=1
 SESSION = 1 2
; Session 1 MB_Addr=2
 SESSION = 2 3
; Session 1 MB_Addr=3
 END

```

```

31 2008-May-29
a. The Latest version of xMaster HMI software is 1.8.5.29.
b. Expanded the length of HMI Point Name to 16 from 12.
c. The default AI-Scaling on AMP(the point name is xxx_AMP) is 1/1,
 KV(the point name is xxx_KV) is 1/100, MW(the point name is xxx_MW) is 1/100 and
 MvAR(the point name is xxx_MX) is 1/100.

```



30 2008-May-22  
a. The Latest version of xMaster HMI software is 1.8.5.22.  
b. Added xMaster application of PLC\_Master.exe. You can define the current PLC communication protocol as follows:  
PLC\_LINK = OMORN  
or PLC\_LINK = MODBUS  
A sample:  
ENTRY DNP\_LINK = SERIAL  
PORT = 5  
BAUDRATE = 9600  
ADDR = 11  
PLC\_LINK = MODBUS  
END  
In above sample, make PLC\_Master to be the same xMaster of MB\_Master.exe.  
Please check out the note:PLC\_Master\_Readme.txt.

c. Added another two Auto-Config features for HMI Shape-Object StringGrid.  
Refer to the section 7.3.22 and Figure 7.18 and Note 21/f(2008-February-8).  
DI-LIST:xxxxx:tt:nn-ShortName  
DI-LIST:xxxxx:tt:nn-LongName  
AI-LIST:xxxxx:tt:nn-ShortName  
AI-LIST:xxxxx:tt:nn-LongName  
You can use "ShortName" to ask xMaster to display HMI Point Name only.  
You can use "LongName" to ask xMaster to display HMI Point Long Name only. It is the default setting.

29 2008-April-18  
a. The Latest version of xMaster HMI software is 1.8.4.18.  
b. Optimized checking out the alarms.

29 2008-April-12  
a. The Latest version of xMaster HMI software is 1.8.4.12.  
b. Added two options (encoded by Hint string) for controls  
(refer to the section 7.3.11 Popup a window before executing the function).  
?!=xxxxxxx  
if the HMI point:xxxxxxx is not zero (ON/1) the current control is blocked.  
?!=!xxxxxxx  
if the HMI point:xxxxxxx is zero (OFF/0) the current control is blocked.  
where the xxxxxxx is the HMI Point shortname/tagname and usually it is a status/DI point.

c. Added a button of Integrity-Poll in the window of HMI Point Database.  
d. In the troubleshoot window (refer to the section 11.1 and 11.2) added a button of Abort Pending Controls to Abort and cancel all Pending controls in the buffer. When the current control has been waiting 6000ms or longer (due to failure of Comm-link, or others), this button will show up.  
e. You can press the button of [Timeout] to abort waiting the response from processing the current control when you are focused in the window of controls operation.  
(refer to the section 4.1). If the current control has not been processed yet it will be aborted as well.

28 2008-April-9  
a. The Latest version of xMaster HMI software is 1.8.4.9.  
b. Added two buttons (+/-) to adjust the size of Grid.

27 2008-April-5  
a. The Latest version of xMaster HMI software is 1.8.4.5.  
b. Added a new ENTRY CHECK\_DAYLIGHT\_SAVING\_TIME\_IS\_IN\_EFFECT = YES/NO.

26 2008-March-26  
a. The Latest version of xMaster HMI software is 1.8.3.26.  
b. The count of the Alarm Group does not count Alarm Group Point itself.

25 2008-March-20  
a. The Latest version of xMaster HMI software is 1.8.3.20.  
b. When user is editing HMI display the HMI Object Shape of Memo displays meter name if is configured with Meter = dd.  
c. StopSign will be changed to X if the width of pen >1.  
d. Added a button of Reset in the HMI Configuration Window.  
e. Added two options (Ctrl-None and Cfg-None to reset HMI Control and HMI Configuration) in the Align operation.  
f. The Block is checked when selecting the Working-Mode of Align.  
g. Changed the Operation of Align on Top/Bottom/Left/Right based on and referred to the one with the most Top/Bottom/Left/Right.

24 2008-March-15  
a. The Latest version of xMaster HMI software is 1.8.3.15.  
b. Multi-SBO Points are allowed in DNP Master.

23 2008-March-11  
a. The Latest version of xMaster HMI software is 1.8.3.11.  
b. You can check out the list of files accessed by xMaster in the window of HMI Page Path.

22 2008-February-23  
a. The Latest version of xMaster HMI software is 1.8.2.23.  
b. Added the following ENTRY items in the DATABASE for the DNP DCA to determine whether polls Class2 and Class3 and the default is YES.

POLL\_CLASS2 = YES/NO  
POLL\_CLASS3 = YES/NO  
SAVE\_RUNNING\_CNT = YES/NO

- c. The HMI Shape Object:TEXT and BUTTON can be displayed/re-viewed in the HMI EDITOR.
- d. If you Change the pen style to DOT the Shape of FUSE will change to Switching FUSE.
- e. If you change the Param in the window of HMI Display Editor Functions the Shape of Wavetrap will change number of Wave.
- f. If you want to make Mult-Line of Button-Caption, you can put the character of '~' at head of the line. Also you can change the color of the text of the button-caption. Here is a sample:  
CAPTION = ~xxxxxxxx~yyyyyyyy~zzzzzzzzzz  
the appearance of Button is as follows:  
xxxxxxx  
YYYYYYYY  
zzzzzzzzzz

21 2008-February-8

- a. The Latest version of xMaster HMI software is 1.8.2.8.
- b. Added a ENTRY item:  
ENTRY ALARM\_LOCAL\_OPERATING\_ORDER = XXXXX.TXT  
Where XXXXX.TXT is the file so called LOO file.  
Definition:  
LOCAL ALARM NO.[TAB]ALARM DESCRIPTION[TAB]INITATING DEVICE(S)[TAB]ACTION[TAB]REMARKS[TAB]REFERENCE  
A SAMPLE as follows:  
1 1L23 Pump Lo Oil Level LT-x 3 1L23 Pump plant Low Oil level at XXX. Call Trans Cable Mgr. Draw#.  
The LOO information will be displayed if defined when you ACK the current alarm.
- c. Expanded feature for Animation. Refer to the section 7.2.5  
Animation: Horizontal\_Gauge  
SHAPE\_LINE: CHANGE ANGLE  
SHAPE\_ELLIPSE: CHANGE RADIUS  
OTHERS:CHANGE WIDTH  
check out the sample:HMI\_Sample\_Shape.hmi
- d. Expanded feature for Animation. Refer to the section 7.2.5  
Animation: Vertical\_Gauge  
SHAPE\_LINE: CHANGE ANGLE  
SHAPE\_ELLIPSE: CHANGE RADIUS  
OTHERS:CHANGE HEIGHT  
check out the sample:HMI\_Sample\_Shape.hmi
- e. The HMI Point Number can be assigned by increasing +1 when you copy a HMI Shape-Object.
- f. Added two Auto-Config features for HMI Shape-Object StringGrid.  
Refer to the section 7.3.22 and Figure 7.18.  
If the content is defined as follows:  
DI-LIST:xxxx:tt:nn  
Where xxxxx is the 1st HMI point number (status point - refer to the section 1.4.14),  
tt is the total of points and nn is the 1st label.  
It automatically assigns up to tt points in the current StringGrid and the 1st label is nn.
- AI-LIST:xxxx:tt:nn  
Where xxxxx is the 1st HMI point number (Analog point - refer to the section 1.4.14),  
tt is the total of points and nn is the 1st label.  
It automatically assigns up to tt points in the current StringGrid and the 1st label is nn.  
Check out the sample:HMI\_Sample>Loading\_From\_File.HMI
- g. Changed the settings of the Max. of points as follows:  
It was as follows:  
MAX DI=4096  
MAX DO=512  
MAX AI=512  
MAX AO=256  
MAX CNT=128  
Now it is as follows:  
TOTAL OF MAX DI + MAX DO + MAX AI + MAX AO + MAX CNT + ... < 8192 POINTS  
refer to the section 1 (DCA Driver) in the xMaster software manual.
- h. To open the HMI Page path, Right-Click on the button of Open/Load file in the window of HMI Editor. Refer to the section 7.2
- i. Added a button of Paste for the function of Copy-Block.
- j. Shape Fuse can be changed to RECT if change Style to Dot.Refer to the section 7.2.  
Right-Click on the big RECT located at right side of Pen-Color to change the style.  
check out the sample:HMI\_Sample\_Shape.hmi.
- k. Added a new ENTRY item as follows to define the default PV of a PSD\_DI  
PSD\_DI\_DEFAULT\_PV = 1 -> Normal Close  
PSD\_DI\_DEFAULT\_PV = 0 -> Normal Open

20 2008-January

- a. The Latest version of xMaster HMI software is 1.8.1.11.
- b. Optimized Log Information.
- c. Added more options for the ENTRY of RANGE as follows:  
16BIT-INT -32768.0 to +32767  
32BIT-INT -2147483648.0 to +2147483647.0  
32BIT-REG 0 to +4294967295.0  
refer to the section 1.4.13 in the xMaster software manual.

19 2007-November

- a. The Latest version of xMaster HMI software is 1.7.12.03.
- b. Be able to open COM1 to COM32

18 2007-November

- a. The Latest version of xMaster HMI software is 1.7.11.03.
- b. NO RE-TRY on sending controls.
- c. Added ControlCode for two entrys as follows:  
ENTRY CONTINGENCY\_PULSE\_PT = ddd cc  
ENTRY ACTION\_BIN\_DO\_PT = ddd cc  
Where the cc is the control code:1-Pulse;65-Close;3-Latch\_ON(DNP).  
Refer to the section 1.4.10 and 1.4.12 in the xMasterSlave manual.
- d. If the file of HMI Page Path that defined by the entry of HMI\_FILE  
(refer to the section 1.4.4)  
does not exist, it (\*.PGE) will be automatically created by x\_Master program and a  
sample/default HMI display (\*.HMI) in the HMI Page Path will be created as well.  
So users can start editing the HMI displays more easily.
- e. Referring to the section 1.4.13 in the manual, if "FORMAT = CNT32" is defined and  
valid and "PROCTYPE = CNT32 [HISTORY]" is defined and valid, the counter is processed  
for the Roll-over data and the interval of HISTORY is to reset (set the offset of  
value of Counter) the value of CNT32.  
for example, if the interval of HISTORY is AN HOUR the following is showing how it  
works.

|                   |       |           |            |         |        |           |         |     |           |      |
|-------------------|-------|-----------|------------|---------|--------|-----------|---------|-----|-----------|------|
| Present Value(PV) | 0     | 65535     | --65537... | 65535+y | 112    | 65535-y   | --65538 | ... | --65535+z | 111  |
| Timing Line(Hour) |       | ----      | -/----     | ...     | -      | ----      | -/----  | ... | --        | ---- |
|                   | start |           |            |         | 1st    |           |         |     | 2nd       |      |
| CNT32 Raw Value   | x---- | -         | ----       | ...     | -y---- | -         | ----    | ... | --z----   | ...  |
| (0 to 65535)      |       | 65535/012 |            |         | 112    | 65535/13  |         |     | 111       |      |
|                   |       | Roll-Over |            |         |        | Roll-Over |         |     |           |      |

Note: The PV will re-start from the value of zero(0) after recoving from  
Data-Offline(falure)!

17 2007-October

- a. The Latest version of xMaster HMI software is 1.7.10.15.
  - b. Changed the shortcut of xMaster in the ALL Programes. xMasterListSample.txt to  
xMasterList\_Sample.txt.
  - c. Improved processing the error messages.
  - d. In the LG\_Master Binary-24Bit data can be mapped to BR32. Below is the sample.
- ```
ENTRY    DEV_DATABASE = SIZE
        SEAL_IN_ALARM = YES
        MAX_DI = 944
        MAX_DO = 129
        LG_CTRL_LRU = 1, 000, 1
        LG_CTRL_LRU = 2, 001, 2
        LG_CTRL_LRU = 3, 001, 2
        LG_CTRL_LRU = 4, 001, 2
        LG_CTRL_LRU = 5, 001, 2
        LG_CTRL_LRU = 6, 001, 2
        LG_CTRL_LRU = 7, 001, 2
        LG_CTRL_LRU = 8, 001, 2
        MAX_AI = 128
;        LG_RTU_DI_TO_AI = 100
        MAX_BR32 = 4
;LG Bin24 Block #0 to #3 are mapped to BR32 Point#0 to #3 and no longer use "LG_RTU_DI_TO_AI"
```

```
        MAX_AO = 64
        MAX_CNT = 32
        MAX_FR = 0
        END
```

```
;
ENTRY    NAME          = Bin24_1_AI_01
        LONGNAME       = Binary 24bit data
        FORMAT         = AI
        D_TYPE         = BR32
```

```
;As the source of AI point
        PNT_ADDR       = 1
        RANGE          = 32767 INT 16
        METER          = 1, 1
```

```
;or you directly use BR32 data
ENTRY    NAME          = Bin24_1
        LONGNAME       = Binary 24bit data
        FORMAT         = BR32
        PNT_ADDR       = 1
        RANGE          = 32767 INT 16
        METER          = 1, 1
```

16 2007-October

- a. The Latest version of xMaster HMI software is 1.7.10.3.
- b. In the section 1.4.13 of xMaster manual, added following functions for PSD_AI:
LONGNAME = PSD:Var1 BIT32 Var2 --> Value=Var2x65536+Var1
LONGNAME = PSD:Var1 FLOAT32 Var2 --> Floating Value is converted from Var1 and Var2
LONGNAME = PSD:Var1 MIN Var2 --> Min Value in the table started from Var1 w/Len=Var2
LONGNAME = PSD:Var1 MAX Var2 --> Max Value in the table started from Var1 w/Len=Var2
LONGNAME = PSD:Var1 AVG Var2 --> Average Value in the table started from Var1 w/Len=Var2
LONGNAME = PSD:Var1 TOT Var2 --> Total Value in the table started from Var1 w/Len=Var2
- b. In the section 1.4.13 of xMaster manual, added following format for AI:
FORMAT = BR32 --> 32bit binary register data from two consecutive AI points if the
current AI is not 32bit.
FORMAT = ANAL_BCD --> 4/8 BCD data
;No scaling is applied to the AI point with the format of FR and BCD.
- c. In the section 1.4.13 of xMaster manual, added auto meter-definition AI:
METER = *XXX

- * is to increasingly assign Meter Number and Line automatically
;XXX is to define the Unit (i.e. KV, Amp, MW, etc.).
- d. In the section 1.4.14 of xMaster manual, added following functions for PSD_DI:
PSD_DI_FUNC = RS
;Reset dominant bistable: See True table below:
;Set Reset1 Output
;Var1 Var2
;0 0 NO Change
;0 1 0
;1 0 1
;1 1 0
- e. In the section 1.4.10 of xMaster manual, changed following definition for Matrix:
ENTRY DATA_MATRIX = EDITOR I BB
;Where I is to define the Matrix Editor ID (1 to 8) and BB is to define the number of
;Action output (16 or 32).
COUNT = dd
;dd can be from 1 to 64. it was fixed at 48.
;In the section 8 you can Right-Click on the Editor to switch/popup another existing
;Matrix Editor.
Added new three entry for Matrix Editor as follows:
PY_SESSION = dd
PY_SESSION = dd
SESSION = I0 I2 I3 .. I7
; Where dd and I0-I7 are to define the Index(ID) of the Data Acquisition Session
(refer to the section 1.4.5).
; So now you can specify the current Matrix Editor is tied to which Data Acquisition
Session (PY, SY , etc.)
- f. Changed the default file of the application/configuration of xMasterSlave for
Install_xMasterSlave.exe and xMaster.exe from xMasterList.txt to
xMasterList_Sample.txt.
- g. When you move the mouse to point to the current HMI Object-Shape the related
information (i.e. HMI Database Point Name will be shown up at title area of the
window, before only display Hint).
- h. The directory of files read by the xSlave applications is c:\xMaster\xSlaveAppl.
The directory of files read by the xMaster applications is c:\xMaster\xMasterAppl.
The directory of files read by the Master.exe is c:\xMaster\ApplList.
The directory of xMasterSlave exe files is c:\xMaster.
Above directories are fixed!
- i. Refer to the section 1.4.13 (HMI AI Point)
If the HI_SCALE = 65535.0 and LO_SCALE = 0.0 (or RANGE = +xxxx.xx uu 16BIT-REG),
then the HMI DB AI point value is calculated as follows:
AI_RawCount
AI Engineering Value = ----- * (HI_EUVAL - LO_EUVAL) + LO_EUVAL
65535.0
- In a PLC, if a 16-bit AI (range= +/- 10V) channel is tied to a 16Bit Word register,
the following is the scaling mapping:
(if HI_EUVAL = 10.0 and LO_EUVAL = -10.0 and ENG_UNIT = V)
AI-Input Register HMI AI DB Point
-10V 0 -10.0V
0V 32767 0.0V
+10V 65535 10.0V
- j. In the window of the HMI Points Database, you can enable or disable scaling HMI AI
Data. And in the Tab:Log you can check [X]Enable Display Updated Point to display
the log information about the Data Failure of the HMI DB point.
- 16 2007-September
- a. The Latest version of xMaster HMI software is 1.7.9.12.
- b. The HMI Point short names (tagname): PULSE_LEN_0 to PULSE_LEN_9 are reserved as the
PSD AI to set the duration of Pulse-Output. You can set up 0 to 9 to the Value of
Duration (i.e. in the window of the HMI Point configuration, Control Panel, etc)
so that the pulse duration will be set by the PSD_AI points PULSE_LEN_0 to
PULSE_LEN_9. The following is a sample of how to define a PULSE_LEN_1 point:
ENTRY NAME = PULSE_LEN_1
 LONGNAME = PSD:HMI_SV
 FORMAT = PSD_AI
;Note: JUST THREE LINES ABOVE
- c. You can define an AI Point with floating point format: FORMAT = FR.
Please refer to an example as follows:
ENTRY NAME = AI_010
 LONGNAME = AI_010
 FORMAT = FR
; AI_010 is represented as a 32-bit floating point data by two consecutive AI
points:AI PNT_Addr #0 and PNT_Addr #1.
PNT_ADDR = 0
PNT_DEV = 11
D_TYPE = AI
METER = 2, 4
ENG_UNIT = Vol
In above sample, the AI_010 becomes a 32-bit floating-point HMI Point data, which is
represented internally in the data acquisition database with the least significant
16-bit word stored first followed by the most significant 16-bit word.
- 15 2007-August
- a. The Latest version of xMaster HMI software is 1.7.8.12.
- b. Expanded HMI Function: LAST_HMIPAGE Load the Last HMI Page / Close Viewer. It will
close the current HMI Viewer. You can configure this function to a Button to close

the current HMI Viewer Window.

- 14 2007-August
 - a. The Latest version of xMaster HMI software is 1.7.8.6.
 - b. Added definition to handle floating point data output for Modbus. You can directly write floating point data into MB devices (PLC, RTU, IED, etc.). Refer to the section 1.4.9, 1.4.13, 5.2 and 7.2.5.
- 13 2007-July
 - a. The Latest version of xMaster HMI software is 1.7.7.1.
 - b. Added feature where you can put/remove a Tag on the current point/device to inhibit all controls on it and to attract your attention. You can check the list of Tag in the HMI Point database. Reinforced handling Tren-Point. Refer to the section 1.4.3.
 - d. Reinforced handling alarms (i.e. The 1st-Occurrence alarm, automatically switch to the HMI page associated the 1st-Occurrence alarm, etc.).
 - e. Reinforced managing HMI Page path (i.e. Pop up a HMI View-Window, Pop up HMI display page(s) automatically while re-starting, Drag a page to pop up it, etc.).
 - f. Reinforced HMI function: LOAD_HMIPAGE. If the current Button Hint is PAGE=POPUP:xxxxx the HMI display page xxxxx.hmi will be popped up instead of switching it into the display screen .
 - g. You can continually Play (BLINK) up to 256 Image/BMP pictures.
 - h. The Total count of Offline points is saved in 9x047 and the Total count of Active-Alarm point is saved in 9x048 and the Total count of Integrity-Polling is saved in 9x046. Refer to the section 9.1.4.
- 12 2007-May
 - a. The Latest version of xMaster HMI software is 1.7.5.5.
 - b. Added the process of TrenName in HMI Point Database. Refer to the section 11.3.
 - c. New entry of HMI_TREN_NAME to define the file of Tren-Point. Refer to the section 1.4.3.
 - d. New entry of HMI_TREN_WDT to define the interval of the process scanning and updating Tren points. Refer to the section 1.4.3.
 - e. New entry of METER_WINDOW_CAPTION to define the caption of the window of the Meter-Display. Refer to 1.4.11.
 - f. Improved the performance of Display of History. Refer to the section 5.3.
- 11 2007-April
 - a. The Latest version of xMaster HMI software is 1.7.4.8.
 - b. Added the list of HMI Points in the HMI configuration window. You can copy points into the STR_GRID configuration.
 - c. Added a button of [Making StringGrid] for the STR_GRID to configure the STR_GRID automatically.
 - d. The window of HMI Page Tree became movable.
 - 4. Deleted the contents of some samples. And refer to the files in the xMasterSlave software package.
 - f. Added an item: Entry-Key in the Phone-Book. Revised the section 12.
- 10 2007-March
 - a. The Latest version of xMaster HMI software is 1.7.3.11.
 - b. Simplified the configuration for AI Engineering Value. Refer to the section 1.4.13.
 - c. Security Measure for dial-up system. Refer to the section 12.
- 9 2007-February
 - a. The Latest version of xMaster HMI software is 1.7.2.1.
 - b. Simplified the configuration for Alarm Point. Refer to the section 1.4.14 and 6.5.
- 8 2007-January
 - a. The Latest version of xMaster HMI software is 1.7.1.1.
 - b. Added and improved the features of alignment.
- 7 2006-December
 - a. The Latest version of xMaster HMI software is 1.6.12.2
 - b. Improved the ability to launch xMaster/xSlave applications via xMaster.exe. Refer to the section 2.
 - c. Added new pre-defined shape:2-State connector. New sections 7.3.76 and 7.3.77.
 - d. Added a new section 13: A sample of RTU+HMI Application via xMaster & xSlave.
- 6 2006-November
 - a. The Latest version of xMaster HMI software is 1.6.11.2.
 - b. Improved the ability to connect to the remote sites via the link of Dialup-Modem. Refer to the new section 12.
 - c. Revised sections as follows:1.4.3, 1.4.4, 1.4.9, 1.4.13, 1.4.14, 1.4.16, 6, 6.2.3, 7.1.5, 7.1.11, 7.2.1, Figure 7-23, 7.3.12, 9.1.4, 11.1, 11.3, 11.4 and Figure 11-6.
- 5 2006-October
 - a. The Latest version of xMaster HMI software is 1.6.10.5.
 - b. Added information in the section 1, 1.4.4, 1.4.12, 1.4.13, 1.4.14, 3.1, 3.2, and 7.3.12.
 - c. Added a new section 5.3.
- 4 2006-August
 - a. The Latest version of xMaster HMI software is 1.6.8.14.
 - b. Added information in the section 1.4.4, 1.4.6, 1.4.9 and 11.3.
 - c. Added information in the Figure 11-7.
- 3 2006-June
 - a. Support dialing up the modem automatically.
 - b. Added information in sections: 3.8, 7.1.1, 7.1.11, 7.3.11.

- c. Revised sections: 1.4.6, 11.2.
- d. In the section 1.4.9, it allows user to poll DNP Objects respectively.

- 2. 2006-MAY
- a. The latest version of the xMaster HMI software is 1.6.5.28.
- b. Support disparate size of Real-time database for each Data Acquisition Session. Refer to the section 1.4.9.
- c. Fixed some deficiencies in editing HMI Display. Refer to the section 7.2.3.
- d. Added a sample: HMI_Sample_Button.HMI.
- e. Added information in sections: 1.4.9, 7.3.18 to 7.3.20, 10.1, 11.2.
- f. Revised sections: 1.4.9, 9.5.2.

- 1. 2006-FEB.
- a. The latest version of the xMaster HMI software is 1.6.2.28.

==xSlave=====

- 150. 2019-Jan-01
- a. The Latest version is 2.2019.1.22.
- b. re-compiled for upgrading xMaster.
- 149. 2018-Sept-28
- a. The Latest version is 2.2018.9.28.
- b. re-compiled for upgrading xMaster.
- 148. 2018-July-11
- a. The Latest version is 2.2018.7.28.
- b. re-compiled for upgrading xMaster.
- 147. 2018-June-24
- a. The Latest version is 2.2018.6.24.
- b. improved PLC Runtime simulataion application.
- 146. 2018-May-18
- a. The Latest version is 2.2018.5.18.
- b. re-compiled for upgrading xMaster.
- 145. 2018-April-28
- a. The Latest version is 2.2018.4.28.
- b. For DNP Slave, when you Spy Messages from Master, to enable or disable showing polling command in the log window of Controls, toggle the check-box of []Enable Logging All Message on the page (Tab) of Logs.
- c. For Modbus Slave, to enable Modbus TCP/IP protocol, TCP Port must be in the range of either 500-599 or 3000-3999. Otherwisre, it will be just a modbus RTU over TCP/IP.
- d. For Modbus Slave, 4x register mapping table for SIP PLC Decode will be saved into c:\xMaster\xSlaveAppl\SIP_PLC_Addr.Tab, a text based file.
- 144. 2018-March-18
- a. The Latest version is 2.2018.3.18.
- b. For DNP Slave, added an option item for user to disable Seg#, Frame# in dnp3 msg frame.
- 143. 2018-Jan-31
- a. The Latest version is 2.2018.1.31.
- b. re-compiled for upgrading xMaster.
- 142. 2017-12-10
- a. The Latest version is 2.2017.12.10.
- b. Add pre-define simulation windows for SIP PLC application.
User can define a SIP PLC point table in the file (Text based) below:
C:\xMaster\xSlaveAppl\SIP_PLC_Addr.Tab
- 141. 2017-10-22
- a. The Latest version is 2.2017.10.22.
- b. Add IP info in log line for DNP/MB_200 applications.
Fixed a bug while starting Auto-Test.
Added a setting in Analog Input Simulation Window to define how many consecutive point/register to update so that user can simulate/update consecutive AI points.
If define data type is "B" (default is I - integer, L is Long integer/32bit), will simulate data Right-Shelf (1->2->4->8, ... ->16768->32768 -- simulate 16 bit/point per 16bit word -- simulate alarm points ON/OFF one-by-one consecutively)
- 140. 2017-6-21
- a. The Latest version is 2.2017.6.21.
- b. No need to set up an IP address/port for sending an unsolicited report to the current TCP/IP Master End.
- c. Added Tabsheets of [All], [Timeout], [Failed] and [Invalid] in log screen.
- 139. 2017-1-11
- a. The Latest version is 2.2017.1.11.
- b. L&G Slave TCP/IP, the default port is set as 30001.
- 138. 2016-12-18
- a. The Latest version is 2.2016.12.18.
- b. re-compiled for upgrading xMaster.
- 137. 2016-11-9
- a. The Latest version is 2.2016.11.9.
- b. double-click on LAN Connection to open LAN Setting and Fireware.

- c. For DNP Slave, in the tab of Logs, to open/close DNP3 frame/IIN monitoring/setting, double-click on the information string below [Daylight_saving_time_effect].
 - d. For DNP Slave, user can change the settings of Obj1Var2, Obj20Var4, Obj30Var4 in the Integrity Poll. Over the LAN connection, user can change the setting of Appl-Confirm for Multi-Fragments.
 - e. Optimized handling a Large Database (i.e. Multi-Fragment DNP Integrity-Poll).
- 136 2016-Oct-18
- a. The Latest version is 2.2016.10.18.
 - b. re-compiled for upgrading xMaster.
- 135 2016-Sep-28
- a. The Latest version is 2.2016.9.28.
 - b. re-compiled for upgrading xMaster.
- 134 2016-Aug-16
- a. The Latest version is 2.2016.8.16.
 - b. Increased the max. point from 8192 to 16384.
- 133 2016-July-12
- a. The Latest version is 2.2016.7.12.
 - b. You can set the Max. of value when you open (window of Auto Data Simulation) and start Checking-Point:Analog. Refer to note#55.
- 132 2016-June-18
- a. The Latest version is 2.2016.6.18.
 - b. re-compiled for upgrading xMaster.
- 131 2016-March-25
- a. The Latest version is 2.2016.3.25.
 - b. re-compiled for upgrading xMaster.
- 130 2016-March-6
- a. The Latest version is 2.2016.3.6.
 - b. User still can modify Control Action when xSlave is running without testing the current Control Action.
- 129 2016-Jan-29
- a. The Latest version is 2.2016.1.29.
 - b. Allows Object-poll to be read exclusively when select/enable Slave Address. Before only all Class60 Var(s) allow the point database to be Connected exclusively (select/enable Slave Address)
- 128 2016-Jan-2
- a. The Latest version is 2.2016.1.2.
 - b. Added a option to enable or disable AI Event Buffering.
- 127 2015-Oct-28
- a. The Latest version is 2.2015.10.28.
 - b. Added a popup message while running AUTO-TEST.
 - c. Added a button to display Error Message(s) while being found.
- 126 2015-Sept-28
- a. The Latest version is 2.2015.9.28.
 - b. Changed the default position of the window of the point monitoring to the center of the current Window.
- 125 2015-July-29
- a. The Latest version is 2.2015.7.29.
 - b. Enable Obj#31 and Obj#32 when DNP Master polls Obj#31 or Obj#32 directly. DNP Slave sent Obj30 before when the Master End polls Obj31/j32 (not class poll).
 - c. Added MB_Slave_200 to support up to 200 client connections.
- 124 2015-May-22
- a. The Latest version is 2.2015.5.22.
 - b. fixed a bug when display a floating Analog output point loginfo.
- 123 2015-April-10
- a. The Latest version is 2.2015.4.10.
 - b. re-compiled for upgrading xMaster.
- 122 2015-Feb-11
- a. The Latest version is 2.2015.2.11.
 - b. re-compiled for upgrading xMaster.
- 121 2014-Dec-22
- a. The Latest version is 2.2014.12.22.
 - b. Fixed a bug in selecting a session in the Client List.
- 120 2014-Oct-10
- a. The Latest version is 2.2014.10.10.
 - b. re-compiled for upgrading xMaster.
 - c. fixed a bug in modbus slave (multi force register).
- 119 2014-July-2
- a. The Latest version is 2.2014.7.2.
 - b. re-compiled for upgrading xMaster.

118. 2014-May-28
a. The Latest version is 2.2014.5.28.
b. Fixed bug while starting Auto-Test.
117. 2014-April-28
a. The Latest version is 2.2014.4.28.
b. In order to present OFFLINE flag to DNP status (DI) point(s), you can set the value of -1. If the value less -1 (i.e. -16), set OFFLINE flag up to 16 points starting from the current point you select.
116. 2014-April-9
a. The Latest version is 2.2014.4.9.
b. Fixed a bug in the version of 2.2014.3.30.
115. 2014-March-30
a. The Latest version is 2.2014.3.30.
b. Added a button of [Lock HMI Computer].
114. 2014-March-22
a. The Latest version is 2.2014.3.22.
b. Added more information in the window of the Link-Connection. Links/Sessions will be displayed dynamically in continuous lines.
113. 2014-Feb-28
a. The Latest version is 2.2014.2.28.
b. Added option to set up UDP connection.
To select TCP or UDP, right-Click on [X] Protocol over Network.
UDP Peer communication is very common (default).
Note: multi session may not work as expected like TCP connections. You have to assign /define the binding (Slave End) IP Address by a double-click on Name:[] (IP Address=[10.2.2.90]) in the group of Identity.
In order to make multi session of UDP connection, you can run multi instance of xSlave (i.e. DNP_Slave.exe, each DNP_Slave.exe can be binding different Slave End IP address)
112. 2014-Jan-18
a. The Latest version is 2.2014.1.18.
b. Changed some appearance/caption of windows and buttons.
c. To open a separate window of DI/D/AI/AO/CNT, double-click on the label of Total xxx Points.
111. 2013-Dec-4
a. The Latest version is 2.2013.12.4.
b. re-compiled for upgrading xMaster.
110. 2013-Nov-22
a. The Latest version is 2.2013.11.22.
b. re-compiled for upgrading xMaster.
109. 2013-Nov-12
a. The Latest version is 2.2013.11.12.
b. re-compiled for upgrading xMaster.
108. 2013-Nov-4
a. The Latest version is 2.2013.11.4.
b. To confirm the input of CheckAddr, press the key of Enter. Refer to Note#105.
107. 2013-Oct-18
a. The Latest version is 2.2013.10.18.
b. For Modbus Slave, added Function code 0x11 (17). The Slave ID will be 9 (984) and Running indication will Running(0xff).
106. 2013-Sept-18
a. The Latest version is 2.2013.9.18.
b. Optimized DNP3 Event Polling.
105. 2013-Sept-8
a. The Latest version is 2.2013.9.8.
b. For LAN connection, you can define CheckAddr to exclusively connect the point database. Sessions mismatched Slave Address reply with Data-Zero. Before only available for the serial connection.
104. 2013-Aug-8
a. The Latest version is 2.2013.8.8.
b. refer to revision note#75.
Added menu #5&6 in the popup menu (Right-click on the Client Link connection) in the list of LAN connection as follows:
1. Disconnect TCP/IP LAN Connection
2. Keep me silent (Do not reply any polling)
3. Disconnect from database (reply with Data-Zero)
4. Connect Database exclusively.
5. Restore Database connection for me now.
6. Restore Database connection for ALL.

To popup above menu, select an existing Client session and make a right-click.
This setting of [Connect Database exclusively] is only for the current connections.
If a session is broken and then re-connected or a new session is coming and connected, this new connected session will be connected to database. For new connected session you can disconnect it from the point database manually.

103 2013-July-23
a. The Latest version is 2.2013.7.23.
b. Added Search in the list of Clients (Slave protocol over the LAN) for max. connection session over 8.

102 2013-July-08
a. The Latest version is 2.2013.7.8.
b. re-compiled for upgrading xMaster.

101 2013-June-16
a. The Latest version is 2.2013.6.16.
b. re-compiled for upgrading xMaster.

100 2013-May-15
a. The Latest version is 2.2013.5.15.
b. Added Qty 0x27 for DNP Slave Control.
c. Updated xSlave_Manual.pdf.

99 2013-May-09
a. The Latest version is 2.2013.5.09.
b. Fixed a bug in display MB Register Mapping Table.

98 2013-April-23
a. The Latest version is 2.2013.4.23.
b. You can save/delete the file of setting of Data/Point simulation/monitor window.

97 2013-April-15
a. The Latest version is 2.2013.4.15.
b. re-compiled for upgrading xMsater.

96 2013-April-1
a. The Latest version is 2.2013.4.1.
b. Added Monitor window for DI point. Right-Click on Col of Value to popup the monitor window where you can set up ON-time and OFF-time to toggle the state of the current DI point continuously.
c. In Modbus Slave, you can add AO-Control-Action/Script. To edit/add the Action/Script, Click on the Col of DateTime/Others.

95 2013-March-24
a. The Latest version is 2.2013.3.24.
b. The current DO-Script/Control-action will be blocked when its flag of OFFLINE is ON.

94 2013-FEB-28
a. The Latest version is 2.2013.2.28.
b. Added Timestamp options for DNP Slave Events Objects.
c. Added options when enable All Log Info.

93 2013-FEB-11
a. The Latest version is 2.2013.2.11.
b. re-compiled upgrading xMaster.

92 2013-Jan-25
a. The Latest version is 2.2013.1.25.
b. Fixed a bug in DO Control Script AOxxx=T- Sending Neg. data of (Pulse duration/ON-Time).

91 2013-Jan-12
a. The Latest version is 2.2013.1.12.
b. For Modbus Slave, added a MB 4x Register Mapping Table. By double-clicking on the label of [MB4x Start Address], the mapping table window will appear.

90 2012-Dec-8
a. The Latest version is 2.2012.12.8.
b. Added a sub menu in Popup menu of Client list to restore slave database connection.
c. Optimized sharing data with xSlave. You can use the point short name (Tagname) in Control Action scripts.

89 2012-Nov-18
a. The Latest version is 2.2012.11.18.
b. Added a sub menu in Popup menu of xSlave IP list.

88 2012-Nov-11
a. The Latest version is 2.2012.11.11.
b. Updated and corrected the info. of HelpOnAction.

87 2012-Oct-28
a. The Latest version is 2.2012.10.28.
b. For xRTU18 application, process new scaling setting: SCALING_FACT. The scaling fact must be an integer. The following is a sample (in slave application file *.SDB):
PNT_DB = BRL 34 M11-FR-4x502 M11-FR-4x502 SCALING_FACT=100

86 2012-Oct-20
a. The Latest version is 2.2012.10.20.
b. re-compiled.

85 2012-Oct-15
a. The Latest version is 2.2012.10.15.

b. re-compiled.

84 2012-Sept-23
a. The Latest version is 2.2012.9.23.
b. re-compiled.

83 2012-Sept-3
a. The Latest version is 2.2012.9.3.
b. re-compiled.

82 2012-Aug-5
a. The Latest version is 2.2012.8.5.
b. Enabled ([X] Tracing Cmd-Log) to display scan-frequency of polling commands from the Master End (i.e polling 1x, 3x, 4x data).

81 2012-July-15
a. The Latest version is 2.2012.7.15.
b. Added Text-Fitler for Log Info Display.

80 2012-June-23
a. The Latest version is 2.2012.6.23.
b. re-compiled.

79 2012-May-6
a. The Latest version is 2.2012.5.6.
b. Added new features in DO/AO Control Action.

78 2012-Apr-15
a. The Latest version is 2.2012.04.15.
b. Added Remote/Local switch: Local Mode: Control Disabled.

77 2012-Apr-9
a. The Latest version is 2.2012.04.9.
b. For DNP Slave, Double-click on [Timeout], user can define a delay before sending the new frame/message.
The default setting is 10ms.

76 2012-Apr-1
a. The Latest version is 2.2012.04.1.
b. To expand/restore the window of LAN(TCP/IP) Link-Clients, you can double-click on the "Clients".

75 2012-Mar-11
a. The Latest version is 2.2012.03.11.
b. Added a popup menu (Right-click on the Client Link connection) in the list of LAN connection as follows:
1. Disconnect TCP/IP LAN Connection
2. Keep me slient (Do not reply any polling)
3. Disconnect from database (reply with Data-Zero)
4. Connect Database exclusively.
To popup above menu, select an existing Client session and make a right-click.

74 2012-Mar-03
a. The Latest version is 2.2012.03.03.
b. Support Points up to 8192 per instance of Slave Application.

73 2012-FEB-28
a. The Latest version is 2.2012.02.28.
b. re-compiled.

72 2012-JAN-28
a. The Latest version is 2.2012.01.28.
b. re-compiled.

71 2012-JAN-15
a. The Latest version is 2.2012.01.15.
b. Made changes on Window/Screen layout.

70 2012-JAN-2
a. The Latest version is 2.2012.01.02.

69 2011-OCT-28
a. The Latest version is 2.2011.10.28.
b. In MB/MBP Slave you have an option to configure how to form 32bit data.
[X]Modbus 32Bit Data
If checked, the 2nd Word(16bit) is the Bit31-24 of 32bit data, otherwise is Bit15-00 of 32bit data.

68 2011-OCT-1
a. The Latest version is 2.2011.10.1.
b. Speed up the LAN connection.
c. Indicating/highlight the No. when you select DI and Do points.
d. You can select the format of file when you Save/Load the xSlave configuration either *.DAS and *.LDB or *.SDB.
*.SDB is Text-Based file. The default is *.DAS and *.LDB.

67 2011-AUG-28

a. The Latest version is 2.2011.8.28.
b. Upgraded Winsock to winsock2.

66 2011-JULY-18
a. The Latest version is 2.2011.7.18.
. Double-Click on the Control-Commands log window to change the size of Font 8 <--> 12.

65 2011-JUNE-18
a. The Latest version is 2.2011.6.18.
b. Added option of []Daylight_saving_time_effect and []Enable Logging Writing DB in the Tab of Log.

64 2011-JUNE-1
a. The Latest version is 2.2011.6.1.
b. Fixed the bug at DNP_Slave, failed in control command since the ver 2011.2.8.

63 2011-MAY-10
a. The Latest version is 2.2011.5.10.
b. re-compiled.

62. 2011-April-5
a. The Latest version of MB Slaver is 2.2011.4.5.
b. Changed the name of button [&PLC Pro Simulator] to [PLC Pro Runtime]. If the PLC Pro Runtime is running, the color will be changed to RED.

61. 2011-Feb-8
a. The Latest version of MB Slaver is 2.2011.2.8.
b. Added 3x data area. The data of 1x001 - 1x0ddd is assigned to the data of 3x001 - 3x0(ddd/16).
e.g. if 1x001-1x0160 is assigned, 3x001-3x010 stores the data of 1x001-1x0160.

60. 2011-Jan-10
a. The Latest version of DNP_Slaver.exe is 2.2011.1.10.
b. xSlave applications support a Text based configuration file *.SDB that generated by the xMaster (xRTU configuration).

59. 2010-Dec-13
a. The Latest version of DNP_Slaver.exe is 2.2010.12.13.
b. Added an option []Auto-Abort to enable/disable terminate the LAN TCP/IP socket connection if the Master End is silent for a while (TO=Timeout setting X 100).

58. 2010-September-30
a. The Latest version of DNP_Slaver.exe is 2.2010.9.10.
b. Added an option to force replying all polling with ALL Points in the current point database. if Auto-Test is checked, all DI data will be toggled and all AI data will be increased by ONE.

57. 2010-August-8
a. The Latest version of xSlave is 2.2010.8.8.
b. Double-Click on the settings of Serial com port (Protocol over Serial Port) to popup Windwos Device Manager.

56. 2010-June-18
a. The Latest version of DNP_Slave.exe is 2.2010.6.18.
b. Added DNP3 Object as follows:
Object=30 Variations=3,4 Qualifier=0x01,0x06,0x28,0x07,0x17,0x08

55. 2010-May-18
a. The Latest version of DNP_Slave.exe is 2.2010.5.18.
b. If the detla data is 0 the change will within the range of 10% of the init-data while auto simulating the data. You can right-click on AI/Counter point data to open a window of Auto Data Simulation.

54. 2010-April-18
a. The Latest version of DNP_Slave.exe is 2.2010.4.18.
b. Added DNP3 as follows:
Object=30 Variations=0,1,2,5 Qualifier=0x01,0x06,0x28,0x07,0x17,0x08
c. A right-click on AI or CNT point to open a window of Checking Point. refer to the revision of "9 2008-January".

53 2009-DEC-12
a. The Latest version of x_Slave.exe is 1.9.12.12. (re-compiled)

52 2009-Nov-11
a. The Latest version of x_Slave HMI software is 1.9.11.11.
b. In DNP3 and Modbus slave, you may select the data type (i.e. 32Bit Integer or 32Bit Floating) when you preset data of AI or CNT.

51 2009-Nov-1
a. The Latest version of x_Slave HMI software is 1.9.11.1.
b. In DNP3 slave, it displays data type (i.e floating data, 32bit data in the column of Long Name).

50 2009-Oct-9
a. The Latest version of x_Slave HMI software is 1.9.10.9.
b. Added an option to hide when minimized.
c. The Title of Application of xSlave shows the information of DNP Slave/Master address,

Communication setup (i.e. Serial Port, IP address)

- 49 2009-July-8
a. The Latest version of x_Slave HMI software is 1.9.7.8.
b. Changed default set of [] Need To Check The Passowrd from Checked to UnChecked.
- 48 2009-May-28
a. The Latest version of x_Slave HMI software is 1.9.5.28.
b. Added Obj20Var1(32-bit running counter) and obj21Var1(32-bit frozen counter) in DNP Slave.
The current Counter object var#2 (16-bit) can be changed to var#1(32-bit) When you input the data string with a suffix:"L".
- 47 2009-May-8
a. The Latest version of x_Slave HMI software is 1.9.5.8.
b. Right-click on the Col of "Other" to select a shared HMI Point from the list of HMI-Sharing-Point pool that configured in x Master.
refer to section 13 in xMaster Manual and section 4 in xSlave manual.
- 46 2009-March-23
a. The Latest version of x_Slave software is 1.9.3.23.
b. Allowed the baud to be set by as low as 300.
- 45 2009-January-27
a. The Latest version of x_Slave software is 1.9.1.27.
b. Added AI/AO scaling Fact (for AI and AO) so you can input and display an engineering data. you can input raw data range and space and engineering data range and enter to calculate the fact. X[32767 30]=xxxxxxx press Enter key you get 32767/30=1092.2333
To input and display you can click on the column of Value/State of AI/AO.
- 44 2009-January-1
a. The Latest version of x_Slave software is 1.9.1.1.
b. Updated xMasterSlave Local database structure.
- 23 2008-November-12
a. The Latest version of DNP_Slave software is 1.8.11.12.
b. If there is no changed DI, DNP_Slave does not send DI Events even you manually forced an event.
- 22 2008-October-22
a. The Latest version of xSlave Software is 1.8.10.22.
b. You select the mode how you preset the data as follows:
[ALL-SAME] to preset the same data onto all points.
[INC+1] to preset data by increasing +1 onto points one by one.
[RANDOM] to preset the random data. The Ragne is defined by the Preset Data.
[CANCEL] to Cancel.
- 21 2008-September-12
a. The Latest version of xSlave Software is 1.8.9.12.
b. If you type 0x00 in the Present=[] to preset ALL AI/CNT data, it will increasingly preset the data of the first point of AI/CNT for all points.
if Present=[0x00] in the tab of AI and AI#0=257 in the point database, for example, the AI#1=258, AI#2=259, and so on.
- 20 2008-September-4
a. The Latest version of xSlave Software is 1.8.9.4.
b. No Limit on the length of log information. It was 200 char.
c. Improved the performance of the Txd through the serial point.
- 19 2008-August-1
a. The Latest version of MB_Slave HMI software is 1.8.8.1.
b. The MB Watchdog Address is directly assigned to 4x Address.
c. If you type 0x00dddd in the Present=[] to preset ALL AI/CNT data, it will increasingly preset hex data 0xdddd for all points.
if Present=[0x00100] in the tab of AI in the point database, for example, the AI#0=257, AI#1=258, AI#2=259, and so on.
- 18 2008-July-22
a. The Latest version of DNP Slave HMI software is 1.8.7.22.
b. Added an option for DNP Slave in the Tab of DI in the point database as follows:
[] Obj_2_1_For_IntegrityPoll
Default is Unchecked. If Checked, the DNP Slave replys the integrity-poll with Obj1-Var2 instead of Obj1-Var1.
- 17 2008-July-4
a. The Latest version of DNP Slave HMI software is 1.8.7.4.
b. Added an option for DNP Slave as follows:
[] Enable_DNP Remote Forced Bit
Default is Unchecked. If Checked, the DNP Slave sets the bit of Remote Force when you change the value of the current point manually.
- 16 2008-June-3
a. The Latest version of Slave HMI software is 1.8.6.3.
b. Added the exception message when fails in open server socket.

xSlave Revision Notes:

- 15 2008-May-29
a. The Latest version of Slave HMI software is 1.8.5.29.

- b. Expanded the length of Point Name to 16 from 12.
- c. Added the option: [X]Enable Frozing Command in DNP Slave so that the DNP Object #20 and #21 can be read respectively.

14 2008-April-30

- a. The Latest version of MB Slave HMI software is 1.8.4.30.
- b. Fixed bug FC15/16.

13 2008-April-18

- a. The Latest version of xSlave HMI software is 1.8.4.18.
- b. Added buttons of save/load the settings of DO/AO actions.
- c. Fixed the list of DNP Slave Object as follows:(refer to the table at the end)

12 2008-March-20

- a. The Latest version of xSlave HMI software is 1.8.3.20.
- b. Fixed a bug on AO command.

11 2008-March-15

- a. The Latest version of xSlave HMI software is 1.8.3.15.
- b. DNP Multi-SBO points command (multi-points in the same DNP protocol frame - Select & Operation) is allowed.

10 2008-February-23

- a. The Latest version of xSlave HMI software is 1.8.2.23.
- b. Fixed bug while DO Points is 0 and doing the Auto-Test.

9 2008-January

- a. The Latest version of xSlave HMI software is 1.8.1.0.
- b. Optimized Log Information.
- c. Right-Click on AI/CNT Value/State cell in the String Grid to open the window of Simulate-updating-AI/Counter.

8 2007-November

- a. The Latest version of xSlave HMI software is 1.7.12.03.
- b. Be able to open COM1 to COM32.
- c. For DNP/LG Slave, two options are added.
[] Sync AutoTest with Event-Poll
[] LocalForce Generates Events
- e. TCP Connection Silent Timeout is 10 times the setting of Timeout in the Other Options. It was 3 minutes.

7 2007-November

- a. The Latest version of xSlave HMI software is 1.7.11.03.
- b. Added the capability to process tren point feeding into slave point database.
The file of Settings is xxxxx_tren_settings.txt. The contents of the file is described as follows:
String TheTrenPointFileName
String TheTrenPointFileSmpName
String TheTrenPointReadingProgram
String TheTrenPointReadingAckProgram
DWord TheTrenPointInterval (disable when 0)
DWord TrenPointOfflineTimeout (disable when 0)
bool NeedToDeleteTheTrenPointFile (enable when DELETETRENFILE)
If both files TheTrenPointFileName and TheTrenPointFileSmpName exist the TheTrenPointFileSmpName (and TheTrenPointFileName, if enabled) will be deleted after processing TheTrenPointFileName.
The following is a sample:
C:\xMaster\xSlaveAppl\dnpslave_tren_point.txt
C:\xMaster\xSlaveAppl\dnpslave_tren_smp.txt
*
*
1000
0
N

The file of Tren Point Setup is xxxxxx_setup.txt.

The format of the file of Tren Point Setup:

```
DI:dddd[TAB]vvvvvv[TAB][*][TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
AI:dddd[TAB]vvvvvv[TAB][*][TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
CNT:ddd[TAB]vvvvvv[TAB][*][TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
REG:ddd[TAB]vvvvvv[TAB][*][TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
```

The format of the file of Tren Point Data:

```
DI:dddd[TAB]vvvvvv[TAB]DateTimeString(or [*])[TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
AI:dddd[TAB]vvvvvv[TAB]DateTimeString(or [*])[TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
CNT:ddd[TAB]vvvvvv[TAB]DateTimeString(or [*])[TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
REG:ddd[TAB]vvvvvv[TAB]DateTimeString(or [*])[TAB]LongName[TAB]Scaling-A[TAB]Scaling-B[TAB]
```

Where [TAB] is the key of TAB and [*] is the Key *. DateTimeString is the time stamp referring the sample

11/9/2007 8:46:37 PM

Refer to the section 1.4.3 of the xMasterSlave Manual.

6 2007-August

- a. The latest version of the xSlave software is 1.7.8.6.
- b. Modbus(MB) Analog Output (AO) by floating point.
- c. Must re-configure Total of point for DI, AI, AO, DO and CNT if you load in and re-use the old version configuration.
- d. If disable Control Action and hit the button of [Auto Config Point DB], it will delete all existing Control Action definitions.
- e. Added Float Point Data in DNP 3.0 (AI:Obj#30Var#5 & AO:Obj#41Var#3) so you can use

DNP_Master read/write float point data from / to DNP_Slave which can be sharing floating point data directly
with MB Master / MB Slave. You can refer samples in xMaster.exe by loading the list:
xMasterList_FP.Txt.

- 5 2007-July
 - a. The latest version of the xSlave software is 1.7.7.1.
 - b. Expanded the list of DI and DO.
 - c. Added an option to disable the Control-Action on the Tab-DO.

- 4 2007-April
 - a. The latest version of the xSlave software is 1.7.4.8.
 - b. Added feature of Auto-Test. Revised the section 4.
 - c. Added two options for DNP Slave: DO&AO in the Object Class 60 & Check_Link_Reset_IIN.

- 3 2006-Dec.
 - a. The latest version of the xSlave software is 1.6.12.2.
 - b. The xSlave is able to transfer the controls to the points in the Shared-HMI-Points-Pool. Revised the section 4.

- 2 2006-Nov.
 - a. The latest version of the xSlave Simulator software is 1.6.11.2.
 - b. Added feature to share data with HMI Points.4. Revised the Section 4.f

- 1 2006-MAY
 - a. The latest version of the xSlave Simulator software is 1.6.2.28.

Here is the list of DNP Obj Var that supported by DNP_Slave.

Object=01	Variations=0,1,2	Qualifier=0x00,0x01,0x06
Object=02	Variations=0,1,2	Qualifier=0x00,0x01,0x06
Object=10	Variations=0,2	Qualifier=0x00,0x01,0x06
Object=12	Variations=1,2,3	Qualifier=0x00,0x01,0x06,0x17,0x27,0x28
Object=20	Variations=0,1,2,3,4,5,6	Qualifier=0x00,0x01,0x06
Object=21	Variations=0,1,2,3,4,5,6	Qualifier=0x00,0x01,0x06
Object=22	Variations=0,1,2,3,4,5,6	Qualifier=0x00,0x01,0x06
Object=23	Variations=0,1,2,3,4,5,6	Qualifier=0x00,0x01,0x06
Object=30	Variations=0,1,2,3,4,5	Qualifier=0x00,0x01,0x06
Object=32	Variations=0,1,2,3,4,5	Qualifier=0x00,0x01,0x06
Object=40	Variations=0,1,2,3,4	Qualifier=0x00,0x01,0x06
Object=41	Variations=1,2,3	Qualifier=0x00,0x01,0x06,0x17,0x27,0x28
Object=50	Variations=0,1,2,3	Qualifier=0x00,0x01,0x06,0x07
Object=60	Variations=1,2,3,4	Qualifier=0x06